

**THE DOMINION
OF
REPUBLIC INDIA**



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MEN AT THE UNION CAPITAL



LORD MOUNTBATTEN
(Governor-General)



HON'BLE PANDIT NEHRU
(Prime Minister)



HON'BLE VALLABHAI PATEL
(Home Minister)



HON'BLE B. PATIL
(Finance Minister)

INDIA LOOKS UP TO THEM



**HON'BLE SARDAR
BALDEV SINGH**
(Defence Minister)



HON'BLE DR. JOHN MATHAI
(Transport Minister)



**HON'BLE GOPALASWAMY
AYENGAR**
(India's Spokesman in U.N.O.)



**HON'BLE JAIRAMDAS
DAULATRAM**
(Food Minister)

MEN AT THE UNION CAPITAL



HON'BLE Dr. B. R. AMBEDKAR
(Law Minister)



HON'BLE JAGJIVAN RAM
(Labour Minister)



HON'BLE RAFI AHMED KIDWAI
(Communications Minister)



HON'BLE
A.
T.

INDIA LOOKS UP TO THEM



HON'BLE N. V. GADGIL
(Works, Mines & Power Minister)



HON'BLE Dr. SHYAMA
PRASAD MUKHERJI
(Industries Minister)



HON'BLE K. C. NEOGY
(Commerce & Relief and
Rehabilitation Minister)

THE CONGRESS PRESIDENT



HON'BLE BABU
RAJENDRA PRASAD



THE DOMINION OF INDIA

On the 15th of August, 1947, two new Dominions, India and Pakistan, were added to the British Commonwealth of Nations. Though the Governments of the Dominions of India and Pakistan have commenced their administrative and executive functions in full swing, yet, because of various reasons, and primarily because mass migrations of population have been under way for many months, it is not possible to give the exact number of people inhabiting Pakistan or those in India. Also because the Boundaring Commission Award may, in all probability, be sought to be modified, it is impossible to give the exact extent of the to new Dominions. However, while East Bengal, West Punjab, the North-West Frontier Province, Sind and Baluchistan go to Pakistan, East Punjab, West Bengal, Assam, the united Provinces, central Provinces, Bihar, Bombay, Madras, Orissa and the Chief Commissioner Province of Delhi, Ajmer-Merueara Andaman and nicobar Islands and coorg lie in India. Most of the Native States have joint either Pakistan or India. The confusion caused by the alleged infiltration of tribesmen in to Kashmir and the provisional accession of Kashmir to India coupled with the Circumstantial occupation Junajadh State by the Indian Union troos have caused not a little worry and anxiety to the Governments of India and Pakistan. At present the Kashmir issue is before the United Nations and it is to be fervently hoped that Kashmir as well as all other controversial issues outstanding between India and Pakistan will soon have formed a union while the Orissa States have been merged with the province of Orissa.

The population undivided India was 388,800,000 in 1941 of which 92,973,000 lived in the Native States.

The Constitution of free India is not yet ready. It is expected to be got ready by the end of May, 1948.

India and Pakistan:- Pakistan is comparatively less rich, while the Union of India wealthy in resources man-power and in industrial capacity. Agriculture is the mainstay of Pakistan. A large wheat-growing area, a good deal of cotton and nearly all raw jute and fair proportion of all are the possessions of Pakistan. Karachi is an important port in western Pakistan while Chittagong in Eastern can easily be developed to rank her as one of the main ports on the coastline of the sub-continent.

All the large scale industries, however, are in Indian Union territory. A majority of the cotton mills as well as jute mills are situated in India. Calcutta and Madras are three important ports in this territory. Further possessions very large deposits of coal and iron. She can also to own and control a majority of the banking and insurance business country in addition to owning a good deal of industrial capital and while Pakistan suffers from a 'heavy handicap'.

Such of the cotton that is consumed by the mills of Bombay and come from cotton-tracts in Pakistan. Similarly raw jute from utilized in the jute mills of India. Here is a clear case of conflict-status. Already it is pointed out that Pakistan which possesses a number-flowing rivers in her territory may embark on huge schemes of

Hydro-electric power-generation so that she could as well manufacture her raw jute into exportable commodities. Her mills could be run by hydro-electric power in the place of coal-fuel which she lacks.

In the matter of food, Pakistan has large wheat-growing tracts while every day sees India depending more and more on food and cereal-imports from foreign lands. Pakistan can supply India with much-needed wheat Eastern Pakistan also grows considerable rice.

Economic Unity Vital :- The survey of the comparative economic resources of India and Pakistan clearly proves that the two Dominions have to lay much store by a programme based essentially on the economic unity of the whole sub-continent. "The producers of prime products and those who work them into manufactured articles cannot be separated by frontiers, with their tariffs and delays, without disaster". This is a valuable piece of experience as has been verified in the case of the United States of America.

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6. Legislation for the new Dominions.
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12. British forces in India.
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14. Provisions as to the Secretary of State and the Auditor of Indian Home Accounts.
15. Legal Proceedings by and against the Secretary of State.
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SCHEDULES

First Schedule-Bengal Districts provincially included in the Province of East Bengal

Second schedule –Districts provincially included in the new provinces of West **Punjab**.

Third Schedule-Modifications of Army Act and Air Force-Act to British Forces.

The draft of the bill makes provision for the setting up in Independent Dominions, to substitute other provisions for certain

1935, which apply outside those Dominions, consequent on or connected with the setting Most Excellent Majesty, by and with the Spiritual and Temporal, and Commons in, and by the authority of the same as on the fifteenth day of August, nineteen hundred and independent Dominions shall be set up in Pakistan.

Dominions are hereafter in this Act referred to as, and the said fifteenth day of August is this act referred to as **"the appointed day"**.

OF NEW DOMINIONS.

Territories of India shall be, subject to the provisions of sub-section (4) of this section, the territories under the sovereignty of which, immediately before the appointed day, were included in India except the territories, which, under sub-section (2) of this section are to be, the territories of Pakistan.

(2) Subject to the provisions of sub-sections (3) and (4) of this section **the territories of Pakistan shall be**

(a) The territories which, on the appointed day, are included in the Provinces of East Bengal and West Punjab, as constituted under the two following sections;

(b) The territories which, at the date of the passing of this Act, are included in the province of Sind and the chief Commissioner's province of British Baluchistan; and

(c) If whether before or after the passing of this Act but before the appointed day, the Governor-General declares that the majority of the valid votes cast in the referendum which, at the date of the passing of this Act in North-West Frontier Province are in favor of representatives of that province taking part in the Constituent Assembly of Pakistan, the territories which, at the date of the passing of this Act, are included in that province.

(3) Nothing in this section shall prevent any area being at any time included in or excluded from either of the new Dominions, so, however, that

(a) no area not forming part of the territories specified in the said sub-section (1) or, as the case may be, sub-section (2), of this section shall be included in either Dominion without the consent of that Dominion; and

(4) Without prejudice to the generality of the provisions of sub-section (3) of this section, nothing in this section shall be constructed as preventing the accession of Indian States to either of the new Dominions.

BENGAL AND ASSAM

3. (1) As from the appointed day

(a) The province of Bengal, as constituted under the Government of India Act, 1935, shall cease to exist; and

(b) There shall to be constituted in known respectively as **East Bengal** and

(2) If, whether before or after the appointed day, the Governor-General declare votes cast in the referendum which, at the time being or has recently been held in that District of Sylhet are in favor of that District of East Bengal, then, as from that day shall, in accordance with the provisions of sub-part of the new province of East Bengal.

(3) The boundaries of the new provinces and sub-section (2) of this section, the boundaries after province of Assam, shall be such as may be after the appointed day, by the awards of the Boundary Commissions or to be appointed by the Governor-General boundaries are so determined-

(a) The Bengal Districts specified in the First Schedule together with, in the event mentioned in sub-section (2) of this section Assam District of Sylhet, shall be treated as the territories which are comprised in the new province of East Bengal;

(b) The remainder of the territories comprised at the date of the passing of this Act in the new provinces of West Bengal; and

(c) In the event specified in sub-section (2) of this section, the district of Sylhet shall be excluded from the Province of Assam.

THE PANJAB

4. (1) As from the appointed day-

(a) the Province of the Punjab, as constituted under the Government of India Act, 1935, shall cease to exist; and

(b) there shall be constituted two new Provinces, to be known respectively as **West Punjab** and **East Punjab**.

(2) The boundaries of the said new provinces shall be such as may be determined whether before or after the appointed day by the awards of the Boundary Commissions appointed by the Governor-General in that behalf, but until the boundaries are so determined-

(a) The Districts specified in the second Schedule to this Act shall be treated as the territories to be comprised in the new province of East Punjab.

GOVERNOR-GENERAL

5. For each of the new Dominions, there shall be a Governor-General who shall be appointed by His Majesty and shall represent His Majesty the purpose of the Government of the Dominion:

Accordance with a law made by the Constituent Assembly of the Dominion in accordance with the Provisions of the Sub-section (1) of this section, have the like effect as law of the Legislature of the Dominion limiting for the future the powers of that Legislature.

ORDERS FOR BRINGING ACT INTO FORCE

9. (1) The Governor-General shall by order make such provision as appears to him to be necessary or expedient-

(a) For bringing the provisions of this Act into effective operation ;

(b) For dividing between the new Dominions, and between the new Provinces to be constituted under this Act, the powers, rights, property, duties and liabilities of the Governor-General-in-Council or, as the case may be, of the relevant Provinces which, under this Act, are to cease to exist;

(c) For making omissions from, additions to, and adaptations and modifications of, the Government of India Act, 1935, and the Orders-in-Council, rules and other instruments made there under, in their application to the separate Dominions;

(d) For removing difficulties arising in connection with the transition to the provision of this Act;

(e) For authorizing the carrying on of the business of Governor-General -in- Council between the passing of the Act and the appointed day, otherwise than in accordance with the provisions in that behalf to the Ninth Schedule to the Government of India Act, 1945;

(f) For enabling arrangements to be entered into, and other acts done, on behalf of either of the new Dominions before the appointed day;

(g) For authorizing the continued carrying - on for the time being on behalf of the new Dominions, or on behalf of any two or more of the said new provinces, of services and activities previously carried on, on behalf of British India as a whole, or on behalf of the former provinces which those new provinces represent;

(h) For regulating the monetary system and any matters pertaining to the Reserve Bank of India; and

(i) So far as it appears necessary or expedient in connection with any of the matters aforesaid, for varying the constitution, powers or jurisdiction of any legislature, Courts or other authorities therein.

(2) The powers conferred by this section on the Governor-General shall, in relation to their respective Provinces, be exercisable also by the Governors of the provinces which under this Act, are to cease to exist; and those powers shall, for the purposes of the Government of India Act, 1935, be deemed to be matters as respects which the Governors are, under that Act, to exercise their individual judgment.

(3) This section shall be deemed to have had effect as from the third day of June, nineteen hundred and forty-seven and any order of the Governor-General or any Governor made on or after that date as to any matter shall have effect accordingly, and any order made under this section may be made so as to be retrospective to any date not earlier than the said third day of June:

Provided that no person shall be deemed to be guilty of an offence by reason of so much of any such order as makes any Provision thereof retrospective to any date before the making thereof.

(4) Any orders made under this section, whether before or after the appointed day shall have effect-

(a) Up to the appointed day, in British India;

(b) On and after the appointed day, in the new Dominion or Dominions concerned; and

(c) Outside British India, or as the may be, outside the new Dominion or Dominions concerned, to such extent, whether before, on or after the appointed day, as a law of the Legislature of the Dominion or Dominions concerned would have on or after the appointed day, but shall, in the case of each of the Dominions, be subject to the same powers of repeal and amendment as laws of the Legislature of that Dominion.

(5) No order shall be made under this section, by the Government of any Province, after the appointed day, or by the Governor-General, after the 31st day of march, 1948, or such earlier date as may be determined, in the case of either Dominion, by any law of the Legislature of that Dominion.

(6) If it appears that a part of the Province of Assam is, an on the appointed day, to become part of the new Province of Bengal, the preceding Provisions of this section shall have effect as if, under this Act, the province of Assam was to cease to exist on the appointed day and be reconstituted on that day as a new province.

SECRETARY OF STATES SERVICE, etc.

10. (1) The provisions of this Act, keeping in force provisions of the Government of India Act, 1935, shall not continue in force the provisions of that Act relating to appointments to the civil services of, and civil posts under, the Crowns in India by the secretary of State or the provisions of that Act relating to the reservations of posts.

(2) Every person who-

(a) Having been appointed by the Secretary of State, or the Secretary of State- in-Council, to a civil service of the Crown in India continues on and after the appointed day to serve under the Government of either of the new Dominions or of any Province or part their of; or

(b) Having been appointed by His Majesty before the appointed day to be a judge of the Federal Court or of any Court which is a High Court within the meaning of the Government of India Act, 1935, continues on and after the appointed day to serve as Judge in either of the new Dominions shall be entitled to receive from the Governments of the Dominions and Provinces or parts which he is from time to time a Judge, the same conditions of service as respects remuneration, leave and pension, and the same rights as respects disciplinary matters, or, as the case may be, as respects the tenure of his office, or rights as similar thereto as changed circumstances may permit, as that person was entitled to immediately before the appointed day.

(3) Nothing in this Act shall be constructed as enabling the rights and liabilities of any person with respect to the family pension funds vested in Commissioners under section two-hundred-and-seventy-three of the Government of India Act, 1935, to be governed otherwise than by Orders-in-Council made (whether before or after the passing of this Act or the appointed day) by His Majesty-in-Council and rules made (whether before or after the passing of this Act or the appointed day) by a secretary of State or such other Minister of the Crown as may the designated in that behalf by Order-in-Council under the Ministers of the Crown (Transfer of Functions) Act, 1946.

INDIAN ARMED FORCES

11. (1) The orders to be made by the Governor-General under the preceding provisions of this Act shall make Provisions for the division of the

Indian armed forces of His Majesty between the new Dominions, and for the command and governance of those forces until the division is completed.

(2) As from the appointed day, while any member of His Majesty's forces, other than His Majesty's Indian forces, is attached to or serving with any of His Majesty's Indian forces-

(a) He shall, subject to any provision to the contrary made by a law of the Legislature of the Dominion or Dominions concerned or by any order of the Governor-General under the preceding provisions of this Act, have, in relation to the Indian forces in question, the powers of command and punishment appropriate to his rank and functions; but

(b) nothing in any enactment in force at the date of the passing of this Act shall render him subject in any way to the law governing the Indian forces in question .

BRITISH FORCES IN INDIA

12. (1) Nothing in this Act affects the jurisdiction or authority of His Majesty's Government in the United Kingdom, or of the Admiralty, the Army Council, or the Air Council or of any other United Kingdom authority, in relation to any of His Majesty's forces which may, on or after the appointed day, be in either of new Dominions or elsewhere in the territories which, before the appointed day, were included in India, not being Indian forces.

(2) In its application in relation to His Majesty's Military forces, other than Indian forces, the Army Act shall have effect on or after the appointed day.

(a) as if His Majesty's Indian forces were not included in the expressions "the forces", "His Majesty's forces" and "the regular force", and

(b) subject to the further modifications specified in parts I and II of the Third Schedule to this Act.

(3) Subject to the provisions of subsection (2) of this section, and to any provisions of any law of the Legislature of the Dominion concerned, all civil authorities in the new Dominions, and subject as aforesaid and subject also to the provisions of the last preceding section, all service authorities in the new Dominions, shall, in those Dominions and in the other territories which were included in India before the appointed day, perform in relation to His Majesty's military forces, not being Indian forces, the same functions as were before the appointed day, performed by them or by the authorities corresponding to them, whether by virtue of the Army Act or otherwise, and the matters for which provision is to be made by orders of the Governor-General under the preceding provisions of this Act shall include the facilitating of the withdrawal from the new Dominions and other territories aforesaid of His Majesty's military force, not being Indian forces.

(4) The provisions of subsection (2) and (3) of this section shall apply in relation to the air forces of His Majesty, not being Indian Air forces, as they apply in relation to His Majesty's military forces subject, however, to the necessary adaptations, and, in particulars as if—

(a) for the references to the Army Act there were substituted references to their Air Force Act, and

(b) for the references to part II of the Third Schedule to this Act there were substituted a reference to part III of that schedule

NAVEL FORCES

13. (1) In the application of the Navel Discipline Act to His Majesty's navel forces, other than Indian navel forces, reference to His Majesty's navy and His Majesty's Indian navy or the ships thereof

(2) In the application of the Navel Discipline Act by virtue of any law made in India before the appointed day to Indian Navel forces, references to His Majesty's navy and His Majesty's ships shall, as from the appointed day, be deemed to be and to be only, references to His Majesty's Indian navy and the ships thereof.

(3) In section ninety B of the Navel Discipline Act (which in certain cases, subjects officers and men of the Royal Navy Marines to the law and customs of the ships and navel forces of other parts of His Majesty's dominions) the words " or of India " shall be repealed as from the appointed day, wherever those words occur.

PROVISIONS AS TO THE SECRETARY OF STATE AND THE AUDITORS OF INDIAN HOME ACCOUNTS

14. (1) A secretary of State , or such other Minister of the Crown as may be designated in that behalf by Order- in -Council under the Minister of the Crown (Transfer of Functions) Act, 1946, is hereby authorized to continue for the time being the performance, on behalf of whatever government or governments may be concerned, of functions as to making of payment and other matters similar to the functions which, up to the appointed day, the Secretary of State was performing on behalf of governments constituted or continued under the Government of India Act, 1935.

(2) The functions referred to in sub-section (1) of this section include functions as respects the management of and the making of payments in respect of Government debt, and any enactments relating to such debt shall have effect accordingly.

Provided that nothing in this sub-section shall be construed as continuing in force so much of any enactment as empowers the secretary of State to contract sterling loans on behalf of any such Governments as aforesaid or as applying to the Government of either of the new Dominions the prohibition imposed on the Governor-General- in-Council by section three-hundred -and- fifteen of the Government of India Act, 1935 ,as respects the contraction of sterling loans.

(3) As from the appointed day , there shall not be any such advisers of the Secretary of State as are provided for by section two hundred and seventy eight of the Government of India Act, 1935 and that section, and any provisions of that Act which require the Secretary of State to obtain the concurrence of his advisers, are hereby repealed as from that day.

(4) The Auditor of Indian Home Accounts is hereby authorized to continue for the time being to exercise his functions as respects the accounts of the Secretary of State or any such other Minister of the Crown as is mentioned in sub-section (1) of this section, both in respect of activities before, and in respect of activities after, the appointed day, in the same manner, as nearly as may be as he would have done if this Act had not passed.

LEGAL PROCEEDINGS BY AND AGAINST THE SECRETARY OF STATE.

15. (1) Notwithstanding anything in this Act, and in particular, notwithstanding any of the provisions of the last preceding section ,any provision of any enactment which , but for the passing of this Act, would authorize legal proceedings to be taken, in India or elsewhere, by or against the Secretary of State in respect of any right or liability of India or any part of India shall cease to have effect on the appointed day, and legal proceedings pending by virtue of any such, provision on the appointed day shall, by virtue of this Act, abate on the appointed day, so far the Secretary of State is concerned.

(2) Subject to the provisions of this sub-section, any legal proceedings which, but for the passing of this Act, could have been brought against.

the secretary of State in respect of any right of liability of India or any part of India shall instead be brought-

(a) In the case of proceedings in the United Kingdom, by or against the High Commissioner

(b) In the case of other proceedings, by or against such person as may be designated by an order of the Governor-General under the preceding provisions of this Act or otherwise by law of the new Dominion concerned; and any legal proceedings by or against the secretary of State in respect of any such right or liability as aforesaid which are pending immediately before the appointed day shall be continued by or against the High Commissioner, or as the case may be, the person designated as aforesaid; Provided that at any time after the appointed day the right conferred by this sub-section to bring or continue proceedings may, whether the proceedings

are by or against the High Commissioner or the person designated as aforesaid, be withdrawn by a law of the Legislature of either of the new Dominions, so far as that Dominion is concerned and any such law may operate as respect proceedings pending at the date of the passing of the law.

(3) In this section, the expression " the High Commissioner " means in relation to each of the new Dominions, any such officer as may for the time being be authorized to perform in the United Kingdom, in relation to that Dominion, functions similar to those performed before the appointed day, in relation to the Governor-General-in-Council, by the High Commissioner referred to in section three-hundred-and-two of the Government of India Act, 1935; and any legal proceedings which immediately before the appointed day, are the subject of an appeal to His Majesty-in-Council or of a petition for special leave to appeal to His Majesty-in-Council, shall be treated for the purposes of this section as legal proceedings pending in the United Kingdom

ADEN.

16. (1) Sub-sections (2) to (4) of section two hundred-and-eighty-eight of the Government of India Act, 1935 (which confer on His Majesty power to make by Order-in-Council Provision for the Government of Aden) shall cease to have effect and the British Settlements Act, 1887 and 1945, (which authorize His Majesty to make laws and establish institutions for British Settlements as defined in those Acts) shall apply in relation to Aden as if it were a British Settlements Act, 1887 and 1945.

(2) Notwithstanding the repeal of the said sub-sections (2) to (4), the Orders-in- Council, in force there under at the date of the passing of this Act shall continue in force, but the said Orders-in-Council any other Orders-in-Council made under the Government of India Act, 1935, in so far as they apply in Aden, and any enactments applied to Aden or amended in relation to Aden by any such Orders-in-Council as aforesaid, may be repealed, revoked or amended under the powers of the British Settlements Act, 1887 and 1945.

(3) Unless and until provision to the contrary is made as respects Aden under the powers of the British Settlement Acts, 1887, and 1945, or as respects the new Dominion in question, by a law of the Legislature of that Dominion, the provisions of the said Orders-in-Council and enactments relating to appeals from any courts in Aden any courts which will, after the appointed day, be both to Aden and to the Dominion in question, and the last mentioned courts shall exercise their jurisdiction accordingly.

DIVORCE JURISDICTION.

17. (1) No court in either of the new Dominions shall, by virtue of the Indian and Colonial Divorce jurisdiction Acts, 1926 and 1940, have jurisdiction in or in relation to any proceedings for a decree for the dissolution of a

Marriage, unless those proceedings were instituted before the appointed day, but, save as aforesaid and subject to any provision to the contrary which may hereafter be made by any Act of the Parliament of the United Kingdom or by any law of the Legislature of the Dominion concerned, all courts in the new Dominions shall have the same jurisdiction under the said Acts as they would have had if this Act had not been passed.

(2) Any rules made on or after the appointed day under sub-section

(4) of section one of the Indian and Colonial Divorce Jurisdiction Act, 1926, for a Court in either of the new Dominions shall, instead of being made by the Secretary of state with the concurrence of the Lord Chancellor, be made by such authority as may be determined by the law of the Dominion concerned and so much of the said sub-section and of any rules in force thereunder immediately before the appointed day as require the approval of the Lord Chancellor to the nomination for any purpose of any judge of any such Court shall cease to have effect.

(3) The reference in sub-section (1) of this section to proceeding for a decree for the dissolution of a marriage include references to proceedings for such a decree of presumption of death and dissolution of a marriage as is authorized by section (8) of the Matrimonial Causes Act, 1937.

(4) Nothing in this section affects two any Court outside the new Dominions, and the power conferred by section two of the Indian and Colonial Divorce Jurisdiction Act, 1926, to apply certain provisions of the Act to other parts of His Majesty's dominions as they apply to India shall be deemed to be power to apply those provisions as they would have applied to India of this Act had not passed.

PROVISIONS AS TO EXISTING LAWS, etc.

18. (1) In so far as any Act of Parliament, Order-in-Council, order, rule, regulation or other instrument passed or made before the appointed day operates otherwise than as part of the law of British India or the new dominions, references therein to India or British, however worded and whether by name or not, shall, in so far as the context permits and except so far as Parliament may hereafter otherwise provide, be construed as, or as far as by name or not, shall, in so far as the context permits and except so far as Parliament may hereafter otherwise provide, be construed as, or as including, reference to the new Dominion, taken together, or taken separately according as the circumstances and subject-matter may require:

Provided that nothing in this sub-section shall be construed as continuing in operation in so as the continuance thereof as adapted by this sub-section is inconsistent with any of the provisions of this Act other than this section.

(2) Subject to the provisions of sub-section (1) of this section and to any other express provision of this Act, the Orders-in-Council made under sub-section (5) of section three-hundred-and-eleven of the Government of India Act, 1935, for adapting and modifying Acts of parliament shall, except so far as parliament may hereafter otherwise provide, continue in force in relation to all Acts in so far they operate otherwise than as part of the law of British India or the new Dominions.

(3) Save as otherwise expressly provided in this Act, the law of British India and of the several parts thereof existing immediately before the appointed day shall, so far as applicative and the necessary adaptations, continue as the law of each of the new Dominions and the several parts thereof until other provision is made by laws of the Legislature of the Dominion in question or by any other Legislature or other authority having power in that behalf.

(4) It hereby declared that the Instruments of Instructions issued before the passing of this Act by His Majesty to the Governor-General and the Governors of provinces Lapse as from the appointed day, and nothing in

This Act shall be construed as continuing in force any provision of the Government of India Act, 1935, relating to such Instruments of Instructions.

(5) As from the appointed day, so much of any enactment as requires the approval of His Majesty in Council to any rules of Court shall not apply to any Court in either of the new Dominions.

GOVERNOR-GENERAL.

(19) (1) References in this Act to the Governor- General shall relation to any order to be made or other act done on or after the appointed day, be construed-

(a) Where the order or other act concerns one only of the new Dominions, as references to the Governor- General of that Dominion;

(b) where the order or other act concern both of the new Dominions and the same person is the Governor-General of both those Dominions, as references to that person; and

(c) in any other case, as references to the Governor- General of the new Dominions, acting jointly.

(2) References in this Act to the Governor-General shall, in relation to any order to be made or other act done before the appointed day, be construed as references to the Governor-General of India within the meaning of the Government of India Act, and so much of that or any other Act as requires references to the Governor- General to be construed as references to the Governor- General-in-Council shall not apply to references to the Governor- General in this Act.

CONSTITUENT ASSEMBLY

(3) References in this Act to the Constituent Assembly of a Dominion shall be construed as references-

(a) in relation to India, the Constituent Assembly, the first sitting whereof was held on the ninth day of December, hundred-and forty-six, modified-

(i) by the exclusion of the members representing Bengal, the Punjab, sind and British Baluchistan; and

(ii) should it appear that the North-West Frontier Province will form part of Pakistan, by the exclusion of the members representing that province; and

(iii) by the inclusion of members West Bengal and East Punjab; and

(iv) should it appear that, on the appointed day, part of the province of Assam is to form part of the new province of East Bengal, by the exclusion of members therefore representing the province of Assam, and the inclusion of members to chosen to represent of that province.

(b) in relation to Pakistan, to the Assembly set up or about to be set up at the date of the passing of this Act under the authority of the Governor- General as the Constituent Assembly for Pakistan:

Provided that nothing in this sub-section shall be construed as affecting the extent to which representatives of the Indian States take part in either of the said Assemblies, or as preventing the filling of casual vacancies in the said Assemblies, or as preventing in either of the said Assemblies in accordance with such arrangements as may be made in that behalf of, representatives of the tribal on the borders of the Dominion for which that Assembly sits and the powers of the said Assemblies shall extend, and be deemed always to have extended, to the making of provision for the matters specified in this proviso.

(4) In this Act, except so far as the context otherwise requires-

References to the Government of India Act, 1935, include references to any enactments amending or supplementing that Act and in particular references to the India (Central Government and Legislature) Act, 1946;

INDIA

“India”, where the references is to a state affairs existing before the appointed day or which would have existed but for the passing of this Act, has the meaning assigned to it by section three-hundred-and-eleven of the Government of India Act, 1935;

“India forces” includes all His Majesty’s Indian forces existing before the appointed day and any forces of either of the new Dominions;

“Pension;”, means in reference to any person a person, whether contributory or not, of any kind whatsoever payable to or in respect of that person, and include retired pay so payable a gratuity so payable and any sum or sums so payable by way of the with or without interest thereon or other additions thereto, of subscriptions to a provident fund;

PROVINCE

“Province” means a Governor’s province;

“Remuneration” include leave pay, allowances and the cost of any privileges or facilities provided in kind.

(5) Any power conferred by his Act to make any order includes power to revoke or vary any order previously made in the exercise of the power.

Short Title:--20. This Act may be cited as the **Indian Independence Act, 1947.**

SECTION 3. SCHEDULE ONE.

BENGAL DISTRICTS PROVISIONALLY INCLUDED IN THE NEW PROVINCE OF EAST BENGAL.

Chittagong Division: the districts of Chittagong, Noakhall and Tippera.

Dacca Division: the districts of Bakarganj, Dacca, Faridpur and Mymensingh.

Presidency Division : the districts of Jessore, Murshidabad and Nadia.

Rajshshi Division : the districts of Bogra, Dinajpur, Maida, Pabna, Rajshahi and Rangpur.

SECTION 4. SCHEDULE TWO.

DISTRICTS PROVISIONALITY INCLUDED IN THE NEW PROVINCE OF WEST PUNJAB

Lahore Division: the districts of Gujranwala, Gurdaspur, Lahore, Sheikhpora and Sialkot.

Rawalpindi Division: the districts of Attock, Gujrat, Jhelum, Nainwali Rawalpindi and Shanpur.

Multan Division : the districts of Dera Ghazi Khan Jhang, Lyallpur, Montgomery, Multan and Muzaffargarh.

SECTION 12. SCHEDULE THREE.**MODIFICATIONS OF ARMY APPLICABLE ALSO TO AIR FORCE ACT.**

1. The proviso to section forty-one (which limits the jurisdiction of courts-martial) shall not apply to offences committed in either of the new Dominions or in any of the other territories which were included in India before the appointed day.

2. In section forty-three (which relates to complaints) the words “with the approval of the Governor-General of India” shall be omitted.

3. In sub-section (8) and (9) of section fifty-four (which, amongst other things, require certain to be confirmed by the Governor-General-in-Council) the “India or”, the words “by the Governor-General, or as the case may be” and the words “In India, by the Governor-General, or if he has been tried” shall be omitted.

4. In sub-section (3) of section seventy-three (which provide for the nomination of officers with power to dispense with courts-martial for desertion and fraudulent enlistment) the words “with the approval of the Governor-General” shall be omitted.

5. In sub-section (2) of section 132 (which relates to rules regulating services prisons and detention barracks) the words “and in India for the Governor-General” and the word “the Governor-General” shall be omitted except as respects rules made before the appointed day.

6. In the cases specified in sub-section (1) of section 134, inquests shall be held in all cases in accordance with the provisions of sub-section (3) of that section.

7. In the cases specified in sub-section (1) of section one hundred-and-thirty-four, inquests shall be held in all cases in accordance with the provisions of subsection (3) of that section.

8. In section 136 (which relates to deductions from pay), in sub-section (1) the words “India or” and the words “being in the case of India a Law of the Indian Legislature”, and the whole of sub-section (2) shall be omitted.

9. In paragraph (4) of section 137 (which relates to penal stoppages from the ordinary pay of officers), the words “or in the case of officers serving in India the Governor-General”, the words “India or” and the words “for India or, as the case may be” shall be omitted.

10. In paragraph (12) of section 175 and paragraph (11) of section 176, (which apply the Act to certain members of His Majesty’s Indian Forces and to certain other persons) the word “India shall be omitted wherever it occurs.

11. In sub-section (1) of section 180 (which provides for the punishment of misconduct by civilians in relation to the court-martial) the words “India or” shall be omitted wherever they occur.

12. In the provisions of section 183 relating to the reduction in rank of non-commissioned officers, the words “with the approval of the Governor-General” shall be omitted in both places where they occur.

MODIFICATIONS OF ARMY ACT.

Section 184-B (which regulates relations with the Indian Air Force) shall be omitted

MODIFICATIONS OF ARMY ACT.

1. In section 179-D (which relates to the attachment of officers and air-men to Indian and Burma Air Forces), the words “by the Air Council and the Governor-General of India, or, as the case may be” and the words “India or” wherever those words occur shall be omitted.

2. In section 184-B (which regulates relations with Indian and Burma Air Forces) the words "India or" and the words "by the Air Council and the Governor-General of India or, as the case may be", shall be omitted.
3. Sub-paragraph (e) of paragraph (4) of section 190 (which provides that officers of His Majesty's Indian Air Force are to be officers within the meaning of the Act) shall be omitted.

MODIFICATION IN GOVERNMENT OF INDIA ACT, 1935.

Ten Orders have been made by the Governor-General under the Indian Independence Act and published in a Gazette Extraordinary on 14th Aug., 1947.

Two of them called the Indian (provisional Constitution) Order and the Pakistan (provisional Constitution) Order set out the omissions, additions and modifications to be made in the Government of India Act in its application to the separate Dominions from to-morrow. A large number of sections and Schedules of that Act are omitted. To mention the more important, the sections relating to the special responsibilities of the Governor-General and the Governors, their discretionary powers and individual judgment, the Secretary of State and the India office, the Secretary of State's services, the Crown Representative and the Political Department, the Federal Railway Authority and the restrictions imposed on the legislative and executive authority of the Dominion with a view to the safeguarding of the United Kingdom nationals, have all been omitted from the Constitution Act. Four of the Schedules, including the Ninth Schedule which at present regulates the Governor-Generals Executive Council, the Indian Legislature, etc. are also repealed.

THE INDIA ORDER

Under the India Order, the Government of the Dominion will be carried on in accordance with the provisions of Part II of the Government of India Act with the necessary modifications, expressions like Federation, Federal Legislature and Federal Government being converted into Dominion, Dominion Legislature and Dominion Government. The Dominion of India is defined in section 5 as comprising the Governor's Provinces. The Chief Commissioner's Provinces, the acceding States and any other area which may hereafter be included in the Dominion. Section 6 contains provisions for the accession of Indian States in respect of specified matters and the acceptance by the Rulers. Except namely, the Commander-in-Chief, Governors of provinces, judges of the Federal Court and of the High Courts and Auditor-General of India, will hereafter be appointed by the Governor-General. As provided in the Independence Act, the powers of the Dominion Legislature under the provisional Constitution will be exercised by the Constituent Assembly. The Order also provides for the continuance with the necessary adaptations of the India (Central Government and Legislature) Act, 1946, under which the Centre has certain executive and Legislative authority for a limited period in regard to trade and commerce, unemployment and requisitioning of land.

The main difference between the Pakistan Order and the India Order is that the Act as adapted for Pakistan refers to the Federation of Pakistan instead of the Dominion of Pakistan and the terminology of the existing Act is preserved.

PROVINCIAL LEGISLATURE

The India (provincial legislature) Order and the Pakistan (provincial legislature) Order make the necessary adaptations in four existing Order-in-Council made under the Government of India Act relating to the constitution of the Provincial Legislative to the constitution of the Provincial Legislative Assemblies and Councils. Important features are the abolition of the Upper Chamber in the Bengal and Assam Legislature, the

Abolition of the European territorial constituencies in all Provincial Legislatures, and the drastic curtailment of the heavily weighted representation now enjoyed by European commerce and industry in Bengal and European panting in Assam. Provision is made for the constitution of the Legislative Assemblies of the divided Provinces and for varying the constitution of the Province to East Bengal. All sitting members, barring those representing the European constituencies mentioned above will continue to be members of one or other of the Legislative Assemblies in accordance with the allocation made by the Order. In the few cases where a constituency is duplicated, the sitting member will have the option of being in the Legislative Assembly before the 1st September.

DISTRIBUTION OF PROPERTY

Another Order provides for the initial distribution of rights, property and liabilities of the Central and Provincial Governments in India consequential on the setting up of the two Dominions and the division of provinces. This is expressly made subject to such final settlement as may be arrived at by agreement between the Governments concerned or by award of the Arbitral Tribunal which has already been set up by another Order. The general effect of this technical and complicated Order is that lands, buildings and goods now vested in the Centre and situated outside but used for the purposes of any official representative of the Government of India will be under the control of India, and in the small remainder of cases will be under the joint control of the Dominions. All outstanding liabilities for loans, guaranties and other financial obligations of the centre will be liabilities of India subject to such contribution by Pakistan as may be agreed upon by the two Dominions or in fault of agreement as may be determined by the Arbitral Tribunal. As regards contracts of the Central Government those which are for purposes exclusively Pakistan's will be deemed to have been made on behalf of Pakistan and all other contracts will be deemed to have been made on behalf of India. Provisions are made on similar lines for the allocation of rights, property and liabilities of Provinces.

The Indian Independence (International Arrangements) Order gives effect to an agreement reached by the partition Council as to the devolution of international rights and obligations upon the two Dominions Membership or all international organizations with all rights and obligations attached to such membership will solely upon India. Pakistan will take such step as may be necessary if it wishes to join any of those organizations. Rights and obligations under international agreements having territorial application will devolve on the Dominion in which the relevant territory is comprised.

MONETARY SYSTEM OF PAKISTAN.

The Pakistan (Monetary System and Reserve Bank) Order makes the requisite transitional provision for the monetary system of Pakistan and the continuance of the Reserve Bank's functions in , and relation to that Dominion. Until the 30th September, 1948, the Reserve Bank is to manage its currency, carry out its exchange, remittance and other banking operations including the management of its public debt, and in general, afford to Pakistan facilities similar to those which the Bank will afford to India The Reserve Bank will also continue to perform its present functions in relation to scheduled banks in Pakistan, Until the Pakistan Legislature otherwise provides, the standard monetary unit of Pakistan will be the India Rupee. India notes and coins will be legal tender in Pakistan until the 30th September, 1948.

Under the Indian Independence (Miscellaneous Provisions) Order, the Motor Vehicles Act, the Trade Marks Act, the Indian Tea Control Act and the Indian Tea Cess Act will continue to

1ST April, 1948, as if the partition of India had not taken place. Licenses, certificates of registration and permits issued under the Motor Vehicles Act will continue to be valid in either Dominion to the same extent as it is valid in the Dominion where it is issued. The Trade Marks Registry at Calcutta and its branch in Bombay will, during the transitional period, function also for Pakistan and the Registrar and Deputy Registrars of Trade Marks appointed under the Trade Marks Act for India will be deemed to have been appointed for Pakistan as well. Similarly, the India Tea Licensing Committee and the Tea Market Expansion Board constituted under the Indian Tea Control Act and the Indian Tea Cess Act respectively will continue to function as hereto fore for both the Dominions. In respect of these Acts Central Government of India will exercise all the powers and functions of the Central Government on behalf of Pakistan. In the India (Adaptation of Existing Indian Laws) Order and the Pakistan (Adaptation of Existing Pakistan Laws) Order, provision is made for adapting existing laws in their application to the new Dominions from the 15th August.

INDIAN INDEPENDENCE (PARTITION COUNCILS) ORDER, 1947.

In exercise of the powers conferred by section 9 of the Indian Independence Act, 1947, and all other powers enabling him in that behalf, the Governor-General was pleased to the following Order:-

1. (1) This Order may be cited as the Indian Independence (partition Council) Order, 1947.
(2) It comes into force at once.
2. The Independence Act, 1947, shall for the interpretation of this Order as it applies for the interpretation of an Act of Parliament.
3. As from the fifteen day of August, 1947, there shall be set up in the manner hereafter provided to be known respectively as-
 - (1) the partition Council for India and Pakistan .
 - (2) the Bengal Separation Council.
 - (3) the Punjab Partition Committee, and
 - (4) the Assam Separation Council.
4. (1) The Partition Council for India and Pakistan shall consist of:-
 - (a) two representatives of India who shall be Ministers of the Government of India ; and
 - (b) two representatives of Pakistan, one of whom shall be a Minister of the Government of Pakistan and the other shall be either another such Minister or the High Commissioner for Pakistan in India.
- (2) The meeting of the partition Council shall be held alternately under the chairmanship of one of the said representatives of India or one of the said representatives of Pakistan.
- (3) The High Commissioner for Pakistan in India shall be entitled to attend as an observer any of the meetings of the partition Council at which Pakistan is represented by two Ministers.
5. (1) The Bengal Separation Council shall consist of two representatives of East Bengal and two representatives of West Bengal.
- (2) The Punjab Partition Committee shall consist of two representatives of West Punjab and two representatives of East Punjab.
- (3) The Assam Separation Council shall consist of two representatives of East Bengal and two representatives of Assam.

(4) The said representatives shall be such persons as may be nominated by the Governor of the province concerned and different persons may be nominated for different meetings of the Council or Committee as the case may be.

6. The meeting of each of the bodies mentioned in Articles 5 shall be held-

(a) alternately in the capital towns of the two provinces represented on that body; and

(b) under the chairmanship of the Governor of the province in which the meeting is so held.

For the purposes of this Article a series of meeting held in one place from day to day shall be deemed to a single meeting.

7. It shall be the duty of each of the bodies mentioned Article 3-

(a) to consider all questions to such of matters mentioned in Article 4 of the Arbitral Tribunal Order, 1947, as are the concern of that body, and attempt to reach an agreed decision on all such questions;

(b) in the event of their failure to reach an agreed decision on any such question as aforesaid, to make a reference in accordance with the provisions of the said Order to the Arbitral Tribunal set up by that Order; and

(c) to consider any other question of common concern to the Dominions of India and Pakistan or, as the case may be respective provinces, arising in connection with the transition to the provisions of the Indian Independence Act, 1947.

MOUNTBATTEN OF BURMA,
Governor-General.

THE ARBITRAL TRIBUNAL ORDER. 1947.

In exercise of the powers conferred by section 9 of the Indian Independence Act 1947, and of all other powers enabling him in that behalf, the Governor-General is pleased to make the following Order:-

1. (1) This Order may be cited as the Arbitral Tribunal Order, 1947.

2. The Interpretation Act, 1889, shall apply for the interpretation of this Order as it applies for the interpretation of an Act of parliament.

3. (1) As from the fourteenth day of August, 1947, there shall be set an Arbitral Tribunal (hereinafter referred to as "the Tribunal") consisting of a Chairman who shall be nominated by the Governor-General, and two members who shall be so nominated, one to represent the future Dominion of India and the other to represent the future Dominion of Pakistan.

(2). If the office of the Chairman becomes vacant, it shall be filled by such person as the Governors-General of the Dominion concerned may nominate as members.

4. (1) The Tribunal shall have power to make awards in respect to reference made to it before the first day of December, 1947, or with the permission of the Chairman before the first day of January, 1948, by any of the following matters, namely:-

(a) the division between the Dominions of India and Pakistan, of the assets and liabilities of the Governor-General in-Council;

(b) the apportionment between the Dominions of India Pakistan of expense incurred by or under authority derived from the Joint Defense Council or the Supreme Commander for carrying into effect the purposes of the Joint Defense Council Order, 1947;

(c) the amount of assets and liabilities of the reserve bank of India to be transferred to Pakistan when the Reserve Bank of India ceases to be the bank of issue for Pakistan or the Central Bank of Pakistan;

(d) the apportionment between the Dominion's of India and Pakistan of the current earnings of foreign exchange including current releases of sterling by His Majesty's Government in the United Kingdom, during the period when the Reserve Bank of India administers common exchange control on behalf of both the Dominions:

(e) the division between the new provinces of East Bengal and West Bengal, of the assets and liabilities of the Existing Province of Bengal;

(f) the allocation to the new Provinces of East Bengal of any of the assets and liabilities of the Province of Assam;

(g) the division between the new Provinces of West Punjab and East Punjab, of the assets the liabilities of the existing Province of the Punjab; and

(h) any other matter arising directly out of partition

(2) The bodies referred to in paragraph (1) of this Article are the bodies which on the date of the commencement of this Order are known as-

(a) the partition Council,

(b) the Provisional; Joint Defense Council,

(c) the Bengal Separator Council,

(d) the Punjab Partition Committee, and

(e) the Assam Separation Council

And the corresponding bodies which are to be set up as from the date of the establishment of the Dominions of India and Pakistan.

(3) Whenever the appropriate body mentioned in paragraph (2) of this Article is unable to reach an agreed decision in regard to a matter mentioned in sub-paragraphs (a) to (g) of paragraph (1) thereof, that body shall make a reference to the Tribunal, but before the first day of December, 1947, or with the permission of the Chairman before the 1st day January, 1948 setting out as clearly as may be the matter or matters in deference.

(4) Whenever any of the bodies mentioned in paragraph (2) of this Article 4 is unable to agree whether or not a matter is one in regard to which in sub-paragraph (h) of paragraph (1), thereof but is agreed that a reference should be made to the Tribunal, that body may make a reference before the first day of December, 1947, or with the permission of the Chairman before the first day of January, 1948, setting out as clearly as may be the matter of matters in difference.

5. (1) Whenever any of the Bodies mentioned in paragraph (2) of Article is unable to reach an agreed decision in regard to a matter mentioned that body is required by paragraph (3) of that article to make a reference in the contingency mentioned therein, that question shall be referred to the Tribunal Whose decision thereon shall be final.

(2) Where a question has been referred to the Tribunal under this article-

(a) If the two members of the Tribunal are agreed as to the decision to be given such decision shall be the decision of the Tribunal and

(b) If the two members are not agreed, the Chairman shall decide the question and his decision shall be the decision of the Tribunal.

6. In respect of any reference made to Tribunal under Article 4-

(a) If the two members of the Tribunal are as to the terms of the award to be made the Chairman shall make the award in those terms, and

(b) in the event of disagreement between the two members with regard to any matter arising out of the reference, the Chairman shall decide such matter and make the award accordingly.

Provided that the body making the reference may, at any time before the award is made withdraw the reference by notice in writing to the Tribunal.

7. (1) every award –made in accordance with the provision of Article 6 shall be binding on the Dominions and all Provinces and other parts there- of and on all persons or indirectly concerned in or affected by the award.

(2) Every such award shall be communicated forth with by the Chairman to the body by which the reference was made, the Government of the two Dominions and the Governments of the Provinces concerned, if any.

8. (1) The Tribunal shall have power-

(a) to make an award conditional or in the alternative:

(b) to correct any clerical mistake or error arising from any accidental slip of omission:

(c) Subject to the Provisions of this Order to determine its own procedure and

(d) to appoint such ministerial officers as it may find necessary.

(2) The Tribunal shall have all the powers of a Civil Court for the purpose of receiving evidence, administering oaths, enforcing the attendance of witness and compelling the discovery and production of documents. and shall be deemed to be a Civil Court within the meaning of sections 480 and 482 of the Code of Criminal Procedure, 1898.

9. Nothing contained in the Arbitration Act, 1940, shall apply to proceeding before the Tribunal.

MOUNTBATTEN OF BURMA,
Governor-General

THE INDIAN INDEPENDENCE (INCOME TAX PROCEEDINGS) ORDERS, 1947.

In exercise of the powers conferred by section 9 of the Indian Independence Act, 1947, and of all other powers enabling him in that behalf, the Governor-General is pleased to make the following Order:-

1. (1) This Order may be cited as the Indian Independence (Income Tax Proceedings) Order, 1947

(2) It shall come into force at once.

2. (1) In this Order---

“ appointed day” means the fifteenth day of August, 1947

“ assesses “ means a person by whom income-tax or excess profits tax is payable;

“ relevant Tax Act means the Indian Income –Tax Act, 1922, as subsequently amended or as the case may be, the Excess Profits Tax Act, 1940, as subsequently amended

“Tax Authority” means any of the following authorities, namely the income-Tax authorities mentioned in section 5 of the Indian Income-Tax Act, 1922, the Appellate tribunal mentioned in section 5-A thereof, and the excess profits tax authorities mentioned in section 3 of the Excess Profits Tax Act, 1940;

“tax officer” means an Income-Tax Officer or an Excess Profits Tax Officer within the meaning of the relevant Tax Act.

(2) The Interpretation Act, 1889, shall apply for the interpretation of this Order as it applies for the interpretation of an Act of parliament.

(3) where before the appointed day the jurisdiction of a Tax Officer under the relevant Tax Act has been altered in connection with the setting up of the Dominions of India and Pakistan, or where the appointed day the case of an assessee is transferred from one Dominion to the other by agreement between the Central Boards of Revenue of the two Dominions and by reason of such alteration or transfer the case of an assessee falls to be dealt with on or after the appointed day by the Tax Authorities of India, or as the case may be of Pakistan, all proceeding relating to the case pending before any Tax Authority of Pakistan, or as the case may be of India, shall

be transferred to the corresponding Tax Authority of India, or as the case may be of Pakistan, and shall be disposed of by the last mentioned Tax Authority in accordance with law.

(4) Any transfer shall not render necessary the reissue of any notice already issued by a Tax Authority, whether before or after the appointed day, or the commencement **de novo** of any proceeding in the case. And all subsequent proceedings, whether by way of appeal, revision or otherwise shall be taken before the appropriate Tax Authority of the Dominion to which the case has been so transferred.

(5) No such transfer shall be called in question on the ground the Tax Authority to which the proceeding is so transferred has no jurisdiction to deal with the case.

MOUNTBATTEN OF BURMA,
Governor-General

**THE CROWN REPRESENTATIVE (TRANSFER OF PROPERTY AND LIABILITIES)
ORDER, 1947.**

In exercise of the powers conferred by section 9 of the Indian Independence Act, 1947, and all other powers enabling him in that behalf, the Governor-General is pleased to make the following Order:-

1. (1) This Order may be cited as the Crown Representative (Transfer of Property and Liabilities) Order, 1947.

(2) It shall come into force on the twelfth day of August, 1947.

2. (1) In this Order, the expression “property” includes all moveable and immoveable property and all choses in action, and, in particular, includes all rights subsisting under any contract.

(2) The Interpretation Act, 1889, applies for the interpretation of this Order as it applies for the interpretation of an Act of Parliament.

3. All property which, immediately before the commencement of this Order, is vested in His Majesty for the purposes of the exercise of the functions of the Crown in its relations with the Indian States is hereby vested in His Majesty for the purposes of the Governor-General in Council and as from the commencement of this Order, all such property shall be under the control and management of the Governor-General in Council.

4. All liabilities, whether arising out of a contract or otherwise, which have accrued against His Majesty's representative for the exercise of the

functions of the Crown in its relations with Indian States and are outstanding immediately before the commencement of this Order shall thereafter be liabilities of the Governor-General.

MOUNTBATTEN OF BURMA,
Governor-General

INDIA STERLING BALANCES

Under the Reserve Bank of India Act, not less than two-fifths of the assets of the Bank, should consist of gold coin, bullion and sterling securities. Thus India had always held sterling in Great Britain as part of our currency reserve. The amount that was thus held immediately before the war of 1939-45 was roughly £48 million. However, during the war, huge accumulations to our sterling balances accrued as a result of various financial and commercial transactions. The chief cause for the phenomenal increases in India's sterling balances was the purchase by Britain of war materials and stores from this country. Allied troops stationed in India were also fed and maintained with Indian money. After deducting from this amount, a certain portion representing India's contribution to the war-expenditure, the rest went to swell India's sterling balances. **On the 14th of August, 1947, the sterling balances standing to the credit of India reached £1,137 million.**

Nemours voices were raised from India demanding the repayment of her sterling balances by Britain so that India could utilize those amounts for resuscitating her economy. But the amount was huge and post-war Britain's commitments were many and hard. Some in Britain thought of either repudiation or at least scaling down of these sterling balances on the facile plea that Britain had incurred all those items of expenditure purely in depending India's frontiers against Fascism and aggressive Japanese militarism. The British and Indian Governments decided to hold Cabinet-level discussions in London in August, 1947. This could not take place due to urgent developments in India at that time. However an interim agreement on this issue was negotiated in London between the Two Governments. This agreement, concluded on August 14th, 1947 released a portion of India's much-discussed sterling balances.

NEGOTIATIONS.

It was announced in February, 1947, on the conclusion of the preliminary conversations between the officers of His Majesty's Treasury and the Bank of England and the Finance Department and the Reserve Bank of India that negotiations on the subject of the Sterling Balances would be continued on a more formal basis towards the end of April, 1947. In accordance with the intention of both Governments it was decided to hold these conversations towards the latter half of June, both sides being represented by Cabinet Ministers. As the Chancellor of the Exchequer could not leave England at that time, the Government of India accepted the invitation of His Majesty's Government to hold the conversations in London.

Consequent, however, on H. M.G.'s announcement of June 7, 1947, regarding the political and constitution future of India, it became impossible for any Cabinet Minister to leave India and both Governments agreed that the negotiations for a final settlement should be postponed. It had accordingly been decided to send for this purpose Mr. Narahari Rao, Secretary to the Government of India in the Finance Department, and Mr. B.K. Nehru, Deputy Secretary to London to discuss these matters with His Majesty's Treasury. These officers, who left Delhi on July 3, 1947 were supported by an Adviser from the Reserve Bank of India.

INTERIM AGREEMENT REACHED IN LONDON.

The Government of the United Kingdom and the Government of India had on August 14, 1947, concluded an interim Agreement, to cover the period up to the of 1947, relating to India's sterling balances. The Agreement is of an interim nature and without prejudice to further discussions for a settlement of India's sterling balances.

The Indian and British Delegations in a friendly and understanding spirit examined the economic and financial problems of the two countries. After a review of the situation in the U.K. and the probable requirements of India, it was agreed that a sum of £35 million should be available from India's existing balances for expenditure in any currency area up to December 31, 1947. In addition, a working balance of £30 million will be at the disposal of the Reserve Bank of India.

Agreement was also reached on the method of identification of capital transactions to be permitted between the two countries without charge against, or addition to funds available for current payments. In particular,

the two Governments agreed that no restrictions will be placed by either Government on the remittance of savings belonging to persons of U.K. origin who are proceeding to the U.K. to take up permanent residence, or on voluntary repatriation of investments in India by persons resident in the U.K.

India remains in the sterling area, but will continue to impose certain restrictions on remittance from India to other parts of the sterling area.

The following is the text of the Interim on India's Sterling Balances which was reached in London:-

London, the 14th August, 1947.

The Government of the United Kingdom of Great Britain and Northern Ireland (hereinafter referred to as "The Government of the U.K." and the Government of India, being desirous of making a temporary arrangement for dealing with the sterling balances of India, have agreed as follows:

Article I.

For the purposes of this Agreement the sterling assets of the Reserve Bank of India shall be taken at the figure of 1,160 million pounds.

Article II.

1. The Reserve Bank of India shall open with the Bank of England a new account (hereinafter referred to as **No.2 Account**) to which the balance of total assets referred to in Article 1 above remaining at the close of business on the date of signature of this Agreement shall be transferred.

2. The No.2 Account of the Reserve bank of India shall be operated in accordance with the provisions of Article No. VI of this Agreement and any sums standing to the credit of the said account shall be available only for purposes prescribed in that Article.

Article III.

1. There shall also be established at the Bank of England in the name of the Reserve Bank of India a new account (hereinafter referred to as **No.1 Account**) to which any sterling received after the date of this agreement by the Reserve Bank of India in respect of current transactions and any sums transferred from No. Account shall be credited.

2. The Government of the U.K. shall not restrict the availability of sterling standing to credit of No.1 for payments for current transactions in any currency area or for the purpose of any payment to residents of the sterling area.

Article IV.

1. There shall be transferred forthwith from No. 2 Account 35 million pounds, amount by which the total of the Reserve Bank of India's sterling assets, as established by Article I of this agreement, exceeds the amount transferred to No. 2 Account in accordance with paragraph No. (1) of Article II of this agreement.

2. There shall also be transferred from No. 2 Account to No. 1 Account the equivalent of any sums paid from No. 1 Account after July 15, 1947, in respect of:

(i) The transfer of ownership of military stores, equipment and fixed assets in India from the Government of the United Kingdom to the Government of India on the 1st of April, 1947.

(ii) The settlement of any outstanding under the Defense Expenditure Plan and of any other accounts relating to transactions which were connected with the war and took place prior to the 15th of July, 1947;

(iii) Payments outside India as a result of Agreements for release of assets which were vested in the Indian Custodian of Enemy Property;

(iv) Pensions paid outside India by or on behalf of the Government of India or any Provincial Government in respect of which an eventual capitalization scheme is contemplated.

(v) Such other as the two Governments may agree to.

3. There shall be transferred from No. 1 Account to No. 2 Account the equivalent of any sums paid into the No. 1 Account after the 15th July, 1947, in respect of.

(1) The settlement of any matter outstanding under the Defence Expenditure Plan and of any other accounts relating to transactions which are connected with the war and took place prior to the 15th of July, 1947.

(ii) Such other items as the two Governments may agree to.

Article V.

(1) In addition to the transfer provided in paragraph No. 1 of Article IV of this agreement, there shall also be transferred forthwith from No. 2 Account a sum of 30 million pounds as a working balance which may be drawn upon from time to time to meet the temporary shortage in India's available means of payment abroad.

(2) The level at which the working balance provided for in this Article has been maintained during the currency of this Agreement shall be taken

(3)

into consideration in consultants referred to in Article XI of this Agreement in the light of such data as may then be provided.

Article VI.

(a) No. 2 Account referred to in Article II of this Agreement shall be credited with:

(i) The assets referred to in Article II of this Agreement including proceeds thereof at maturity or on realization;

(ii) The proceeds at maturity or on realization of any investments purchased in accordance with established custom with funds standing to the credit of No. 2 Account.

(iii) The transfers from No. 1 Account being transfers provided for in paragraph No. of Article IV and paragraph No. 2 Article VIII of this agreement

(iv) Such other transfers as may be agreed to between the two Governments.

(b) The No. 2 Account shall be debited with,

(i) Transfers in accordance with paragraph No. 1 and paragraph No. 2 of Article IV and No. 1 of Article V and paragraph No. 2 of Article VIII of this Agreement.

(ii) Payments in respect of investments made in accordance with established custom;

(iii) Such other transfers as may be agreed to between the two Governments.

Article VII.

The Government of India shall not restrict:

(a) The acceptance by residents of India in settlement of payments for current transactions of sterling at the disposal of residents outside India;

(b) The availability of any Indian rupees arising from permitted current transactions and accruing to residents of the sterling area for any payments inside India or for the purchase of sterling.

Article VII.

(1) Such transfers of capital from India to the rest of the sterling area and **vice versa** as may be agreed to between the Reserve Bank of India and the Bank of England shall be subject to the provisions of paragraph No. 2 of this Article.

(2) The Reserve Bank of England shall consult together at agreed intervals in order to establish by reference to the best statistical data available to them the net capital movement from India to other countries of the sterling area or **vice versa** as the case may be resulting from agreed transfers of capital. Thereafter an amount equal to the net capital movement so established shall be transferred from No. 2 Account to No. 1 Account if movement is one from India to other countries of the sterling area, or from No. 1 Account No. 2 Account if the movement is in the reverse direction.

(3) Notwithstanding anything in this Article, the two Governments shall not restrict transfers of capital from India to U.K representing:

(a) Remittance of savings belonging to persons of U.K origin leaving India in order to take up permanent residence in the U.K and

(b) Voluntary repatriation of investments by persons regarded as resident in the U.K for purposes of Exchange Control in the U.K.

(4) Transfers of capital falling within the description in sections (a) and (b) of the proceeding paragraph shall be included in computations for which Paragraph No. 2 provides.

Article IX.

1. The two Governments shall as often may be necessary consult together with a view to ensuring the smooth working of the present Agreement.

2. The Reserve Bank of India and the Bank of England shall be constructed with the technical exestuation of this Agreement and shall consult together as often as may be necessary in order to ensure its smooth working

Article X.

For the purpose of the present Agreement:

- (a) In relation to events happening on or after the 15th of August, 1947, references to the Governments of both the new Dominions set up by the Indian Independence Act of 1947 or to the Government of either of them as circumstances require and the expression "India" shall continue to denote territories included in that expression immediately prior to August 15th, 1947.
- (b) The expression "Sterling Area" shall have the meaning from time to time assigned to it by the Exchange Control Regulations in force in the U.K. After the coming into force in the U.K. of the Exchange Control Act 1947, the expression "sterling Area" wherever it occurs in the present Agreement, shall be deemed to have been replaced by the expression "Scheduled Territories" which shall have the meaning from time assigned to it in the aforesaid Exchange Control Act of 1947.
- (c) The expression "payments for current transactions" shall have the same meaning as in Article XIX (1) of the Articles of Agreement of the International Monetary Fund.
- (d) In paragraph No. 2 of Article IV, the expression "Pensions" shall have the meaning assigned to it in the Indian Independence Act, 1947.

Article XI.

The present Agreement shall come into force on the 14th of August 1947. It shall terminate on December 31, 1947. Further consultations shall be held before the termination of this Agreement with a view to extending it or replacing it by another Agreement or other Agreements.

In witness whereof, the undersigned, being duly authorized thereto by their respective Governments, have signed the present Agreement.

Done at London this 14th day of August, 1947 I duplicate.

For the Government of the United Kingdom, WILFRED EADY.

For the Government of the India, V NARAHARI RAO.

Preliminary statement made by the Hon'ble Mr. R.K. Shanmukham Chetty, Minister for Finance, at the Press Conference held on Friday, the 22nd August, 1947.

"The press and the public have taken very great interest in the question of our sterling balances. This is a very healthy indication of the attitude of the people towards the study and understanding of our problems, I am therefore glad of this opportunity to explain to you, gentlemen, the implications of this question. Just at this moment this problem has assumed importance in view of the interim agreement between H.M.G AND THE Government of India which was signed on the 14th August, 1947.

It would be useful to give in brief outline the genesis of the sterling balances. We have always held sterling in the U.K as part of our currency reserve. Under the Reserve Bank of India Act, not less than two-fifths of the total assets of the Bank should consist of gold coin, bullion and sterling securities. Under this provision the Reserve Bank, even before the war, always held sterling balances of varying amounts. The amount that was thus held immediately before the war was about £48 million. The latest figure of sterling balances is £1.37 million on the 14th August, 1947. Huge accumulations to our sterling balances accrued during the war as a result of various financial and commercial transactions. The chief sources of accumulations were the purchase of stores and other materials from India on account of H.M.G and expenses incurred by us on account of the Allied Countries. Normally, these purchases should have been by the U.K obtaining rupees by raising loans in this country or by other financial arrangements with the Indian government. This however, was not done. **A section of the Reserve Bank of India Act, which imposes on the obligation to buy sterling offered**

To an unlimited extent, was utilized for financing these supplies It was really an abuse of that section because that section was not intended for such purchase. India, however had no choice on account of her dependant status and the operations led to vast accumulations of sterling to our credit. The British Government paid for the suppliers from time to time and the Government of India handed over the proceeds of these transactions to the Reserve Bank against within notes were issued by the Bank. The Reserve Bank has invested these amounts in short-item securities and with the bank of England.

NO SCALING DOWN

From this it would be clear that our sterling balances are not and Inter Governmental war debt in any sense of the term. It may be started that this is a very important point which is often missed by those who describe the sterling balances as a war debt which should be scaled down. These balances are the property of the Reserve Bank of India and are held by the Bank Party in the Issue Department as a currency reserve and partly in the Banking Department as its own assets against its liabilities. Any question of scaling down does not, therefore, arise either on moral or technical grounds.

ANOTHER REASON FOR INCREASE

There was one other source which helped to swell the sterling balances. India is a member of what is called the sterling area. Under the arrangements prevailing amongst the members of the sterling area, all other foreign currencies which we acquired as a result of our favorable balance of trade have been converted into and held in sterling. During the war certain currencies such as the dollar were hard and it was necessary for the countries within the British Empire to limit themselves to the utilization of such scare currencies for the successful prosecution of the war or for the maintenance of the essential civic life of the community. As regards- the use of sterling by us both during the war and immediately thereafter, there were no limitations on the amount which India could use for any purpose. There were, however, practical limitations imposed by the lack of shipping space and necessity for restricting imports to those absolutely necessary for the prosecution of the war or for maintaining the civil life of the community. With the termination of the war and the improvement in the supply position of certain classes of goods and also of shipping space, we were able to relax for some time our import control restrictions especially in the sterling area. A considerable amount of sterling was therefore used as a result of this relaxation of controls. During the past few years, owing to the acute shortage of good, we had import foodstuffs from abroad at fairly high prices. This again resulted in considerable withdrawals from our sterling balances.

ANGLO-AMERICAN LOAN

Besides India, there are other countries which have also accumulated large amounts of sterling balances. The more important of these are Egypt, Australia, Iraq and Argentina. These balances are understood to amount to approximately £3,500 million sterling. It is obvious that the two was open to sterling holders to utilize the balances are by creating an export surplus from the U.K and by demanding the convertibility of sterling into other currencies for expenditure abroad. The certain of an export surplus in the U.K involves, among other things, a tightening up of home consummation in that country. Apart from this, in the context of the war-shattered economy of England it would take some time before an adequate export surplus could be created. To meet this difficult situation the U.K had to obtain from the U.S.A. a line of credit of 3,700 million dollars which was intefended to last up to December, 1951. A similar line of credit also obtained from Canada amounting to 1,250 million dollars. The object of these credits was to facilitate purchase by the U.K. of goods and services in the U.S.A. AND Canada

To assist the U.K to meet the transitional post-war deficits in its current balance of payments and to help that country to maintain an adequate reserve of gold and dollars to enable it to assume the obligation of multilateral trade. These credits were, however, consumed at a rate much faster than was originally anticipated and it also turned out that, owing to various unforeseen factors, the economic recovery of the U.K. has been much slower than was expected. In spite of the very determined effort by the British Government, a crisis was threatening the economy of the U.K.

INTERIM SETTLEMENT

It was when this crisis was assuming serious proportions that our delegation went to London to negotiate an interim settlement. Though the question of the sterling balances was taken up immediately after the Interim Government in India in September, 1946 and though there were preliminary talks between officers of H.M's Treasury and the Bank of England on the one hand those of the Finance Department and the Reserve Bank on the other, no settlement was arrived at. Owing to the far-reaching political changes which occurred in our country during the last few months, it was possible to have negotiations at Ministerial level. It was therefore decided that an official delegation representing the whole of India should be sent to the U.K for making interim arrangements for the drawl of funds necessary to meet the estimated deficit in our balance of payments from the 15th of July to the end December, 1947 and for making the necessary technical arrangements with H.M.G. and the Bank of England. The Government of India accordingly sent a delegation consisting of Messrs. Narahari Rao, B.K. Nehru, and Keith C. Roy accompanied by Mr. Cayley of the Reserve bank.

MAIN FEATURES

The main features of the agreement negotiated by our delegation can be summarized as follows:-

1. The agreement is of a purely interim nature designed to cover the period ending 31st December 1947 and is not to be regarded as prejudicing either side in regard to a final or another interim agreement later on.

2. The arrangements deal only with the sterling balances of the Reserve Bank of India. The holdings of commercial banks and private individuals are not affected.

3. The balances of the Reserve Bank of India are kept in two accounts. No. 1 Account is the main operative account which will contain the multilaterally convertible currency. To this account will be credited the amounts released from the accumulated balances and all future current earnings. The No. 2 Account will contain the remainder of the balances. All future current expenditure will be debited to Account No. 1.

4. A sum of £35 million has been transferred to the credit of Account No. 1. This amount is intended to meet our estimated deficit in our balance of payments on current account from 15th July to the end of December, 1947.

5. In addition to this straight release of £35 million a further amount of £30 million has been placed to the credit of Account No. 1 for use as a working balance to be meet any temporary deficit in India's available means of payments abroad. Although this amount is in the nature of a reserve which is expected ordinarily to be replenished, it is clearly understood that it will be drawn upon to meet any deficit.

It will thus be seen that an amount of £65 million has been released for use by India in the form of any currency that she chose. It should however, be remembered that this amount does not represent the whole of the foreign

Exchange resources at our disposal. Withdrawals from the No. 2 Account will be made for meeting certain other obligations and these are:

- (a) Payments in respect of pensions, provident funds and gratuities estimated at about £21/2 million during this period.
- (b) Certain payments in connection with the release of enemy assets estimated to amount to over a million pounds.
- (c) Payments on account of the purchase of H.M.O. surplus stores and adjustments in connection with transactions arising out of the war.
- (d) The reparation of British without limit.
- (e) The transfer of savings of British nationals in the sterling area.
- (f) Repayments of sterling debts of the Government of India Local bodies and companies.
- (g) Other agreed capital transfers.

What I have Stated done not exhaust the foreign exchange resources avliable to us. In addition to what said above, there are certain other sources also and these are:

- (i) The working balances of commercial bank held in the form of cash or treasury bills and estimated approximately to £3 million and also the balances held by private individuals.
- (ii) The unspent balance from the 40 million dollar post-war dollar fund already placed at our disposal. The balance in this fund is approximately 25 million dollars.

NEED FOR AUSTERE ECONOMY.

If you want to obtain an overall picture of the total foreign exchange resources available to us, you must take in to account all the items which I have mentioned above besides the release of £65 million . From what I have stated you should not get away with the idea that we have ample foreign exchange at our disposal. In spite of all these resources, we had to impose very strict limitations on our imports. The need for conserving our exchange resources for making food purchases abroad should always be kept in mind. The need for imposing on ourselves an austere economy is indeed very great.

In the last negotiations both parties approached the problem with an effort to understand each other's difficulties and with a view to devise ways and means of maintaining unimpaired the economy of both. While we appreciate and sympathies with the difficulties which England has to face, we expect that there should be on the other side a due appreciation of our own difficulties and problems. Our slandered of life is so notoriously low that there is not much margin for us to play upon.

TEMPORARY SUSPENSION OF CONVERTABILITY

Since the agreement was signed, H.M.G. have found that the convertibility arrangements made by the U.K. have accelerated the drawings on the U.K. dollar resources and have developed into a crisis of great magnitude. In view of this, they have decided that immediate action to stop this drain is essential. The announcement was that the existing right of other countries to spend their sterling freely in the dollar area in respect of current transactions has been temporarily suspended. We have been assured that this purely a suspension and not an abrogation of the regarding the expendability of sterling. We have been further assured that as soon as circumstances permit H.M.G. will restore these arrangements to their full force and continue with the process of expanding them. So far as India is concerned, the real position

Is not so alarming as the text of the announcement may indicate at first sight. We have been assured that our agreement recently concluded, more especially Article III (2) dealing with convertibility of the sums in Account No. 1, stands in tact. It must therefore be clearly understood that the announcement does not in any sense either abrogate or repudiate our agreement. H.M.G. have however, been obliged to appeal to us, as they are doing to all their friends in the sterling area, to co-operative of minimizing the dollar element in their deficits. While the countries in the sterling area have been treated in this manner, the agreements with the non-sterling have been revised in regard to convertibility. The object of H.M.G. in resorting to these stringent measures is to strengthen the whole position of sterling. As the largest holders of the sterling balances, we ourselves are interested in maintaining and strengthening the position of the sterling, while we shall. While we shall certainly respond to the appeal made by H.M.G., we feel certain that in would be in a position to obtain our essential dollar. We have already imposed the most stringent import restrictions. We cannot afford to jeopardize our program me of food purchases abroad. While we shall continue the most rigorous restrictions on our expenditure of dollars and other scarce currencies, we shall see to it that India's internal economy, especially the import of food, will not suffer by reason of this sudden change. There is no question of any bargaining. We have reasons to think that H.M.G. fully appreciate our difficulty as we appreciate theirs.

A WARNING

“ I must here sound a note of warning regarding the manner of the utilization of these accumulated balances. These balances should not be looked upon as being available on any large scale for meeting our current consummation except during an emergency period. Current imports should ordinary be met current exports. The sterling balances must be regarded as a reserve of additional foreign exchange for the purpose of the economic development of our country and for obtaining the necessary capital equipment for this purpose. We should therefore concentrate not merely on producing more for our own needs, but on producing on a scale which will leave a considerable exportable surplus. We should also restrict our imports to those articles which are essential for maintaining the economy of the country. In this respect our own problems very similar to the problem which faces the U.K.”.

Withdrawal From Sterling Area:- Whether or not India leave the sterling Area and consequently, the Empire Dollar Fool, was according to the Indian Finance Minister, being considered by the Government. If and when she did so, it would be achieved through negotiations which will secede the number of dollars and other currencies which she might take into her own possession at the time of her withdrawal. Just at the moment, according to him, it was to India's benefit, to continue in the Sterling Area and the Dollar pool.

PREVENTION OF DOUBLE TAXATION

Indian-Pakistan Agreement

The Governments of India and Pakistan have entered into an agreement for the avoidance of double of income chargeable in the two Dominions according to their respective laws. The main features of this Agreement is that an assesses to whom the taxation Acts of both the Dominions apply will not have to pay tax on his entire income in both Dominions, and then apply for relief or refund in each of the two Dominions. Instead, each Dominion Government will assess only such part of the income as accrues, or is deemed to accrue, on its own area, as specified in the Schedule to the Agreement. Where a Dominion, under the operation of its laws, assesses any income in excess of what is specified in the schedule, that Dominion would allow an abatement of tax equal to the lower amount to tax in either Dominion

As regards the refund or adjustment of the Excess Profits Tax, Deposit and advance payment of Income-Tax and Excess Profits Tax, it has been agreed between the two Governments that the liability for repaying the amount to the assesses would rest on the Government with whom the file of the assesses was on August 15, 1947, or to whom the file may be transferred by agreement after that date. In assesses of such assesses, each Government also takes over the liability to refund a fraction of the Excess Profits Tax under Section 10 of the Finance Act, 1942.

CURRENCY PACT WITH PAKISTAN

The Finance Minister Mr. R.K. Shanmugam Chettiar told the house that there would be no change currency position until March 31st, 1948, as between India and Pakistan. After that date separate notes and coins will be

issued in Pakistan although Indian notes and coins would be exchanged only in treasuries for a period of another six months. Arrangements in regard to the exchange of currency after this period were under consideration.

Pakistan currency would not be legal tender in India during the period when Indian currency continued to be legal tender there.

Empire Dollar Pool--- There was no definite date on which the Empire Dollar Pool was constituted, and so long as the sterling area continued in the sense that a certain number of countries pooled their foreign exchange resources in London, the Empire Dollar Pool would also continue to exist. A country's connection with pool could only be terminated by a withdrawal from the sterling area. India was still a member of the Dollar Pool in this sense. There was, however, a qualitative difference in India's membership since the conclusion of the Interim Agreement on sterling Balances in August 1947. "Previously though India could draw exchange theoretically without limit of amount for all current transactions which she herself regarded as essential, she was bound in practice, to the convention for judging essentiality common to the whole of the sterling area and in practice therefore, her liberty to spend the difficult the more difficult currencies was often substantially restrained. Now India is free to follow her own independent policy with regard to what she will or will not purchase from countries outside the sterling area without regard to what the general policy of the Bank of England or the British Treasury may be. By virtue of the sterling balances agreement, however our right of withdrawal of dollars and other foreign currency is now limited to the amount of sterling we may at any time have to our credit in the Reserve Bank of India's Account No. 1 at the Bank of England".

RADIO AND BROADCASTING

THE history of broadcasting in India dates back to the pre-1927 period when Radio Clubs in Calcutta, Bombay and Madras maintained broadcasting services which though limited in scope were nevertheless popular at that time. In 1927 the Government of India granted a license to an Indian Broadcasting Company which worked similar to the British Broadcasting Corporation. This Company erected transmitting stations in Bombay and Calcutta and these stations were of the one and half kilowatts serial input. New bulletins as well as music, market and commercial information and weather reports were broadcast both in European and Indian languages.

In 1930, the **All-India Radio**, as an Indian Broadcasting Service replaced the Private Company. The A.I.R. has been in charge of the Department of information and Broadcasting of the Government of India. The A.I.R. was guided and kept in touch with public opinion by the Central Broadcasting Advisory Committee constituted of non-officials and officials and having as its the Member the Viceroy's Executive Council in charge of broadcasting.

In 1934-35 Government launched a development programme commencing with opening of a 20 kw. Medium-wave station in Delhi, with a wavelength of 338.6 meters (886 kc/s). In 1935 Mr. Lionel Fielden of the B.B.C. was appointed Controller of Broadcasting in India. Again in 1936, the Government of India secured on loan the services of Mr. H.L. Kirke, also of the B.B.C. The short-wave expert, Mr. C.W. Goyder was also brought into the scene and these experts together submitted their plan in January 1937. The remarkable features of their plan were the use of modern equipment, the economy effected and above all the prominence given to short-wave transmission which has been found more effective than medium-wave transmission when India as a whole is taken into consideration.

Broadcast Receiver License--- They are issued at all head and sub Post Officers. Traders in wireless apparatus are obliged to take out special import license. Their number has been on the increase in recent years. Special License are issued to Municipalities and other public bodies for the installation of receiving sets provided with any number of loud-speakers on condition that all the later are at one and the same place. This arrangement is made for the benefit of the village folk and townspeople. In the case of clubs, messes, etc. which reproduce subscription-programmes such as dances, etc., a Commercial Broadcast Receiver License is required.

All -India Radio--- The headquarters of A.T.R. is Broadcasting House Parliament Street, New Delhi and Director-General is the head of this Department. He aided by three Deputy Directors-General, a Director a Chief Engineer and an Assistant Chief Engineer.

8 stations and 20 transmitters with the 8 centers at Bombay, Delhi, Calcutta, Madras, Trichinopoly, Patna, Luknow and Cuttack now constitute the extent of All-India Radio. Hyderabad, Trivandrum in Travancore State and Mysore also possess transmitting and receiving stations. Each A.I.R. station is in charge of a Station Director.

A Director of News is in charge of All- India Radio publications of the type of "The Indian Listener." A.I.R. programmes are drawn up advance. One hundred and News Bulletins a day in twenty-five languages (16 foreign and 9 Indian) are broadcast from Delhi. Of late, broadcasts with a view to promoting rural have been taken up the various centres of A.I.R.

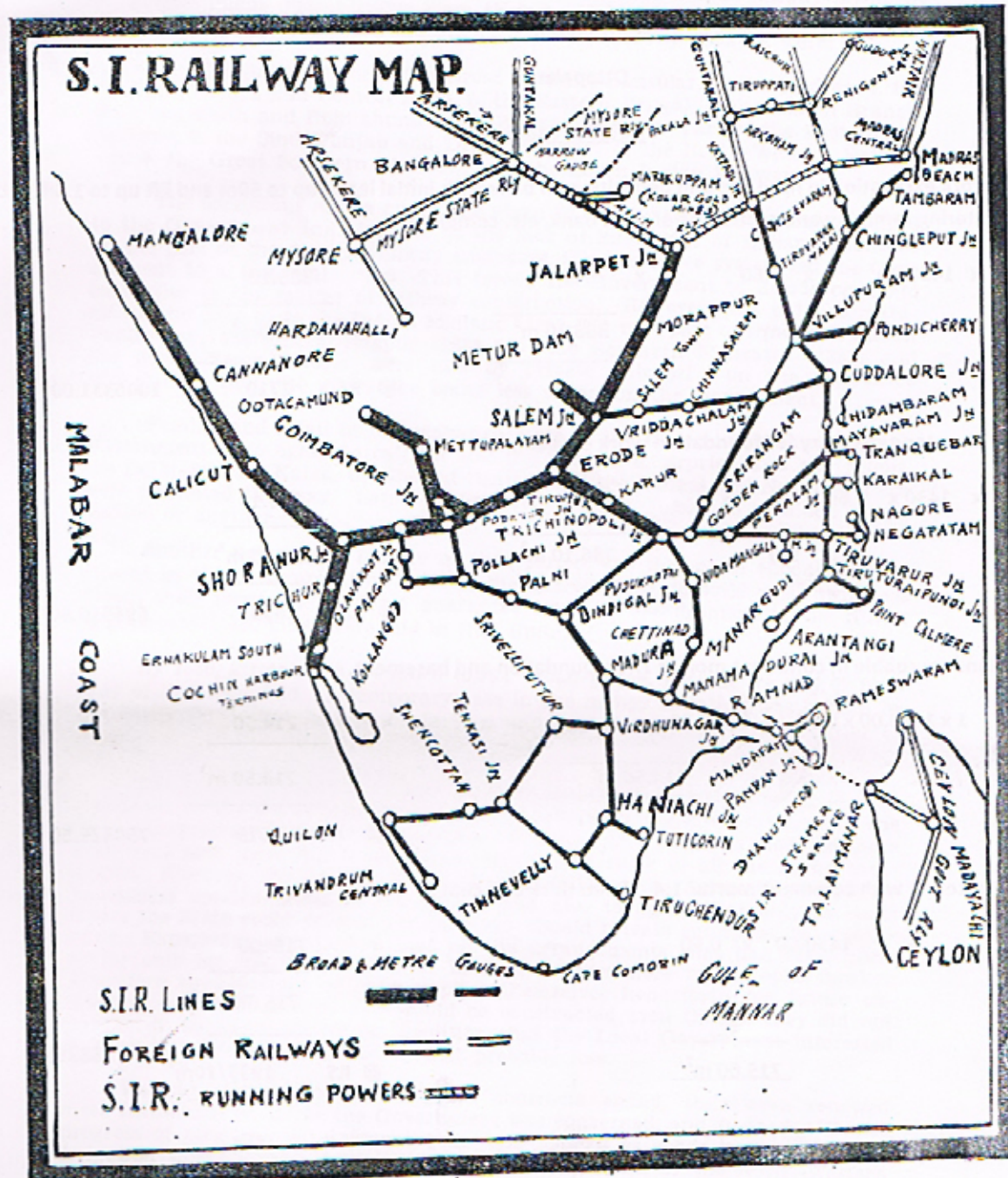
All-India Radio maintains contact with the public through periodical questionnaires, Advisory Committees, Radio Journals and direct correspondence with individual admirers and critics.

The number of radio-sets imported into India had been constantly increasing until quite recently. Britain and the United States of America are the chief supplies. Many thousand of sets were also imported by the Government of India the Lease-Lend system.

Photo- Telegram- The war saw the establishment in 1943 of a photo telegram service between London and Bombay. A projecting unit in London transmits pictures to a receiving gear in Bombay. The projection is done in the opposite direction as well. The result attained is speedier transmission of pictures by wireless.

INDIAN RAILWAYS

The history of Indian Railways is marked by early disappointments and Governmental initiative and perseverance in spite of difficult economic and social tendencies. In 1845, three lines were constructed, one of 120 miles from Calcutta to Raniganj, another of 32 miles from Bombay to Kalyan and a third of 39 miles from Madras to Arkonam. In 1853, Lord Dalhousie submitted his minute on railway development. Indian private capital was slow in coming and so a few



English companies were induced to come forward and accept railway-laying by the Government guaranteeing them their capital. These early companies that formed the vanguard of the present-day Indian railway network were:

1. The East Indian, 2. The Great Indian Peninsular, 3. The Madras, 4. The Bombay, Baroda and Central India, 5. The Eastern Bengal, 6. The Indian Branch, later the Oudh and Rohilkhand State Railway and now part of the East Indian Railway, 7. The Sind, Punjab and Delhi now part of the North-Western Railway and 8. The Great Southern of India, now the South Indian Railway.

The conditions of the guarantee given to the British Companies were hard to the Government and also due to the lack of knowledge of Indian conditions on the part of the foreign railway engineers, the guarantee system led the Government to a financial crisis. This forced the Government to decide on State enterprise in the matter of railway construction. However, this did not materialise and once more the Indian Midland (1882-'85) now part of the Great Indian Peninsular; the Bengal –Nagpur (1883-'87), the Southern Mahratta (1882) and the Assam-Bengal (1891) were laid by private enterprise on the guarantee system, this time the guarantee being less severe on the Government.

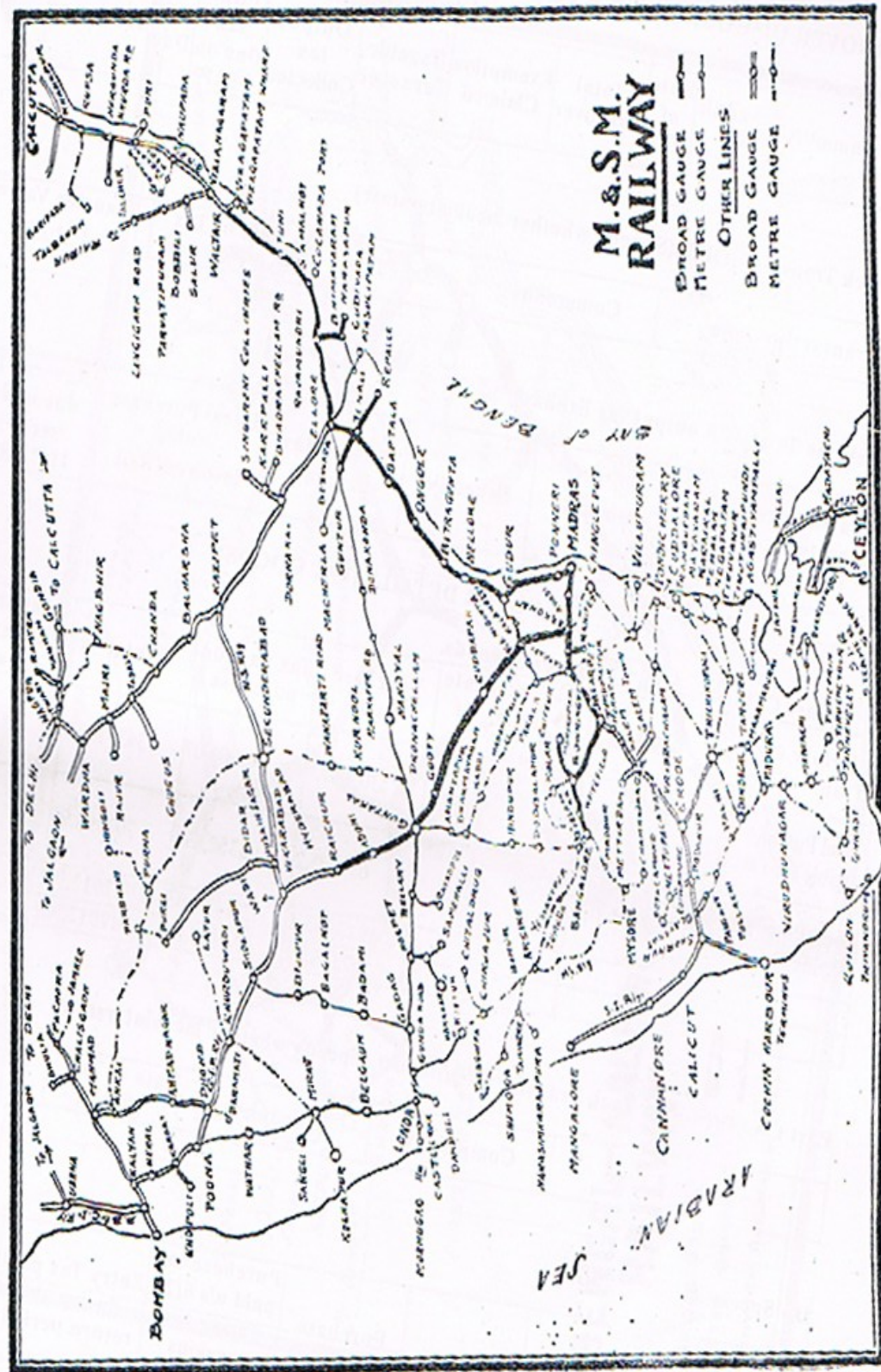
Famine and a fall in the exchange value of the Rupee in 1879 induced the Government once again to call for unaided private enterprises, and the Nilgiri, the Delhi-Ambala-Kalka, the Bengal Central and the Bengal and North –Western were promoted this way. Later on, however, even these had to be aided in one fashion or another.

Another noteworthy feature of that period was the moral encouragement offered by the Government of India to the Native States to build their own lines within their territory. Under a guarantee from the Government of the Nizam of Hyderabad, 330 miles were laid in that State.

By 1880, a total of 8,494 miles (6,562, broad-gauge, 1,865 metre and 67 narrow) of line were laid. A temporary ease in the money situation was broken by the costly lines that had to be laid in and about the north-west frontier of India.

The fourth period in Indian Railway construction started with the replacement of the old subsidy by a system of rebate on the gross earnings of the traffic interchanged with the main line. The rate of rebate was modified more than once and there was a temporary rise in the stock of all the sound companies. However, the experiences of the war induced the Ackworth Committee to suggest amalgamation of companies, and also to opine that only in cases where the State could provide adequate aid, should private enterprises be encouraged. Experience also proved that all the arrangements that had been made so far only led the Government of India to borrow more in the open market. Therefore they decided to raise capital themselves henceforth for future extensions, etc. Feeder lines also would be constructed even though they did not happen to be, remunerative on condition that the local Government interested in such lines would guarantee against probable loss.

Railway Finance – When original contracts ended, they were renewed more favourably so far as the Government was concerned, and further, with the progress of economic development, passenger as well as goods traffic increased. Irrigation works in the Punjab lightened the hardships of the North-Western Railway, and in 1900 for the first time the railway returns showed a profit. In 1908-'09, however, there was loss. But again there were rising profits until in 1920, the profits stood at roughly 10 million. Then there was loss for a few years which affected the finance of the Central Government who therefore in 1924-'25 separated railway finance from the General Budget. This separation was effected not only to relieve from the violent fluctuations caused by the incorporation therein of the railway estimates, but also to enable the Indian Railways to carry out a continuous railway policy. It was stipulated



That the general revenues shall receive a definite annual contribution from the railway; from the contribution so made shall be deducted the loss in working and the interest on capital expenditure incurred on strategic lines.

Any surplus profits that still exist shall be used for forming a reserve fund to cover depreciation cost of additional improvements rate-reduction, etc.

Railways are permitted to borrow from capital or the reserve for incurring expenditure for which adequate provision is not made but will be obliged to pay back the sum from the revenue budgets of subsequent years.

The figures of gross receipts and expenditure of the railway shall be included in the Budget Statement, which shall be presented to the Legislative Assembly on a separate day or days set apart therefor. The Railway Department shall place the Railway Budget before a Standing Finance Committee for Railways on some date prior to the date for the discussion of the demand for railway grants.

In 1943, the Legislative Assembly passed a resolution that from 1st April, 1943, until a time when new arrangements shall be made, the allocation of the surplus on commercial lines between the railway reserve and the general revenues shall be decided each year on consideration of the needs of the railways and general revenues, the loss, if any, on strategic railways being recovered from general revenues.

Government Control Over Railway Administration-In March, 1905 was constituted a Railway Board with a Chairman two members and a Secretary. This Railway Board replaced the old system of Consulting Engineers and was subordinate to the Government of India in the Commerce Department. Preparation of Railway programmes, consideration of question of policy and economy, improvement of railway management, construction of new lines by the State, all these were the functions of the Railway Board. In 1908, the Chairman's powers were increased. In 1920, a financial Adviser to the Revenue Board was appointed. In 1922, a Chief Commissioner of Railway was appointed in place of the Chairman of the Railway Board. The Chief Commissioner was given sole responsibility for taking technical decisions and in advising the Government of India on Railway policy. A Financial Commissioner was appointed in 1923.

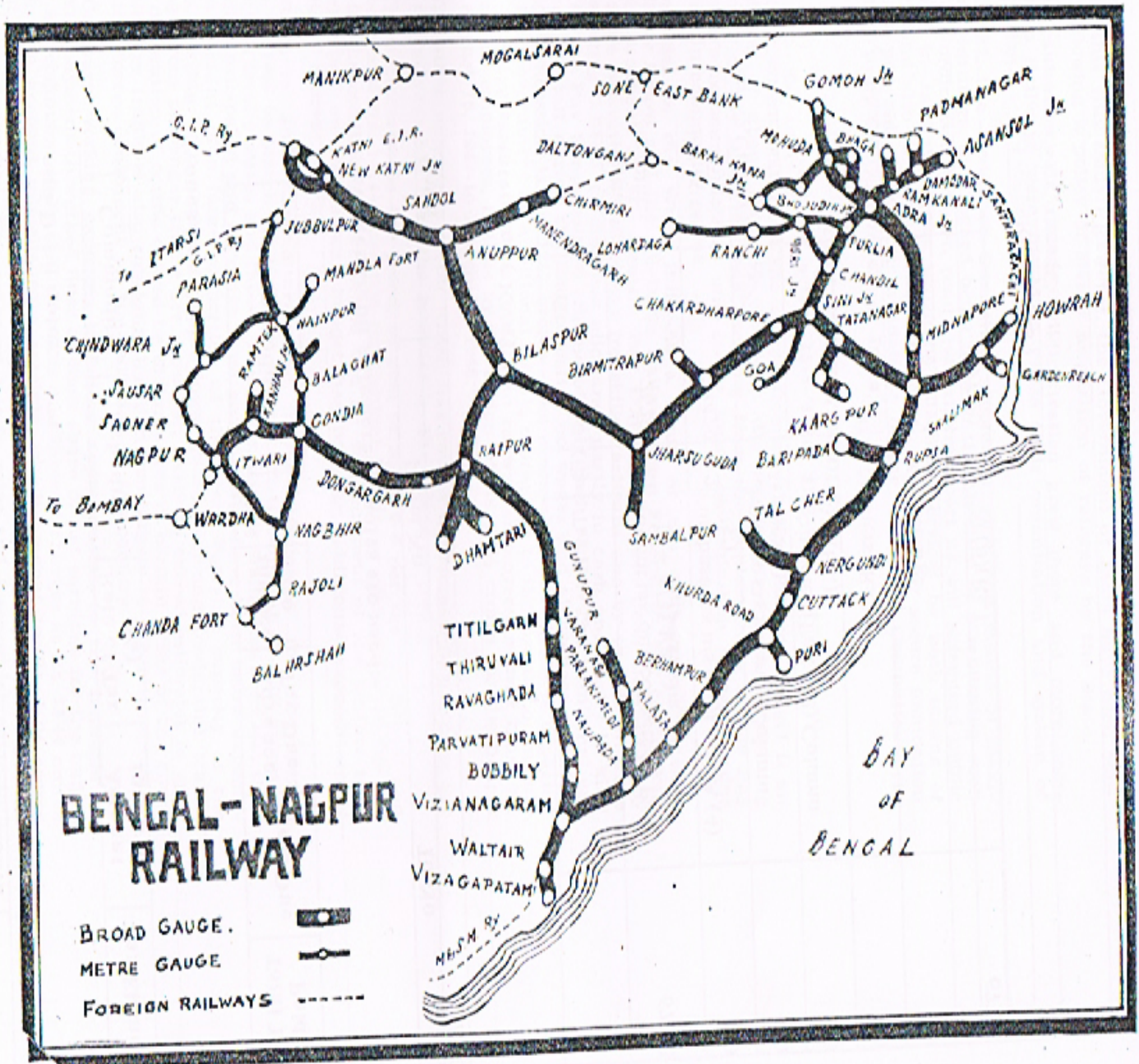
Publicity Arrangements – in 1927, a Central publicity Bureau was inaugurated under a Chief publicity officer for the purpose of co-ordinating the publicity carried out on the various railways.

In 1929, a third member was appointed to the Railway Board to attend to Labour questions such as solution of labour problems and the improvement of conditions of service of the staff with particular references to the needs of the lower paid employees.

Indian Railway Gauges- The standard Indian Railway gauge is 5 ft 6 ins. Originally when metre-gauge lines were constructed, it was proposed later on to change them over to the broad-gauge. An important metre-gauge system now connects Assam with Rajputana and Kathiawar and another system serves large areas of the Madras and Bombay presidencies and the States of Travancore, Mysore and Hyderabad it can legitimately be expected that the metre-gauge system in North India may in some years time be connected to the one in South India.

Certain hill railways as also feeder lines have been laid on 2ft 6 ins and 2 ft gauges.

State Versus Company Management –As the Indian Railway mileage grew, the State versus Company management controversy also assumed.



siderable proportions. The members of the Ackworth Committee were equally divided on this vital issue. However, the Government of India have been consistently following a policy steady acquisition of railways by the State.

Recorganisation – As railway administration grew more and more complex, Indian Railways were forced to revise their organisation and system of administration.

In 1937, the Wedgwood Committee suggested ways and means of maximising net earnings, due regard being paid to the question of establishing such effective co-ordination between road and rail transport as well safeguard public investment in railways, while providing adequate services by both means of transport, and also to place railway finance on a reasonably secure foundation as early as possible. The recommendations of the Wedgwood Committee were given effect to by the Government of India.

INDIAN RAILWAY BUDGET

(For the period 15-8-'47 to 31-3-'48)

The most salient feature of the Indian Dominion's first Railway Budget is an addition of about Rs.22 1/2 crores in the wages bill for the remaining 7 1/2 months of a financial year resulting from the implementing of the pay Commission's recommendations and larger losses on grainshop concession due to the rise in commodity prices.

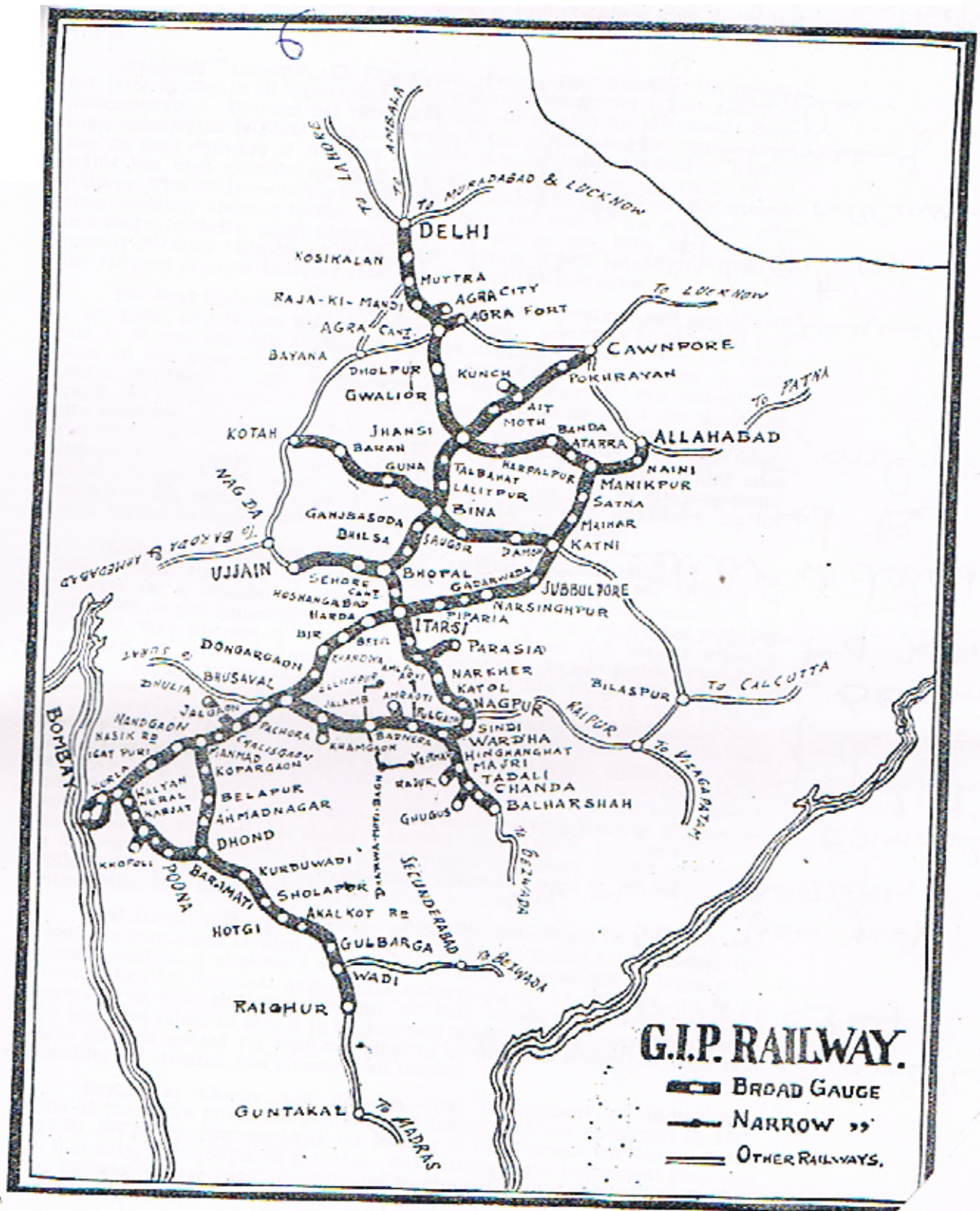
Increase in the Wage Bill – As a result of the deliberations between the Railway Board and the All-India Railwaymen's Federation, the concessions originally proposed by the Central Pay Commission have been liberalised by way of more improved scales of pay for skilled artisans and by the continuance of the existing scheme of dearness allowance partly in cash and partly in kind in lieu of the Pay Commission's scheme of only cash relief. The additional expenditure on staff during the budget period on wages and allowances excluding grainshop concession is Rs. 17 1/4 crores. The grain-shop concession is expected to cost the Government an additional Rs. 5 1/4 crores due to the rise in commodity prices. The aggregate additional benefit to railway employees, mainly Class III and Class IV employees, is thus in the region of Rs.22 1/2 crores for the budget period August 15, 1947 to March 31, 1948.

The other important factor which has caused an increase in working expenses of railways has been the increase in the prices of coal.

These increases in the prices of coal of Rs.2-6-0 per ton for Bengal and Bihar coal and Rs. 1-14-0 per ton for Central Provinces coal is due to the increase in the controlled basic prices and an enhancement of the welfare cess. The net effect on the railway budget has been an additional expenditure of about Rs. 2 crores.

Revenue and Expenditure – The budget estimates for the period August 15, 1947 to March 31, 1948, put gross traffic receipts at Rs.107 crores on the existing level of fares and rates. The fall in parcels traffic has been less than originally anticipated and earnings from goods traffic have been below expectation on account of a large proportion of the goods carrying capacity of the railways having been absorbed by the lower rated coal and foodgrains traffic. Earnings from passenger traffic are, however, likely to exceed estimates in spite of the dislocation of traffic caused by disturbances in certain areas of the country. Military traffic is also substantially high due largely to the rail movement of Armed Forces consequent on the partition of the country.

Ordinary working expenses including appropriation to the Depreciation Fund and payment to working lines of their share of net earnings for the budget period are computed at Rs.107.18 crores and interest charges at Rs.13.44 crores. Taking into account miscellaneous receipts, which amount to Rs.1.24 crores, the net deficit amounts to Rs. 12.38 crores and a revision of rates and fares has thus become inevitable. The proposed rise in rates and fares which came into



Force from January 1, 1948 is expected to bring in a revenue during the budget period of Rs. 9.15 crores, and in the net deficit is expected to be reduced to Rs. 3.19 crores.

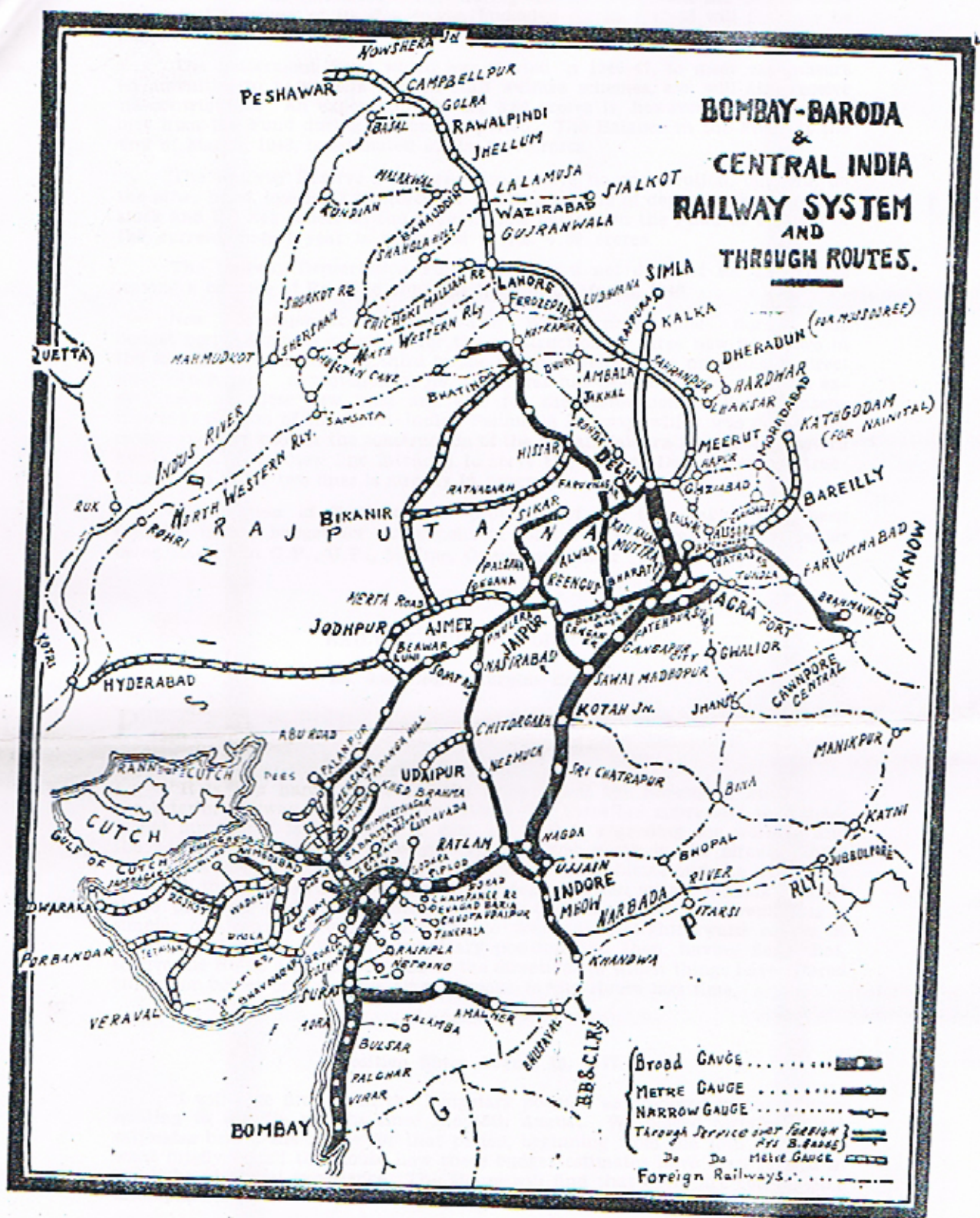
Proposed Increase in Passenger Fares:-The increase in passenger fares applies to all classes, but is progressively steeper for higher classes of accommodation. Uniform flat rates have been substituted for the present telescopic rates which decrease with the length of the journey and the present practice on some railways of charging a higher rate for travel by Mail or express trains has been extended to other railways as well except the Oudh Tirhut Railway. The incidence of the increase will, therefore, be heavier on long distance than on short distance traffic. On the whole, the cost to the poor man who undertakes essential short distance journeys will be very little more than at present on most railways while on some railways it will actually be lower as the railways are now charging rates higher than the new rates.

For First Class travel, the general rates at present are 24 per mile up to 300 miles, and 18 pies per mile thereafter plus a surcharge of 13%. The new rate is 30 pies per mile irrespective of the distance travelled. For the upper class on the Assam Railway instead of a telescopic rate of 18 pies per mile plus a surcharge of 13%, 24 pies per mile will be charged. For second class travel, the existing rate of 12 pies per mile up to 300 miles and 9 pies thereafter plus surcharge, the rate would be increased to 16 pies. Inter class travel will cost $7\frac{1}{2}$ % pies per mile by ordinary trains and 9 pies per mile by Mail trains instead of the existing average rate of 5.7 pies plus surcharge. Third class travel will cost 5 pies per mile by mail and 4 pies per mile by ordinary trains instead of the existing average rate of 3.6 pies inclusive of surcharge. On the Oudh Tirhut railway, however, only ordinary fares will apply.

Revision of Freight Rates:- The question of simplification of the freight rating structure has been engaging the attention of the Ministry of Railways for a considerable time. The detailed investigation commenced in April 1945, is still proceeding. Government were therefore confronted with the difficulty that whereas enhancement of the rates level had become urgently necessary, the rates investigation was not complete. It was decided that both purposes should be served concurrently by lifting the 'Class' rate scales and telescoping them over the longer distances. This is being done in class IV to IX as special Classes A and B the latter relating to manures, minerals and other low-grade goods usually carried in bulk. The structure of classes 1 to 3 is being left unchanged although the class maxima are being lifted. These rates relate mainly to food supplies and other necessities, a radical disturbance in the rates for which would not be advisable at the present time. In fact, care has been taken to ensure that as far as possible there will be no increase in the cost of transport for foodgrains and seeds for sowing. Another reform which is being introduced is the elimination of many of the schedule rates at present applied by railways both in local and inter-railway bookings. This is a step in aid of the final introduction of telescopic class rates for all commodities.

Coal freight rates are definitely below the present cost of transport, and pending a permanent revision of the complicated coal freight rate structure, the present practice of allowing a rebate on coal shipped coastwise is being withdrawn. Existing terminal and similar charges levied by railways are to be increased by 50%, and the surcharge on coal, which prior to the war was 12% and later raised to 20% is to be increased to 30%. An increase in the special rates hitherto quoted for iron and steel by railways on which the important foundries are situated, has already been notified.

Capital at charge and Reserves.- The Government of India's estimate of the figure of capital at charge of Indian Railways on August 15, 1947, was Rs. 659 crores. On this basis, the balance in the depreciation Reserve Fund, on that date, would be Rs. 93.22 crores. The balance in the Betterment Fund and the Railway Reserve Fund are estimated to stand at Rs. 11.71 crores and Rs. 7.98 crores, respectively.



In view of the estimated deficit during the budget period the contribution to general revenues of Rs. 7½ crores, budgeted for in 1947-48 will not now be made.

The Betterment Fund which was started in 1946-47, to meet expenditure on amenities to passengers and on staff welfare schemes, etc. will also receive no contribution. An expenditure of rs. 3.84 crores is, however, expected to be met from the Fund during the budget period. The Balance in the Fund at the end of March, 1948, is estimated at Rs. 8.07 crores.

The Railway Reserve Fund will also receive no contribution, but will, on the other hand, lose rs. 3.29 crores for meeting arrears of depreciation on rolling stock and the net deficit on the budget. The balance in the Fund at the end of the current budget year is estimated at Rs. 4.69 crores.

The Railway depreciation Fund will bear a net debit of rs.2.94 crores leaving a balance of Rs. 90.28 crores at the end of March, 1948.

New Development scheme.-The works programme during the budget period includes provision for the construction of three new lines, two in the coal fields area and the third in the north of Bengal for providing a direct link with Assam. A provision of Rs. 1¼ crores has been made to meet the expenditure on these new lines and also for the restoration of the Bhimsen Khairada Section of the Great-Indian Peninsula Railway, which was dismantled during the war and for the construction of the Rupar-Talaura line on the Eastern Punjab Railway, a new line intended to serve the Bhakra dam. The construction of the latter two lines is already in process.

Coordination of Transport.-A provision of Rs. 69½ lakhs has been included in the budget for investment in joint road-rail transport companies being formed in C.P., U.P., Madras, Orissa and Bihar.

RAILWAY BUDGET FOR 1948-49.

Rs. 9.85 Crores surplus Expected.

PRESENTING the Railway budget for 1948-49, in the Dominion Parliament on 16th February 1948, the Honourable dr. John Matthai (Minister of Railways) said

“It is now hardly three months since I had the honour of introducing the Interim Railway Budget, and the House will therefore appreciate that there is not much that is new that I can say today regarding the working and the administration of our railways. There is not much in the circumstances that I can add to what I said then regarding the problems and the difficulties by which the railways are faced and the endeavours that we are making to meet these problems and these difficulties. My task therefore this evening is a simpler one, and I propose therefore to take the straightforward course of dealing first of all with the budgetary position and then, having done that, to give the House a few indications of the directions in which things have altered either for better or for worse since I spoke to the House last time.

Position Since august 15, 1947.

I will take first of all the budgetary position as disclosed in our figures, relating to the 7½ months since the 15th August. We placed certain budget estimates before the House for that period, beginning from the 15th August, I want briefly to tell the House how these budget estimates have been revised in the light of actual experience. The House will find that there are considerable discrepancies between the budget estimates and the revised estimates. That

is investable in the position in which we are placed at present. We had to frame budget estimate in the first place for a divided India, based upon our experience of an undivided India.

"In the second place, we had to frame estimate for a broken period, based upon our experience for a whole previous year, and it is a very difficult matter in actual practice to make allowance for those seasonal variations which occur between one period and another in the course of a year. And another circumstance which placed us at a disadvantage in framing these budget estimates last year was that we were then right in the thick of the period of civil disturbances and refugee movements, and these had caused such a degree of dislocation in our finances and in our general administration, that it was difficult to forecast the probable trend of earnings. It was difficult even to determine the current trends. As the result of these various elements of uncertainty, the House will find that our revised estimates vary somewhat considerably from our budget estimates.

Fall in Earnings:-

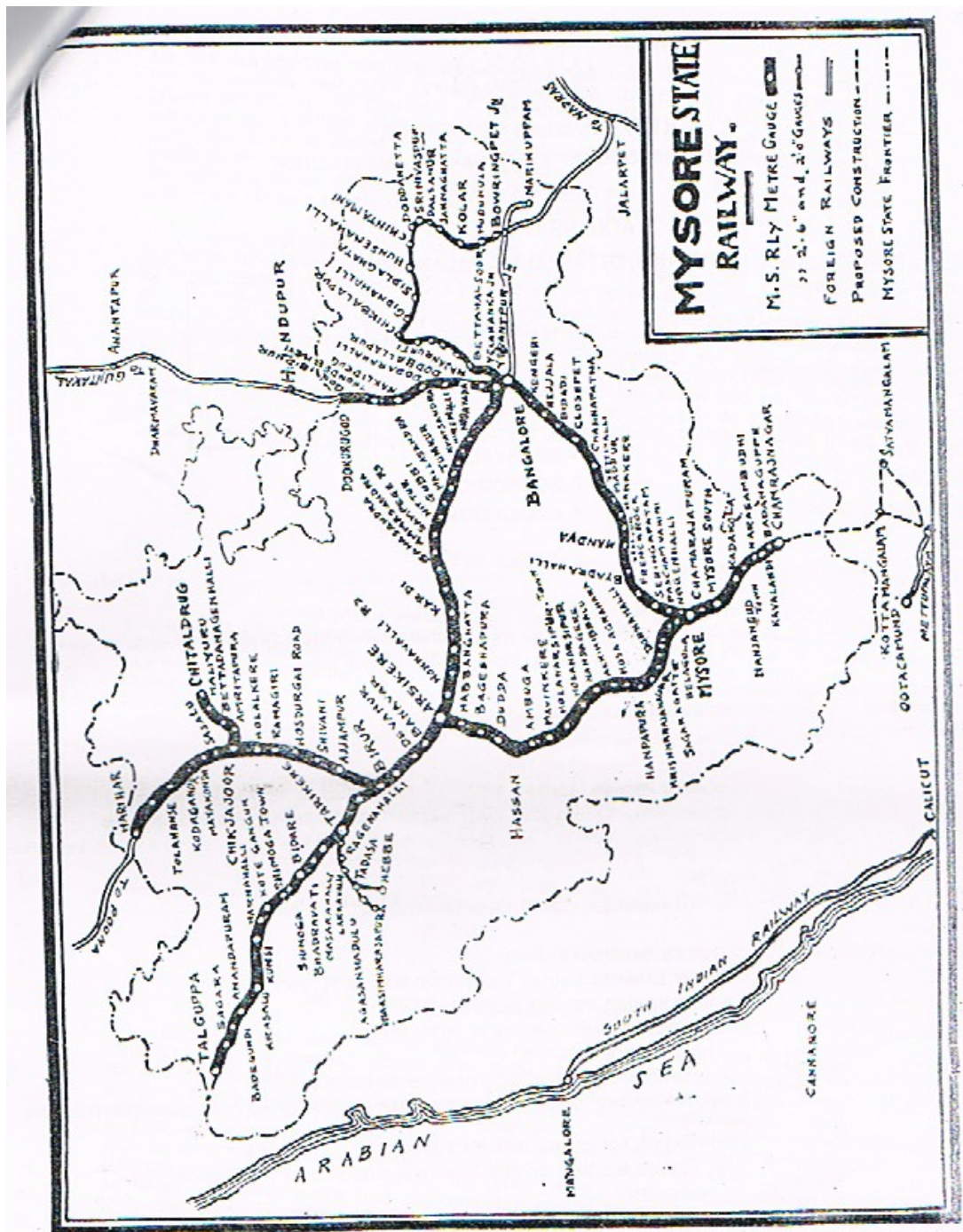
"I will give the main figures. The revised estimates for the 71/2 months ending 31st March, 1948 show a fall in earnings of Rs.8 crores as compared with the budget estimates. That fall in earnings occurs under goods earnings and under passenger earnings. But there is one item of earnings under which there is an increase, and that is what is called "Other coaching" earning. What these earnings mean is briefly this: There is a considerable amount of parcels traffic now as the result of the congestion in regard to goods traffic. That is to say, when you cannot send a thing by goods train, then you try to send it by a parcel train, even though it costs more. Parcel traffic therefore shows an increase. Then, there was a considerable amount of military movements as the result of demobilization and as the result of movement to troops in connection with the disturbances.

"Our earnings under goods according to the budget estimates were Rs.57.33 crores, while according to our revised estimates, they have come down to Rs.53.38 crores. Our passenger earnings according to budget estimates were Rs.52.12 crores which have come down in the revised estimates to 45.8 crores. Other Coaching earning which we estimate at Rs.5.03 crores have gone up to Rs.7.87 crores. The net result is a drop of Rs.8 crores. As against that there is also a drop in our ordinary working expenses. We estimate that our ordinary working expenses would be somewhere about Rs.99 crores: While revised estimates show that our expenses have been Rs.93.55 crores. I should like to flatter myself that this fall in working expenses indicate that we have been able to do with less expenditure. The position is not quite so gratifying as that. What really has happened is that the expenditure that we estimated for the year 1947-48 could not for various reasons be incurred before the end of that year, and the expenditure therefore has not been reduced but has been only postponed.

"These drops in earnings and in working expenses have resulted in an increase in the net loss that we estimate from Rs.2.7 crores to 5.2 crores and the result of that increase in the net loss is that we have had to make larger withdrawals from our Reserve Fund. And the Reserve Fund, therefore, in March 1948 will stand at a figure of Rs. 3.8 crores. That briefly summarises the position as regards the current year.

The Budget Year :-

"Now with regard to the year 1948-49, the Budget year. There again we are faced with several elements of uncertainty which prevent us from making anything like accurate forecasts. The year 1948-49 is a complete year. The usual practice, as the House knows; is that in framing your Budget Estimates



for the coming year you rely mainly upon the basis of your revised earnings for the current year. The revised earnings for the current year represent a broken period, and on the basis of that broken period you have to frame your estimates for a whole year—a necessarily difficult process. Then although we have now come to the end of the more serious phase of the civil disturbances which have occurred since partition, we are still much too near this period of disturbances to be able to determine with any degree of reasonable precision either the current trends or the probable trends in the coming year.

“Such estimates as we have been able to make, the best informed and the most intelligent estimates that my advisers have been able to make, give us these figures. We expect that in 1948-49 the gross traffic proceeds would be Rs. 190 crores. As against that we estimate that the ordinary working expenses would be Rs. 147.15 crores. To that you have got to add the depreciation which is calculated at present at $1/60^{\text{th}}$ of the capital at charge of the Railways at the end of the current year. The capital at charge is somewhere of the order of Rs. 678 crores and $1/60^{\text{th}}$ of that would give you Rs. 11.18 crores. Then there is the payment that we have to make to lines that we work on behalf of outside concerns,—their share of the traffic receipts which would come to Rs. 1.45 crores.

TRAFFIC RECEIPTS

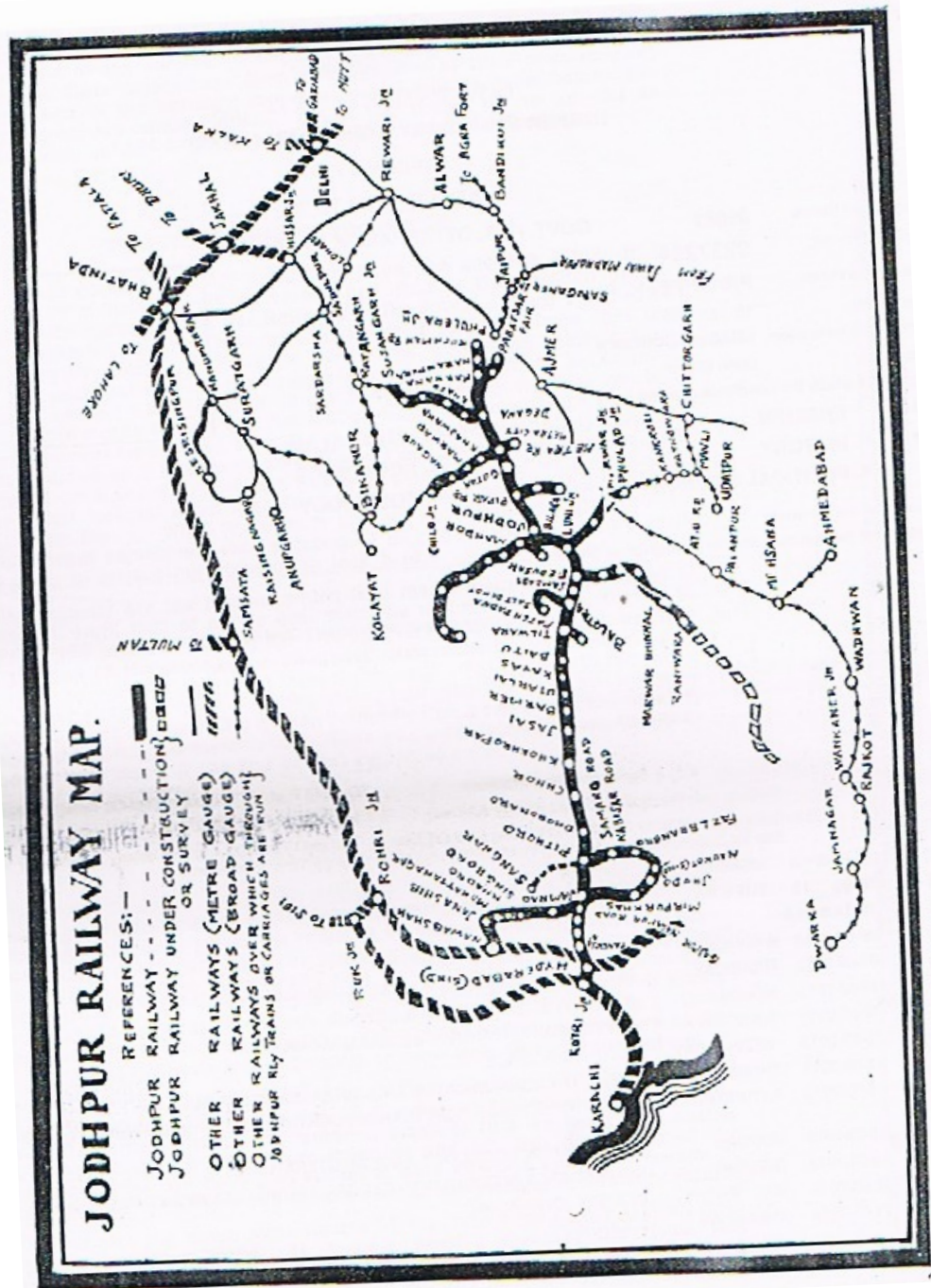
“Deducting working expenses, depreciation and payment to worked lines, we are left with a net traffic receipt of Rs. 30.22 crores you have to add various miscellaneous proceeds—and we get a very wide range of them. After deducting the charges which are appropriate to these miscellaneous receipts, you get a net revenue from this source of Rs. 2.18 crores. Altogether, therefore, in 1948-49 we expect to have a net revenue of Rs. 32.40 crores. From that you have to deduct the interest which is payable to Government for the money borrowed by the Railways.

“That has been calculated at a rate of Rs. 3.25 per cent which represents the weighted average rate of interest payable on the different classes of Government’s borrowings. That, on the average capital at charge which we expect during 1948-49 is somewhere about Rs. 690 crores, will give us altogether a liability on account of interest charges of Rs. 22.53 crores. Deducting Rs. 22.53 crores from the total net revenue of Rs. 32.40 crores, you are left with a net surplus for 1948-49 of Rs. 9.85 crores.

NO FURTHER INCREASE IN FARES

Declaring that there was no proposal to increase the fares, the Transport Minister said “the question arises: what is to be done with this net surplus of Rs. 9.85 crores which we expect for the year 1948-49? First of all, there is the question of the contribution payable by the railways to General Revenues. That question at present is determined by a resolution which the Legislature passed in 1943, which practically lays down that the contribution to General Revenues is to be fixed with reference to the requirements of the Railways and of General Revenues in each particular year. We have for many reasons considered it advisable and satisfactory that this question should be entrusted for decision to a Committee composed of Honourable Members of this House.

“A Committee has therefore been appointed consisting of three Members of the standing Finance Committee and three Members of the Railway Standing Finance Committee, under a Chairman having the authority and the judgement



of no less a person than the Hon'ble the Speaker of the House, Pending the receipt of the findings of this Committee, Government do not propose to make any allocations out of the surplus. When the findings of this Committee have been received and Government have been able to arrive at their decision upon these findings, then in the ordinary course proposals will be made before this House for the necessary appropriations. That, Sir, brings me to an end as regards what I wish to say about the financial position of the Railways.

TRAFFIC MOVEMENT PROSPECTS

"Now I will go on to a more general question, the question, I take it, in which the House is most deeply interested, and that is the question of the prospects of traffic movement on our Railways in the future. When I presented my Budget Statement to the House last November, I told the House that the circumstances with which the Railways were faced were more difficult than any that I had anticipated in my most pessimistic moments. What I am inclined to say today looking at the trend of things is that probably we have reached a stage where the steady process of deterioration which began with the Partition and the consequences that flowed from Partition has now been definitely checked. From such evidence as I have been able to see, I believe we have now reached a stage when I could say with a certain degree of assurance that we have turned the corner which does not mean that there is any striking and decided improvement that I can report. What it means is that we have reached a stage where we can go forward expecting steady progress. I do not anticipate that we shall be called upon to retrace our steps or to look back.

"What exactly are the reasons which lead me to make this statement to the House? I want, first of all, to do deal with the immediate future, that is to say, the next few months. Firstly, there is this very obvious fact that we have come to the end of the period of serious civil disturbances. We have come to the end of the period of these vast refugee movements. The House will remember that altogether during a period of two and a half months the Railways were called upon to move as many as 3 million refugees, which represents the capacity of exactly a thousand passenger trains. That was a terrible strain on the Railways and we have come to the end of that period of strain.

MARSHALLING YARDS

"Secondly, I told the House last November That one of the problems We are faced with have been faced with since the end of the war-is the large diversion of traffic which has occurred as the result of various war developments. A large volume of traffic is now moving along routes which are not equipped for dealing with this large amount of traffic, and I said therefore that it would be necessary for us to consider the question of improving and extending our Marshalling Yards, that is to say, these yards where you distribute wagons with reference to their ultimate destination. These marshalling yards, at the points where heavy traffic occurs, are not today equipped sufficiently to cope with this growing volume of traffic.

"Now pending a large extension of our marshalling yards, what we have been doing in order to meet the represent crisis, is that we have been setting up an arrangement for much more intensive and effective supervision of our marshalling yards. We have also set up a more effective system of control of train movements. And these two factors already are yielding satisfactory results.

"I will give the House some figures. I will take some of our typical, most important marshalling yards. At Asansol, when I spoke to the House last November, the period for which a wagon was detained in the marshalling yard there was 46.6 hours. Today the latest figure that I have is 31.1. At cawnpore,

last October the period of detention was 53.9 hours. Today it is 31.7. At Moradabad it was 39.9 hours. Today it is 22.8. At Ondal which represents the place where most of the coal traffic occurs, it was 22.1 and today it is 18.2. On the whole, taking these representative centers, there is a reduction in the period of detention to somewhere about one-third. The target that we are going to place before the Railways and on which we are going to insist is that no detention should occur in marshalling yards for a period in excess of 24 hours and we are going to see to it that target is observed.

WORKSHOP POSITION

"The next factors that I want to deal with is our workshop position. The importance of that is this. Practically the greater part of our more serious troubles today is due to our locomotive position. The hours will remember that I said last time that of the total number of locomotives that we possess today, about a third are over-age locomotives which have done their normal period of service and which, if locomotives were available in the world market, would be replaced almost immediately. There are countries in the world like the U.K., for example, where there is a large proportion of overage locomotives. But they are able to carry on with this large proportion of tired, old locomotives, because, they have got effective workshops where in point of spare parts they are not at the disadvantage at which we happen to be. Therefore, the position of our locomotives is very closely bound up with that happens in our workshops.

"There are two elements of importance in connection with the workshops. First of all, there is the question of the availability of spare parts. There is secondly the question and the amount of output that we can expect from labour.

"I take first of all the question of spare parts. I am glad to be able to report to the House that during the past few months, there has been a perceptible improvement in the delivery of orders of spare parts from the United Kingdom. Secondly, it has been possible for us, with the co-operation of the Defence Ministry, to utilise increasingly the spare capacity for manufacturing these small part in our Ordnance Factories and very considerable progress is being made in this direction. Thirdly, as the result of consultations with my Hon'ble colleague, the Minister for Industry and Supply, we have been able to get some relaxation of the arrangement under which all order for spare parts for machinery of all kinds is to be placed through the Industry and Supply Department. The formality and the delay that sometimes occur-quite-necessarily-have, to some extent, held up the work done in the workshops by the delay of the arrival of spare parts.

"As a result of the relaxation I have been able to get from my Hon'ble colleague, Local Administrations are in a position today to exercise a great deal more initiative in canvassing the possibility of getting spare parts in local areas. The position will be illustrated by the fact that in 1948 the orders that we have been able to place in India for spare parts show an improvement of nearly 37% over the orders placed in India 1947. That is as far as spare parts are concerned.

LABOUR CO-OPERATION

"I now come to the question of labour. I have been having the figures carefully examined and I am glad to be able to say that on practically all our principal Railways today there is an improvement in the number of man-days worked in the workshops. We find that on the E.N.R., on the E.I.R., on the S.I.R., on the M.S.M.R. and to some extent on the G.I.P.R.

"Now that is a cheering fact, but that is not the whole problem as far as labour is concerned because it is not merely the question of attendance but it is also the question of the work turned out during the period of attendance. I

have had an expert examination made in respect of two of our most important workshops and that expert examination has revealed the somewhat depressing fact that the quantum of work which is being done during the normal prescribed period is considerably below what we might reasonably expect. The basis on which this examination is done is this. First of all these people with a very considerable amount of experience of this class of investigation, determine the amount of standard output which under given conditions maybe expected of a labour and then they take the actual amount of work done and between the two, they notice between these two workers there is a very considerable margin. There are two ways of meeting that problem. First of all, we have to provide administrative devices which would automatically secure that each labour renders his full quota of work. There is, secondly, the co-operation to be secured from labour organizations themselves. We are considering the question of administrative devices and as far as co-operation from labour is concerned, I am confident that there are more responsible elements in the labour organisation representing the Railways and among them there is a very keen awareness of what is required of them in these circumstances.

“Taking the question of the improvement that I have noticed in respect of the availability of spare parts and the improvement in respect of attendance in the workshops, the result of these two factors must necessarily be reflected in the turn-round figures. Turn-round, as the House knows, is the period which a wagon takes to perform a journey and return to take up fresh traffic. When I spoke last November I said the average period of turn-round of a broad gauge wagon was 48 days. The latest figure that I have is 45.9. On metre gauge lines, the average figure that I gave was 51. Now the latest figure that I have which corresponds to the end of 1947 is 60.7. This shows deterioration, but it requires a certain amount of explanation. One of our biggest metre gauge workshops is at Ajmer. At the end of 1947 Honourable Members will remember there were very serious disturbances in Ajmer; curfew order had to be imposed and there was a general atmosphere of unsettlement and dislocation. Now if you leave out Ajmer, then the average figure for the turn-round of metre gauge wagons comes to 45. As against the figure of 51 which I gave the House last November.

LABOUR SHORTAGE CONSEQUENT UPON PARTITION

“Next I will deal with the difficulties that arose from the transfer and exchange of staff between India and Pakistan. That was a factor which led to a very great deal of disorganization of the Railways, about 100,000 men being exchanged and settled in new positions in the course of about 2½ months. Now that general dislocation is rapidly disappearing and men are beginning to settle down in their new positions. But one of the most serious difficulties that we had to face was that this transfer resulted on our side in a shortage of essential workers in particular categories. The House will remember that where the most serious difficulty arose on this account was the East Indian Railway in regard to their engine crew, which created, as I said, a first-class national crisis in respect of coal movements.

“I told the House that by various means we were able to reduce the shortage which at first was 47 per cent to 25 per cent in November. My latest figures show the shortage has come down to 9 per cent.

KEEP WAGONS MOVING

“Then I wish to deal with a factor which has been becoming increasingly important in recent months and that is undue detentions to wagons at destinations by our customers, by factories, by trade and sometimes by Government Departments in Provinces and States. I wish to give the House a few illustrations because this is one of the more serious difficulties with which we are faced at present. Take Jute. Towards the end of last year in the Cossipore road area in Calcutta the number of wagons which were waiting for unloading was 700 to 800

wagons in excess of the normal figure, which means to that extent the wagons are prevented from doing normal service. At important industrial centres in India, such as dalmianagar, Haripur, Tatanagar, we notice there is an increase of 20 to 25 per cent in the number of wagons waiting to be unloaded in excess of the normal figure. Similarly, with regard to collieries. I find that of the wagons which are supplied to collieries for being loaded with coal, very often a considerable number come back without being loaded, for reasons which are connected entirely with the colliery position. It may be lack of labour; it may be the inability to get stocks of coal ready in time. The last month, January 1948 for which I have figures shows that altogether 1,375 wagons came back empty without being loaded, which represents in terms of coal about 30,000 tons. I am mentioning these figures in no spirit of criticism, because I am well aware of the difficulties by which trade and industry are faced, in the matter of handling of wagons, but I do think when railway transport is in the difficult position in which it is today, we have a right to ask industry and trade to give us more co-operation.

COUNTERACTING DELAY

“As against this position the measures that the railways have taken are; we have reduced the free time allowed for demurrage purposes from 9 hours of daylight to 6 hours. After that demurrage will be charged. Sundays are to count for demurrage purposes. They will no longer be exempt. We are raising the demurrage fees on some of our Railways like the E.I.Ry. and B.B. & C.I. and the G.I.P. Railways. A great deal of handling is done by the Railways themselves and we have asked the Railways now and we are going to insist on it that they should set before themselves a target of a maximum of 3 hours for placing a wagon for unloading immediately it arrives at a terminal station, and as I said before, we are going to insist also that the period of detention in marshalling yards should on no account exceed 24 hours.

“These various factors which deal with goods traffic would in my opinion make for a certain degree of improvement. Take the G.I.P. When I spoke last time the turn-round of wagons on the G.I.P. Railway was 10.6 days. The latest figure that I have is 9.5 a reduction of 10 per cent. On the E.I.Ry. it was 17.4 and the latest figure is 14.1 a reduction of 20 per cent. And speaking of the E.I. Railway, I want to make a passing reference to the question of coal despatches. I said last time at the beginning of October when we are faced with this great shortage of engine crew, the total number of wagons that we could send on the E.I. And ON THE B.N. Railways to the collieries direct was somewhere about 1,400. In November last when I spoke to the House we raised that number of somewhere about 2,600. The latest figure that I have of the total number of wagons despatched from the E.I.R. and the B.N.R. with coal for the week ending the 7th February is 2,900.

DECONTROL DISORGANISES TRAFFIC

“I have been speaking of the directions in which a little improvement has occurred as regards the operation of the Railways. Now this operational improvement has been to some extent offset by the disorganisation of traffic which has been caused by the policy of decontrol. What has happened is this. Take the question of foodgrains. Before we introduced the policy of decontrol, all the more essential movements were sponsored by Government and all movements sponsored by government were given top priority—they were all grouped in Class 1. When Government decided to reduce their commitments and it became necessary therefore to make it possible for private movements to move more freely, we raised all movements of foodgrains on private or trade account from Class 4 to class 2.

“The result of that is that in class 2, in the second grade of priority, today, there is so large a number of indents for wagons that the railways are unable to cope with all the demands made on them. It does not mean that the quantum of traffic has come down; what it means is that when you have a large number of indents in respect of commodities all of which are in the same grade of priority and some of them are turned down and others are accepted, naturally there is a great deal of complaint, resentment and heart-burning which is what is going on in the country today. I have been giving a great deal of attention to this question, because I realise that unless the railways are able to meet the situation, the policy of decontrol would be made difficult.

CROSS-MOVEMENTS UNECONOMIC

“There are two problems that arise. When you allow unregulated movements on private account, you find there is a large number of what we call cross-movements. I have come across a number of cases recently where goods are despatched by traders to a particular destination and immediately the goods are rebooked and sent on to another destination which is much nearer the original point of consignment-which means that there is a great wastage of transport. Similarly, when you allow trade in an unregulated manner to move food grains then sometimes you find that food-grains are sent across to stations which are much too long from the station of consignment; it might be possible, for example for that particular centre to be supplied with food grains from a nearer point.

“These cross-movements and these uneconomic movements are putting a very great strain upon the Railways. Since in the higher grades of priority you have now a large variety of commodities included it looks to me, if we want to maintain the economic stability of the country, it will be necessary for us to take into consideration a programming of movement of essential commodities.

“In other words, we have got to take up the question, in the circumstances with which we are faced today, of determining with reference to priority both the nature and the direction of the traffic. We have got to consider the fixation of quotas and regulation of zonal control. I am not going to suggest for a moment that we are going to do this immediately. We are not. We are, however; watching the situation very carefully and if we find that the policy of decontrol is going to be defeated by the unnecessary load which is being put on the railways it will be necessary for us to take this matter up for active consideration.

REVISION OF PRIORITY SYSTEM

“As regards the question of railway priorities, the House will remember that the whole subject is now regulated by the Railways Transport of goods Act which the late assembly passed last year. That Act will come up again before the House of consideration. As far as I can express a personal view-I do not commit Government in any way-as far as I can express my personal opinion on this question, my feeling is that it would be necessary for us to continue the control of Railway priorities, but I think it is up to us to take steps for regulating these priorities more in accordance with the opinion and the wishes of the trades concerned. At present, as you know, there is chief controller of Priorities, who is assisted by various regional controllers. And I am applying my mind to the question of providing these regional Controllers with a small effective authoritative committee in each region which will represent the best business opinion of that area.

FOR NEXT YEAR

“I have been dealing with the immediate future, and I will repeat the statement with which I started, that we seem to be set, for the time being, in the

direction of a gradual improvement. I want to go further and indicate to the House, so far as I can, what are the prospects for the year 1948-49. The statement I would put before the House is this. Unless any untoward developments occur, I expect a marked improvement by March 1949. My reasons for saying so are these. I have told the House already that in view of a vast diversion of traffic that has been occurring recently, our line capacity and our marshalling capacity are being over-strained. As regards the line capacity, we have already taken in hand various schemes for doubling the line capacity at various points of heavy congestion; itarsi-Bhopal, lucknow-Bareilly, cawnpore-etawah, the Moradabad section and various other lines. We have set ourselves a target for completing these works by March 1949 and if we are able to do that, then it seems to me that we should be in a position to relieve congestion at some of the most important points on our railway system. The House is aware that a couple of months ago we reopened what used to be called the Dufferin Bridge, now called the Malaviya Bridge, which was regirded and has now been opened for doubleline traffic. It is a very important gateway of railway communications in the U.P. and I think its doubling will make considerable difference to the movement to traffic.

“with regard to the remodelling and the extension of marshalling yards, we have a number of schemes on hand all of which are expected to be sompleted by March 1949, Ujjam, Lucknow, cawnpore, Tundla, Gorakhpur and Akonamand Tuticorin in the south-and I hope to take in hand soon the extension and recmoelling of the station yard at New Delhi. If we are able to achieve our object and finish them by the end of 1948-49, then I expect there would be considerable relief.

NEW STOCK EXPECTED

“Next I want to give some figures with regard to the additional rolling stock which we expect to get in the course of 1948-49.

“The number of general service wagons which are scheduled to be delivered by the manufacturers in India by the end of 1948 is 4,050. In addition to that we expect that oil-tank wagons of the order of about 150 will also be delivered by the end of 1948. Then we have placed an order in Canada for oil-tank wagons which are also expected to be delivered by March, 1949. There are other classes of wagons numbering about 177, all scheduled to be delivered by the end of 1949. It comes to a total of over 4,000 wagons.

“I am not so foolish as to think that in the present strained conditions in India regarding labour and material it would be possible for our manufacturers to deliver these things according to schedule. But I have strong reasons for thinking tht at least half this number will be delivered. And if we are in a position to put on the lines at least two thousand additional wagons in the course of the next year it would make a perceptible improvement. Similarly we are expecting 146 new locomotives to be delivered in the course of 1948; and this together with the improvement which is noticeable in the workshop position must I think make a difference for the better as regards locomotives.

SHIPPING AND RAILWAY INTERDEPENDENCE

“My third reason for being hopeful about 1948-49 is that the shipping position appears to show some improvement. If we are able in 1948-49 to divert to the sea route some of the heavy traffic from Calcutta to Bombay which now goes by rail it would I think very considerably ease the railway position. I have taken this matter up with my Honourable colleague ‘the Minister for Commerce, and between us we expect to find some solution of this problem. The real point is that if you send a commodity like coal from Calcutta to Bombay you have

to pay about Rs. 20 more by sea than you would by rail. Although we have increased our freights a good deal we still have in the railways today, I believe, the cheapest form of transport.

EFFECT OF U.S. PRICE FALL

"The break in prices tht has now occurred in the United states is variously expanded. I do not want to comit anybody, I do not want even to commit myself officially. But I cannot help thinking, from such authoritative reports as I have seen, that there is a feeling tht the prospects of the next harvest in the United states are a good deal better than people expected a few weeks ago. That probably coupled with te possible cuts in the Marshall Plan may account for this break in prices. But supposing there is an improvement in the general food position and supposing correspondingly there is an improvement some time towards the end of 1948 in India, it seems to me that a very heavy load will have been lifted off the railways. I want to tell the House what I have felt very strongly for over a year. One of the biggest problems that the railways have had to face since the end of the war is tis problem of moving over long distance large quantities of fodgrains from port to up-country, from surplus provinces to deficit provinces, and this along routes which are not equipped for coping with that traffic. If unfortunately there is a general improvement in the food position, it seems to me that one of the most serious factors which today are impeding the railway traffic will have been removed.

"Having said all this I want to reaffirm what I said last November that inspite of these little indications of improvement I do not think that we shall be able to return to normal conditions in less than three years. **And when i say 'normal conditions' What I mean is that if you ask me when our railways will be in aposition to accept all the traffic that offers, I way that we shall not reach that position in less than three years.**

PASSENGER TRAFFIC IMPROVEMENT

"The great problem regarding passenger traffic today-and when you consider the question of amenities the problem that worries you most-is that of overcrowding. We have today, as far as we can estimate, more than twice the number of passengers that we used to carry in 1938-39; but the amount of passenger train capacity that we are in a position to offer today is 14.5 per cent less than in 1938-39. That gives you straightaway in statistical terms the problem of overcrowding. I expect to see a little improvement and I want to tell the House why. It is one of the most interesting features of passenger traffic on our railways today that there is a steady decrease In the average distance travelled by thrid class passengers. If there is a steady decrease in the average distance travelled by passengers the inevitable result is that at any point of time you will find a steadily decreasing congestion. Take two points between which trains run.

"If between those points passebgers travel over shorter distances, obviously at each point you will find that the amount of congestion in the train would correspondingly be less. I have been trying to understand why it is that there is this steady decrease in the average sistances travelled by passengers, and the best explanation that I can give is that while there has been a very great increasain the habit of travel due to various reasons the railways have been able to provide an increase not to anything like the extent required but have been able to provide some increase in facilities which is greater than the increase in facilities offered by road transport.

"The result therefore is that people who would ordinarily have travelled short distances by bus are now travelling by trains. And it seems to me, therefore, that until we are in a position to restore the bus position-during the war the extent to which bus traffic decreased was somewhere about one third of what

it was in 1939-you are going to have these steadily decreasing average distances travelled by passengers. Apart from that in 1948-49 we expect to place on the lines somewhere about 700 to 800 new coaches; 350 of them are coaches that we have ordered and a little over 400 coaches would, I expect, be returned by the Defence department to whom they have been loaned.

TICKERLESS TRAVEL

“Another factor which is going to react on overcrowding is ticketless travelling. I told the House last time that the problem was particularly acute in the United provinces; and in consultation with the Hon’ble Premier of the United Provinces we have started a scheme there which consists of a considerable police force and a considerable complement of special magistrates devoted entirely to the problem of ticketless travel. We have put altogether 17 platoons of police and 34 railway magistrates, the whole cost of which will be borne by the railways. And with the co-operation of the Hon’ble Premier we have been able to start this on the 15th January; and the results that I have seen so far have been definitely encouraging.

Similar arrangements are contemplated for West Bengal, for Bihar and for Assam. As I told the House more than once, this problem of ticketless travel is much more than a railway problem; it is a social problem. It is one of these things which seem to reflect the gradual decline in the sense of law, which results when big political changes have occurred.

“I was looking the other day into the report of the Madras Government Railway Police for 1947. It disclosed the interesting fact that the number of cases that they had to handle in 1947 showed an increase of 90 per cent over 1946 and showed an increase of 130 per cent over the average of the previous five years. That, I think, would be equally true of other provinces.

BETTERMENT FUND

“Last year when I placed the Railway budget before the old Assembly, there was a great deal of discussion as to what was the right object for expenditure from the Betterment Fund. **The primary purpose of the Betterment Fund is to provide expenditure which will result in an improvement in amenities for third class passengers and we are going to see now that such expenditure as we are in a position to provide from this Fund will hereafter be devoted in the main to this problem of amenities.**

“We are going to place a Bill before this House in the course of the session to set up a tribunal with a much wider scope than the present Rates Advisory Committee and with a mandatory and not merely an advisory jurisdiction.

RAILWAY INQUIRY COMMITTEE

“With regard to the Railway Enquiry Committee, as I told the House in answer to a question, the Committee will begin to function in the course of a week or two”

The Minister for Transport concluded his budget speech with a tribute to the railwaymen of India for their co-operation and an optimistic note on the future of Indian Railways.

ROAD POLICY IN INDIA

It has to be admitted that until the middle of the last century, the condition of roads in India was far from satisfactory. The East India Company had little interest in developing the natural resources of India. They viewed the roads from the Roman point of view. This is evident from the fact that roads were under

the control of Military boards. During the time of Lord Dalhousie came the initiation of a more vigorous road policy. Over and above the Central Public Works department, similar departments were set up in the provinces to replace the Military Boards. It now became necessary to construct more roads to feed the railways.

The encouragement given to Local Self-Government by Lord Mayo and Lord Ripon indirectly stimulated road-development. For the past seventy five years, we have been witnessing considerable activity in road-making. The increase in the amount of wheeled transport is a true measure of the growth of roads and their economic value. Nevertheless, when compared with the vastness of the country and the density of population, the growth in road-construction would look trivial.

In India, the total mileage of metalled and unmetalled roads is only about 320,000. The Railway Board, in its memorandum to the road development committee, pointed out that the Railways in India were always conscious of the lack of roads to feed them. It should also be noted that the financial interest of the profitable working of the railways has led to a certain degree of neglect of roads, especially of trunk roads running parallel to railway lines. The deficiency of roads is keenly felt in the rural areas. Due to the paucity of feeder roads connecting rural areas with the main trunk roads, many a village is today inaccessible to the administrator as well as to the businessman.

Moreover, even the existing roads were allowed to deteriorate owing to the local Governments lacking in funds. The rapid increase in motor traffic has created a new range in road-making and road-maintenance. It is because of the absence of motorable roads that bullock carts are still widely used for the transport of agricultural produce even to distant places. There is also the problem of meeting competition from the Railways. In hilly tracks, motor transport seems to have more scope because railway track in mountainous country would be uneconomical. Motor lorries have an advantage where perishable commodities have to be carried. It would be only superfluous to emphasize the need for more roads in an agricultural country like India where Internal trade is far greater than external trade. Roads are sure to facilitate and promote agricultural production. Better road transport would also relieve the strain on the animals and thus indirectly help in the upbringing of healthier livestock which is a necessary corollary of a planned agricultural economy. Agricultural marketing could be made easier and cheaper by the provision of good roads. Decentralisation of industries can be achieved quickly if roads are available in sufficient standard and numbers. Undue centralisation of Industries brings in its wake numerous economic, social and labour problems like supply of raw materials and provision of housing. Better road transport would enable India to exploit her large forest wealth and to have the much-cherished garden-factories. Roads are needed to connect interior areas with large industrial centres and prominent harbour-towns. From the social point of view, it can be guaranteed that easy means of communication between town and village is a sure method of raising the general standard of life of the people. The prosperity of the United States of America and Denmark is attributed to their well-maintained system of road transport. The evil influence of a poor communication system is evident from the example of Russia.

Road Boards.- Similar to the local advisory boards of the Railways, local road boards were established in provinces like Bombay, Madras, the Punjab and the United Provinces. These boards are merely advisory bodies except in the Punjab where they distribute grants from provincial funds for programmes of road-building and development. The Royal Commission on Agriculture had recommended the establishment of similar boards in all provinces.

Road Development Committee.- The rapid expansion of motor traffic and the new and varied problems arising therefrom, the deterioration of many roads and above all the realisation by Governments, both Central and Provincial, of the necessity to formulate a comprehensive road programme, to

co-ordinate local programmes and to evolve a common policy led to the appointment of a Central Road Development Committee in 1927. This committee was known as the “JAYAKAR COMMITTEE”, and consisted of 14 members from both House of the Central Legislature. The Committee was authorised to make recommendations on the following points.

1. The desirability of developing the road system.
2. The method of financing the development plans.
3. The constitution of a Central Road Board.

The “JAYAKAR COMMITTEE” advised the Government to embark on a new development programme. The Agricultural Commission later criticised the Committee on the score that they were primarily concerned with the development of the main roads alone. But in fact, the Committee had emphasized the importance of subsidiary communication.

Regarding road finance, the Committee remarked, “Road development in India is passing beyond the financial capacity of local Governments and local bodies and is becoming a national interest which may, to some extent, be a paper charge on Central revenues”.

The Road Development Committee as well as the Agricultural Commission were aware of the injustice of making the small units of Governments bear the cost of the main road improvements. The Agricultural Commission observed that the local boards were very much handicapped by lack of funds and the Commission argued that liberal financial assistance should be given to these boards on the basis of a well-devised scheme. The necessity of every District Board possessing a road engine was another of the recommendations. The Agricultural Commission suggested the revival of the old system of co-operative labour of the village community. The Commission wanted the villagers themselves to take up the responsibility of road-improvement by co-operative effort. The Road Development Committee recognised that no increase in expenditure was possible without an increase in the revenues. So the Committee recommended additional taxation on motor transport. Import duties on motor spirit, tax on motor vehicles, license fees, etc., were the result of this recommendation. In 1929, the first Indian Finance Act was passed by the Indian Legislature whereby the import and excise duties on motor spirit were increased from 4 as. To 6 as. A gallon.

The same year,, Mr. D.M. Methra brought a resolution before the Legislative Assembly, containing the following suggestions:-

1. That the increased duties should continue for 5 years.
2. The proceeds of increased taxation should be set apart for a separate block grant.
3. From the annual grant, Government should arrange a reserve of 10% (this was raised to 20% in 1935) to be utilised to finance such projects as would be beyond the means of the local boards, or such improvements as concern more than one Province or State.
4. Therest of the annual grant should be distributed among the Provinces in proportion to the consumption of petrol by each Province.
5. To constitute a Standing Committee on Roads every year, consisting of members of both Houses of the central Legislature. This committee should be an advisory body to the Governor-General-inn Council concerning matters of road policy and finance. The Chairman of the Committee should be the concerned Member of the Governor –General’s Executive Council.

These recommendations were completely accepted by the Assembly in 1931 in the form of a second Finance Act. The duty on motor spirit was increased from 6 as. To 8 as. The Road Development Committee was not in favour of a

Central Roads Board, but recommended the convening of road conferences Periodically. We now have the Annual Road Conference. Besides other grants, the Central Road Committee allotted Rs. 25,000 from the Central Road Fund to the provinces. A Transport Advisory council consisting of the Ministers-in-charge of roads in various provinces was formed in 1935.

Every day tht passes sees Governments, both Central and Provincial realising the all-important need for more and more roads, both main and feeder. Every effort is made to have a uniform standard of road efficiency throughout the country. It was this reason which, in the main, prompted the Madras Government in 1945, to take over the main roads in the Province from the District Boards and put them under the charge of the newly set up Highways Department. Finance everywhere is a limiting consideration. However, in the years to come, it is to be hoped that Governments are determined not to let precious time slip by when existing roads deteriorate and new ones are still one paper.

AVIATION IN INDIA

From a doubtful start in 1920 civil aviation in India is today full of promise for the Future. In 1920 a purely experimental service was set up during the fair weather between Karachi and Bombay. This, however, was closed down the same year. The authorities then in the government of India thought that a sound air service cannot be run without the support of Government, and the latter therefore decided to wait till better times. Even the few internal services established some time later had either been abandoned or were very insignificant.

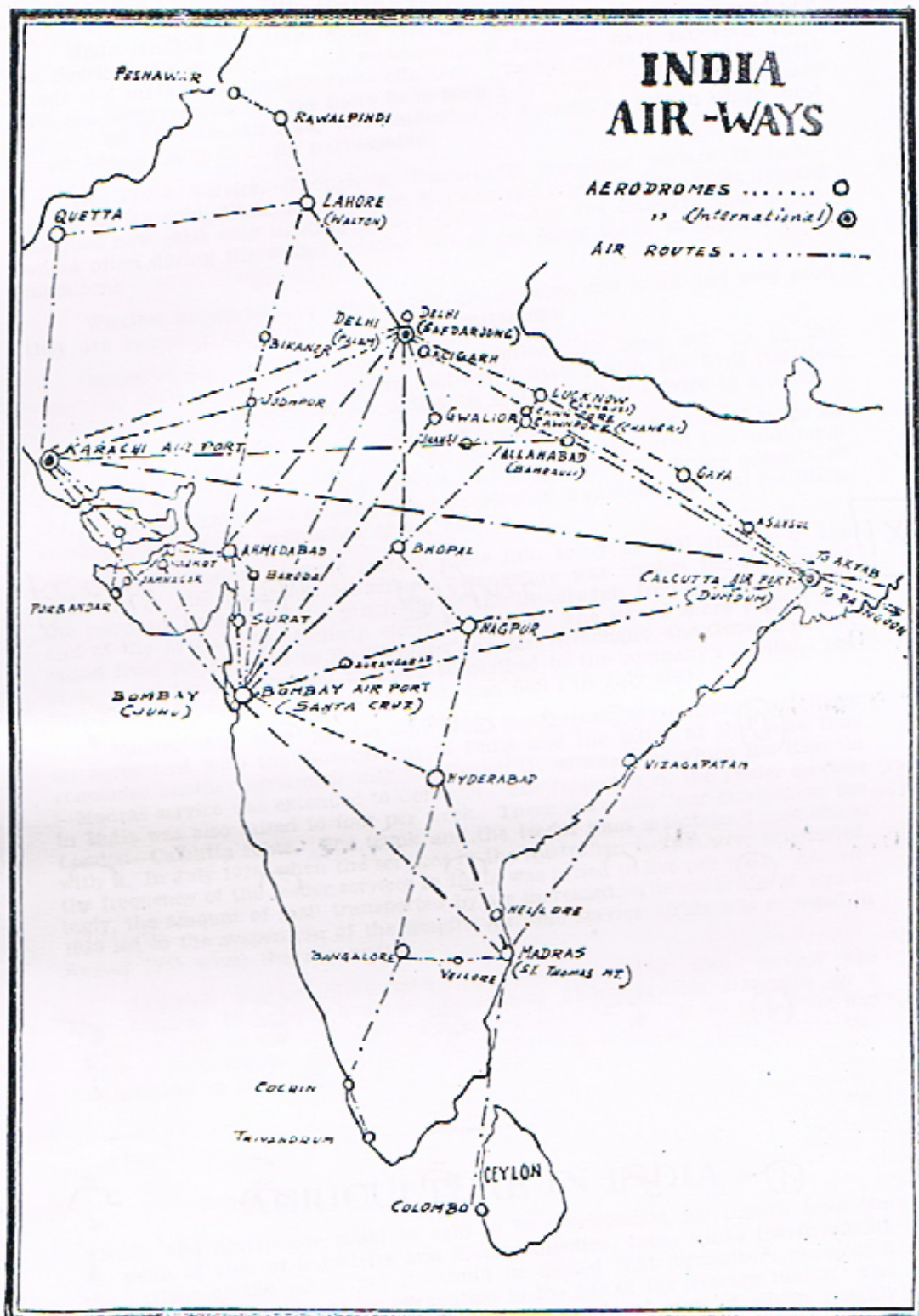
The Indian trans-Continental Airways Ltd.- A private company was formed about 1933 with a majority of Indian Directors . The Government of India had 24 per cent. Shares in this company. This company jointly operated with the British airways a weekly service from Karachi to Singapore.

The Indian National Airways, Ltd- Established as a shareholder in the Indian Trans-Continental Airways and with a view to promote Indian feeder air service facilities, this company started a by-weekly service between Calcutta and Rangoon and a daily service between Calcutta and Dacca. These services were abandoned later. But a weekly service from Karachi to Lahore was started.

Rise of Tatas.-The starting in 1932 of a Karachi-Bombay-Madras service linking with the Karachi-London service saw the beginning of the enterprise of Tata Sons. Recent years have seen remarkable development in aviation in India in which both Indian and foreign companies have had their share. Among the former, Tatas, rank as the premier concern. Air France, K.L.M. (Dutch), British Overseas Airways Corporation pass across India on their way to the Far East.

Bombay and Madras are linked with Colombo, Trivandrum, Cochin and Bangalore are linked with Madras by means of a daily air service.

The year 1937 saw the inauguration of an Aeronautical Technical Institute at Jamnager for purposes of developing the engineering aspect of Indian aviation. Three years later, the Hindustan aircraft company was opened at Bangalore for manufacturing aircraft in India. Further the world war that just ended saw the establishment not only of a network of aerodromes which can easily be used in peacetime by civil aircraft, but also the training of a large number of Indian airmen, technicians and engineers. These favourable conditions, backed by the Government of India with its stable plans and programmes, are expected to lead to the establishment of Indian Aviation on a firm and lasting footing in the years to come when aviation generally is destined to play a prominent role in developing the wealth and prosperity of peoples and nations.



Night-landing and night-flying facilities have been steadily improved and the development of wireless and meteorological facilities have rendered aerodrome and route traffic control more effective. Though flights by private owners have not been remarkable, yet there have been a few cases of flights by private owners. An All-India Air Rally was conducted in Karachi in 1938 in which most of the flying clubs in India participated.

Sea-Plane Service.- Though a Trans-India Seaplane service is maintained via Karachi, Allahabad, Gwalior, Raj Samand and Calcutta, night lighting facilities now exist only in Karachi and Calcutta and the Calcutta base is fog-bound often during the winter months. Steps are being taken to improve these conditions.

Wireless apparatus are being made use of more and more and very soon they are expected to render flying very convenient.

Meteorological Service.-An aviation section has been set up at the upper Air Office, Agra. This section maintains liaison with the civil Aviation department and is responsible for rendering meteorological service to airmen.

The Survey of India are in charge of preparation of aeronautical maps on a scale of 1/1,000,000. All map sheets are prepared and reprinted and additional aeronautical information is also printed and supplied. This latter consists of details of aerodromes and landing grounds, wireless and meteorological facilities, possible obstructions, prohibited areas, etc.

The Hindustan aircraft factory came into being in 1941 thanks to the initiative of Mr. Walchand Hirachand. Bangalore was chosen for the site of the company because of the proximity of the Bhadravati Iron and steel Works and of the availability of cheap electrical power. The issued share capital was raised from Rs. 40 lakhs to Rs. 75 lakhs and Mr. Hirachand, the Government of Mysore and the Government of India subscribed to the

company's capital. The first plane assembled here came out for test flight in July 1941.

Empire Air Mail Service. In 1936, the British government concluded an agreement with the Government of India and the latter at the same time concluded another agreement with the Ceylon Government by which the Karachi-Madras service was extended to Colombo. The frequency of the feeder services in India was also raised to four per week. There were also four services on the London-Calcutta route. The trunk and the feeder lines maintained connection with it. In July 1938, when the services in the Australian section were intensified, the frequency of the feeder services in India was raised to five per week. Accordingly, the amount of mail transported by air increased. The outbreak of war in 1939 led to the suspension of the Empire Air Mail service. This was resumed in August 1945 when the war ended.

Airgraph Service.-Inaugurated in February 1942, this service was from Bombay to London and it consisted of photographing airgraphs on a miniature film at one end and transmitting the film by air to the other end where a photographic facsimile of the original is obtained. This service was discontinued in July 1945.

AGRICULTURE IN INDIA

INDIA and Agriculture could be said to be synonymous, for though from the point of view of industries and industrialisation, India ranks fourth among the nations of the world, yet it cannot be denied that Agriculture occupies a very predominant place as an occupation in the life of the average Indian. The Indian sub-continent possesses vast areas or tracts of land of which roughly 360 million acres (excluding Burma as well as the Indian forests) comprise the cultivable land.

The soil of India can be divided into four main groups generally: (1) The alluvial plains, chiefly the Indo-Gangetic plain of North India; (2) Laterite soil in east Bengal and Assam, (3) black cotton soil in Bombay, parts of the Central Provinces, Berar and Hyderabad, and also to some extent in Madras, and (4) The Red soil mostly in Madras, Mysore and south East Bombay.

Climate, Rainfall and Crops.- The climate of India plays a vital part in the agricultural set-up of the country. Two main monsoons hold sway over crop production in India, the first the south-west monsoon between the months of October and June and the second between the months of October and February. The second is termed the North-east monsoon which influences vegetation in the south of the peninsula.

The first monsoon affects mainly the Indo-Gangetic Plain in the North as also certain areas on the West Coast, and during this season the average rainfall for the whole of India is approximately 40 inches. The crop harvested during this season is known as the kharif crop and the one harvested during the cold weather season, roughly from December to March is termed the Rabi crop.

Forests also occupy a fairly large area of the Indian soil. There are desert areas in Sind and Rajputana. Alkaline soils are also met with in the United Provinces and a few other areas.

Indian soils suffer from a drawback in so far as they do not contain any organic matter worth mentioning and hence they require systematic manuring. This aspect of cultivation had been comparatively neglected for ages and today thanks to Government initiative, the problem is receiving more attention. Cow-dung had been a common source of local manure. Government have made a beginning in the matter of selling other forms of scientifically-tested manure to cultivators at cheap prices.

THE CROPS OF INDIA

Rice.- Rice cultivation predominates the agricultural scene as a majority of India's millions are rice-eaters. About 72 million acres of land are utilised for rice-cultivation in India (excluding Burma) and the annual rice production is roughly 27 million tons. This figure represented a quantity less than the yearly rice-consumption in India.

Approximately 2¼ million tons of rice used to be imported from Burma, Siam and other countries. The rice-growing area comprises roughly 28% of the cultivated land in India. Of late Government have been distributing improved varieties of seeds to cultivators with a view to stepping up production.

Wheat.- About 10% of the entire cultivated area of India is utilised for wheat-growing. This crop is grown primarily in North India. The Punjab and the United Provinces contribute the maximum share in India's wheat output. About 8 million acres are now under cultivation with improved varieties of seeds. Indian wheat is mostly of the softer type, and it averages to 9 million tons annually.

Millets.- These form the food of the lower middle class of people in India as well as the fodder for cattle. Jowar and Bajra are the two important varieties, the former requiring better soil than the latter. Together they occupy over 50 million acres. They are often sown mixed with other pulses and are also generally rotated with cotton.

Pulses.- These are cultivated to a large extent and are widely used by the people as food. There are many kinds of pulses such as gram.

COMMERCIAL CROPS

Cotton.- In India, About 25 million acres are under cotton cultivation. For years together India had been the source of supply of raw cotton for the cotton

mills of Lancashire. Today, however, India can boast of possessing her own cotton mills in Bombay, Madras and the United Provinces. Cotton is thus a Major commercial crop of India, cotton is grown in Bombay, Madras, sind, United Provinces, the Punjab the Central Provinces and Berar, Hyderabad and Baroda. Through the efforts of the Indian Cotton Committee, the quality as well as the yield of staple cotton have been improved. Efforts are being made to prevent adulteration as also to promote better marketing.

Sugarcane.- Sugarcane growing has been increased in recent years in India. The united Provinces grows the majority of India's sugarcane. The Imperial sugarcane Breeding Station at Coimbatore in Madras Province supplies better variety sugarcane seedling and production has increased in recent years with the result that India, formerly a sugar-importing country is today manufacturing her own sugar in spite of war-time exigencies.

Groundnut.- India is the world's largest producer of groundnuts and Madras produces more than half of India's output.

Linseed.- This is grown chiefly in the Central Provinces and the United Provinces for export purposes.

Jute.- Cultivated mostly in Bengal, Bihar, assam, Orissa and the United Provinces, India is the chief source of supply of raw Jute to the world. During the war shipping difficulties necessitated a cut in the exports. But then, jute, was consumed in India to a greater extent for war-purposes.

Tobacco.-This is grown mainly in Madras, Bombay, Bengal and Bihar and also in Burma. The stronger quality is used for Hookah-smoking while the lighter varieties are used in the manufacture of cigars and cigarettes.

PLANTATION CROPS.

Tea.- The British empire in less than a hundred years became the tea-garden or the tea shop of the world, thanks to the discovery in 1820 of the indigenous tea-plant in assam and the consequent exploitation of the same since 1840 by the Assam Tea Company. After a dull period of ten years, the fortunes of the company improved and many large areas in Assam became a huge tea plantation.

Coffee.-Madras, Mysore, Coorg and Travancore are the main coffee growing areas of India, and Mysore comes first among these. Coffee is said

to have been started as a staple industry from 1860. Acts have been passed for the promotion of the cultivation, manufacture and sale of Indian coffee as also to assure a fair return for the coffee-grower.

DEVELOPMENT OF INDIAN AGRICULTURE

In spite of the fact that India is a predominantly agricultural country, she still has to import rice, wheat and other allied items of food from other countries to a smaller or greater extent. This one fact, namely, that India is not self-sufficient in the matter of foods speaks volumes for furthering Indian agriculture on lines that will ultimately lead her to a position not only of self-sufficiency and autarchy, but also place her in a position from where she can help other needy nations not so well placed in the matter of food. The war years as well as the post-war years have proved beyond a shadow of doubt that the need for improving Indian agriculture on a scientifically planned basis is supreme.

In the past, Government efforts merely aimed at the collection of agricultural statistics. However, after 1870 experimental farms were opened by government in Saidapet, Poona, Cawnpore, and Nagpur. In 1901 the first Inspector General of agriculture was appointed. Lord Curzon's enterprise bore fruit when in 1905

in 1905 a central research institute was opened in Pusa, Provincial Agricultural Departments were organized as also Provincial Agricultural Colleges and Research Stations. The Imperial Sugarcane Breeding Station at Coimbatore is working under the control of the Imperial Agricultural Research Institute.

Agricultural Marketing – In recent years, any agricultural demonstration farms have been established in various parts of the countryside where the methods of scientific, cultivation as well as the beneficent results of scientific methods of cultivation are demonstrated. Improve methods of cultivation are taught to the masses and better variety seeds, good manure and better implements of cultivation are supplied to the agriculturists. Government have also, in recent years, taken steps to improve the marketing facilities afforded to the agriculturist as also to supply him with cheap credit. Agricultural Marketing departments were formed both under the auspices of the Indian Central Government and under the auspices of the various Provincial Governments. These steps were taken on the recommendation of the Royal Commission on Agriculture as well as those of the central Banking Enquiry Committee. The marketing organization has to carry out marketing surveys, public reports of the present system of marketing of the major agricultural products and to draw up suitable grade specifications after examining in detail market samples. All-India marketing surveys have been published in respect of almost all market commodities. Grading and marking were more and more widely used in the marketing of produce. Acts were passed resulting agricultural marketing and market news is disseminated among the lay public as efficiently as possible. Agricultural exhibitions also play a good part in this respect. Proper grading and standardization of Indian products will also influence favorably the export out of India of such goods. It has been proved that in spite of various difficulties, including the lethargy of traders to adopt new methods and processes, the efforts of the Agricultural Marketing Service have had beneficent efforts on the national economy.

Agricultural Research – It was the Royal Commission on Agriculture that had proposed the established of an Imperial Council of Agricultural Research entrusted with the task of guiding, promoting and coordinating agricultural, including veterinary research I India and to help in every possible way to increase the efficiency of Indian agriculture. Today the Government of Indian maintains liaison with the Secretariat Department of Education, Health and Lands.

Thanks to the persevering attempts of Government and also due to a realization on the part of the people that unless an all-out effort is made to strengthen India's food position the future might hold in store dim prospects for her millions, today there is a keen anxiety to develop Indian agriculture on sound and scientific lines. Proper manuring, an efficient rotation of crops, use of high-grade seeds and implements are slowly, but steadily, being in-corporated into the technique of cultivation and coupled with an increase in irrigational facilities and large-scale farming are bound step up production. Adequate storage facilities and marketing arrangements together with a fair return to the producer are bound to promote equitable distribution and to raise the standard of life of the millions.

Livestock Position – While reviewing Indian agriculture, one certainly has to refer to India's cattle wealth because for ploughing the land in India it is mainly cattle that are used. India possesses a huge cattle-population, but most of those cattle are weak, emaciated and below the standard even in the matter of yield of milk. The Hissar, Hansi, Bhaganari, Nellore, Kangayam and Amrit Mahal are a few good varieties among the draught cattle. Amongst the best dairy cows are the Sahimal, and the Scindi.

There are Government cattle-breeding farms for raising pedigree bulls. Some time ago, the Bombay Government also passed an Act to prevent promiscuous breeding by the unhealthy or disease-ridden male cattle. In India

today there are more cattle that are useless than those which are useful from the economic standpoint or, in other words, from the point of view of national wealth and greatness.

Civil Veterinary Departments have been established in all the Provinces and these are in charge of controlling and treating animal diseases. Veterinary Hospitals are found in all important towns and villages. Veterinary Colleges are functioning in Madras, Bombay, Calcutta, Patna and Lahore. In addition to the research work done in these Veterinary Colleges, Government of India have organised research work with the Imperial veterinary Research Institute at Mukteshwar in the United Provinces at the top. Here serums and vaccines are prepared which are used to counteract animal diseases.

Sheep are also reared in India and among them are a few good varieties such as Hissar, Poona. However, analyses of wool-production from Indian sheep have shown that the possibilities of increasing wool-production are large.

IRRIGATION

One often hears people remarks that "Indian Agriculture is a gamble in the rains." This statement has been found to be true. India is a vast country and her climatological conditions often vary from place to place. In the matter of rainfall, there are places like Cheerapunji in Assam receiving very nearly 500 inches of rain annually while there are places in Sind receiving 2 to 3 inches of rain in one year. While certain places suffer from dearth of rainfall, still others lack even a minimum of rainfall. Hence the need for irrigation works in India that will offset to a certain extent the disadvantages resulting from a system which has the double defect of uneven rainfall and of rainfall during inconvenient months.

Irrigation works generally are of two types; one where river water or other sources of national supply of water directly irrigates land and another where such water is stored up in artificial storage tanks and used later on as and when required for purposes of cultivation.

Government irrigation works now fall into three categories from the administrative standpoint. Productive works are those which are expected to secure, after the first ten years, revenue enough to maintain itself as also to pay interest charges on the capital expenditure incurred on it. Unproductive works are those which are not constructed with a view to adding to the revenue of the Government, but purely to prevent the possibility of the occurrence of famines, etc. Thirdly minor works are undertaken by Government for which no capital account is maintained.

During the last few decades, the area under irrigation in India has increased steadily. From 10 1/2 million acres in 1879, it given grew to 33 1/2 million acres in 1942. The increase has been mainly in the case of productive works. In 1942, the area irrigated was the largest in the Punjab, next in Madras and then in United Provinces.

Government of India in 1927 set up a Central Board of irrigation in order to give technique advice on matters connected with irrigation and also to do research work. There are Irrigation Research Institutes in Madras, Bengal, Bombay, Sind, United Provinces and the Punjab.

The water-rates levied by Government have also been moderate compared with the advantages to the cultivator.

The Grand Anicut across the Kauveri in Tanjore District in Madras Province dates back to the time of early Indian history. The Sukkur Barrage in Sind and the huge irrigation arrangements in the Punjab and the Mettur Dam in Madras province stand out prominently as a few of India's major irrigation

projects. Further, recently, the Emerson Barrage in the Punjab and the Ganges Tube Well Scheme were completed. **Today work has been started on the Tungabhadra Project in Madras which when completed is expected to irrigate large areas of Royalaseema, Mysore and Hyderabad. The enterprise is being jointly undertaken by the Governments of madras, Mysore and Hyderabad.**

The well-system of irrigation has been in vogue in India for ages past and even today claims about 30% of the total irrigated land in the country. Various forms of well-irrigation are practiced in various areas or parts of the country and some Provincial Governments generally give what are known as "Takkavi" loans to ryots to enable them to sink wells. In certain Provinces they are granted exemption from enhanced assessment on that account.

Tanks have also been in existence in India from time immemorial. Except in the Punjab and Sind, tanks are commonly used. In Madras, however, they exist to the largest extent. There are two large tanks in the Chingleput District of Madras which irrigate two to four thousand acres of land. The general defect of this tank system of irrigation is that rainfall is poor the tanks also do not get full and hence fail the cultivators.

Yet another noteworthy feature of irrigation projects is the fact that many of them afford scope for exploitation for purposes of generating cheap electric current. The Pykara Circuit and the Pallivasal System (in Travancore State) are instances. India, especially South, affords scope for the generation and development of hydro-electric power.

HYDRO-ELECTRIC DEVELOPMENT

World history that taught all nations that industrialization, though it brings in its wake many intriguing problems, is nevertheless a necessary for every nation if she is to establish a sound economy and to promote national solidarity and prosperity. In the matter of industrialization India has lagged behind far too long and she has to go all out in this sphere if she is to hold her own in the comity of nations.

In the field of industrialization, one main problem that all modern countries have got to face is the problem of finding the necessary power to keep the wheels of industry going. Fuel is required for the generation of power and oil and coal have been the chief fuel that had been used by all countries up till very recent times. In the modern era of mechanization, however other sources of fuel and motive-power had to be found because the oil and coal resources of many countries were well nigh the exhaustion level, Electrical power generated from the force of running water has been found very cheap and efficient in its application to industry. The Tennessee Valley Authority in the United States of America is a notable achievement in this direction, and it has been verified that India, notably South India possesses many rivers whose waters could be harnessed to the wheels of Industry by making use of them to generate cheap electrical motive-power. In India, hydro-electric schemes are often associated with important irrigation projects. A Central Technical Power Board was formed by the Government of India to carry out a systematic hydro-electric survey in India as also to develop the hydro-electric resources in the country.

The Tata Hydro-Electric Power Supply Co., the Andhra Vally Power Supply Co., and the Tata Power Co., supply the eiture electric energy consumed by the Bombay Electric Supply & Tramways Co. Ltd., the many mills and industrial concerns in Bombay City, the B.B. & C.I. Railway for their suburban electric service, the G.I.P. Railway in Bombay City and their main line service up to Poona and the Poona Electric Supply Company.

The Bombay Government have in view the construction of a Grid System to supply electric power for the development of Industries in the Northern parts of Bombay Presidency.

At Sivasamudram in the Mysore State, the waters of the Kauvery were harnessed and electric power was being supplied to Mysore City and Bangalore. Later on, the Krishnasagar Reservoir was built and thanks to the water stored in it, the capacity of the generating plant has been raised to 42,000 Kilowatts.

The Travancore Pallivasal Scheme.- The genesis of the pallivasal hydro-electric project was a preliminary investigation by the then Chief Engineer Mr. F.J. Jacob, (1919) into the scope for developing hydro-electric projects in the State. Further investigations were conducted later on and the year 1934 saw the beginning of work on the pallivasal project. The falls on the Mudhirapuzha river constitute the source for the power.

The completion of the first phase of the work in 1940 was marked by the inauguration of the supply system when Sir C.P. Ramaswamy Iyer switched on the current.

Three 11,000 volt 3 phase 50 cycle-alternator sets of 4,500 K.W capacity each comprise the main equipment of the power station. One of the three generating sets is kept as a reserve plant and thus 9,000 KW is the effective capacity of the station. 66,000 is the voltage at which power is transmitted. Kothamangalam, Alwaye, Pallam, Mavelikara and Kundara are the major sub-stations connected on double circuit lines. A single circuit line connects Alleppy to Mavelikara. The first phase of the Pallivasal Scheme thus supplies cheap electric current to North and Central Travancore. When the second phase is completed which entails the erection of 3 more generators, East and South Travancore are also expected to be supplied with cheap electric power. An agreement was also concluded between the Governments of Cochin and Travancore whereby the latter Government have agreed to supply electric current for various uses in Cochin State. In Travancore, electrical machinery are supplied to cultivators on the hire-purchase system. The prospects of using electrical power and appliances for industrial and agricultural and agricultural purposes in the State in the years to come, are large.

The Pykara Hydro-Electric Scheme.- This scheme has proved to be a very successful venture and the revenue figures show that the returns are much more than was anticipated when the plans were laid. The waters used are those of the Pykara river which flows from the Nilgiris. There is a fall of over 3,000 feet which is utilized for the purpose of producing power.

Originally, three 7,810 K.V.A. 3 phase 600 r.p.m. alternators were installed. Power was generated at 11,000 volts, 250 cycles and then converted to 110,000 volts by means of transformers. In 1939, two new generators were added to the station. The Mukurti Dam was completed in 1938. This system serves the districts of Coimbatore, Trichinopoly, Tanjore, Madura and Ramnad. Development of industries at Coimbatore speaks volumes for the success of the pykara scheme.

The Mettur Hydro-Electric System.- This is a combined Irrigation and electric power system. The Stanley Dam built here is one of the largest in the world designed to irrigate a very large area of land. Part of the water is used for power-generation purposes. The Mettur Power Station, built immediately below the Mettur Dam, commenced operation in June 1937 with three 10,000 K.W. units. Now there are four 1,25,000 K.V.A.- 250 r.p.m. generators. The Mettur network is linked to the Pykara system at Erode and it has been provided that both the systems can work in parallel. The level of water in the Mettur Dam is variable and it has been arranged that primary power will be available at all times, secondary power will be available with restrictions in dry months and tertiary power available during eight months. The districts of Salem, Trichinopoly, Tanjore, North Arcot, South Arcot, Chittoor and Chingleput are supplied with current by this system.

The Papanasam Hydro-Electric.- A fall of about 300 ft. in the course of the river Thamapararni is made use of to generate electric power. The location is at Papanasam. Operation as per initial plan commenced in 1943. The transmission system extends to Tuticorin, Kollpatti and Madura where it is linked with the pykara system.

Machkund Hydro-Electric Scheme.-This is a scheme under the consideration of the Madras Government for the benefit of the Andhra areas.

In jammu and Kashmir there are a few hydro-electric projects and still others are being planned. The most important of the working systems is one at Bunlyar.

The Unite Provinces has gone a good way in harnessing the waters of the Ganges Canal to generate cheap electric power. Of the 10 waterfalls available, more than half have been utilized and the United Provinces today enjoys the benefits of the Ganges Hydro-Electric Grid.

The Punjab - The Uhl River Hydro-Electric Scheme today supplies current to Kangra, Pathankot, Dhariwal, Amritsar and Lahore areas.

A speciality of the Punjab is the adaptability of tube tube well irrigation. This, coupled with hydro-electric power-supply, can revolutionise agriculture.

Hyderabad State - The waters stored up by the Nizamsagar Dam are proposed to be utilised for generating current for the use of Hyderabad City.

The Tungabhadra Project, when completed, will give Hyderabad also a share of the current supply as per the agreement with the Madras and Mysore Governments.

North-West Frontier Province - The Benton tunnel in the North-East was recently extended by about half a mile so as to utilize the waters of the Swat river and a power station was built at Malakand. Further extensions have been planned.

Work on the Tungabhadra Project in North Madras has Commenced - This project is expected to benefit areas in Madras, Hyderabad, and Mysore.

FAMINES IN INDIA

India has been acquainted with famines from very early times and always they have been the result of a combination of factors. These early famines occurred both in North and South India. One of the main causes of famines has been the uncertainty of monsoons and other weather conditions.

In 1865-67, Orissa had been in the grip of a catastrophic famine. The Madras Famine in 1866, the Western India Famine in 1868-70, the Bihar Famine in 1873-74 and the South Indian Famine in 1876-78 and the famine of 1899-1900 were a few of the important ones.

In 1943, Bengal suffered from a terrible famine in which million perished. During Japanese occupation of Burma, supply of rice from the latter country was cut off and the fall of Burma promoted nervousness and unhealthy speculation which brought about the disastrous famine.

The post-war years have been the re-appearance of famine conditions which were at first conspicuous only in Europe, but later made themselves in other parts of the world also. The United Nations Relief and Rehabilitation Administration was formed to help the needy among the war-devastated countries. The organization has lately been wound up after having rendered useful service. The world Food and Agricultural Organization, the International Rice Study Group and the World Cereals Board are other organizations that are striving to maintain world food supply at as high a level as possible and also to distribute the available supply as equitable as possible.

Famine Relief – The history of famine relief operations in India dates back to the last century. However, it was only towards the close of that century that it was realized that protective measures had to be carried out so that the actual occurrence of a famine may be prevented or at least the rigours of a famine, if any, may be mitigated. Even here, the original idea of Governments was to undertake only productive works that would yield revenue to the State ultimately.

In the present decade famine and famine relief have assumed dimensions which are of more than national significance. This has resulted from the complex nature of modern famines whose repercussions spread from country to country. The national economy of a country today has a great bearing on the economics of other nations so that famine-relief has become a world concern. In addition to the local Government embarking on an all-out programme of famine-relief operations, other surplus areas have got to come to the rescue of the stricken area. Yet another feature of scarcity areas is the prevalence of un-social elements of society who make the best of their opportunity by exploiting the scarcity conditions. Thus, during times of famine, Governments concerned have the extra duty of checking black-market racketeers and preventing hoarding and profiteering.

THE CENTRAL BUDGET (1948-49)

A reduction in the business profits Tax, Super Tax and concessions to smaller companies are some of the main features of the Central Budget for 1948-49 presented to the Legislature by India's Finance Minister, Mr.R.K.Shanmugham Chettiar.

The proposals also provide for an increase in the Corporation Tax on foreign companies in India, an increased duty on motor cars and tyres and an increase in the excise duties on cigarettes, tobacco, tea, coffee, matches, vegetable products, oilseeds and manganese. Instead of the export duty on cloth and yarn, an *ad valorem* duty of 25 per cent is imposed on cloth alone, excluding handloom cloth.

To tap a new source of revenue, the Finance Minister intends to impose an Estate Duties Bill.

Mr.Shanmugham Chettiar contended that, while industry should be called upon to pay its just contribution to the common exchequer, the burden placed upon it should be such as to allow it to expand. It was necessary to adjust taxation to provide a real incentive to the ploughing back of profits into new business.

The finance Minister was of the view that direct taxation was not unduly light, nor had there been any shifting of the burden to the common man. All indirect taxes, he added, did not necessarily mean a heavy burden on the common man, as export duties did not touch the internal consumer, and import duties on luxury articles left the common man unaffected.

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India's debt position was good-only half of its national income-while in Britain the proportion was three times and in the United States it was more than 1 1/2 times.

The reliefs in taxation announced by the Finance Minister related to a lightening of the tax burden on industry, a reduction in Business Profits tax and Super Tax, tax concessions for smaller companies, exemption from tax for donations for approved purposes within certain limits, and the withdrawal of the excise duty on betel-nuts.

The new taxation proposals cover an increase of Corporation Tax on foreign companies, an increase in import duty on motor cars, cigars and cigarettes; a new excise duty on cigarettes and an increase in the excise duty on tea and coffee, on vegetable products and tyres. An export duty will be levied on oilseeds, vegetable oils, and manganese. The last item of taxation relate to the raising of the minimum duty on matches.

B.P.T. Reduced:- The abatement allowed at present is Rupees one lakh or 6 per cent of the capital employed, whichever is larger. The rate of tax is 16-23 per cent.

The Finance Minister proposed in the Budget that the abatement should be rupees two lakhs or 6 per cent of the capital employed, whichever was larger, and that the rate of the tax of the tax should be reduced to 10 per cent. The net result of this proposal will be a gross loss of rupees two crores. Rupees one crore will, however, be made up by increased Income Tax receipts.

Reduction of Super Tax – In the last year's Budget the amount at which the maximum rate of tax was attracted had been reduced to Rs. 1½ lakhs for earned income, and Rs.1.2 lakhs for unearned income.

The limit at which the maximum rate of tax will now be attracted will be raised to Rs. 3 ½ lakhs for both earned and unearned income. The rates of the tax within the slabs have also been readjusted.

The changes in Super Tax involve a loss of rupees one crore.

Reduction of Tax on Undistributed Profits :- The Finance Minister proposed to secure this by reducing the tax on undistributed profits of companies by an anna. The cost of his concession was estimate at rupees two crores.

This was intended to induce industrialists to return more of their profits into investment.

Concession of small Companies :- The Income Tax on Companies with an income of Rs.25,000 an below is to be reduced to half the usual rates. This, he said, would check the danger of over-concentration in business, and encourage the growth of smaller companies which would be in line with our general pattern of industrial development with its constant emphasis on the development of cottage industries, and a fair distribution of industries over the various Provinces. The loss of revenue on this head was Rs. 12 lakhs.

Exemption for Donations to Approve Institutions :- Exemption of donations to approved institutions and charities, a list of which will be prepared in consultation with the Provinces so long as the amount will not exceed five per cent of the net taxable incomes for companies and 10 per cent for individuals, subject to as maximum of Rs. 2 ½ lakhs in both cases. The loss in revenue is roughly estimated at Rs.75 lakhs.

Exemption from Municipal Tax on Property :- The proposal was to exempt from taxation the payment of Municipal tax on property. This would remove an anomaly in the taxation system and cost Rs.75 lakhs.

Taxation of Foreign Companies : - Corporation Tax will be raise from annas two to annas three, and a rebate of one anna will be allowed to the companies which declare and distribute their dividends in India . This change is expected to bring in rupees two crores.

The net effect of the relief in Income – Tax and the proposed changes in the Corporation Tax was a net loss Rs. 1.66 crores to Central revenues.

Relief in Indirect Taxation : - In regard to the export duty on cloth and the duty on cloth yarn, the Finance propose to convert the duty into an *advalorem* duty of 25 per cent, and exempt handloom cloth and yarn. This would involve a loss of Rs. 4 ½ crores.

The excise duty on bête;-nuts will be withdraw. This concession would cost Rs. 30 lakhs.

New Export Duties : - The first was a duty of Rs.80 per ton on oilseeds, and Rs.200 per ton on vegetable oil. The second duty was of Rs. 20 per ton on manganese.

Additional Import Duties : - The duty on motor cars will be raised from 45 per cent to 50 per cent with a preference of 7 ½ per cent in favour of the United Kingdom.

The duties on cigarettes and cigars and manufactured tobacco will also be slightly raised, followe the changes in the excise duty.

The increase in revenue from these changes would amount to Rs. 62 lakhs.

Increase in Central Excise Duties :- An excise duty on cigarettes, amounting roughly to 25 per cent on e x-factory prices is estimated to yield rupees seven crores.

Simultaneously, the duty on certain categories of unmanufactured tobacco will be raised from As. 9 per lb to As. 12 per lb. in some cases, and As.4 per lb. in others, in orders to secure that there is no diversion from the consumption of eigaretters of the cheaper varieties. This increase is estimated to yield rupees two crores.

The excise duty on tea will be raised from As.2 per lb. to As 4 per lb. to bring it to the same level as the export duty. The additional revenue from this increase is estimated at Rs.8 crores.

The duty on coffee will be similarly raised to A. 4 per lb. to yield Rs. 30 lakhs.

The duty on vegetable products will be raised by 50 per cent. To Rs.7-8 per owt. To yield Rs.40 lakhs.

The duty on tyres will also be raised by 50 per cent. The additional revenue is estimated at Rs. 40 lakhs.

The excise duty on matches will be Rs.2-8 per gross on all boxes containing up to 50 matches. The additional revenue from this will amount to Rs.150 lakhs.

Postal and Telephone Rates : - Two minor changes have been male in the postal and telephone rates. The registration fee will be raised from As. 3 to As. 4 while the surcharge on trunk telephone calls will be raised from 40 to 60 per cent and amalgamated with the basic rate. These changes, which will be introduced by executive orders, will bring in an additional revenue of Rs. 40 lakhs.

Over-all Results :- Explaining the net results of his proposals with reference to the over-all deficit, the Finance Minister said that it had now been decided that, out of the Railway surplus, a contribution of Rs.4.5 crores should be made to general revenues during next year, and to this extent the deficit would be reduced.

The effect of the various reliefs in taxation and the changes in Income-tax would be a net loss of Rs.6.46 crores raising the original deficit of Rs.22.35 crores to Rs. 28.81 crores. Rs.10 crores of this would be covered by taking direct to revenue the advance payments of Corporation Tax. The new export duties would bring in Rs. 3.33 crors, the increased import duties, Rs.62 lakhs, the new and additional excise duties Rs.13.4 crores, and the change in post and telephone rates Rs.40 lakhs, a total of Rs. 17.72 crores in all, leaving a final deficit of Rs.1.09 crores.

He said that he felt fully justified in having this small deficit uncovered.

He pointed out that, if the interest due from Pakistan on its partition dept were realized, the deficit would be converted into a substantial surplus. The Finance Minister maintained that, considering the relatively undeveloped state of the country, he did not think that the burden of direct taxation was unduly light, or that there had been any shifting of the burden on to the shoulders of the ordinary man.

The final position emerging from the budget is :-

Revenue (revised) Rs. 178.77; budget Rs.256.28 (all in crores);

Expenditure (revised) Rs.185.29; budget Rs. 257.37 (all in crores);

Deficit (revised) Rs. 6.25; budget Rs.1.09 (all in crores).

Future :- dealing with the future, the Finance Minister warned the country that the figures he had given could not be any means be regarded as the normal figures of revenue and expenditure for subsequent years. The estimated Income Tax receipts for 1948-49 included collections relating to E.P.T. which would practically disappear in the subsequent years. The Business Profits Tax in subsequent years would also be less, and other factors being equal, the net proceeds of Income-tax accruing to the Central Government for 1949-50 would be much less than the corresponding receipts for 1948-49.

The expenditure provided for the next year under relief and rehabilitation and food subsidies amounted to Rs.29.95 crores. This expenditure would be down considerably during the coming years . If normal political conditions were restored, a reduction in the Defence expenditure might also be anticipated.

Taking all factors into consideration it was not unreasonable to hope for balanced budgets in the future.

Estate Duty Bill :- In the transitional phase through which India was passing as a precautionary measure in tapping new sources of revenue, he had decided to introduce in the current session of the Legislature an Estate Duty Bill. Even though the proceeds of this duty would go to the benefit of the Provinces, any augmentation of the revenue of the Provinces would, to some extent, reduce the strain on Central finances. Apart from this it was possible, under the proposed measure to levy surcharges for purely Central purposes.

Debt Position :- Re viewing the debt position, Mr. Shanmugham Chettiyar said the total interest-bearing obligations at the end of the Budget year were estimated at Rs.2,231 cores against which the interest yielding assets were expected to amount to Rs.1,237 crores, and cash and other investments to Rs. 130 crores, leaving a final uncovered debt of Rs.864 crores. These figures were to some extent approximate as the final figures of Pakistan's debt to India still remained to be worked out but they gave a broad indication of the position.

The proportion of the country's debt to its national income also compared favourably with more advanced countries like the United States and the United Kingdom. This country's debt was only half its probable national income, while in the U.S.A. it was more than 1¹/₂ times and in the U.K. nearly three times the national income.

The net burden of interest deadweight in this country would amount to only 10¹/₂ per cent of the revenue next year.

Taxation Policy:- The Finance Minister said that the paramount need in the present conditions was to stimulate production, and any fiscal or administrative measure which restricted or curtailed the expansion of industry would stunt India's development, and add to her future difficulties.

While industry should be called upon to pay its just contribution to the common Exchequer the burden placed upon it must be such as to allow business to expand.

At the same time, the aim of their policy should be to secure that, while the level for taxation was reasonably high so that the wealthier sections of the community were placed under an equitable contribution for the common needs of the State, a genuine margin was left for savings, which would flow back into investment and thereby add to the productive wealth of the community, which the State itself could subsequently tap

It was also necessary to adjust their taxation so as to provide a real incentive to the ploughing back of profits into new business.

Increase in Corporation Tax:- Explaining the increase in the Corporation Tax, the Finance Minister said that, under the law as it stood, they were entitled to recover Super Tax on dividends paid by companies incorporated out said this country to their shareholders abroad in respect of their Indian business. For this purpose, it was necessary to ascertain from the companies particulars about their shareholders abroad and the dividends distributed to them. This information was rarely available in full with the result that a very little of the tax due was collected.

It was necessary that some effective arrangement should be made to protect India's revenue against this leakage and he thought that this could best be done by raising the general rate of the Corporation Tax, and giving an appropriate rebate on their income to those companies which declared and paid their dividends in India.

He accordingly proposed that the rate of the Corporation Tax be raised from As. 2 to 3. And a rebate of one anna allowed to the companies which declared and distributed their dividends in India.

Direct versus Indirect Taxation :- On the question of direct and indirect taxes, the Finance Minister dealt with the criticism regarding the maintenance of a proper balance between direct and indirect taxation. He said that, in the ultimate analysis, it was only a matter of arranging the country's taxation to the best advantages of the community and with reference to the economic conditions of each country. What was appropriate for a highly industrialized country might prove unsuitable for less developed countries.

All indirect taxes did not necessarily mean a heavy burden on the common man export duties did not touch the internal consumer, and import duties did not touch the internal consumer, and import duties in luxury articles left the common man unaffected.

He pointed out that the proportion of direct to indirect taxation in this country next year would be about half and half while in such as advanced country like the United Kingdom the proportion in the Budget for 1947-48 was 52 to 48. Between 1937-38 and 1948-49 the total of direct taxes would have gone up $8\frac{1}{2}$ times, while indirect taxation would have increased to only a little over twice.

The Finance Minister :- "Considering the relatively undeveloped state of our country. I do not think that anyone say that the burden of direct taxation in this country is unduly light, or that there has been any shifting of the burden on to the shoulders of the ordinary man."

"In the presence inflationary conditions, it is necessary to reduce, as far as possible, the gap between revenue and expenditure, and, if it is at all possible to have a surplus budget".

He emphasized the need in a transitional time like this to strengthen the revenue position, and that, in raising additional taxation, it was necessary to secure that as little of the burden as possible fell on the poor man.

In-come Tax increase to be credited to Revenue: - In the matter of income-Tax advanced, the Finance Minister mentioned a change in procedure which would reduce the prospective deficit by 10 crores. Advance payments of Income-tax under Sec. 18-A were now treated as deposits, and adjusted as revenue only on the completion of assessments. These payments were not refundable deposits, and there was no reason why they should not be credited to revenue.

It was proposed to change this procedure from April 1, but the change would be made in stages so as not violently to disturb the budgetary position.

It would be made next year only in respect of payments of the Corporation Tax and the change would bring in as revenue Rs.10 crores, which otherwise have been credited as deposit.

With the existing shortage in the available foreign exchange and the heavy commitments in respect of food purchases, it was not possible to expect any substantial relief from the expansion of Customs revenue from import duties, although the demand for goods was very large.

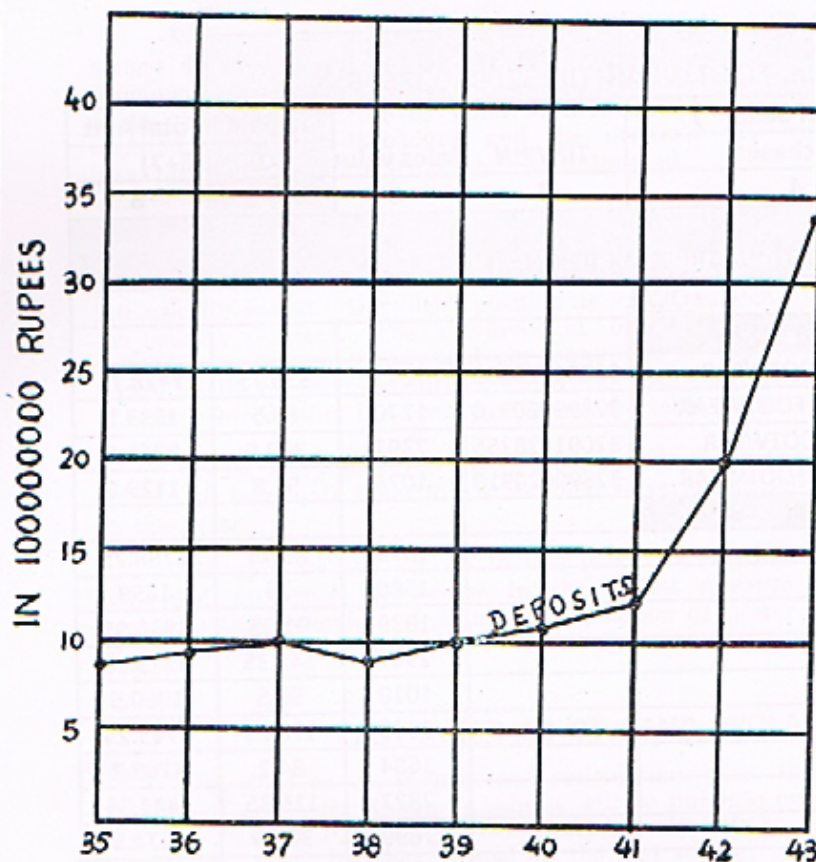
"For a considerable time we shall have to rely on Central Excise and, to some extent, on the yield of export duties.

In farming the proposals the Finance Minister turned as much as possible to the field of export duties. "Which do not involve any additional burden on our people", and to such Excise as did not affect the poorer classes.

Confidence for the Future: - In conclusion, the Finance Minister said that, in spite of all the trials to which the infant State had been subjected, they had the solid foundations on which they could confidently build the superstructure of their economic and social edifice. While fighting the uphill battle for freedom they had dreamt the dream of an India free from want and insecurity, a land in which their people would have in abundance the material and moral contents of a good life. But then their hands were tied and so they merely made plans which improve their agriculture and industrialize their country, and thus provide a higher standard of living to their masses. From August 15, 1947 the chains of bondage had been broken and they were free to translate their dreams into reality.

"The plans are there, but we find that our freedom was born in an era so fluid and fast-changing that any predetermined step other than the next become obsolete before it could be taken. We feel like the pilgrim who drags his weary limbs finally to the mountain top only to find higher peaks stretching before his eyes. It is by no means the journey's end and the night falls and engulfs him in darkness. And like him

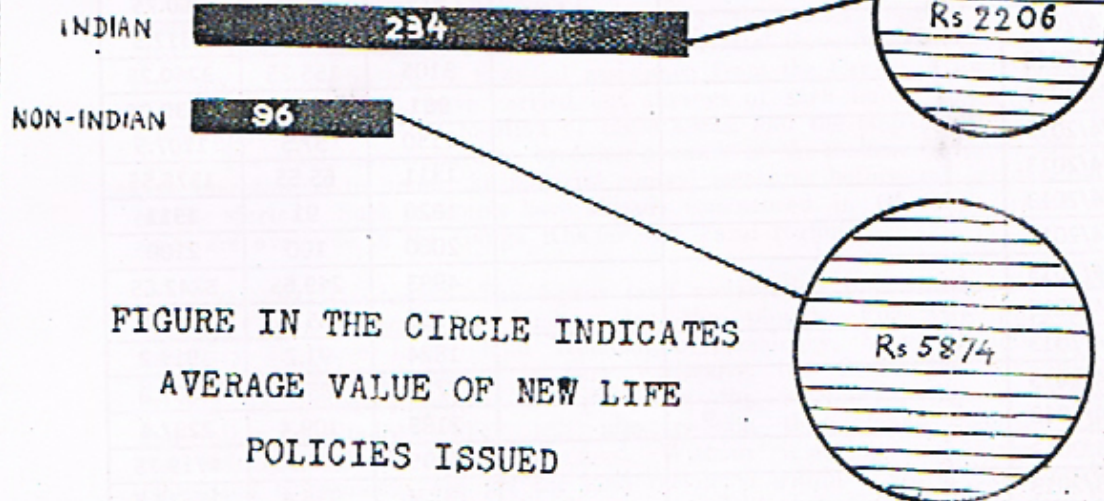
GROWTH OF JOINT STOCK COMPANIES IN INDIA



YEAR	CAPITAL	RESERVE
1935	817	502
-36	848	546
-37	725	553
-38	748	565
-39	825	530
-40	908	556
-41	1012	606
-42	1260	641
-43	1867	780

Figures are in lakhs of rupees.

NUMBER OF INSURANCE COMPANIES OPERATING IN INDIA



we are inspired to pray in the spirit of the favourite hymn of Mahatma Gandhi, 'Lead Kindly Light'. The next step is enough for us if it is illuminated by the star of our ambition and fortified by faith in our destiny."

Relief to Industry :- Mr.R.K.Shanmugham Chettiar broadcasting on the budget declared: "In formulating my proposals to cover the deficit I have kept two prominent consideration in mind, namely, the need so to read just the burden of taxation as to give some measure of relief to industry from the burden placed on it by the taxation in the 1947-48 budget, and the necessity for so arranging the additional taxation as to leave the poorer classes untouched."

"The very small deficit in the next year's Budget" the Finance Minister said, "is an index of the efforts which we are marking to close the era of deficit Budgets and place our revenues in a satisfactory position. Our revenue and expenditure position is intrinsically sound. Our debt position is even sounder. The productive capacity of the country is great. The resources at our command are even greater. Natural resources we have in plenty and our manpower is stupendous. The two combined will create wealth of great magnitude, which will enable our people to attain a high standard of life. Our destiny is in every sense of the term in our own hands.

"What every patriotic citizen should do is to produce more, to save substantially to pay all legitimate taxes to his National Government, and to lend his surplus savings to the State.

"If only we can act up to this ideal, we can look forward to the future with hope and confidence, and realize in the fullest measure our cherished ambition of assuming the leadership of Asia, and a position of power and influence in the councils of the nations of the world".

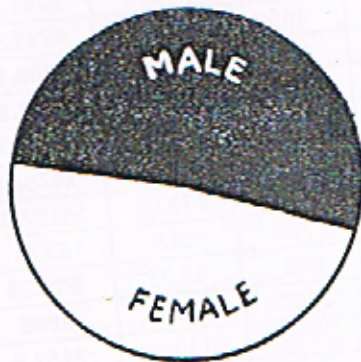
VAST SCHEMES OF LAND RECLAMATION

Described as the largest land reclamation plan through mechanization in the East-outside Soviet Russia- a scheme will be put into operation in the Ganga Khadar terrain of the U.P. shortly. On December 16, 1947, heavy mechanical machinery costing about Rs.10 lakhs, turned up the first sods of 50,000 acres of cultivation waste land, now overgrown with jungle and tall grasses. Kept as a preserve, for the sport of pigsticking for two centuries, this land will now, under India's national Government, be sown with food crops to bridge the gap between food demands and available supplies.

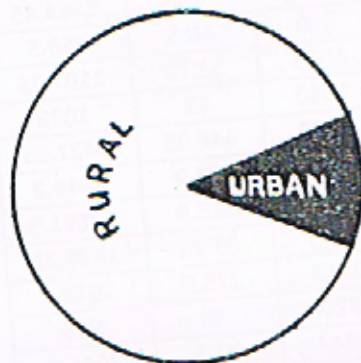
Culturable Waste Lands :- Explaining this new director being given to the food production campaign, an official of the Ministry of Agriculture stated that Government efforts during the last four years to grow more food had been greatly handicapped, by their inability to bring culturable waste lands under cultivation. Till recently the exact location of, and acre ages of these areas were not known to the Provincial Governments with any degree of accuracy. With the aid of financial assistance from the Centre, West Bengal, Bihar, C.P., Orissa and U.P., have carried out surveys of such lands, and there is now a better appreciation of the location of these areas, and the steps necessary to reclaim them. The tracks have long been grounds of the malaria parasite, and the first task therefore is to undertake control measure before any reclamation work can be started. Such measures have already commenced in the U.P. where 250,000 acres are available in the Ganga Khadar and Tarai regions.

Central Assistance :- The 5 year land reclamation plan of the U.P envisages bringing 100,000 acres of land under the plough. For this purpose it is necessary to have heavy land reclamation machinery, heavy tractors and heavy ploughs. As this machinery is very expensive, the Government of India have decided to assist Provinces by providing the machinery, the operating staff and other appliances. They will also reclaim these lands for the U.P. on the principle of 'no profit no loss' Without investing any large funds the Provincial Government will get the land reclaimed within 5 years, according to their own reclamation programme. As the time available between the reclamation of land and the actual cultivation in the U.P. an Bihar is very short, and the time for settling

POPULATION, RELIGION, LITERACY ETC, OF INDIA AND PAKISTAN

TOTAL POPULATION-388,997,955

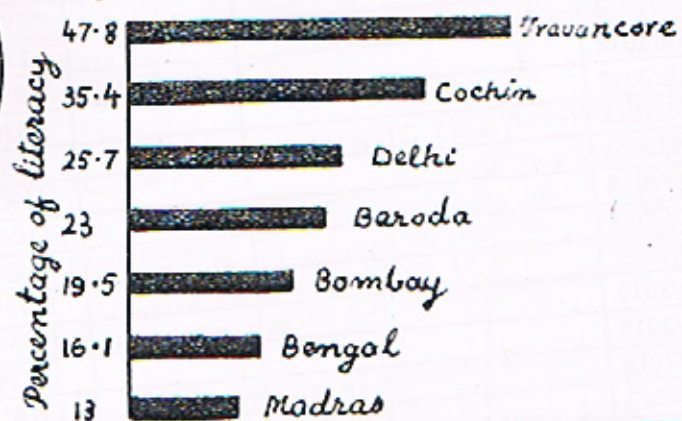
MALE - 200.9 millions
FEMALE - 187.9 "



URBAN POPULATION IS 13% THE TOTAL
POPULATION AS COMPARED WITH 80%
IN ENGLAND AND 56.2% IN U.S.A.



TOTAL LITERATES- 47 millions



HINDUS		MUSLIMS	REST
HINDUS	-	255.4 million	
MUSLIMS	-	91.7 "	
ANIMISTS	-	25.1 "	
CHRISTIANS	-	6.3 "	
SIKHS	-	5.7 "	
OTHERS	-	4.7 "	

new colonists will be at least a year, the Provincial Government has asked the Government of India to undertake mechanical cultivation until the colonists can be settled. The Government of India have agreed to this and it is anticipated that the expenditure involved will be Rs.50 lakhs for one year.

Operation on the next land reclamation scheme which will be in the Tarai region, are expected to commence in January 1948.

FIVE-YEAR PROGRAMME OF GEOLOGICAL SURVEY

A five-year plan for the expansion and reorganization of the Geological Survey of India has been outlined in a memorandum issued by the Director, Geological Survey of India. A note published in the second number of the "Indian Minerals" reviews, in this connection, the activities of the Geological Survey of India before and after the war and depicts a plan of the organization of the expanded Geological Survey of India. It formulaes its main functions as follows:- "The main function of the Survey should be the development of the country's mineral resources, but this can only be achieved if it is founded on a sound scientific basis. Therefore planning the future work of the Geological Survey of India a careful balance must be maintained between fundamental geological work, based primarily on accurate mapping and laboratory research, and activities concerned more directly with mineral development, such as drilling, mining and geophysical exploration."

RIGHTER PROSPECTS FOR INDIAN MICA MINERS

Brighter prospects are now open to over 60,000 mica miners of India, whose deplorable conditions were revealed in the Rege Committee's report published two years ago. Work for their welfare will be initiated shortly with the formation of Advisory Committees in Bihar and Madras, which have now been announced by the Central Government.

These Committees are set up under the Mica Mines Labour Welfare Fund Act under which a 2 $\frac{1}{2}$ per cent *ad valorem* cess is being levied on exports of mica from India since April 1946. The annual yield of the cess is estimated at about Rs. 9,00,000.

The composition of the Committees and their functions are described in the Rules made under the Act, which are published in the *Gazette of India* dated January 10, 1948.

The main functions of these Committees will be to advise the Central Government of schemes of welfare activities for mica miners and to consider the annual budget of the Mica Miners Welfare Fund as prepared by the executive of the Committee. There will be a Finance Sub-Committee to assist the Advisory Committee in framing schemes of expenditure

MANUFACTURE OF AUTOMATIC TELEPHONES IN INDIA

Manufacture of Telephone Equipment in India, Development of Broadcasting, Revival of Information Films of India and the setting up of a Bureau of Standards for Medical Institutions formed the subjects of important schemes approved by the Standing Finance Committee which met in New Delhi on December 13 and 14, 1947, under the chairmanship of the Hon'ble Mr. R.K. Shanmugham Chetty, Minister for Finance.

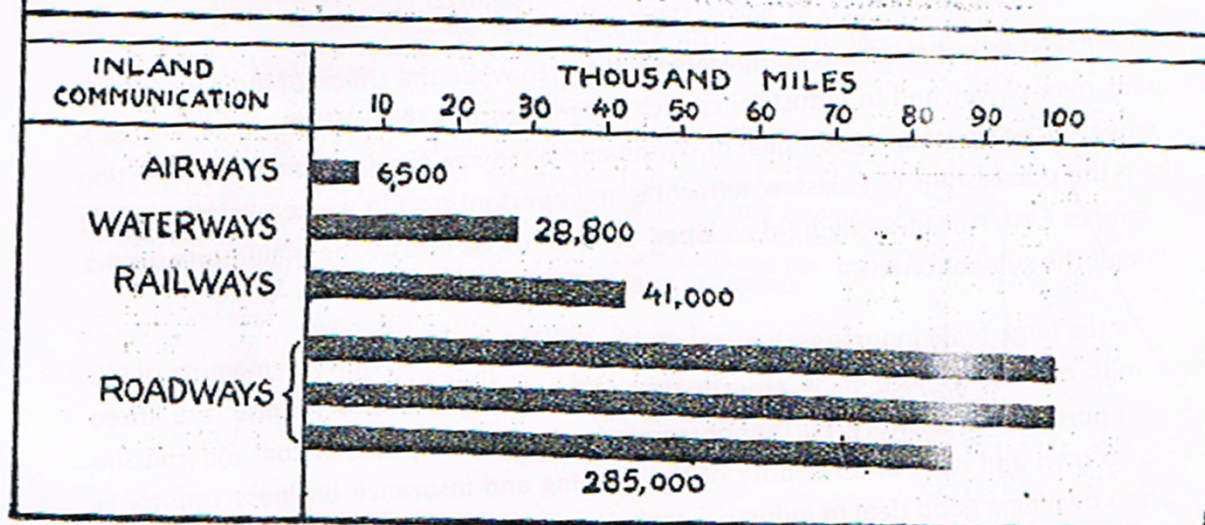
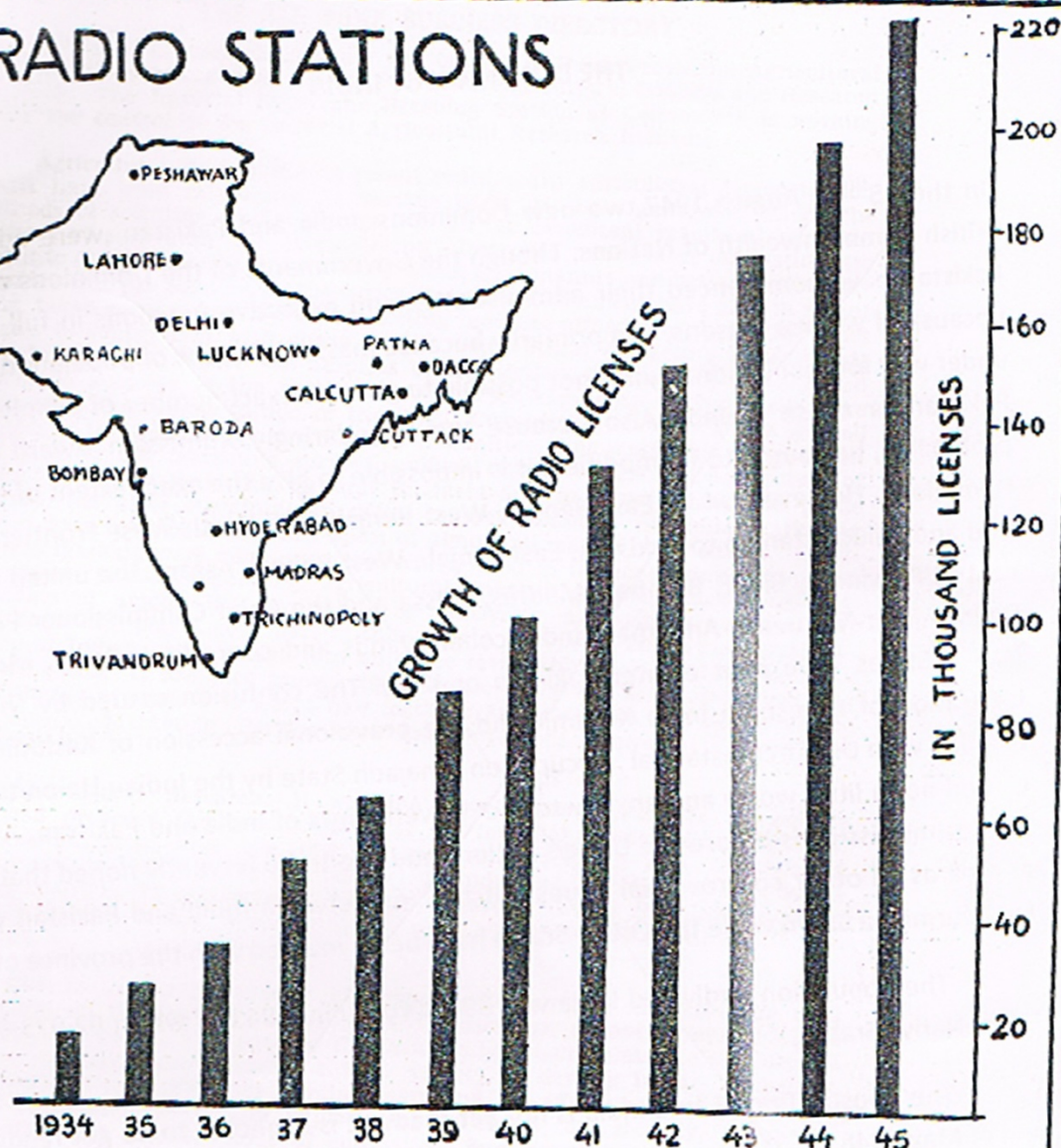
The scheme for the manufacture of automatic telephone equipment and stores in India revealed that negotiations are in progress with some leading industrialists in the country for the setting up of a factory to produce such telephone equipment as at present is being imported. The necessary machinery, patent rights and technical assistance will have to be procured from abroad. If the scheme materializes, India should be in a position to make automatic telephone equipment within three years.

To improve the telephone service in Delhi, it is proposed to provide a new 4,000 line automatic unit in the Lothian Exchange in place of the existing one of 1,670 lines which was installed in 1923.

RADIO STATIONS



GROWTH OF RADIO LICENSES



From humble beginnings 20 years ago with two small transmitters at Calcutta and Bombay, Broadcasting in India now aims at providing a programme for every person in the country in his own language and one which could be picked up with an inexpensive receiver. This is the essence of the Government of India's Basic Plan of Broadcasting.

To implement this plan, the Government have, in the first place, formulated an Eight-Year Programme, the highlights of which are: provision of new medium-wave transmitters at Nagpur, Bezwada, Ahmedabad, Calcutta, Cuttak, Djarwar, Gauhati (or Shillong) and Calicut; construction of studio buildings at Madras and Calcutta; installation of medium-wave transmitters at various centres for urban and rural programmes; strengthening of the research department; and the establishment of a Staff Training School in New Delhi.

Filming life in each Province in its many fields of endeavour is one of the main purposes of the scheme to revive the Information Films of India and Indian News Parade. Each Governor's Province will be 'covered' by a cameraman of the Government's news-reel organization, which is expected to begin distribution of films early next year. In addition a cameraman will be stationed at Delhi and an extra photographer will work at the headquarters office at Bombay. For the "shooting" of short films six units are to be set up-four to produce documentaries for cinemas, one for special films for external distribution and one for rural area 'specials'. The five distribution centres will be Bombay, Madras, Calcutta, Lucknow and Nagpur.

The Government of India feel that the interests of the country will be best served by the setting up of a government organization for the production and distribution of news reels, and that the exhibition of these news reels should be made compulsory.

To serve as a reservoir of knowledge and research which would help to present a true picture of the various aspects of life in India is one of the main functions of the Research and Reference Division of the Ministry of Information and Broadcasting which is shortly to be revived. Its other main purpose will be to collect material and prepare studies on foreign subjects.

It is planned to divide the Research work into seven sections-India, Pakistan, Russia, America and Europe, Britain and Commonwealth countries, Far East, Middle East. The importance of a good library for such work is obvious.

The Standing Finance Committee sanctioned expenditure for the appointment of staff.

STANDARDS FOR MEDICAL INSTITUTIONS

It was pointed out to the Standing Finance Committee that the proposal for the establishment of a Bureau of Standards for Medical Institutions to act as a centre for hospital standards formed part of the five-year development plan drawn up by the Ministry of Health in accordance with the recommendations of the Health Survey and Development Committee.

The Bureau's functions would be to prepare standard schedules of hospital equipment and standard plans of rooms, departments and hospital units, to carry out research in building and running costs of hospitals and to maintain a reference library of hospital plans, photographs, books periodicals etc.

MINERALOGICAL RESEARCH IN BANGALORE

Investigation of the mineral resources of India will be the aim of an organisation that is being set up under the Indian Academy of Science, Bangalore. This Research Institute, which will begin to function in March 1948 under Dr. Sir, C.V. Raman, will direct scientific investigation of India's mineral resources from three points, namely physical, chemical and geological.

The Government of Mysore having given the Institute 11 acres of land for its site and the Institute having obtained from private contributions a sum of Rs.3 lakhs for the scheme.

Preparations are under way for the establishment of a cotton textile research Institute at Ahmedabad, expenditure on which was approved by the Standing Finance Committee.

Improving materials used in textile industry and its products will be a primary object of the Ahmedabad Institute. A special task will be to conduct research of a medical nature with particular attention to the welfare of workers employed in the industry.

The Standing Finance Committee also approved a grant for the establishment of a Regional Sericultural Research Station at Kollegal, in Madras presidency.

GRANT TO PROMOTE STUDY OF SCIENCE

A grant of Rs. 10 lakhs by Government to Allahabad University on the occasion of its Diamond jubilee as a token of appreciation of the work done by the University was sanctioned. The donation will be earmarked for the development of the study of scientific and technical subjects and on research.

The Committee also sanctioned a grant to the Ramakrishna Mission to find a suitable permanent building for its Institute of Culture.

ALIPORE MINT PROJECT

Fresh plant and equipment is to be installed in the Government of India's new mint at Alipore, construction of which, suspended during the war, has now been resumed. Sanction for this expenditure was obtained from the Standing Finance Committee.

The proposal to build a Rs. 140.54 lakh mint at Alipore was approved by the Standing Committee last year. Intended to replace the mint at Calcutta, it would also have absorbed the mint at Lahore which had been set up on a temporary basis during the war due to the decision to suspend the Alipore project. Consequent on the partition of the Country, however, the Lahore mint has been allotted to Pakistan, resulting in the loss to India of much machinery which had been earmarked for Alipore. Purchase of fresh plant and equipment has, therefore, become essential.

Other schemes approved included a grant to the Government of Orissa for its new Capital project, investment by Government in Air Transport Companies, creation of the Indian Foreign Service and the Indian administrative Service, Creation of the Ministry of Relief and Rehabilitation and Ministry without Portfolio and appointment of Indian High commissioners in Canada and Pakistan.

LAC-LINSEED OIL VARNISHES

Recent investigations on lac have succeeded in opening out new and extensive scope for the utilisation of that product in varnish and paint industries.

The usefulness of lac, which has been traditionally employed in the varnish industry, can be greatly augmented, if the hardness and gloss of lac is combined with the film-forming and plasticizing properties of oils. The practicability of formulating lac-linseed oil compositions with a view to obtaining varnishes satisfying the exacting demands of modern industry has been the subject of extensive research over a number of years.

A satisfactory formulation has been achieved as a result of investigations carried out at the Indian Lac Research Institute, the details of which have been published in the September number of the Journal of Scientific and Industrial Research. Drying oil glycerides with which lac is compatible, have been prepared and

their properties studied. Treated linseed oil is a slimy semi-solid completely soluble in alcohol, and a satisfactory spirit varnish giving a transparent lac film can be secured by cooking the oil glyceride with lac at 185°-190° C, for 15 minutes. Excellent results have been obtained when 150 parts of dewaxed lac and 150 parts of the oil glyceride are dissolved in 300 cc. Of methylated spirit. The film, on backing at 90°-95° for 2 hours possesses excellent insulating properties.

The washed and dried glyceride mixture may be chemically combined with lac by cooking in the ratio of 100 parts of glyceride to 60 parts of lac at 260° C, for half an hour, and thinning the product with white spirit or turpentine. A clear baking insulating varnish is thereby obtained. By varying the cooking conditions, air-drying varnishes too can be secured. Shellac-oil paints can be made by combining the air-drying product with suitable pigments.

RESISTANCE FURNACE FOR CARBORANDUM

A high temperature resistance furnace has been designed and constructed in the Department of Chemical Technology, University of Bombay, and employed in experimental investigations on carborundum production. The details relating to the construction and operation of the furnace have been described in the September number of Journal of Scientific and Industrial Research. Using this furnace, the optimum conditions for the economic production of carborundum, starting from quartz sand, coke, common salt and saw dust, have been worked out. The particle size of sand is important in securing the optimum yield of the final product. Best results are obtained when the size range is -10, 40, which is also the size range of the coke employed. The optimum conversion into silicon carbide is secured in 12 hours at 2,500° C.

Among the other articles appearing in the Journal are: a World Standard for Screw Threads, Sunspot Activity during the Current Cycle and Petroleum Resources of India. The Editorial discusses the problem of scientific manpower in India.

FUTURE OF MANAGEMENT PRODUCTION IN INDIA

A new process, which will enable India to extract manganese directly out of her own stocks of manganese ore, of *which she is the second biggest producer in the world*, is described in March issue of the Journal of the Scientific and Industrial Research. The process, which is worked out in the laboratories of the Indian Standard Metal Company Limited, Bombay, enables the extraction of the metal from ores and also electrolysis of aqueous solutions to produce pure manganese.

Pilot plants for the reduction of low-grade ore and subsequent electrolysis of manganous sulphate have been perfected. The process has been successfully worked out on a pilot plant scale with an output of 50 lbs. of manganese per day. Samples of electrolytic manganese produced by this process have been spectrographically analysed and found to be free from sulphur, cadmium, silver, antimony, lead, aluminium, and arsenic. They contain, however, traces of nickel, iron and tin.

In view of the extensive deposits of the manganese ores occurring in India, manufacture of manganese by electro-deposition is of great economic importance to the country.

PLANT ANTIBIOTICS

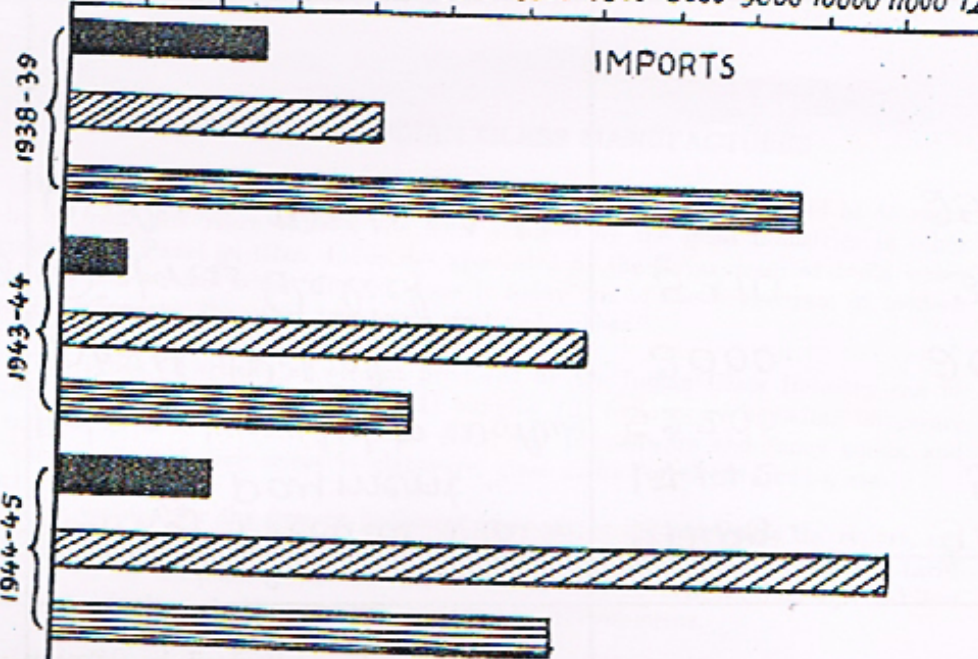
A hundred plants popular in the Indian Pharmacopoeia, for the treatment of various diseases have been assayed for the presence of antibiotics of the type of penicillin in the Laboratories of the Biochemistry Department, Indian Institute of Science, Bangalore.

TOTAL EXPORTS FROM & IMPORTS TO INDIA DURING (1938-39), (1943-44), (1944-45).

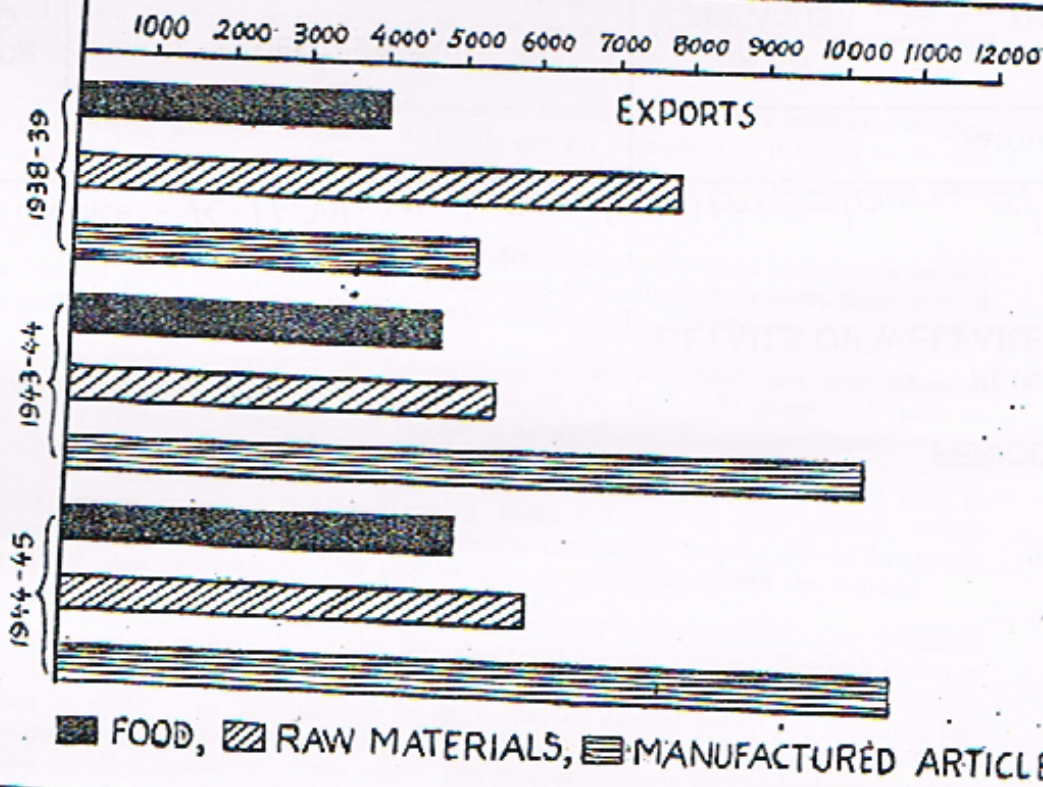
IN CRORES OF RUPEES

1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 11000 12000

IMPORTS



EXPORTS



FOOD, RAW MATERIALS, MANUFACTURED ARTICLES

ations
e been
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A preliminary survey conducted revealed that the alcoholic extract of about 20 plants showed high antibiotic activity against gram positive bacilli, such as staphylococcus aureus and that of a few against gram negative bacillus, E.Coli. A few plant extracts showed stimulation of bacterial growth which, in the opinion of the authors, is of interest and practical value.

IMPORTANCE OF INDIAN GLASS MANUFACTURES

If India is to occupy a place in the industrial world the aim should be to reach within the next ten years at least the level attained by the glass industries in other countries. The Panel on Glass Industries appointed by the Government of India which makes this observation, adds, "Indeed, glass is today one of the triumvirate of modern industrial materials-the other two being steel and rubber."

The types of articles at present produced by the Indian Glass Industry can be classified under the following heads: (1) bangles (2) hollowware including lampware and tableware, (3) bottleware, (4) sheet glass, (5) pressedware and fancy goods, and (6) other goods including scientific glassware, glass shells for electric bulbs, etc.

The reasons for the present backward state of the industry, says the report, are (1) unfair competition by well-established foreign imports, (2) failure to extend tariff protection on an adequate scale, (3) lack of sound internal organisation, and (4) low technical standards and slow progress in technical development.

Objective of Production :- The general aim should be, the report stresses, to raise the scale and quality of output of those sections of the glass industry which have already been developed in India so as to meet the whole of domestic requirements, and to initiate without delay production in other lines, e.g., plate glass and optical glass.

The Panel recommends a zonal system of localisation for glass industry analogous to that existing in sugar industry. It points out for example how it might be feasible to manufacture lampware, tableware, pressedware and sheet glass in South India where the industry has not developed in spite of easy availability of raw materials.

There is a large scope for profitable development of cottage industry in certain branches of glass manufactures, but at the same time, urges the report, there is need for greater mechanisation in the large-scale section of the industry.

The report recommends the inauguration of an original and comprehensive survey of materials either under the direction of the Geological Survey of India or under the Council of Scientific and Industrial Research.

Technical Training and Research:- It would be essential, it adds, not only to import foreign experts to train workers in India but also to send suitable Indian personnel with previous training and experience for further training abroad in specific aspects of glass technology. This may be done in consultation with the industry.

At the same time facilities afforded at present by existing technical institutes should be further widened in scope. The Central Glass and Ceramic Research Institute at Calcutta which is being started should be suitably provided. Provincial departments should be affiliated to this Institute in the matter of general policy and working, but they may remain autonomous in their own activities. The report also recommends the setting up of a specialised State school like that at Gablous in Czechoslovakia. This school may be located at Ferozabad, says the report, where the laboratory of the Glass Technology Section, now at Cawnpore, may be transferred.

THE ALL INDIA BUSINESS DIRECTORY

EXPANSION OF FIBRE INDUSTRY IN INDIA

A drive for the improvement and expansion of cocoanut cultivation and for steeping up the production of coir in India is urged by the Panel appointed by the Central Government in respect of coir, rope, cordage and other fibre industries.

The Panel point out that India has extensive uncultivated areas suitable for large-scale sisal plantation as their climate is similar to that of East Africa. The damp-resisting quality of sisal fibre will play an important part in the manufacture of rope and cordage and of cheap floor coverings. The Panel, therefore, recommend the cultivation of such industrial fibre plants in India with the aid of up-to-date machinery.

Coir, when properly treated, resists decay by bacteria and water and can be easily impregnated with bituminous and resinous materials. This, in the Panel's view, provides a unique opportunity for exploiting its uses in many directions. There is no serious rival to coir as a hard fibre at present, but the Panel warn that increased use of synthetic fibre has to be carefully watched.

TRAGET FOR COIR

A target production of 229,125 tons of coir is specified by the Panel who suggest improved and mechanical methods in the retting of husks, proper grading of fibre and better communications in the cocoanut producing ares. They emphasise that India should make fuller use of the raw material by retting all available husks and by establishing roperies in Travancore, Cochin and Malabar and Bombay so as to absorb more coir. The need for the establishment of a Coir Textile Institute, preferably a co-operative organisation of all producers in close association with Government, is also stressed.

The Panel recommend duty-free import of manila and sisal fibres, a tariff on imported rope, financial assistance to the industry for research purposes and a reduction in the tariffs imposed by countries importing coir mats and matting.

AIRCRAFT TO BE MANUFACTURED IN INDIA

The future programme of Hindustan Aircraft Factory Ltd, envisages the manufacture of aircraft in India, as recommended by the United Kingdom Aircraft Mission (March 1946).

From April 1, 1946, Hindustan Aircraft Ltd., ceased to be under the sole control of the Government of India. It has now reverted to the position of a private limited company with the Governments of India and Mysore continuing as the only share holders, The factory at present acts mainly as an overhaul, repair, assembly and conversion depot for Civil Airlines and Air Forces. It is also doing a certain amount of General Engineering work for the public as well as for Government. The future programme of Hindustan Aircraft Ltd., envisages the manufacture of aircraft in India, as recommended by the United Kingdom Aircraft Mission, who visited India in March 1946 to advise Government on this subject generally. Hindustan Aircraft Ltd. Has taken up the production of Percival Prentice Trainers for the Royal Indian Air Force under an assistance arrangement with the percival Aircraft Company, Luton, England. The Ministry of Defence has pleased an initial ordedr with Hindustan Aircraft Ltd. For 50 such aircraft.

The company has also undertake the manufacture of an improved type of thir class Railway Coaches for the Railway Ministry, which has already placed an order for 100 such coaches at a cost of Rs. 60,000 each. Further development in constructing coaches of other types for Railways is shortly expected. To meet the expanded programme, it has been decided to increase the share capital from Rs. 75 lakhs to Rs. 175 lakhs.

The railway coaches which the Hindustan Aircraft Limited are supplying to the Railway Ministry are made of steel panels (in place of wood). The weight is reduced by a third and the coach provides sleeping accommodation and other amenities. The types of general engineering work done by Hindustan Aircraft Limited are; (a) Fabrication of steel towers for the Mysore Electrical Department for transmission purpose; (b) Steel doors and windows for the Mysore Government, and (c) a certain amount of machine shop work for textile mills e.g., spindles. Shafts. Rollers etc.

The first aircraft manufactured at Hindustan Aircraft Ltd., is expected to be out by May 1948. This however, will largely be an assembly from Imported components. The first aircraft of the same type manufactured in Hindustan Aircraft Ltd., using Indian raw materials to a large extent, with the exception of the Engine and Instruments, is expected to be ready by September 1948. The programme is to assemble 15 from components and 5 from detailed parts and to manufacture 30 from raw materials-all to be completed before June 1949.

FACILITIES FOR TRAINING

The assembling and manufacture of aircraft mentioned above should provide adequate opportunities of training to Indian technicians and workers, as, with the exception of a few British and American supervisory personnel, the staff employed consists entirely of Indian personnel.

The present strength of the factory is as follows:- Indian-Daily rated-2-341; monthly rated-1,187; Officers and Executive-63; Women-11; total-3,602. Non-Indian; British-16; American-7; total-23. Total (Indian and Non-Indian together)-3,625.

Since October 1947, three British pilots have been engaged on an hourly basis for R.I.A.F. Dakota delivery flights.

It is the policy of Government that as far as possible the requirements of the Indian Air Force should be met by Hindustan Aircraft Limited. For this purpose, Government propose to constitute an Advisory Committee to advise the Directors on questions of policy and to constitute a Liaison Committee between the Company and the main indentors. This Committee will include representatives of the Ministry of Defence, the Director-General, Civil Aviation, and the Ministry of Railways. There is, in addition, a local Technical Committee of officers of Hindustan Aircraft Limited and the Indian Air Force to co-ordinate the activities of the Company on technical matters.

DEVELOPMENT OF DESIGNS

The decision as to what aircraft should be manufactured at Hindustan Aircraft Ltd., is primarily a question for the Defence Ministry which is at present examining this matter. As soon as a decision on this major issue is reached, orders will be placed on Hindustan Aircraft Ltd., as far as possible for their manufacture. It will be appreciated that, in the first instance, the Indian Air Force will be confined to foreign designs but steps have already been taken to set up a Design and Development Section at Hindustan Aircraft Ltd. With the object eventually of manufacturing aircraft for the Indian Air Force entirely to our own designs.

“INDIA MUST ADOPT DYNAMIC SHIPPING POLICY”

India, like other important maritime countries must adopt a dynamic policy with regard to her shipping. The Government of India fully endorses this view, which was expressed by the Reconstruction Policy Sub-Committee on Shipping in its Report published on April 2, 1947. A Government Resolution on that Report appears in a Gazette of India (Extraordinary) dated July 12, 1947.

It is the Government of India's intention, the Resolution states, to assist Indian shipping as far as possible to attain the targets laid down by the Sub-Committee. These targets, to be reached, during the next five to seven years, are 100 per cent of the purely coastal trade of India, 75 per cent of India's trade with Burma, Ceylon and other geographically adjacent countries, 50 per cent of India's distant trade and 30 per cent of the trade formerly carried in Axis vessels in the Orient.

INDIA SUPPLY MISSION IN WASHINGTON- COUNTRIES "EYES AND EARS" IN TECHNOLOGICAL FIELD

Expanded activity and change of function brought about by India's post-war needs have led, it is understood, to the re-organisation of the six-year-old India Supply Mission in Washington, which continues its activities throughout North America.

The functions of the Mission, stated in general terms include procurement and supply investigation, aid to Indian industrialists, serving as an industrial public relations office and obtaining facilities for higher technical training of Indian technicians and engineers in North America.

The procurement and investigation programme of the Mission covers as many as forty important categories of goods, though at the moment its main concern is with the allocation, supply and shipping of food and allied items. Up to February 28, 1947, the Mission had procured for India 885,000 tons of foodgrains (wheat, rice and corn) worth nearly 66 million dollars.

In addition, demands for construction and transportation machinery, agricultural machinery, power plants and other industrial plants and machinery are on the increase. There are important demands on hand for irrigation projects for Punjab, Madras, Sind, Bengal, Nepal, U.P., Orissa, the Central Waterways, Irrigation and Navigation Commission and the Central Ground Water Section. Excavating machinery for Sind alone has amounted to approximately 3,000,000 dollars. Orders have been placed for 16 Pacific Type streamlined Locomotives for the Railway Board valued at approximately 1,600,000 dollars and the Mission is now arranging procurement of 183 locos and other Railway equipment worth 15 to 20 million dollars. The Mission has also received urgent demands for a large quantity of generating and pumping equipment for the Electrical Commissioner worth approximately 2,000,000 dollars. Requests for investigation and obtaining supplies of material in short supply are still on the increase, particularly in various steel items, tin-plate, electrolytic copper bars, chemicals, newsprint, etc.

There are many items for which U.S.A. is practically the only source of supply, e.g., larger excavating machinery such as draglines and shovels, heavier crawler tractors, deepwell turbine pumps, etc. As the irrigation and power projects, agricultural projects, road building and other construction projects, become more active in India, demands for plants and machinery and for technical assistance are bound to increase.

WATCHING BRIEF FOR CONTRACTS

The Mission has also a good deal of work to do in connection with contracts placed in North America directly by other agencies. For example, the India Technical Mission London, has placed an order for the design of a 350,000 tons fertiliser plant with the Chemical Construction Corporation, New York. The Mission has a watching brief for the performance of this contract as well as the responsibility for ironing out numerous problems connected with it.

U.S. AND CANADIAN WAR SURPLUS

Similar work has to be done in connection with an order for the design of Bhakar Dam placed by the Punjab Government with the International Engineering Corporation at Denver, Colorado.

Another phase of the Mission's procurement⁵ and supply activities covers War surplus material both in U.S.A and Canada, the latter mainly for industrial plans and machinery. In addition to important demands which it receives from the Government of India for war surplus material it receives numerous inquiries direct from private concerns and individuals in India. In this connection it has been asked to keep the various Chambers of Commerce of India regularly of available war surplus materials.

Amongst the important demands so far received from the Government of India may be mentioned 50 kw power station for the Electrical Commission.

HIGHER TRAINING FOR INDIAN TECHNICIANS

The Mission has already made arrangements for twenty-seven technicians to receive training in North America. This requires considerable amounts of spade work and delicate negotiations with higher executive of manufacturing concerns in North America. It must be borne in mind that technicians for whom the Mission arranges are men experienced in their trade and what they want to learn in America is the "know-how" and production methods. For obvious reasons the American industrialists are reluctant to give this type of training. Considering the difficulties, however, the success so far achieved has not been discouraging.

The Mission has maintained association with the industrials in North America, and its activities have brought it in touch with numerous U.S. Government Departments and agencies in the technological field as well. It has established contacts with the Bureau of Reclamation, Bureau of Mines, U.S. Army Engineers, T.V.A., U.S. Department of Agriculture, U.S. Bureau of Standards, amongst others, and it therefore in a position to place trainees suitably.

CENTRAL GOVERNMENT URGE FULL OF ORGANIZATION

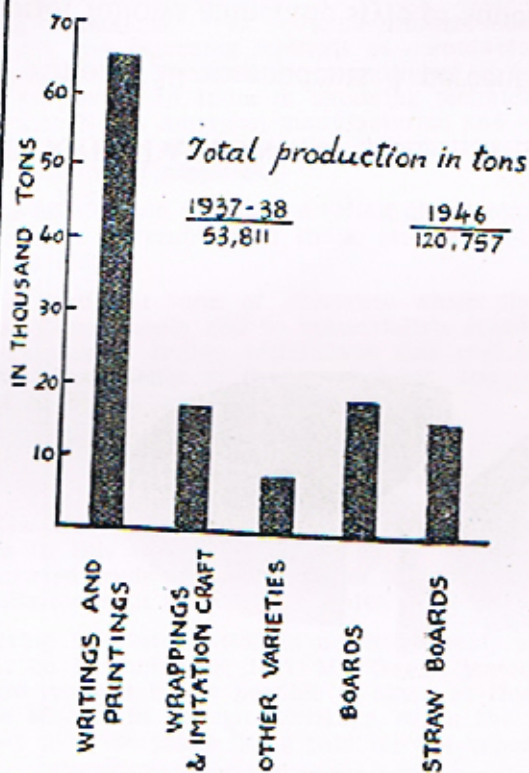
The role played by the India Supply Mission in Washington as a Central Procurement Agency for Governments in India is stressed in a communication, which the government of India have, it is understood, sent to all Provincial Governments, asking them to make a fuller use of the Mission. Mr.A.R.Palit, Director of the Mission, is now in India on a short visit.

During the last six years of its existence the Mission has procured over 500 million dollars worth of goods and equipment excluding silver and certain military items. Appropriately 50 per cent of these transactions were in cash, the balance being on Lend-Lease. The Mission has now established cordial relations with Government Departments in North America as well as with the industry.

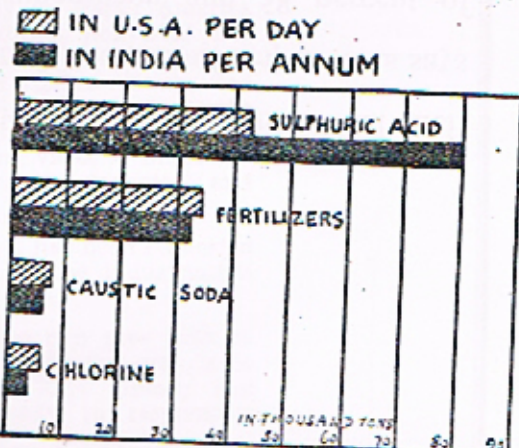
It enjoys the highest credit and is granted open Account terms by American Industry. This means that with the exception of a certain amount of progress payments for a few large contracts, no payment is made by the Mission at all until the title to the material is actually transferred to it. A considerable saving in dollars is thus effected.

The Mission has procured all kinds of stores including capital goods, plant and machinery and food grains. It has now acquired intimate knowledge and wide experience of North America Industry, which is of particular value in the 'seller market' existing today.

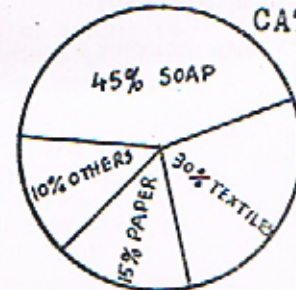
PRODUCTION OF DIFFERENT TYPES OF PAPER IN INDIA (1946)



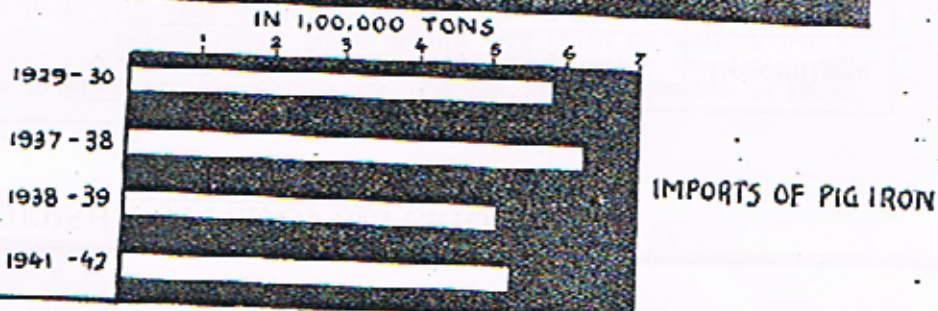
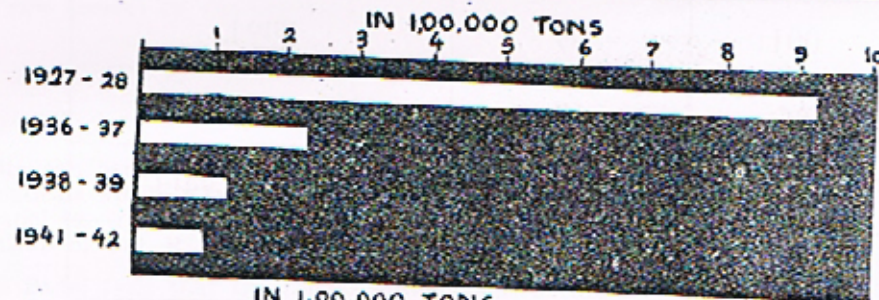
AVERAGE PRODUCTION OF CHEMICALS IN U.S.A. & INDIA



CONSUMPTION OF CAUSTIC SODA IN INDIA IN DIFFERENT CATEGORIES



IMPORTS OF STEEL UNDER PROTECTED-TARIFF



IMPORTS OF PIG IRON

The Mission is responsible for the inland movement and ocean shipment of all goods procured by it. Under present conditions of shipping shortage and of labour unrest is a particularly valuable service. The Mission also arranges for the inspection of important stores procured by it.

Though the Mission procures stores on behalf of Governments, and is not intended to be an agency in North America for Indian firms, it can still be of material assistance to Indian industry in a number of ways.

AID TO INDUSTRY

It provides information regarding sources of supply in North America including war surplus material. It places orders, expediting deliveries and arranging shipments. It obtains information regarding technological development and regarding methods of manufacture and equipment required for the purpose. It helps in the recruitment of technical personnel in North America for service in India in obtaining technical publications, established contacts with North American manufactures and arranging visits to industrial plants. It will also obtain detailed information regarding the technical and financial position of suppliers.

The Mission will only act on behalf of industry when it has been requested to do so by a Government in India, on the application of the industrialists seeking its aid.

One particular form of assistance which the Mission can give both to Provincial Governments and to industrialists sponsored by Governments is to obtain training of Indian technicians who have already had considerable experience in their own field and are already in responsible positions in India.

OIL REFINERIES IN INDIA

“The Government of India are considering the question of setting up refineries in this country with the object of manufacturing refined products from imported crude oil. Estimates of the costs involved are being worked out in consultation with the Oil Companies.”

Giving this information in a written reply to a question in the Central Assembly on November 18, 1947 Mr. Gadgil stated further: “Until such estimates are ready it is not possible to state, at this stage, what saving if any, could be effected in Foreign Exchanges, or, in the value of refined products as compared with the process being paid for the imported oil.”

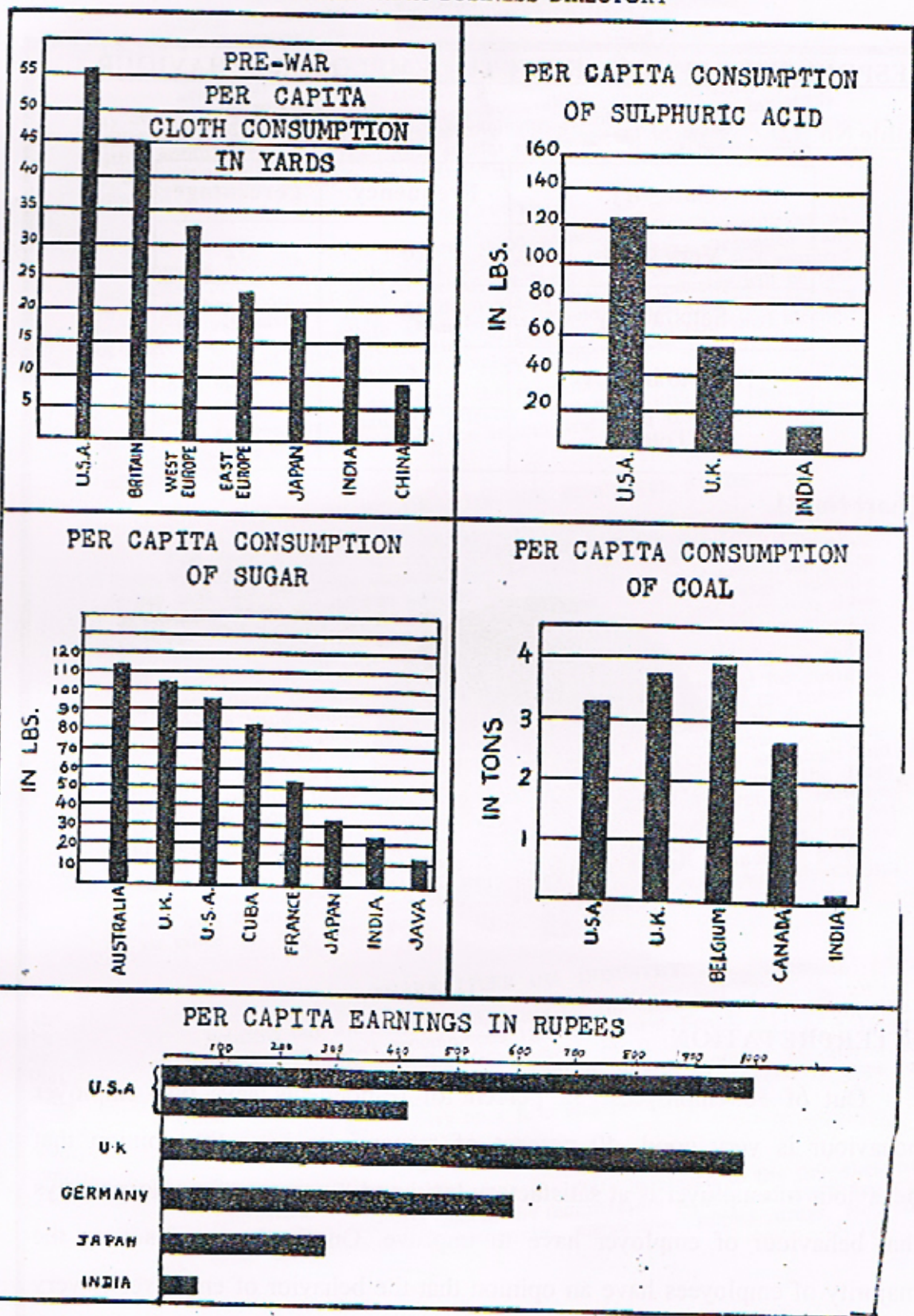
The statement added that there was only one refinery in India at Digboi in Assam and the quantity of refined oil produced in that refinery during 1946 was 183,856 tons of refined mineral oil was imported into India and Pakistan combined, during the year 1946. These are the latest figures available. Now raw (crude) oil was imported.

INDIA TO BE SELF-SUFFICIENT IN FINE CHEMICALS

15- Year Programme Recommended

India can become self-sufficient in regards to fine chemicals, drugs and pharmaceuticals within a period of 15-years, according to report submitted by the Panel on the industry set up by the Government of India under the chairmanship of Col. R.N. Chopra.

The Panel feels that the proper development of the fine chemicals and drugs leading to self-sufficiency would depend very much on working out a well-balanced and integrated plan for the production of heavy chemicals, coal distillation products, organic solvents, etc. Further as the production of these



materials is also necessary for the production of dye-stuffs, artificial fibre, plastic, synthetic rubber, etc., a workable programme can be drawn up only by integrating the reports of the Panels on these different industries.

Among the heavy chemicals, the manufacture of three items, i.e., chlorosulphonic acid, sodium and chlorides of phosphorus, is very important and may be taken up without delay and the production of intermediates from coal distillation products, such as aniline, acetanilide, chloro-benzene, phenoldiethyl aniline, para-ansidine, para-nitrotoluene acid anhydride, etc. deserves prompt attention. Also, special efforts should be made to produce refined 2^o pyridine, which is essential for the manufacture of sulpha drugs.

SOLVENTS

Among solvents, India produces ethyl. Alcohol in good quantities at competitive prices. Acetone is being produced at one of the Ordnance Factories. If the production of acetone in the factory, where it is not required for making explosives, is kept up, the needs of the drug industry will be met to a great extent. Immediately arrangements should, meanwhile, be made for the manufacture of other solvents as acetic acid, butyl and amyl alcohols and also of ethylene oxide, which is a valuable intermediate.

Steps should also be taken for the manufacture of requisite quantities of lactose, thouraea and guanidine, nitrate, the first of which is required for the manufacture of penicillin and the second and third for the manufacture of sulpha drugs.

IMMEDIATE PROGRAMME FOR ESSENTIAL NEEDS

The most practical way to, establish the fine chemicals and drugs industry, says the report, will be to decide first upon the minimum number of drugs and fine chemicals essential for the country. Moreover, the production of essential drugs should not wait on the production of basic chemicals in the country. The country should, on the other hand, immediately start with the manufacture, utilising the raw materials already available and importing those not available here till national resources are developed.

The Panel recommend that the production of two types of drugs should be taken in hand immediately, viz., (1) those which are essential for guarding the health of the public and warding off infectious diseases, (2) those for which India already has or can easily develop raw materials in abundance. Under the first category come the sulpha drugs, anti-malaria (quinine, mepacrine, pamaquine, paludrine) penicillin and streptomycin. The arsenicals and D.D.T can also be included in this list. In the second group come the drugs of vegetable origin. Products such as quinine, emetin, morphine, caffeine, ephedrine, santonin and essential oils, etc., should be developed to the fullest possible extent, both for the needs of the country and also for export. In this group, the biologicals, vaccines and sera, liver extracts, glandular products, etc., may be included. Production of insulin on a commercial scale should also be taken up, says the report.

SHARK LIVER OIL INDUSTRY

Pointing out the scope, which exists for the expansion of the shark liver oil industry, the report recommends that a Central Board, representing the relevant departments of the Government of India, the Departments of Fisheries of the different maritime provinces and non-official experts, with a whole time executive, should be formed to work out the necessary steps to put the shark liver oil industry on a firm and permanent basis.

NEED FOR STATE INITIATIVE

Discussing the general policy of the State in regard to the fine chemical industry, the Panel suggests that in the manufacture of new and vitally important drugs like penicillin, streptomycin, mepacrine, sulpha drugs, etc., the

State should take up the initiative at least in setting up model plants and training personnel. They plead for remission of customs duty for the first five years on raw materials and semi-manufactured goods required for the industry and for making excise policy throughout India uniform. They also urge the revision of railway freight rates.

The report contains appendices written by experts on a number of special problem related to the industry, like machinery, equipments, manufacture of penicillin, manufacture of sulphadiazine, shark liver oil, etc.

INCREASED PRODUCTION OF HISTORY GOODS

That yearly steps should be taken to establish factories for the manufacture of hosiery needles and knitting machines in India is one of the recommendations made by the Industrial Panel on Hosiery in their Report recently published. This is one of the 29 industrial panels appointed by the Government of India to help them in the preparation of a detailed plan for the next five years as the first stage of a 15-year plan of industrial development for the whole country.

With the rise in the standard of living and increase in the purchasing power of the people, the demand for hosiery goods is expected to increase rapidly in the near future. It is felt that the present production falls far short of the consumption and with improvement of quality, better standardization of products and cheaper cost of living, hosiery wear will gain great popularity among the masses.

Targets of production for hosiery goods in India have been specified. Thus, 600 million pieces of underwear, 100 million pieces of outerwear and 50 million pairs of footwear will constitute the production target of 1951, in which export figures have also been included. The Panel feels that the industry will be able to meet the entire requirements of the country and that no import of hosiery goods will be necessary.

CONSOLIDATION OF INDIAN SILK INDUSTRY

Consolidation rather than expansion is the immediate need of the silk industry of India. The Silk Panel appointed by the Government of India, which holds this view, has recommended a five-year programme of stabilization of the silk industry in India preliminary to a phase of expansion during the next two quinquennia.

Demand for silk generally and for filature silk especially high in war-time there was then considerable step up in production under Government encouragement. Thus between 1939-40 and 1945-46 the number of filature basins rose from 1,291 and the area of mulberry cultivation rose from 30,000 to 78,000 acres in Mysore, from 5,720 to 18,026 acres in Madras and from 8,983 to 15,516 acres in Bengal.

But the Panel warns that if the industry thus developed by State assistance as part of war efforts, is now left unsupported, it may collapse and with it an important source of India's war strength.

Incidentally, the Panel has made a separate recommendation that Japanese silk entering India by way of reparations should not be allowed to undersell Indian silk.

The Panel has recommended consolidation and improvement of the present position of the industry along a number of lines. For the improvement of mulberry cultivation, they commend the five-year sericultural programme adopted by the government of Madras to other silk producing regions viz., Kashmir, Mysore, Benal, Bihar, Bombay and C.P. While pointing out the need for effective State control to ensure adequate supply of disease-free

seed, they foresee the necessity for 300 fully equipped grainages, costing Rs.20,000 each, to meet the total requirement of India, which will be about 12 crores of layings. To control silk-worm diseases, they add, there should be in each silk producing region a special enactment as in Mysore.

CO-OPERATIVE SOCIETIES SUGGESTED

In order to have the charkas replaced by the filatures, a change on which rests the hope of the silk industry in India, the Panel recommends the setting up of co-operation societies on lines suited to local circumstances. It also pleads for authoritative establishment of definite standards conforming to accepted international grading. It emphasizes co-operation among the various silk producing areas in the country and recommends the establishment of a Central Silk Board representing all silk interests.

ULTIMATE TARGET OF PRODUCTION

In the next five years, says the Panel, 49,868 acres more or 1,62,500 acres in all will be under mulberry cultivation, and this will increase to a total area of not more than 1,87,500 acres (excluding Kashmir) in the third quinquennium. Including the increase of 50 per cent in the production of silk in Kashmir, the Panel does not foresee all-India to be more than 4 million lbs, per annum at the end of 15 years, the annual consumption being estimated at 15 million lbs.

COUNTRY-WIDE DEVELOPMENT OF ELECTRICITY

Every village in India is to have electric light and every home a radio, said the Hon'ble Shri. N.V.Gadgil, Minister for Works, Mines and power, while referring his Electricity (Supply) Bill, 1948, to a Select Committee of the Dominion Legislature. This widespread use of electricity is sought to be effected by the adoption of the "grid system" and the establishment of Provincial Electricity Boards-features which are perhaps novel in the history of electricity legislation in India.

The "grid system" is really the very antithesis of the state of affairs which exists today. A limited local area comprising one or more municipalities and, served as a rule, by one license, still represents by far the most dominant type of electric development in India, and it is to remedy the present defects which consist of extremely low production of electricity, uneven distribution and, from the consumers' point of view, uneconomic supply-that the "grid system" is evoked in the Bill. The "grid system" means, in effect, a regionally co-ordinated scheme of electrical development which transcends the geographical limits of a Municipality, a Cantonment Board or a Notified Area Committee and in order that it may be put into effect, it envisages the erection of large-scale power stations located at suitable within a particular region and the construction of a main transmission system with smaller secondary lines attached to it for tapping agricultural and other outlying areas.

PROVINCIAL ELECTRICITY BOARDS

The positive programme of electrical development which is implicit in the "grid system" necessarily calls for a body armed with the requisite authority and possessing the necessary financial resources for the stimulation by technical methods of electrical development in the country, and it is here that the Provincial Electricity Boards, which are to be set up under the Bill, will play their most important role.

As pointed out by Shri.N.V. Gadgil, the Provincial Boards will perform a two-fold function. In the first place, they will be charged with the duty of promoting the all-round development of electricity within the limits of their

Jurisdiction and, in the second, to effect the rationalization of the supply of power. The Board may establish new generating stations or control existing ones for the purpose of generating electricity required by it, and then proceed to interconnect the stations by means of main transmission lines. The Board may also buy electricity in bulk from the owners of "controlled" stations or sell it to them and to other licensees. In short by ensuring that the generations of electric power is concentrated in the most efficient units distributed over the entire region and that the bulk supply is centralised under its own direction, the provincial Boards will have the power to develop the "grid system" not only in new areas, but also in the areas of old licenses by controlling their operations.

Shri. N.V. Gadgil gave some striking figures which show only too clearly the vast possibilities that lie before this country in the direction of electrical development. For while the possibilities in India from hydro-electric sources alone may exceed 35 million Kw ; the total installed capacity at present is below 2 million Kw. Again, the annual per capita consumption in India is 9.2 Kw. hours as against 906 in England 1,470 in the U.S.A; 3,090 in Norway and 3,510 in Canada. Further, even out of this low output and consumption of electric power nearly 50 per cent is concentrated in the four cities of Bombay, Calcutta, Kanpur and Ahmedabad, which together contain less than 1½ per cent of the country's population.

STEP TOWARDS NATIONALISATION

The Bill does not set out to nationalise the industry but only to control it at this stage. It enables the Provincial Boards to introduce many of the benefits of nationalisation without it being necessary to make prodigal use of public borrowing power to acquire assets already being efficiently operated by private enterprise. New undertakings will, however, be started mostly by the State and only when it is impossible for the State to come in, may private enterprise be allowed. As far as present undertakings are concerned the measure of control on them contemplated by the Bill constitutes, according to the Hon'ble Minister, a reasonable compromise between nationalisation and private enterprise. Out of the 4,12 electricity undertakings in India, 300 belong to private companies, 249 of them in the Dominion and 51 in the States. Calculated in terms of installed capacity 73.19 per cent of it belongs to privately owned companies and the rest to Municipalities and Government. It has been estimated that if Government were to transfer all private undertakings in this country to public ownership it will cost the national exchequer nearly Rs. 150 Crores. Meanwhile there is a proposal to amend the Electricity Act of 1910 suitably with a view to basing the appraisal of electricity undertakings on their book or written down value instead of the market rate, which is often inflated. It is the contention of the Hon'ble Minister that this proposal and the comprehensive powers vested in the Provincial Boards over private undertakings constitute a step towards nationalisation rather than an obstacle to it.

INDUSTRIAL FINANCE CORPORATION FOR INDIA

In the Constituent Assembly of India (Legislative) on November 20th, 1947, the Hon'ble Mr. Shanmukham Chetty, Finance Minister, moved that the Bill to establish the Industrial Finance Corporation of India be referred to a Select Committee with instructions to report on the opening day of the next session of the Assembly. The object of the Bill, he said, "is to supplement existing facilities available for the supply of immediate and long-term capital to industry". He stressed the importance of the measure to the national well-being, and felt that it was overdue. The Finance Minister said.

"The question of establishing an Industrial Bank or Corporation for supplying medium-term and long-term financial requirements of Indian industries has exercised public opinion in this country for several years past. The Indian Industrial Commission (1916-18) had recommended the appointment

of an expert committee to examine the possibilities of establishing Industrial Banks in India and the Indian Central Banking Enquiry Committee (1929-31) had recommended the formation of provincial Industrial Corporations and an all-India Industrial Corporation. The attention of the public has again been drawn to the question since the beginning of 1945 in connection with the schemes formulated by the Government of India for the post-war industrialisation of the country. In the statement on Industrial policy issued by the Government of India on the 21st April, 1945 with reference to their plans for the future industrial development of the country, Government stated that the question of the promotion of an Industrial Investment Corporation or similar institution was under examination. Subsequently, in the General Purposes Sub-Committee appointed by the Planning and Development Department, it was decided that the subject should be examined by the Finance Department in consultation with the Reserve Bank of India. In implementation of this decision, a Bill was prepared by the Reserve Bank for the establishment of an Industrial Finance Corporation to provide medium and long-term credit to industrial enterprises in British India where recourse to commercial banks or capital issue channels is considered inappropriate. Sir Archibald Rowlands intended to introduce it in the Assembly in the Budget Session of 1946 but could not do so owing to the crowded legislative programme. It was introduced in the Autumn Session of 1946 but could not be proceeded with both on account of pressure of legislature business and the impending constitutional changes.

NEW SIGNIFICANCE AND URGENCY

With the inauguration of the independent Dominion of India and our anxiety to go ahead full-speed with the industrial development of the country, the setting up of an Industrial Finance Corporation has acquired a new significance and urgency which is further accentuated by the recent unfortunate occurrences which have dislocated economic life in certain parts of the country.

“The financial requirements of industries may be generally classed under two heads viz., block capital and working capital. Block capital is required by industries to finance fixed assets such as land, buildings, machinery and other appliances of a more or less permanent character while working capital is required for the purchase and working up of raw materials into finished products, for stores, for expenses incidental to the marketing of products, for day-to-day requirements etc. A part of the working capital is also of a permanent nature; generally in industries the stock of raw materials and manufactured or semi-manufactured materials never falls below a certain minimum and the capital required for holding these is more or less of the nature of permanent capital. Any working capital over this minimum falls in the category of short term finance. It is also possible to distinguish in some cases capital requirements of a semi-permanent type which may be classed as medium term requirements of industry.

IN FOREIGN COUNTRIES

“According to orthodox British practice, commercial banks do not supply the capital required for financing fixed assets which is obtained by industries in Great Britain by public or private subscription. As a rule, the banks there would be prepared to furnish the capital required to finance only the floating against the security of stock or other liquid assets after the industry has established itself in a sound position. On the European Continent, and particularly in Germany, Italy and Belgium, and in the United States, the banks generally used to engage in ‘mixed’ bankings (combining part term with long-term industrial financing)) until the great economic depression, of 1929-33 which demonstrated the drawbacks and disadvantages of mixed system. As a result of the experience gained during the years of economic depression it has been generally agreed that long-term industrial should be eschewed by banks. Apart from the ‘mixed’ type of banks, which, have declined since the depression, special industrial banks were established in some of the European countries.

"In France there were the 'Banques d'Affaires' which specialised in the issue of securities and in the floatation of industrial and financial undertakings. In Finland, an Industrial Mortgage Bank was floated in 1924 with capital supplied mostly by the joint stock banks to meet the long-term requirements of industry. The National Hungarian Industrial Mortgage Institute Ltd., was founded in 1928 for granting amortisation loans to industry, the Treasury contributing 80 per cent of the capital and the National Union of Manufacturers, the remainder. A Provincial Mortgage Bank was established in Saxony in 1925 to provide credit to industry, trade and handicrafts; it worked as an annexe of the Bank of Saxony which was an institution wholly owned by the State. In Poland, the Economic Bank was brought into existence in 1926 which was empowered among other things to make industrial loans, the capital of this Bank was subsequently acquired by the State. After the great economic depression, the Reconstruction Finance Corporation was created in the United States with the object of extending financial assistance to agriculture, commerce and industry; the activities of the Corporation were considerably extended during the war to enable it to aid the defence programme. The most recent additions to the list of industrial banks are those incorporated in the British Empire. In Great Britain, the Chancellor of the Exchequer announced in January, 1945, the formation of two Finance Corporations, namely, the Finance Corporation for Industry Ltd., and the Industrial and Commercial Finance Corporation Ltd. The purpose of the former company, in brief, is to provide finance for industrial business with a view to their quick rehabilitation and development in the national interest, and that of the latter to supply medium and long-term capital to the small and medium sized business of the country. In Canada, an Industrial Development Bank has been brought into existence as a subsidiary to the Bank of Canada to ensure adequate credit to industrial enterprises which may reasonably be expected to prove successful; and in Australia, a separate Industrial Finance Department has been created in the Commonwealth Bank to assist in the establishment and development of industrial undertakings.

SCOPE FOR ALL-INDIA CORPORATION

"The question of establishing separate corporations in India to supplement available facilities for financing industries was exhaustively studied by the Indian Central Banking Inquiry Committee and the various Provincial Committees. After reviewing the facilities available in the capital market and the working of this "State Aid to Industry" Acts and certain finance Corporations established by provincial Governments, the 'Central Committee recommended the formation of Provincial Industrial Corporation in each province. At the same time they stated that they did not rule out the possibility of the formation of an All-India Industrial Corporation at the Centre for the purpose of meeting the requirements of industries which may fall within the scope of the Central Government. In view of the recent constitutional developments the scope for an All-India Corporation is greater now than was envisaged in 1931 by the Banking Committee. The Bill which is now before the House, however, is not intended to meet the requirements of basic and nationalised industries but only to provide finance to meet the long-term needs of private industry.

BUSINESS OF CORPORATION

"The business of the Corporation is defined by Clause 15. The Corporation is authorised to grant secured loans to industrial concerns repayable with maximum period of 25 years. It may guarantee loans raised in the market Industrial concerns for an agreed rate of commission. It has also the power to underwrite the issue of stock, bonds and debentures and of retaining, as part of its assets, such stock bonds or debentures as it may have to take up in fulfilment of its underwriting obligations, but is required to dispose of any stock, bonds and debentures within a period of seven years."

FOREIGN EXCHANGE REGULATION ACT AMENDED

The Constituent Assembly of India (Legislative) on Nov. 20th, 1947, passed the Finance Minister's Bill to amend the Foreign Exchange Regulation Act, 1947.

Moving that the Bill be taken into consideration, he said that the measure sought to add an explanation to Section 8 (1) of the Foreign Exchange Regulation Act, under which the Central Government is empowered to prohibit the import of bullion into India except under a licence from the Reserve Bank of India. "The price of gold in India is very much higher than the world price of gold," he pointed out. The Indian market therefore has a very great attraction for the import of gold bullion, but the import of gold bullion into India creates great exchange difficulties for us because the balance of trade on account of the large volume of import of foodstuffs is against us and all foreign exchange is valuable to us."

INDIA CUTS IMPORTS TO SAVE FOREIGN EXCHANGE

The need to make the best use of India's foreign exchange resources, which are likely to be extremely limited, and a substantial adverse balance of payments during the period April 1946 to January 1947 were some of the factors that led the Government of India to revise their import trade control policy. The new policy came into force on July 1, 1947, the beginning of the current licensing period.

Early in 1947, it became apparent that the liberal issue of import licenses for commercial goods had substantially contributed to India's big adverse balance of trade. But to meet any adverse balance of trade with sterling areas, India could freely draw on her Sterling Balances; similarly, for trade with non-sterling areas she had the right to operate on the Dollar Pool. The position, however, has since altered in view of H.M.G.'s obligations under the Anglo-American Loan agreement to make sterling on current account freely convertible into any currency after July 15, 1947. India's future exchange resources will, therefore, consist of only what she realises from her exports plus what might be released from Sterling Balances. With multilateral convertibility of sterling, the distinction between hard and soft currencies will largely disappear and all foreign currencies will be on an equal footing.

FOOD AMONG PRIORITY IMPORTS

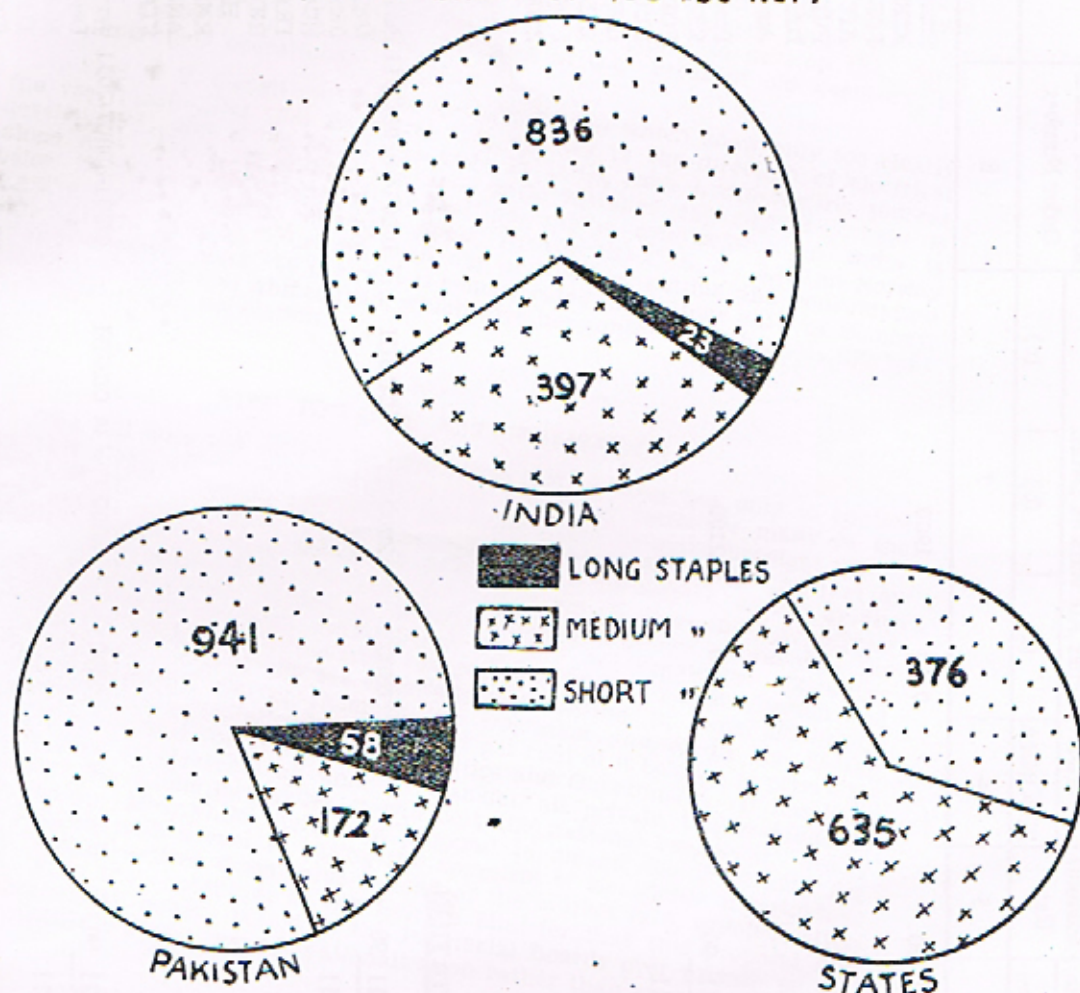
Clearly within India's resources certain Government imports, such as Food and Railway equipment, claim priority. But after these have been met, the Government are prepared to license commercial imports in such a way that the balance of payments is approximately in equilibrium, that is, the country is able to foot the bill from its current exchange resources.

Excluding imports for which no licence is required, that is goods brought in under Open General Licence, it was expected that licences to the value of Rs. 100 crores will be issued during the second half of 1947. This will include revalidated licences.

BAN ON "LUXURIES"

Announcing their new policy on May 16, 1947, the Government forthwith cancelled Open General Licences Nos. I and III, covering imports from Ceylon, Portuguese possessions in India and any country contiguous to India's land frontiers. O.G.L. No. VII, covering imports from the U.K. and other Empire countries excluding Canada, Newfoundland and South Africa, was also withdrawn. A new O.G.L. (No. IX) in which the number of consumer and non essential goods permitted to be brought into the country without licence was drastically cut was simultaneously issued. Details of this O.G.L. have been published in the Gazette of India (Extraordinary) dated May 16, 1947.

PRODUCTION OF RAW COTTON IN PAKISTAN, INDIA AND INDIAN STATES ACCORDING TO STAPLES (IN 1000 BALES OF 400 LBS NET)



EXPORT OF INDIAN COTTON

IN 1000 BALES OF 400 LBS NET EACH

44-45	409	188				18	7		196
43-44	383	243				.	.		140
42-43	160	115				.	.		45
41-42	873	555	78	28		.	.		212
40-41	2013	375	809	481		.	.		348
39-40	2348	413	763	519	29	290	20	1	313
38-39	3367	402	1288	730	86	162	135	168	380
YEAR TOTAL									
	U.K.	JAPAN	CHINA	ITALY	SPAIN	FRANCE	BELGIUM	GERMANY	OTHERS

Apart from these licence-free articles, the position now is as follows:

- (a) Articles such as foreign liquors, motor cars, fountain pens (complete), cigars, cigarettes, domestic refrigerators (complete), wireless reception instruments and apparatus etc., will not be licensed at all. Some of these articles, about 200 in number, have been coming into the country in very large quantities in recent months and consuming foreign exchange.
- (b) Essential goods such as plant and machinery, on the other hand, will be licensed freely. (Lists of goods included in (a) and (b) are being published in the Gazette of India and the Indian Trade Journal.)
- (c) Articles which do not appear in either of these lists will be licensed up to certain monetary "ceilings".

ATOMIC ENERGY DEVELOPMENT

Joint Committee to Advise New Delhi and Travancore

A BOARD of Research in Atomic Energy has been set up under the auspices of the Council of Scientific and Industrial Research with Prof. Bhabha as Chairman.

A joint Committee of six members of the Board appointed by the Council and three representatives of the Travancore Government, has been constituted to advise both the Government of India and the Government of Travancore on all matters connected with research and development and the disposal and utilization of the raw material.

"The public may rest assured", said the Hon'ble Mr. C. Rajagopalachari, the then Member for Industries and Supplies, in the course of a statement announcing the Board and the Committee, "that the atomic energy resources of India will not be frittered away or go to waste". He however adds; "It would be a mistake to associate atomic research only with destructive activities. India has no desire to destroy. The power to explode and destroy is only a symptom of available energy which waits to be handled by scientific research for the purpose of constructive utilization."

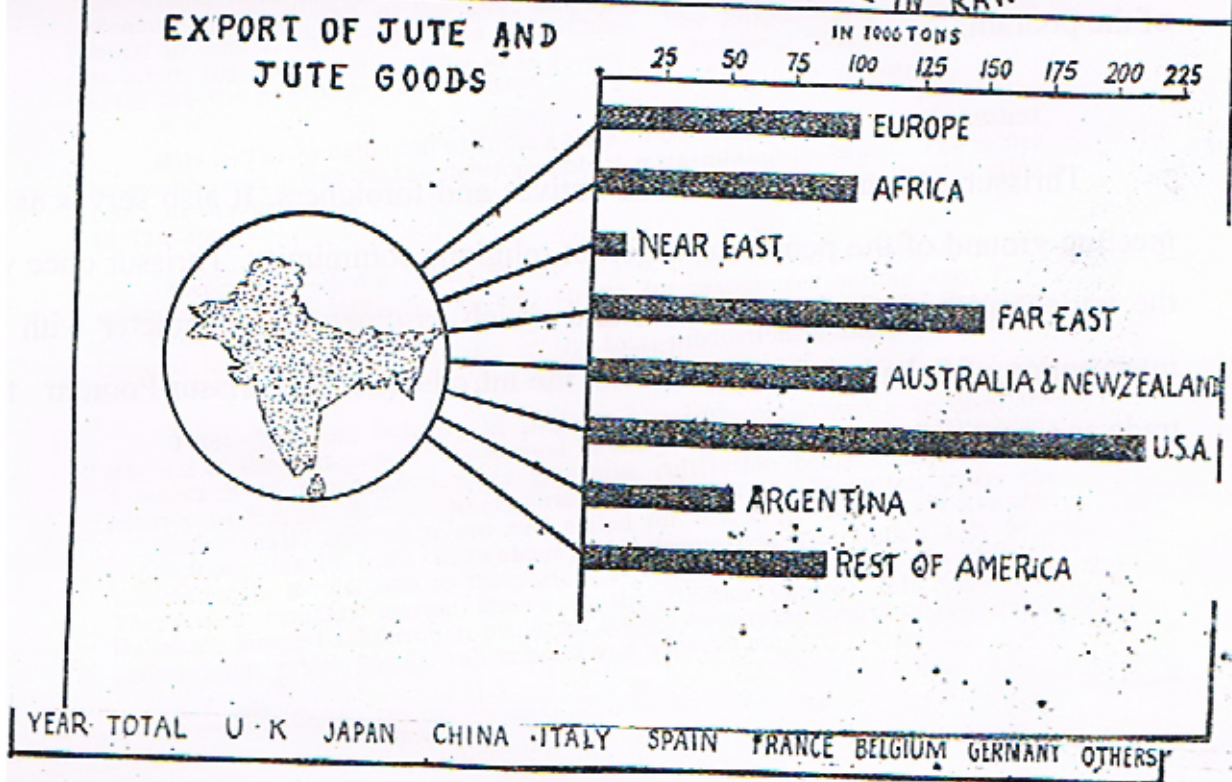
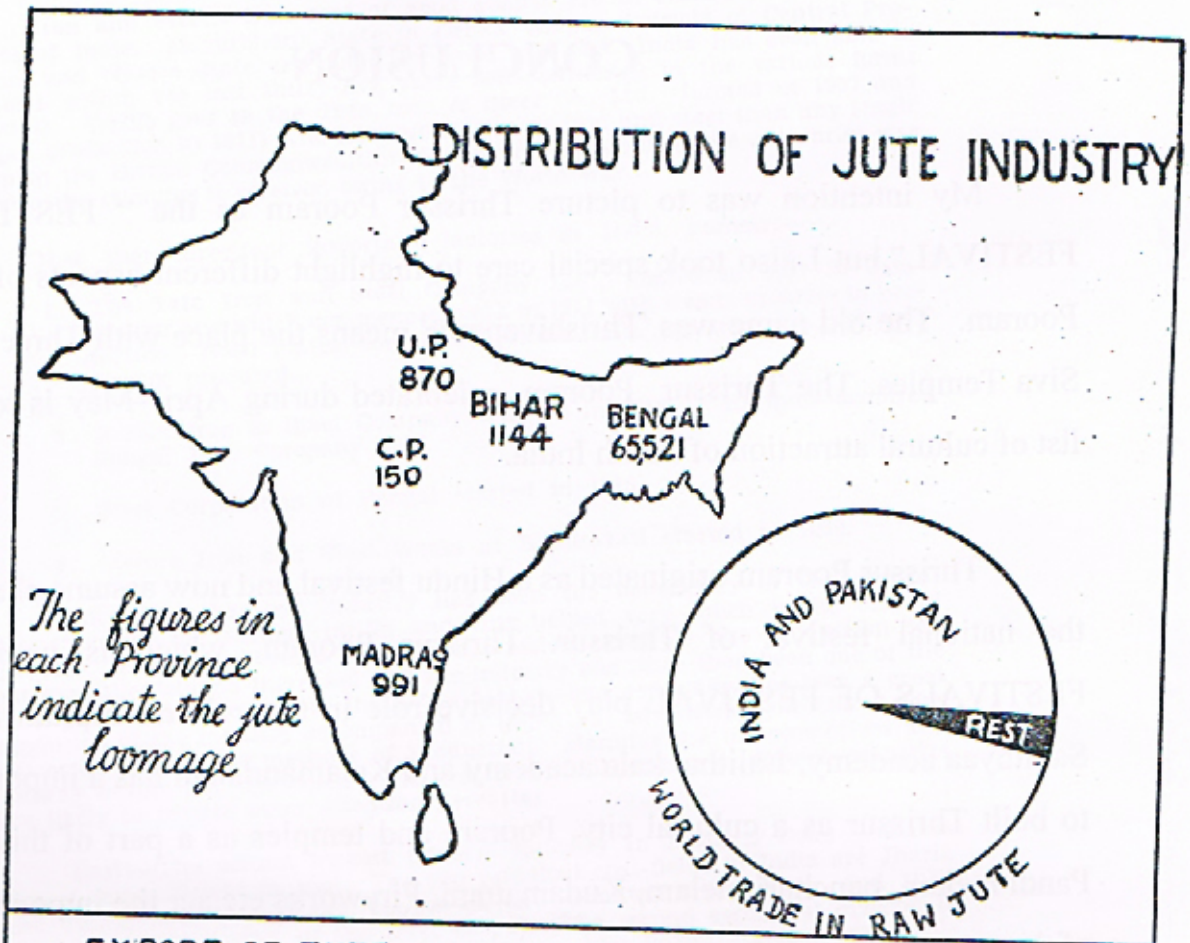
INDIAN INDUSTRIES

Cotton:-India has been famous from ancient times for the cotton trade and the fine handloom muslins produced in Decca are still remarkable. The handloom industry was so powerful that India used to be an exporter of cotton goods till the power looms were invented and developed in England.

India is one of the biggest cotton-producing countries of the world. Cotton spinning and weaving is the largest private industry in India. Cotton is cultivated in the dry region of Bombay as well as in the moist provinces of Bengal, Deccan, Berar, Punjab, Madras, U.P., Baroda and Rajputana, Bombay and Berar together produce about half the total of the Indian cotton. A large proportion of the cotton used by Indian mills is imported from Egypt and U.S.A. Most of the Indian cotton mills cannot use short staple cotton which is commonly produced in India. The raw cotton exports represent very nearly 44% of the total value of raw materials exported from India.

There are over 400 cotton mills in the country employing well over 5 lakhs of hands daily.

Hand-Weaving :- About 2½ million handlooms are working throughout India supporting about ten million souls. The Government of India have been, for some years, granting financial assistance to the Provincial Governments for the improvement of such cottage Industries. Still the condition of the handloom weavers is reported to be in a depressed state and adequate support is essential for the betterment of such a large industry.



Iron and Steel:- Iron ores of good quality are in existence in different parts of India. Mayurbhanj State Orissa, Raipur districts of Central Provinces and Mysore State are noted for good iron ore. India has been able to achieve within the last thirty-five years self-sufficiency in the various forms of steel. Credit goes to the Tata Iron & Steel Co., Ltd., (formed in 1907 and began production in 1911) who now produce more iron and steel than any single firm in the British Commonwealth. The rapid expansion of the enterprise was due to the stimulus it received owing to the World War.

Now there are four important factories in India, namely:-

1. The Tata Iron and Steel Company Ltd., floated in 1907 in Jamshedpur and which commenced work in 1911 with steady progress in production. Steel plates, corrugated sheets, rails, pig iron, etc. are very largely produced.
2. Indian Iron & Steel Company – started in 1918 at Haripur-acquired Bengal, Iron Company 1936.
3. Steel Corporation of Bengal started in 1936.
4. Mysore Iron and Steel Works at Bhadravati started in 1930.

Since 1924 the steel industry has been the beneficiary of Government protection by the various tariffs and this helped very much in its onward progress. During the years of trade depression (1930-31) the production fell but soon the demand increased and the industry has since then been one of the most profitable businesses in India. The last decade, especially, has been a great expansion of the industry accompanied by important advancement in the various process in scientific methods of production. Manufacture of locomotives and railway wheels, etc., for which India is at present depending on foreign countries are likely to receive more attention hereafter.

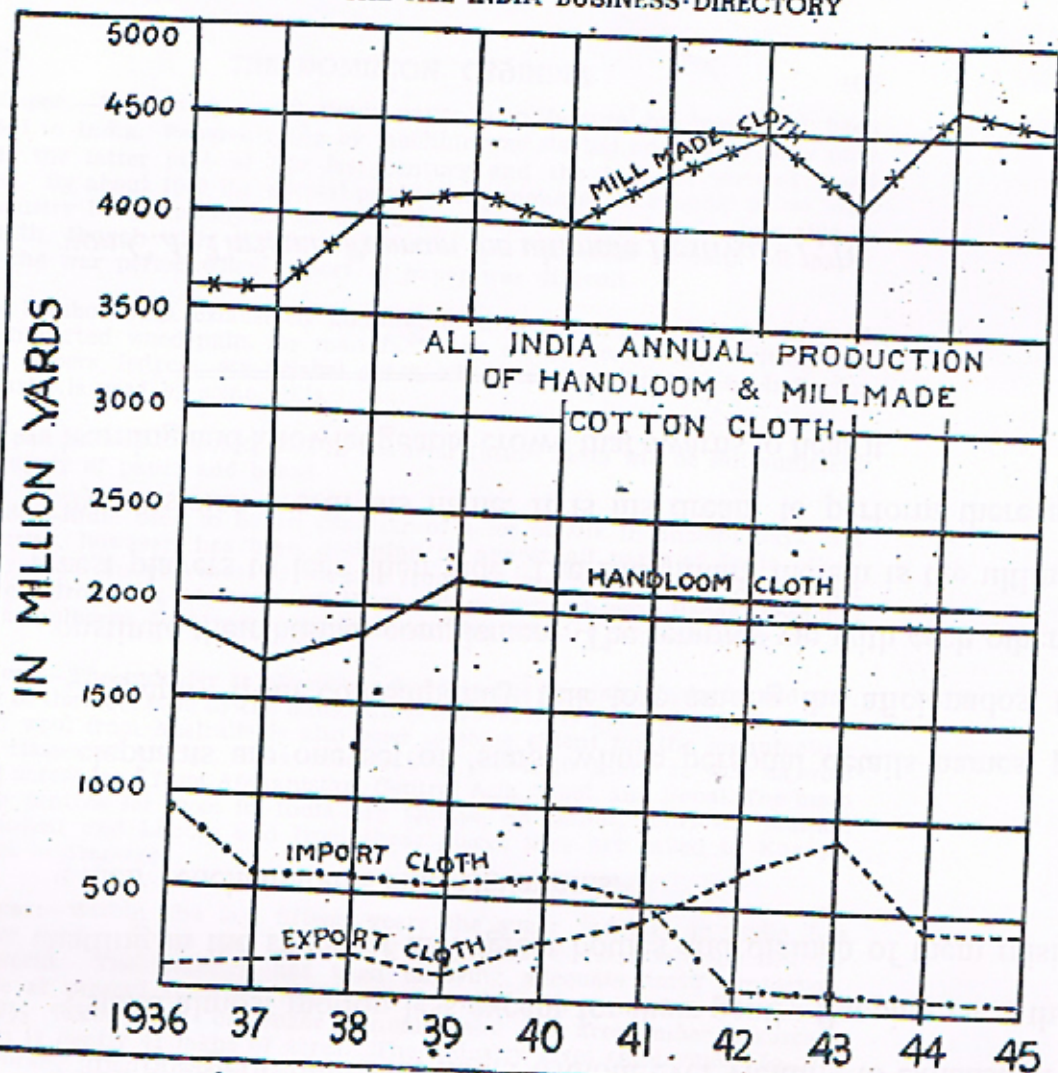
Coal:- The second biggest mineral industry in India is Coal. India is almost self-sufficient in coal. The two principal coal-fields in India are Jharia and Ranigunge, geologically known as the Gondwana Coalfields, and they account for about 70% of the total output. The second geological division is found in Assam, the Punjab and Baluchistan. The Bokharo and Girdih fields in Bihar, the Pende Valley fields in C.P. and the Singaveni fields in Hyderabad State are the next important mines.

Mica :- The contribution of India's Mica to the world market has diminished in recent years owing to the development of mica-mining in Brazil. The mines occur in the district of Hazaribagh, Monghyr, Gaya, Nellore and in Eraniel taluk in Travancore.

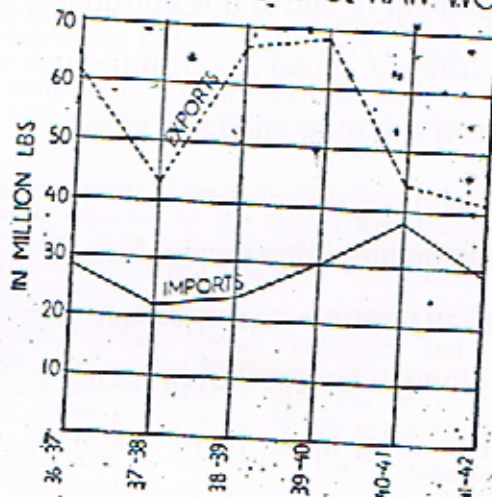
Manganese :- India is one of the largest producers of Manganese in the whole world. Vizagapatam was well known for manganese mining even from the latter half of the last century. The manganese mines in Central Provinces account for the largest proportion to the total production in India and Madras comes next in that respect.

Jute :- The jute-industry in India has steadily progressed ever since the starting of the first mill in Bengal in the year 1855. India practically holds a monopoly in the production of raw jute, cultivation being confined almost entirely to Bengal, Bihar, Orissa and the United Provinces, where the and climate conditions are well suited for this crop. Now there are over a hundred mills in India with about 68,000 looms and the Indian Jute Mills Association in Bengal sees to the various aspects of the welfare of the industry. There is a Monthly known as the "Indian Central Jute Committee Bulletin", (annual subscription being Rs.5-8-0), containing figures of production consuming prices stocks and imports and exports, etc.

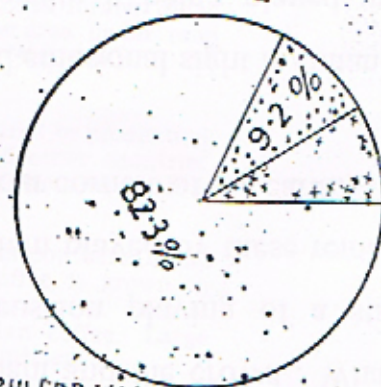
INDIA BUSINESS DIRECTORY



IMPORT AND EXPORT OF RAW WOOL



PRODUCTION OF WOOL



☒ PULLED WOOL
 ☒ FROM LAMBS
 ☐ FROM ADULT SHEEP

YEAR TOTAL U · K JAPAN CHINA ITALY SPAIN FRANCE BELGIUM GERMANY U.S.A.

Paper :- From very early times paper manufacture by hand had been practised in India. Paper-making by machine was started on a large scale only towards the latter part of the last century and the industry showed rapid progress. By about 1900 the annual production amounted to roughly 20,000 tons. The industry has considerably advanced in recent years and India was able to meet with tough with certain restrictions, the increased demand for paper during the war period when import of paper was difficult.

The bamboo pulp, exclusively manufactured in India, proved to be as good as the important wood-pulp, for manufactured all classes of fine writing and printing papers, ledgers, etc. Sabai grass, which is the substitute in India for the esparto, is used by some mills.

It can be well expected that in the near future India will be self-sufficient in the supply of paper and board.

Silk :- India used to be an exporter of a lot of silk in ancient days, but the industry, however, has been declining in almost all parts of India. Consequently India imports most of the silk from foreign countries. In Assam, Silk is produced from Ery Mulberry and Mega silk worms; whereas Bengal produces silk from mulberry. In Mysore and Kashmir the Industry is progressing.

Wool:- The industry is almost confined to the Punjab, Kashmir and U.P. The bulk of the wool used by the mills, which is about forty per cent is Indian wool. Imported wool from Australia is also used to some extent for the manufacture of finer classes of goods. India exports wool grown in India as well as wool imported across land from Afghanistan, Central Asia, Tibet, and Nepal. The main collecting centres for wool in India are Quetta, Shikarpur, Amritsar, Multan, Kulu, Panipat and Lahore and from these places they are railed to Karachifor export to overseas.

Sugar:- Within the last fifteen years the sugar industry in India has made very good progress and she is now the largest sugar producing country in the world. The industry has been enjoying adequate tariff protection. There are at present 150 sugar factories in India with a total production of about 12½ lakhs tons of sugar annually and the area under sugarcane cultivation is nearly 41 lakhs of acres. The industry gives employment to cover 120,000 workers, and about 3,000 graduates and technicians.

Tea:- Tea is the most Important among p[lantation crops in India. It is said that the British Empire is the tea garden and tea shop of the world and this is mainly owing to the rapid growth of the industry in India. Assam and Bengal are the two most important centres of tea industry, the former alone producing moe than half the total produced in India. The area under crop exceeds 833,000 acres and over 9 lakhs of persons are employed daily in the industry.

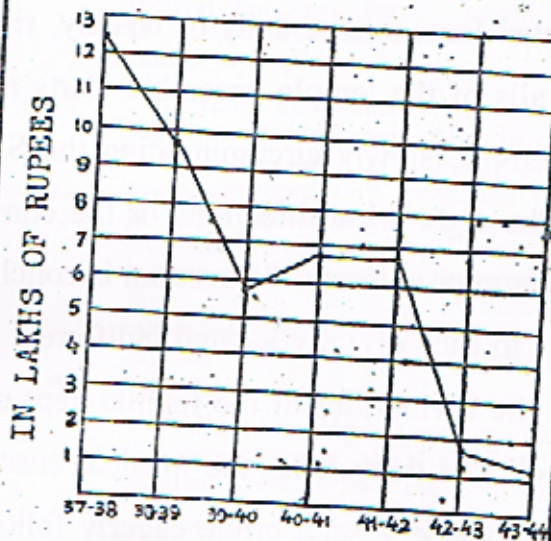
The consumption of tea in India is very little when comaredd t production . is exported to the Ujnited Kingdom, America and other countries, more than 80 percent being exported to the United Kingdom from where it is re-exported to verious other places.

Coffee:- The important centres of Coffee production are in Southern India, namely, Mysore, Madras, Coorg; Travancore and Cochin. Coffee is grwth in about 183,000 acres with a production of about 34 million lbs a year. Mysore produces about 50 percent of the total production of Indian coffee. Large quantities of coffee grown in India are exported to other countries.

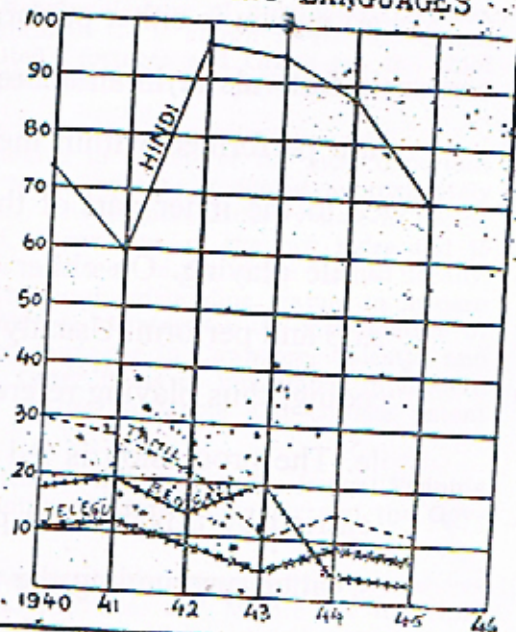
Tobacco:- India is the second largest tobacco producing country in the world contributing about 40 percent of the world production, with nearly 12 lakhs acres under crop. The important tobacco-growing provinces are Madras, Bengal, Bombay and Bihar. The bulk of the tobacco grown in India is consumed locally.

FILM INDUSTRY

IMPORTS OF CINEMA PROJECTORS PARTS AND ACCESSORIES

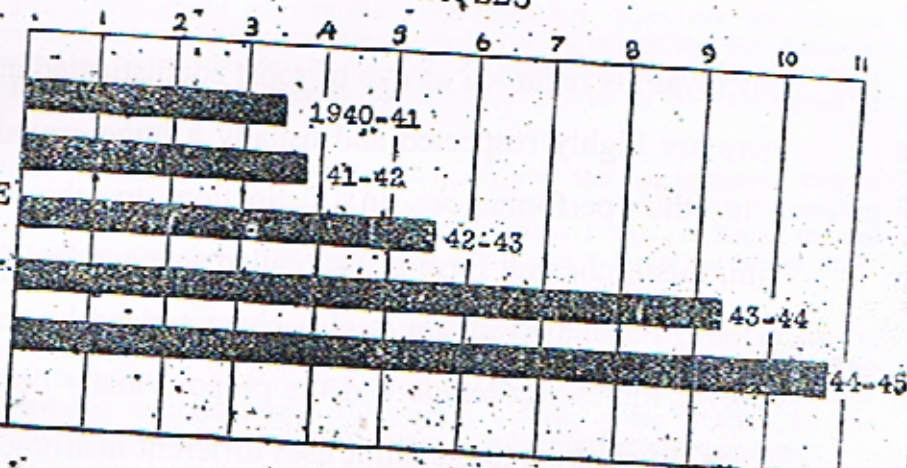


NUMBER OF FILMS PRODUCED IN DIFFERENT LANGUAGES



IN CRORES OF RUPEES

ESTIMATED
GROSS INCOME
EXCLUDING
THAT OF FOR-
EIGN FILMS



AVERAGE NUMBER OF PICTURES PRODUCED PER ANNUM.

U.S.A.	450 to 500
JAPAN	500 to 550
RUSSIA	About 100
INDIA	About 200
U.K.	50 to 60

NUMBER OF STUDIOS

INDIA	55
PAKISTAN	5

NUMBER OF THEATRES

INDIA	1876
PAKISTAN	230
STATES	103

YEAR TOTAL U.K. JAPAN CHINA ITALY SPAIN FRANCE BELGIUM GERMANY OTHERS

Lac:- The resinous substance secreted by a type of insect known as lacifer lacca is known as lac. These insects feed on the sap of certain trees and exude the substance during their life cycle. Lac is an important raw material for industrial purposes such as the manufacture of gramophone records, polishes, varnishes etc. The refined form of lac is known as shellac. Bihar, Central Provinces, Bengal, Assam, United Provinces and Orissa are the chief lac-growing central in India. Bihar produces about 60 per cent of the total Indian production.

Hides and Skins:- India is considered to be one of the most important suppliers of hides and skins to the world market producing approximately Rs. 6 crores worth of hides every year. The tanning industry has, in recent years, advanced very much and about 75 per cent of the raw hides and 45 per cent of the goat and sheep skins produced in India are tanned locally, only the reminder being exported. The most outstanding feature in modern tanning is the rapid development in chrome tanning for the manufacture of upper leather for shoes. A number of tanneries in Cawnpore, Calcutta and Madras, are producing such leathers. Other items of importance in modern tanning are belting leather, chamois leather, vegetable and chrome patent leather.

The main tanning centres of leather industry are the Bengal Tanning Institute, Calcutta, the Jullundur Training Institute, Jullundur and the Government Training Institute, Bombay.

Cement:- During the last decade the production of cement has been showing steady increase, Bihar, the Central Provinces and Mysore are the chief centres for the production of cement.

Film:- This industry has achieved very quick growth in the past few years, giving employment to more than 50,000 persons. The cities and suburbs of Calcutta, Bombay and Madras are the principal centres of the film industry. It is estimated that about 66 per cent of the total production of Indian films comes from the studios in Bombay, which is now known as the "Hollywood of India".

Coir:- India and Ceylon have a monopoly over the coir industry. Coir is the fibre obtained from the husk of the Coconut fruit which is soaked in water for two or three weeks. This fibre is either locally consumed for the manufacture of coco-mats, mattresses, coir Ropes and a large number of other coir products are exported to other countries as raw fibre.

The Indian Coir Industry is confined to the backwater regions of the Malabar Coast, Cochin, Travancore and the Laccadive and Divi Islands. The extraction of the fibre and the manufacture of coir yarn is a well-organised cottage industry in these parts. There are a number of big factories for the manufacture of coir mats rugs belts, ropes and such other allied products.

Glass and Glassware:- The manufacture of glass in India on modern lines began from the latter part of the last century although the industry in a crude form was in existence from the 16th century.

The indigenous cottage industry has its chief centre in the United Provinces, manufacturing cheap bangles. The modern factory industry is turning out much better quality bangles at cheaper rates and hence the cottage industry is struggling hard for existence. In recent years, there was a rapid increase in production of glassware articles. The chief articles produced in the factories are lamp chimneys, globes, tumblers, Jars, bottles, table articles, sheet glasses and electric lamp shells. The chief centres of production are the United Provinces, Calcutta, Bombay and Mysore.

THE ALL INDIA BUSINESS DIRECTORY
PRODUCTION IN 1939-1940

		TONS
PIG IRON	....	1,838.000.
IRON CASTING AND MANUFACTURES	....	129,000
STEEL INGOTS	....	1,070,000
SEMIS	....	879,000
FINISHED STEEL	....	804,000
PORTLAND CEMENT	....	1,170,000
SUGAR	....	25,840,541 cwts.
MATCHES	....	21,970,104 gross
WHEAT FLOUR	....	16,310,547 maunds.
PAINTS	....	686,843 cwts
HYDROCHLORIC ACID	....	9,143 cwts.
NITRIC ACID	....	18,053 cwts
SULPHURIC ACID	....	614,608 cwts.
ALUM	....	33,385,000 tons.
ALUMINIUM SULPHATE	....	144,365,000 tons
AMMONIUM SULPHATE	....	20,089 tones
FERROUS SULPHATE	....	36,614 cwts.
MAGNESIUM SULPHATE	....	77,777 cwts.
SODIUM SULPHATE	....	26,433 cwts
JUTE MANUFACTURES	....	<div style="display: flex; align-items: center;"> <div style="font-size: 4em; margin-right: 10px;">{</div> <div> 26,433 cwts 3,732,417,132 yards 1,374,152,725 pieces </div> </div>
PAPER	....	1,416,267 tons.
COTTON YARN	....	1,031,430,000 lbs.
COTTON MILL PRODUCTS....		<div style="display: flex; align-items: center;"> <div style="font-size: 4em; margin-right: 10px;">{</div> <div> 710,143,000 lbs. 3,741,769 doz. </div> </div>

THE LAE MAHATMA GANDHI

On August 15th 1947, India assumed complete independence and there were country-wide celebrations. Men, women and children in, North, Central and South India were all happy and cheerful in the full sense of the terms. They were happy at the dawn of freedom, India's millions, especially those in the North, soon lost themselves in a frenzy of communal disorders, and tragedy overtook many families. However, the Indian Central Government, composed as it is of men of sterling ability and vision like Pandit Jawaharlal Nehru, and with the co-operation of an unique Governor-General, Lord Louis Mountbatten, soon managed to tide over these troubles and to bring order out of confusion.

There was another great man then in India who, though no member of the Government, was really responsible for controlling the disorders and re-introducing peace and order in the cities and towns of India. This man exercised a magnetic spell on the Indian masses, both educated and others, and he had the supreme confidence of the multitude to whom his words were mana. His greatest weapon was non-violence which he preached and practised and this weapon he always wielded with remarkable success.

He was the saviour of India; he it was who secured our freedom and he was the great Mohandas Karamchand Gandhi-the Father of the Nation and the greatest man of the age-whom India and the world mourns. He whom every citizen in India loved and every human being in the world respected was cruelly assassinated on 30th January, 1948, while he was walking towards the venue of his normal prayer-gathering in Birla House, Delhi.

The tragic end to the life of a noble soul-one whom India needed most in these hard times-plunged the sub-continent into grief and pain as no other event in India's history had done.

Mr. Gandhi was born on October 2nd, 1869 in the State of Porbander in Kathiawar. His father, Karamdas Gandhi, had served as Dewan of Rajkot. Mr. Gandhi married the venerable Kasturba at the age of thirteen and then went to England to study law.

Returning to India as a Barrister, he practiced for some time in the Bombay High Court.

Going to South Africa to argue the case for a Muslim firm, he was urged by Indians there to stay on and conduct the fight against the Union Government. There he organized Indian resistance, conducted the journal, the **Indian Opinion**, directed the satyagraha campaign and succeeded in checking the anti Indian measures promulgated by the Union Government. Mr. Gandhi returned to India in 1914, after a noble and successful career in S. Africa.

In 1919, Mr. Gandhi organized a satyagraha against the Rowlatt Act, brought about Hindu-Muslim unity through the medium of the Khilafat Movement and started non-co-operation with the British administration. Accompanied by the All Brothers, Mr. Gandhi toured the country and won the people gospel of non-co-operation and non-violence. The Chauri Chaura set led to the suspension of satyagraha and his arrest. He was released from two years.

Mr. Gandhi went to London for the Round Table Conference. In 1932 in the case of the communal award and in 1940 when the British vernal the made baseless charges against the Congress organization, Indian people in the fight for freedom and justice. In 1932 and undertook fasts. In early 1948, Mr. Gandhi undertook his last fast in the position of the Minorities who were victimised in the to bring about a voluntary renunciation, of communal warfare the people. The results were remarkable.

Thus ended the life of a great and noble son of India who rose to be the Mr. Gandhi is no more. But his ideals and his name co never by every Indian-man, woman and child-irrespective¹.



**COUNTRY PROFILE
OF
UK, U.S.A, CANADA & OCEANIC COUNTRIES**



**FORWARDED
TO
BOSE K.NAIR
VICE PRESIDENT
WORLD TRADE CENTER
AT BRIDGE GETWAY BANGALORE-560 055,
INDIA**

**SUBMITTED
BY
ABDUL JALEEL.A
CONSULTING MEMBER
INDIAN COUNCIL OF WORLD AFFAIRS
SAPRU HOUSE, NEW DELHI.**

**UNITED STATES
OF
AMERICA
SECTION**

INTRODUCTION

INDIA SUPPLY MISSION IN WASHINGTON- COUNTRIES "EYES AND EARS" IN TECHNOLOGICAL FIELD

Expanded activity and change of function brought about by India's post-war needs have led, it is understood, to the re-organisation of the six-year-old India Supply Mission in Washington, which continues its activities throughout North America.

The functions of the Mission, stated in general terms include procurement and supply investigation, aid to Indian industrialists, serving as an industrial public relations office and obtaining facilities for higher technical training of Indian technicians and engineers in North America.

The procurement and investigation programme of the Mission covers as many as forty important categories of goods, though at the moment its main concern is with the allocation, supply and shipping of food and allied items. Up to February 28, 1947, the Mission had procured for India 885,000 tons of foodgrains (wheat, rice and corn) worth nearly 66 million dollars.

In addition, demands for construction and transportation machinery, agricultural machinery, power plants and other industrial plants and machinery are on the increase. There are important demands on hand for irrigation projects for Punjab, Madras, Sind, Bengal, Nepal, U.P., Orissa, the Central Waterways, Irrigation and Navigation Commission and the Central Ground Water Section. Excavating machinery for Sind alone has amounted to approximately 3,000,000 dollars. Orders have been placed for 16 Pacific Type streamlined Locomotives for the Railway Board valued at approximately 1,600,000 dollars and the Mission is now arranging procurement of 183 locos and other Railway equipment worth 15 to 20 million dollars. The Mission has also received urgent demands for a large quantity of generating and pumping equipment for the Electrical Commissioner worth approximately 2,000,000 dollars. Requests for investigation and obtaining supplies of material in short supply are still on the increase, particularly in various steel items, tin-plate, electrolytic copper bars, chemicals, newsprint, etc.

There are many items for which U.S.A. is practically the only source of supply, e.g., larger excavating machinery such as draglines and shovels, heavier crawler tractors, deepwell turbine pumps, etc. As the irrigation and power projects, agricultural projects, road building and other construction projects, become more active in India, demands for plants and machinery and for technical assistance are bound to increase.

WATCHING BRIEF FOR CONTRACTS

The Mission has also a good deal of work to do in connection with contracts placed in North America directly by other agencies. For example, the India Technical Mission London, has placed an order for the design of a 350,000 tons fertiliser plant with the Chemical Construction Corporation, New York. The Mission has a watching brief for the performance of this contract as well as the responsibility for ironing out numerous problems connected with it.

U.S.A. AND CANADIAN WAR SURPLUS

Similar work has to be done in connection with an order for the design of Bhakar Dam placed by the Punjab Government with the International Engineering Corporation at Denver, Colorado.

Another phase of the Mission's procurement and supply activities covers War surplus material both in U.S.A and Canada, the latter mainly for industrial plants and machinery. In addition to important demands which it receives from the Government of India for war surplus material it receives numerous inquiries direct from private concerns and individuals in India. In

this connection it has been asked to keep the various Chambers of Commerce of India regularly of available war surplus materials.

Amongst the important demands so far received from the Government of India may be mentioned 50 kw power station for the Electrical Commission.

HIGHER TRAINING FOR INDIAN TECHNICIANS

The Mission has already made arrangements for twenty-seven technicians to receive training in North America. This requires considerable amounts of spade work and delicate negotiations with higher executive of manufacturing concerns in North America. It must be borne in mind that technicians for whom the Mission arranges are men experienced in their trade and what they want to learn in America is the "know-how" and production methods. For obvious reasons the American industrialists are reluctant to give this type of training. Considering the difficulties, however, the success so far achieved has not been discouraging.

The Mission has maintained association with the industrials in North America, and its activities have brought it in touch with numerous U.S. Government Departments and agencies in the technological field as well. It has established contacts with the Bureau of Reclamation, Bureau of Mines, U.S. Army Engineers, T.V.A., U.S. Department of Agriculture, U.S. Bureau of Standards, amongst others, and it therefore in a position to place trainees suitably.

CENTRAL GOVERNMENT URGE FULL OF ORGANIZATION

The role played by the India Supply Mission in Washington as a Central Procurement Agency for Governments in India is stressed in a communication, which the government of India have, it is understood, sent to all Provincial Governments, asking them to make a fuller use of the Mission. Mr.A.R.Palit, Director of the Mission, is now in India on a short visit.

During the last six years of its existence the Mission has procured over 500 million dollars worth of goods and equipment excluding silver and certain military items. Appropriately 50 per cent of these transactions were in cash, the balance being on Lend-Lease. The Mission has now established cordial relations with Government Departments in North America as well as with the industry.

It enjoys the highest credit and is granted open Account terms by American Industry. This means that with the exception of a certain amount of progress payments for a few large contracts, no payment is made by the Mission at all until the title to the material is actually transferred to it. A considerable saving in dollars is thus effected.

The Mission has procured all kinds of stores including capital goods, plant and machinery and food grains. It has now acquired intimate knowledge and wide experience of North America Industry, which is of particular value in the 'seller market' existing today.

The Mission is responsible for the inland movement and ocean shipment of all goods procured by it. Under present conditions of shipping shortage and of labour unrest is a particularly valuable service. The Mission also arranges for the inspection of important stores procured by it.

Though the Mission procures stores on behalf of Governments, and is not intended to be an agency in North America for Indian firms, it can still be of material assistance to Indian industry in a number of ways.

AID TO INDUSTRY

It provides information regarding sources of supply in North America including war surplus material. It places orders, expediting deliveries and arranging shipments. It obtains information regarding technological development and regarding methods of manufacture and equipment required for the purpose. It helps in the recruitment of technical personnel in North America for service in India in obtaining technical publications, established contacts with North

American manufactures and arranging visits to industrial plants. It will also obtain detailed information regarding the technical and financial position of suppliers

USA SECTION

THE UNITED STATES OF AMERICA

The United States of America lies in the North American continent whose northern shores are within the Arctic Circle and perpetually ice and snow-bound its southern portion lies in the Tropics and is dense with vegetation. In the Arctic Circle the United States possesses the territory of Alaska which is far removed from the main U.S. territory. The United States is the largest, most populous and wealthiest of the America. In the east-west direction, the United States stretches from the Pacific to the Atlantic. The main territory of the United States is bounded on the north by Canada while on her south lies Mexico. There are two systems of uplands, one near the east coast, the Appalachian system running north-east and south-west and the other, the Cordilleran mountains stretching from the isthmus of Panama to the Bering Sea. The basin drained by the Mississippi and the Great lakes lies mountain systems.

The Atlantic coast is broken up in most places and is indented with numerous bays and harbours particularly in the area England where the harbours of Portland and Boston are excellent. The New York harbours one of the finest in the world and the harbour facilities have contributed much to step up New York's commerce.

The Pacific coast is much simpler and has fewer harbours, San Francisco and Puget Sound being two of these.

The Alaskan coast also is studded with excellent harbours.

The Mississippi with the Missouri, Ohio, Arkansas and the Red River constitute the river system of the United States

Lake Superior (31,200 sq. miles in area), Lake Huron (21,000 sq. miles), Lake Michigan (22,450 sq. miles), St. Clair (396 sq. miles), Erie 9,960 sq. miles) and Ontario (7,240 sq. miles), comprise the Great Lakes of the United States.

ROBERT HENNEPIN discovered the Niagara Falls in the region the Great Lakes. Grand Island is just above the Falls. The water falls from a height of 180 feet. The river Niagara connects Lake Erie with Lake Ontario.

At the heads river Madison. Yellowstone and Snake in Wyoming hot springs and geysers are found in large numbers.

The Grand Canyon of the Colorado in Arizona is another feature replete with natural uniqueness.

The 'Death Valley' in East California lies below sea-level

Rainfall in the United States is varied. Some parts receive an abundance of rain while others are arid. The mean annual rainfall is 30 inches.

The Eastern half of the U.S.A. is clad with forests as also is north-west United States.

The United States of America possesses huge mineral wealth of varied

Some of these products are:-

Pig iron, coal, Petroleum, Silver, Gold, Copper, Lead, Zinc, Quicksilver, Bituminous coal, Anthracite coal, Natural gas, Cement, Mineral waters, Salt, Limestone, Borax, Asphalt, Gypsum, Mineral plants, Fibrous talc, Soapstone, Grindstone, Pyrites, Corundum & Emery, Oilstones, Precious stones, Mica, Bromine, Fluorspar, Feldspar and Manganese ore.

The area and population of continental United are estimated at 2,977,128 square miles and 131,975,774 respectively.

The main cities of the United States are New York, Brooklyn, Manhattan, Richmond, Chicago, Philadelphia, Detroit, Los Angeles, Cleveland, Baltimore, St. Louis, Boston, Pittsburgh, Washington D.C., San Francisco, Milwaukee, Buffalo, New Orleans, Minneapolis, Cincinnati, Kansas City, Indianapolis, Houston, Seattle, Rochester, Denver, Louisville, Columbus, Portland, Atlanta, Jersey City, Dallas, San Antonio, Omaha, San Diego, Fort Worth, Jacksonville, Miami, Nashville, New Haven, Flint, Salt Lake City, Grand Rapids etc.

History of Government:- The 'Pilgrim Fathers' were the pioneers of colonization on the Atlantic seaboard of the North American continent. New England and other settlements established by them and their successors, in course of time, developed their colonies and with development and progress came the hitch with the mother country – Great Britain. Towards the last quarter of the 18th century when George III was King of England the American war of Independence was fought and won and 4th July, 1776 the thirteen units of the American Union the Declaration of Independence.

England recognized their independence on 30th November, 1782 and a peace treaty was signed on 3rd September, 1783. The present Government in the United States is based on the constitution of 17th September, 1787 as amended on twenty-one occasions in all, the last one repealing prohibition.

The executive authority in the United States is vested in the President, who along with the vice-president is elected for a period of four years. He is elected by electors from each State, to the whole number of Senators and Representatives to which the State is entitled in the Legislature. The presidential election is held every leap year on the Tuesday following the first Monday in November. The electors who are chosen earlier by the direct vote of the citizens then meet and vote at their respective State capitals on the first Monday after the second Wednesday in December next following their election. These votes are opened and counted in the presence of the entire Congress (Legislature) on the 6th January next. A President may be re-elected any number of times. If the successful candidate dies, before taking office, the Vice-President elect becomes President. The president must be a native born citizen and must have resided in the United of America fourteen years and must have a minimum age of 35.

The President is also the Commander-in-Chief of the Army and if the president dies while in office, the Vice-President will be President rest of the term. The Vice-President is the *ex-officio* President of the survey.

The cabinet which works under the president comprises ten departments whose heads known as Secretaries are chosen by the President. But appointments have to be ratified by the President. The ten Secretary statements (1) The secretary of State (General George C. Marshall), (2) The act these of Treasury (John W. Snyder), (3) Secretary for War (Robert p. are: (4) Attorney-General (Tom C. Clark), (5) Postmaster- General Secretary

Hannegan), (6) Secretary for the Navy (James Forrestal), (7) Seatterson), the Interior (Julius A. Krug), (8) Secretary for Agriculture (Robert P. Anderson), (9) Secretary for Commerce and (10) Secretary for Secretary for (Clinton)

The Secretary in each department receives \$ 15,000 annual Labour. The Secretary continue in office even after a new President as salary. However, they hold office at the President's pleasure takes office.

The Legislature consists of the Senate and the House of Representatives together Known as the Congress. The Senate consists of two members from each State, elected for a periode of six years, one- third retiring every two years. One who is above thirty, one who has been a

resident of the United States for nine years and one who is the State of the from where he seeks election is along entitled to seek election as Senator.

The Senate can initiate all legislation except money bills. It is empowered to amend or reject any bill coming from the Lower House. The Senate has to confirm or reject the appointment by the President of principal officers of State. The Senate can also ratify or reject treaties or wars declared by the President, and for such ratification a two-thirds majority is needed.

The House of Representatives, the Lower House, consists of members elected every second year by citizen who, according to the laws of their respective States, are qualified to vote for members of the State Legislature. representatives must not be below 25 years of age, must be citizens of the State they represent and must have resident in the U.S.A for not less than seven years.

No Senator or representative can, during the period he is elected for be appointed to any civil post and person holding office under the United States is shown against the name of each state.

Alabama	..	9	Nebraska	..	4
Arizona	..	2	Nevada	..	1
Arkansas	..	7	New Hampshire	..	2
California	..	23	New Jersey	..	14
Colorado	..	4	New Mexico	..	2
Connecticut	..	6	New York	..	45
Delaware	..	1	North Carolina	..	12
Florida	..	6	North Dakota	..	2
George	..	10	Ohio	..	23
Idaho	..	2	Oklahoma	..	8
Illinois	..	26	Oregon	..	4
Indiana	..	11	Pennsylvania..	33	
Liva	..	8	Rhode Island..	2	
Iovsas	..	6	South Carolina	..	6
Kanucky	..	9	South Dakota	..	2
Kentana	..	8	Tennessee	..	10
Louisi	..	3	Texas	..	21
Mained	..	6	Utah	..	12
Marylan setts	..	14	Vermont	..	1
Massachu	..	17	Virginia	..	9
Michigan	..	9	Washington	..	6
Minnesota	..	7	West Virginia..	6	
Mississippi	..	13	Wisconsin	..	10
Missouri	..	2	Wyoming	..	1
Montana					

PRESENTS OF THE UNITED SATATES

George Washington	1789-97.	Ulysses S. Grant	1869-77.
John Adams	1797-1801.	Rutherford Hayes	1877-81.
Thomas Jefferson	1801-1809.	James Garfield	Seven months
James Madison	1809-17.		in 1881.
James Monroe	1817-25.	Chester Arthur	1881-85.
John Adams	1825-29.	Grover Cleveland	1885-89.
Andrew Jackson	1829-37.	Benjamin Harrison	1889-93.
Martin Van Buren	1837-41.	Grover Cleveland	1893-97.
William Harrison	two months.	William McKinley	1897-1901.
	In 1841.	Theodore Roosevelt	1901-09.
John Tyler	1841-45.	William H. Taft	1909-13.
James Polk	1845-49.	Woodrow Wilson	1913-21.
Zachary Taylor	1849-50.	Warren Harding	1921-23.
Millard Fillmore	185-53.	Calvin Coolidge	1923-29 .
Franklin Pierce	1853-57.	Herbert Hoover	1929-33.
James Buchanan	1857-61.	Franklin Delano Roosevelt	1933-April
Abraham Lincoln	1861-65.		1945
Andrew Johnson	1865-69.	Harry S. Truman	1945-48.

THE LATE PRESIDENT ROOSEVELT

FRANKLIN DELANO ROOSEVELT, 32nd President of the United States of America was born at Hyde Park in New York on 30th January, 1882. He was a fifth cousin of the late President Theodore Roosevelt. The Roosevelts are of origin. While at Harvard University, Mr. Roosevelt ably edited '*THE CRIMSON*' the undergraduate daily newspaper. In 1911, as a Democratic candidate for the Senate, he won the elections and took his seat in the Upper House. He supported Woodrow Wilson in his Presidential campaign and with the latter's victory was appointed Assistant Secretary of the Navy.

In 1928, Mr. Roosevelt was elected Governor of New York and in 1930 he was re-elected by an overwhelming majority.

In 1932, Mr. Roosevelt was elected President of the United States, he being the third Democrat elected to that office since the Civil War. On 17th March, 1905, Mr. Roosevelt married Miss Anna Eleanor Roosevelt. They had five children. He took office at a time of national crisis when the economic affairs of America were threatening ruin to millions. Boldly and promptly did Roosevelt tackle this evil and get many relief Acts passed through Parliament. The

Tennessee Valley Act and the National Industrial Recovery Act were two of these. By 1934 practically all industries were brought under code regulation with rules embodying hours of labour, wages, fair competition, etc. All these national recovery measures came to be collectively known, as the 'New Deal'. In 1936, and 1944, President Roosevelt was re-elected. Mr. Roosevelt died in April, 1945 just before the war in Europe came to an end and peace for which he had striven much was re-established.

To-day Mr. Franklin Mr. Franklin Delano Roosevelt remembered to by the Americans alone, but by world –citizens everywhere, for he was world-citizen himself. Throughout his life he strove for American national progress and world peace –a peace based on justice and truth. If Woodrow Wilson had earned and worked for the establishment of the League of Nations, President Roosevelt laboured as no one else had done for the creation of the United Nations Organization. He had tried hard to prevent the outbreak of the last

War. He then tried to keep Italy out of the war. When he realized the real ambition of the Axis powers, he boldly, but cautiously brought America with her resources in men and material into the war on the side of the Allies and

worked unceasingly for victory and peace. But not left alive to see his dreams come true. Truly could it be said that Franklin Roosevelt was essentially a man of goodwill.

PRESIDENT TRUMAN

HARRY S. TRUMAN, President of the United States, has held that highest office in the nation for over three years. The 33rd United States President and the seventh Vice-president to attain the Presidency, Mr. Truman recently said:-

“As President of the United States I am guided by a simple formula: to do in all cases, from day to day, without regard to narrow political considerations, what seems to me to be best for the welfare of all our people”.

Mr. Truman became President during a world-shaking period in history. Allied Armies were marching on Berlin and moving towards the Japanese mainland when Franklin D. Roosevelt, world statesman and United States President since 1933, died on April 12, 1945. In the two years that have passed since that date, President has seen the enemy nations defeated and the world started on the long and arduous road to world peace. He has met Russia's Stalin and Stalin and Great Britain's Attlee at Potsdam to further the creation of a just and enduring peace.

One of Mr. Truman's first official acts after he became President in the spring of 1945 was to send a pan American Day message to the Governing Board of the Pan American Union, in which he wholeheartedly subscribed to the Roosevelt beliefs in inter-American co-operation and to the good-neighbour policy. President Truman recently described inter-American co-operation as “an essential touch of peace” and declared that maintenance of traditional faith in democracy and constitutionalism is vital to the solution of post-war problems.

A Simple Man- HARRY S. TRUMAN has always been an unassuming man. He received his education in high school and two years of law at night school. He learned his politics in a Mid-Western city. He was “just another Senator”, until early in 1941, when he became head of the Senator's Special Committee to Investigate the National Defence Programme, and the country became aware that there was a man who had courage, integrity and ability; a man who was not afraid to place the blame for the early confusion and duplication of effort as a peaceful country geared itself for total war-place it wherever he and his efficient Committee felt it should be placed.

ORGANISED WAR EFFORT

TRUMAN'S record of achievement in what came to be known as the Truman Committee was high. The reports of the Committee were responsible for a widespread reorganization in the country's defence and war effort. With the able men around him. Truman did much to promote efficiency in the country's war effort, and was credited with having saved the people of the United States more than 1,000,000,000 Dollars in three years. As Chairman of the Truman Committee, the modest Senator had become a national celebrity. TRUMAN so was a member of the special committee to investigate the United States Civil Service System, and was on six other committees, including those dealing with appropriations, inter-state commerce (where he was Chairman of the Aviation Sub-Committee) and military affairs. A Colonel in the United States Army Reserve Corps, Senator Truman sought active military duty at the outset of World War II but General

George C. Marshall, than the United States Chief of Staff, turned him down because of his age, and President Roosevelt told Truman he would be more useful in the Senate.

Mr. Truman was chosen as the running mate of Franklin D. Roosevelt during the wartime campaign which granted to Mr. Roosevelt an

unprecedented fourth term as President of the United States. On January 20, 1945, Truman took the oath of office as Vice-President.

ASSUMED PREIDENCY AT CRITICAL TIME

He was to hold office of Vice-President for only a short while. During that time he presided over the Senate of which he had been a member for ten years, and become increasingly active as the liaison between the President and the Congress. Less than three months after he become Vice-President, Truman stood before the two Houses of the United States Congress on April 16, to give them his first message as President of the United States. He pledged himself –and the nation –to carry through the war to completion and to secure a lasting peace for humanity. At the end of his talk he said, "I ask only to be a good and faithful servant of my Lord and my people".

SERVED IN FIRST WORLD WAR.

The decades before the World I saw Truman always on the farms. But the War cut short Truman career as a farmer. In 1917 when the United States entered the war, Truman, who had a member of the Missouri National Guard since 1905, volunteered for service in the United States Army. Helping in the organization of two companies of field artillery, Truman entered active service as a first Lieutenant and before being sent overseas was promoted to Captain.

Back in civilian life, Truman returned to the farm which his mother maintained after his father's death 1615. Shortly afterwards, however-in 1919-he married Bess Mallace, a school classmate, and decided to try his hand at business.

A member of the Democratic Party, Truman's first emergence into political life in 1922, after his retain venture, when he was elected a judge in the Jackson Country Court. In the County organization the post dealt more with administrative than with legal affairs, but Truman nevertheless entered the Kansas City Law School in 1923, and remained a student till 1925.

In 1934, Truman was elected Senator.

His growing acquaintance with national and international affairs led Truman to an approach that liberal as well as firm. He also was becoming a spokesman for the United States point of view in the international scene. As early as 1938, shortly after Munich, this who had come from "isolationist" Missouri had told a meeting of the American Legion in Washington that the United States "must defend its principles" in the "coming struggle" with dictatorships. In January 1944, Truman was chosen as one of the speakers to outline the aims and principles of the United Nations at the United Nations Forum held in Washington, D.C.

Several months before he was chosen to run for the Vice-Presidency on the Democratic Party ticket, Truman made one of his first pronouncements for collaborative international security, saying: "international disputes can be solved by peaceful means if the wishes of the great majority of all nations are considered at the council tables. It is job-yours and mine- to see that the majority opinion prevails and gangster politics in international dealings are forever destroyed.

URGES INTERNATIONAL CO-OPERATION

LESS than two months before his sudden elevation to the Presidency, on February 22, 1945 Truman spoke in Jefferson City, capital city of Missouri. Here he clearly outlined the position, he believed, the United States must take in international deliberations. "Americans can no longer sit smugly behind any mental Maginot Line", he said. "We must not ignore all the manoeuvres on the other side of our imaginary neutral defences. Too much is at stake for us to shut our eyes to essential facts. Either America must be world, or we must be willing to co-operate with friendly states to check the first sign of aggression on the part of any member of the family of nations. The choice still is ours. I am confident of the ability of the average American to use precious heritage- common sense-in the solution of most pressing problem of the day",

At his very first press conference as President, Truman made clear his stand on international economic collaboration. He told correspondents he wanted it to be as broad as possible, that he wanted to see the reciprocal trade agreements continued, and that he endorsed the Bretton Woods

proposals for an International Bank of Reconstruction and Development and an International Monetary Fund to help to keep all currencies of the world stable.

When on April 16, 1945, Truman stood before a joint session of the United States Congress to address them as the new President of the States. He gave the country assurance that would pursue both the national and international policies that led to progress.".....We have labored long and hard to achieve a social order worthy of our great heritage", he said. "in our time tremendous progress has been made toward a really democratic way of life. Let me assure the forward-looking people of America that will be no relaxation in our efforts to improve the lot of the common people".

"We have learned to fight with other nations in common defence of our freedom. We must now learn to live with other nations for our mutual good. We must learn to trade more with other nations so that there may be-for our mutual advantage-increased production, increased employment and better standards of living throughout the world",

"It is not enough to yearn for peace," he said further. "we must work and, if necessary, fight for it. The task of creating a sound international organization is complicated and difficult. Yet without such organization, the rights of man on earth cannot be protected. Machinery for the just settlement of international differences must be found. Without such machinery, the entire world will have to remain an armed camp. The world will be doomed to deadly conflict, of hope for real peace".

ASKS FOR WORLD PEACE WITH JUSTICE

"Fortunately, people have retained hope for a durable peace. Thoughtful people have always had faith that ultimately justice must triumph. Past experience surely indicates that, without justice, an enduring peace becomes impossible."

"If wars in the future are to be prevented, nations must be united in their determination to keep the peace under law. Nothing is more essential to the future peace of the world than continued co-operation of the Axis powers to dominate the world."

"While these great states have a special responsibility to enforce the peace, their responsibility is based upon the obligation resting upon all the states, large and small, not to use force in international relations except in the to dominate the people of the world."

INAUGURATES THE FRISCO CONFERENCE

NINE days after, on April 25, speaking at the opening session of the United Nations Conference on International at San Francisco, California, Truman said, "Man has learned long ago that it is impossible to live unto himself. This basic principle applies today to nations. We were not isolated during the war, we dare not become isolated in peace."

"If we do not want to die together in war, we must learn to live together in peace."

"With firm faith in our world-a far better world-one in which the eternal dignity of man is respected."

Speaking to the final session of the San Francisco Conference on June 26, 1945. Truman said: "By their own example the strong nations of the world should lead the way to international justice. That principles of justice is the foundation stone of the charter (the United Nations Charter). That principle is the guiding spirit by which it must be carried out-not by words along but by continued concrete acts of goodwill."

"A just and lasting peace cannot be attained by diplomatic agreement alone, or by military co-operation alone. Experience has shown how deeply the seeds of war are planted by economic rivalry and social injustice. The charter recognizes this fact, for it has provided for economic and social co-operation as well. It has provided for this co-operation as part of the very heart of the entire compact."

AT POTSDAM.

PRESIDENT TRUMAN attended the Tripartite Conference (with Generalissimo Stain and Mr.Attlee) in the Cecilienhof, near Potsdam, Germany, from July 17 August 2, 1945,which establishment the Council of Foreign Ministers representing the United States, Great Britain,the Union of Soviet Socialist Republics, France and China. The Council was established to continue referred to it from time to time by the Governments composing it."

On V-J Day(September 1,1945)President Truman said:"God grant that in our pride of the hour we may not forget the hard tasks that are still before us; that we may approach these with the same courage, zeal and patience with which we faced the trials and problems of the past four years."

"From this day we move forward. We move toward anew era of security at home. With the other United Nations. We move toward a new and better world of peace and international goodwill and co-operation."

In this speech of welcome at the opining of the General Assembly of the United Nations in New York, president Truman said in October 23,1946:

"The people of the world know that there can be no real peace unless it is peace with justice for all-justice for small nations and for large nations and justice for individuals without distinction as to race, creed or colour-a peace that will advance not retard, the attainment of the Four Freedoms."

"We shall attain Freedom from Fear when every act of every nation, in its dealings with every other nation, brings closer to realization the other freedom-Freedom of speech, Freedom of Speech, Freedom of Religion, and Freedom from Want. along this path we can find justice for all, without distinction between the strong and the weak among nations, and without discrimination among individuals."

And he added "The United States will support the United Nations with all the resources that we possess, not as a temporary expedient but as a permanent partnership."

“Peace is not a reward that comes automatically to those who cherish it” Truman said in an Army Day speech on April 6, 1946, “It must be pursued unceasingly and unwaveringly, by every means at our command.”

When the Republican Party became the majority in the United States Congress after the elections of November, 1946, Truman said:-

“The change in the majority in the Congress does not alter our domestic or problems. In foreign affairs we have a well-charted course to follow. Our foreign policy has been developed and excused on a bi-partisan basis. I have done my best to strengthen and extend this practice. Members of both parties in and out of the Congress have participated in the inner Council in preparing, and in actually carrying out, the foreign policies of our Government. It has been a national and not a party programme.....I firmly believe that our Republican colleagues who have worked intelligently. And co-operatively with us in the past will do so in the future.”

PRESIDENT TRUMAN told the United States in his 1946 Armistice Day (November 11) message that, “We had nothing to gain in this war except the peace of the world. We have nothing to gain from the negotiations which are now going on except peace in the world. The welfare of the United States and the welfare of the world are wrapped up in one package; Peace and the welfare of the world as a whole.”

WORKS FOR LASTING PEACE

In this ‘State of the Union Message’ to the new 80th Congress on January 6, 1947, Truman said, speaking on the general subject of foreign policy: “If we can find right course to take as each issue arises....we shall achieve a state of well-being for our people without precedent in history. And if we continue to work with the other nations..... earnestly, patiently, and wisely, we can granting a will for peace on the part of our neighbours make a lasting will for peace on the part of our neighbours make lasting peace for the world”.

“We have made it clear to all nations that the United States will not consent to (peace) settlements at the expense of principles we regard as vital to a just and enduring peace. We have made it equally clear that we will not retreat to isolationism.”

“We have a higher duty and a greater responsibility than attainment of national security. Our goal is collective for all mankind.”

In his budget message to the Congress a few days later, the President, calling on Congress to give its full support, emphasized the importance of the international affairs programme. “The budget for our international programme is designed to contribute to a peaceful world and a stable world economy,” he said, “We have definite responsibilities to our wartime Allies and in occupied countries. Our international lending program is an essential part of our efforts to achieve a world economy in which private trade will flourish.”

When President Truman to the United States Congress his report on the first year’s operations of the United Nations, he said:-

“Our policy of supporting the United Nations ‘with all the resources that we possess must be given effective practical application on a genuinely national bi-partisan basis in every activity of the United Nations. This is just as necessary in the economic and social field as it is in the political field. We must pursue without hesitation bi-partisan policies of economic reconstruction and development and the expansion of world trade and employment. Because of the interdependence of the economy of nations, it will also be vital to world recovery as well as to our own prosperity that we maintain at home a stable economy of high employment.”

Mr. Truman is a man of simple tastes.

AGRICULTURE IN THE UNITED STATES

U.S. Agriculture is carried on in family-farms as well as large-scale farms making use of mechanized cultivation and producing for the market. The former variety has declined in numbers considerably in recent years while latter in acreage as well as the size of the farm have risen comparatively.

Corn, wheat, barely, rye, soybeans, rice, sweet potatoes, flaxseed and cotton are some of the main agricultural products.

In 1946 the yield of	CORN	was	37.1	Bushels per acre
In “ “	WHEAT	“	17.2	“ “
In “ “	OATS	“	34.6	“ “
In “ “	RYE	“	11.7	“ “
In “ “	BARLEY	“	25.1	“ “
In “ “	SOYABEANS	“	20.5	“ “
In “ “	FLAXSEED	“	9.4	“ “
In “ “	RICE	“	45.6	“ “
In “ “	POTATOES	“	184.1	“ “
In “ “	SWEET POTATOES	“	98.3	“ “

Wheat is grown mainly in the states of Kansas, North Dakota, Nebraska, Oklahoma, Washington, Montana, Texas, South Dakota, Ohio, Idaho, Colorado, Indiana Minnesota, Oregon, Missouri and Illinois.

In 1946, cotton produced amounted to 8,724,000 bales of lbs. Gross weight and the acreage under this plant was 17,776,000. The chief cotton-growing states are:-Texas, Mississippi, Arkansas, South Carolina, Georgia, Tennessee, North Carolina, Louisiana, California and Oklahoma.

Sugar beet is also grown many parts.

Tobacco is grown in the States of North and South Carolina, Kentucky, Virginia, Tennessee, Georgia, Pennsylvania, Wisconsin, Ohio, Connecticut, Maryland, Florida, Indiana, Massachusetts, Missouri, West Virginia, New York and Minnesota.

In 1946 the tobacco grown stood at 2,247,723 lbs.

In 1946, America owned 79,791,000 heads of cattle; 8,259,000 horses; 3,196,000 mules; 26,785,000 milch cows; 44,241,000 sheep; 62,344,000 heads of swine and 525,536,000 chickens producing over 55 million eggs.

MINERALS

In 1945, pig iron, silver, gold, copper, refined lead, zinc, aluminum, quick silver, magnesium, tin, platinum, nickel, etc., were produced and their value was estimated \$1,975,000,000. Precious metals are come across in the States of Arizona, Alaska, California, Colorado, Idaho, Montana, Nevada, New Mexico, South Dakota, Utah and Washington.

Tourmaline, garnets, beryl, amethyst, ruby, topaz, etc., are some of the precious stones found in the United States.

Gold mined in 1946, was 1,503,553 oz., while 21,778,236, ozs. Of silver were mined.

The non-metallic mineral output in 1945 was valued at \$ 6,168,000,00.

Bituminous coal, Lignite, anthracite (Pennsylvania), crude petroleum, and natural gas are chief among them.

THE INDUSTRIES OF AMERICAN STATES

Alabama:- Mainly agricultural, growing sugarcane, peaches, maize, oats and potatoes, **Alabama has over 2,000 industrial establishments manufacturing cement, coal and iron.**

Arizona:- Engaged in mechanized agriculture, this state mines gold, silver, copper, lead, zinc, mercury, molybdenum, etc. There are nearly 350 industrial establishments.

Arkansas:- Producing oats, maize, cotton and potatoes. **Arkansas produces 90 per cent. Of American Bauxite.** Manganese, coal, crude petroleum, mercury and natural gas are also obtained.

The cutting and working of timber is an important industry. There are roughly 1,200 industrial houses.

California:- California grows maize, wheat, oats, barley, rice, grapes, raisin, grapes, peaches, apricots, plums, prunes, pears, apples, cherries, oranges, lemons, potatoes, sugar-beet and produces honey.

Gold, copper, silver, lead and zinc are mined.

Petrol is produced in large quantities. Portland cement, borate and mercury are produced.

The chief industry in California is the motion-picture industry and is centered around Hollywood. There are nearly 12,500 manufacturing concerns.

Colorado:- Sugar-beet, wheat, maize, barley, oats. Vegetables and apples are grown.

Colorado owns the largest molybdenum mine in the world. Gold, silver, copper, lead, zinc and petroleum are worked. There are over 1,200 industrial establishments.

Connecticut:- An agricultural State, Connecticut possesses mica, gravel and stone mines.

Delaware:- Mainly agricultural producing wheat and maize. Delaware has stone, sand, gravel and clay resources.

Florida:- Growing sugar-beet, maize, rice, oats, peanuts and grapes Florida has phosphate resources and fisheries. The latter yield oysters, mullet, sponges, etc. They are over 2,000 manufacturing establishments.

Georgia:- Cotton is widely grown here. Peaches, peanuts, tobacco, rice and potatoes are also cultivated.

Georgia has over 3,000 industrial establishments.

Idaho:- Wheat, sugar-beet oats, barley, potatoes, apples and prunes are grown.

Gold, silver, lead, zinc, copper, antimony and mercury are obtained. There are nearly 600 industrial establishments.

Illinois:- Maize, wheat, oats, potatoes, barley, rye, soybeans, etc., are grown.

Illinois has nearly 13,000 manufacturing concerns. Meat-packing, refining of petrol, steel works and steel rolling, manufacture of agricultural implements. etc., are some of the chief industries.

Coal, petroleum, cement, pig iron, coke, natural gas, etc., are also obtained.

Indiana:- Mainly agricultural, Indiana has, 6,500 square miles of coal fields, Petroleum, pig iron, steel, cement, etc., are manufactured.

Iowa:- Chief agricultural produce are wheat, maize, oats, rye, potatoes and flax.

Coal, petroleum, natural gas, lead, zinc, cement, salt and slaughtering industries are the chief industries.

Kentucky:- This is largely an agricultural area. **Kentucky has been famous for its horses Coal, fluorspar, petroleum and natural gas comprise the mineral wealth.** There are over 1,500 industrial establishments.

Louiana:- Sugarcane, molasses, rice, maize, sweet potatoes, cotton etc., are grown.

Sulphur, petroleum, natural gas, etc., are obtained.

Petroleum, sugar, rice and cotton-seed constitute the basis of the manufactures.

Maine:- Agriculture forestry, quarrying and fisheries are the principal industries. Paper pulp, boots and shoes, cotton and woolen goods are manufactured.

Maryland:- Wheat, maize, tobacco, etc., are grown. Coal, coke, potash and asbestos are produced.

Steel-production and copper smelting and refining are the main industries

Massachusetts:- Apart from agriculture, the chief industries are woolen and worsted goods, boots and shoes and cotton goods manufacture.

Michigan:- This State has in recent years been transformed from an agricultural one. **Today motorcar manufacture is Michigan's leading industry.**

Coal, magnesium, etc., are also mined.

Minnesota:- Mainly agricultural, Minnesota a good deal of wool. Iron ore is mined.

Mississippi:- The chief product is cotton. The land is fertile and rice, Wheat, oats, sorgho syrup and sugarcane syrup are other produce.

Petroleum yield is fairly large.

Missouri:- Maize, wheat, oats, potatoes, cotton, tobacco, etc., are grown.

Missouri is famous for its livestock. Coal, lead, zinc, silver, cement, lime, pig iron, copper, etc., are mined. **Meat-packing is the largest industry.**

Montana:- Wheat, oats, sugar-beet, potatoes, flax, etc., are grown.

Sheep-rearing is important.

Gold, silver, copper, lead, zinc, manganese, petroleum, and graphite are obtained.

Nebraska:- Wheat, maize, oats, barley and potatoes are grown. Sugar-beet is also grown.

Meat-packing and sugar manufacture are leading industries.

Nevada:- Wheat, barely and potatoes are the chief crops grown.

Gold, silver, copper, lead, zinc, mercury, gypsum, magnesite, antimony, tungsten, cobalt and nickel are mined.

New Hampshire:- Maize, potatoes, oats, hay and apples are grown.

Minerals worked are mica, stone, sand, feldspar and gravel.

Boot and shoe-making and cotton goods production are the chief manufacturing industries.

New Jersey:- Agriculture, market-gardening and fruit-growing are some of the important industries.

Among the manufacturing industries come smelting and refining, petroleum-refining, chemicals, motor vehicles, motor vehicles and accessories, meat-packing, ship-building, and repairing, paints, varnishes lacquers.

New Mexico:- Cotton is grown. Maize, wheat, potatoes and some vegetables are grown.

Rich in mineral resources. New Mexico has gold, silver, copper, coal, lead, zinc, molybdenum, potassium salts, fluorspar and petroleum.

New York:- This State devotes much attention to agriculture which will supply the large city dwellers of New York with food. Dairying is the chief among the agricultural occupations.

Gypsum, aluminum, talc, emery, zinc, salt, Portland cement, crude petroleum, natural gas, coke, granite, pyrites, etc., are obtained.

Manufacture of ladies dress wear, newspaper and periodicals-printing, men's dress wear, bread, cakes etc., are some of the main manufacturing industries.

North California:- Maize, cotton, tobacco and the chief crops. A variety of minerals are mined.

Cigarette-manufacture and textile-production are two of the leading manufacturing industries.

North Dakota:-Barley is the chief crop grown.

Lignite coal is the chief mineral product.

Ohio:- Maize, wheat, oats, potatoes, sugar beet, tobacco and are the agricultural products.

Ohio owns large and varied mineral resources, including petrol.

Oklahoma:- Large-scale commercial farming is gaining ground here. Oklahoma gets a decent wool-clip and further produces a large quantity of petroleum. (139,298,189 barrels of crude petroleum were produced in 1945).

Petroleum-refining constitutes the chief industry.

Oregon:- Agriculture, stock-raising and fishing are the chief occupations. Gold, copper, lead, and mercury, are mined.

Pennsylvania:-Agriculture, market-gardening and fruit-growing, are carried on. **Pennsylvania's wool-clip is also considerable.**

Coal and its by-products are obtained here.

Rhode Island:- This is essentially a manufacturing State and **cotton-textiles manufacture is the chief industry.** Some minerals are also mined.

South California:- Maize, oats, cotton and tobacco are grown. Much of the area is woodland.

South Dakota:- Wheat, maize, oats, barely, rye, flaxseed, and potatoes are grown.

Gold, silver, lignite, feldspar and tin are mined.

Meat-packing and butter-making are the principal manufacturing industries.

Tennessee:- Maize, wheat, oats hay, Irish and sweet potatoes, peanuts, cotton and tobacco are produced. **The wool-clip in 1946 was 1,805,000 lbs.**

Coal, sinter iron, pyrites, copper, zinc, lead, gold, silver, manganese phosphate, marble are mined and cement is also manufactured.

Iron and steel, knitted goods and rayon manufacture are the chief industries.

Texas:- Large-scale commercial farming is steadily displacing small-scale farming. **Cotton is the chief crop.**

Texas produces 44 per cent. Of the United States petrol.

Lignite, natural gas, gypsum, granite, cement, etc., are

Potash resources are yet to be exploited in the west.

Utah:- Wheat, oats, potatoes, hay, and sugar-beet represent the agricultural produce.

In 1946, wool-clip was 17,763,000 lbs. Gold, silver, copper, coal, lead, zinc, salt, gypsum, potash, uranium, molybdenum and asphalt are obtained.

Vermont:- Hay, oats maize potatoes and apples represent vermon'ts agriculture, while its forests yield lumber.

Granite, marble, talc and asbestos are worked.

Virginia:- Wheat, oats, apples potatoes, cotton and tobacco are grown.

Coal, manganese, mica and titanium are mined.

Lron industry, cigar cigarette and rayon manufacture and ship building are the chief occupations.

Washinton:- Apples are extensively grown. Coal, gold, silver, copper, lead, mercury, zine, granite, clay products, sandstone, marble, limestone, antimony, tungsten, and platinum are worked.

West Virginia:-Wheat, maize, oats, hay, potatoes, fruits and tobacco are grown.

There are large mining and quarrying industries.

Wisconsin:-The leading is dairing. Agriculture is also carried on. Tobacco is one of the products.

Iron, zinc, lead graite, lime, etc, are worked.

There are a very number of people engaged in manufacture.

Wyoming:- Alfalfa, sugar beet, potatoes and cereals are the chief crops raised.

Wyoming possesses a number of fish hatcheries.

There are large deposits of coal. Petroleum, limestone, phosphate, tin sodium salts, etc, are obtained.

Alaska:- Salmon- fishing and mining are the main industries.

Hawaii:- Sugar and pineapples are largely grown. Molasses, coffee, hides, bananas, sisal and wool are exported.

Puerto Rico:- Sugar, molasses, tobacco, coffee, pineapples, grapes, cocoanuts, and oranges are widely raised.

Sugar manufacture and refining, embroidery-making, fruit-canning, straw hat- making, eigar, and cigarette-making are chief industries.

THE UNITED STATES OF AMERICA is today the foremost industrial nation in the world. Her industries are diverse and large-scale ones, scientifically organized and conducted along lines incorporating principles of rationalization in industry. Her industries cover a wide range of manufactured goods ranging from cheap and light consumer goods to bulky and costly machines and vehicles and these have in recent years brought prosperity to her millions. Today the world is in a transition from war to peace when economic conditions keep changing and hence the U.S. Government is day in and day out keeping a close watch on the prices. They are striving hard to avoid as well as slump.

Above all, the American Government guided by astute statement and economists like Truman, Marshall, and Schuman are alive to the fact that economic catastrophe in anyone part of the globe will have repercussions on America and every other industrial country. Hence it is that they have come forward with the Marshall Aid Plan for European recovery whereby they aim to keep the economics of the war-devastated European countries within the safety limit. America has also to see that she gives maximum aid to comparatively less industrialized nations by facilitating their industrial advancement through every means at her disposal so that industrial disparities as between nation and nation may be liquidated and the peoples of the world, irrespective of colour, race or creed, whether in the East, Far East, Middle East, or West, may all go forward, along the path of economic independence and collaboration, to the haven of world-wide peace, progress and plenty.

CANADIAN SECTION

THE DOMINION OF CANADA

Canada is a country larger than the United States of America, including Alaska, but having less than 10% as large a population. The first settlement made in Canada was at Port Royal, Nova Scotia, in 1604, where the first grain crop was planted the following year. In 1608, settlements were made along the St. Lawrence. Local Indians gave the early settlers great trouble, but finally the French King sent soldiers who forced a peace with the Indians. The populations rose 2,000 in 1663 to 4000 and above in 1665.

From the self-contained and almost primitive life of the early settlers in Canada to the complex life of the modern Canadian constitutes a wide gap. But the courage and tenacity of the Canadian people performed the task of changing that country from a wilderness into a modern nation whose activities extend from the Atlantic to the Pacific.

Climate and Agriculture:- Canada possesses an climate both for agriculture and for man.

Wheat is the most important single crop in Canada. During the last twenty years, the area under wheat production has been steadily increasing and the general world situation has also been such that the demand for wheat from Canada has steadily increased.

Diary Production is a very important occupation in Canada. The volume of production is greatest in Quebec and Ontario. Dairy products are now exported to the United States, South Africa, the Far East and all European countries. The products of Canada's dairy farms are known for their quality gone a long way to aid process of adapting production to market requirement.

Apples:- Canada produces over twenty varieties of apples, some of which like the Columbia Jonathan (for purposes of desert) and the Ontario Rhode Island Greening (cooking purposes) have been famous and acknowledged as such. Lately there have been attempts at simplification and standardization with a view to meeting marketing requirements as well as soil peculiarities. Canadian apples are exported to the United Kingdom, the United States, Bermuda, British South Africa, China, Denmark, Irish Free State, New Zealand, Norway, Sweden and other lands.

Manufactures:- The advantages derived from a bountiful supply of raw materials, a tariff which provides a fair degree of protection and a

preferential duty granted on Canadian-made goods in British Empire countries as well as in certain other lands have so stimulated manufacturing in Canada that she is today the most highly industrialized young country in the world.

Canada's leading industries are flour and grist mills, **pulp and paper**, saw mills, and slaughtering and meat-packing wheat is considered the finest in the world. Canada has built up an amazing volume of foreign business.

Automobile manufacturing had been enjoying a protective tariff and this industry has increased very much in recent years, mainly with foreign capital and Canadian labour. Simultaneously, the manufacture of rubber products and the construction of National Highways have been stepped up and today millions of tourists visit Canada to enjoy the Canadian scenery and holiday attractions.

A cotton Mill erected in 1844 formed the first manufacturing industry in Canada. Today this industry has advanced considerably and ranks eighth among Canada's premier industries.

With the inaugurations of centralized production and the resultant demand for machinery, came a call for **Iron and steel**. This industry started in a small way using Canadian iron ore and coal, rapidly outgrew the known suitable deposits of iron ore. Because, however, of a protective tariff and, in some Provinces, a liberal bountry on iron produced in that Province, large steel plants were gradually developed in Eastern Canada to cope with the increasing demand for agricultural and manufacturing machinery, and quite recently automobile parts. The war of 1914-18 created a demand for munitions and during this period the became highly efficient. During the last Great War, country less of manufacturing industries both, for civil and military purposes were set up in Canada. Statistics of the various industrial censi taken under Government auspices reveal a prodigious growth in Canada's industries.

Canada uses a large amount of **hydro-electric power** in running her industries. Much less than 20% of her recorded water-power resource view to conserving them for her own industrial development. In the long run, this will promote higher individual industrial efficiency and facilitate the establishment of a higher wage-level for her workers.

Chief Exports:- The leading Canadian exports are **wheat** and other grains, four, diary products, lumber, **newsprint**, fruits, meat, fish, copper, gold, zinc, lead, nickel, asbestos, rubber products, refined sugar and iron products. The iron products include automobiles and sewing machines.

Canada also imports certain iron products, coal, cotton, wool, fruit (certain verities) and chemical products. Canada's imports are mostly from the United States of America.

Canada exports **agricultural implements** in large quantities to Australia, France, Argentina, the United Kingdom, Newfoundland, Chile, Germany, the Netherlands, Portuguese Africa, British East Africa, New Zealand, Denmark, Italy, Norway, Russia, South Africa, Belgium, French Africa, Mexico, Poland and Danzig.

Aluminum, lead and zinc, paper including newsprint, planks and boards, and refined sugar are exported in large quantities from Canada to many foreign countries.

Forest Industries:- Forest areas stand second only to arable lands among the basic resources of Canada, and forest industries have been surpassed by agriculture alone in fostering commercial growth. There are three district forest areas in Canada, those of the Pacific coast the Middle West and the Eastern Provinces. British Columbia contains over two-thirds of the saw timber and the mainland opposite. The forest is mainly coniferous, the principle species being Douglas fir, the most valuable Canadian structural timber; western cedar, the leading Canadian shingle wood: spruce and western hemlock.

The forests of the Prairie provinces are made up principally of poplar, spruce and jack pine and are used mainly for fuel in the local market.

Eastern Canada is the source of all hard woods produced. The large pulpwood resources available in this area are used for pulp and paper manufacture. **Canada today is the main source of the world's supply of paper and newsprint.**

Mining and Mineral Resources:- The smelters, reduction works and refineries at Sudbury, Trail, Anyox and Deloro and the gold mines of Porcupine compare favorably with those of any other country and Canada's iron steel production is also considerable.

There are five **physiographic divisions** in Canada.

The largest and most important geological feature, the Laurentian Plateau extending over 2,000,000 square miles surrounding Hudson's Bay yields copper, nickel, iron, cobalt, silver, gold, platinum corundum, graphite and talc. The gold districts of Porcupine, Kirkland Lake, Rouyn and Red Lake are in this region.

The second physiographic unit is the Cordilleran mountain belt extending along the Pacific Coast including British Columbia, Yukon and Western Alberta. This unit possesses rich deposits of gold, silver, copper, lead, and zinc. Rossland, Kimberly, Slocan and Copper Mountain and Premier Mines are situated in this region.

The Appalachian Highlands form the third unit. They embrace Nova Scotia, New Brunswick, and the south eastern part of Quebec Coal, salt, gypsum, iron, gold, manganese, and antimony, natural gas, and oil shale, chromite, pyrite, and large asbestos deposits are found here.

The fourth unit, the St. Lawrence lowlands yields natural gas, petroleum, gypsum and structural materials.

The Interior plateau (Manitoba, Saskatchewan and Alberta) is an agricultural tract. But even here lignite, bituminous coal and oil have been discovered Platinum, stoneware and refractory clays have also been come across in this region.

Fisheries:- For more than four hundred years, fishing has been an important industry on the Atlantic coast of Canada and Newfoundland White fish, Sardines, Mackerel, Haddock, Pickerel and Trout, Oysters, Clams, Brake, Sturgeon, Pike, Tullilee, Blue Pickerel, Black Cod, Eels, Perch and Pollock are a few of the many varieties of fish that bring wealth to the Canadian.

Banking System:- Canadian banking is under control of the Federal Government. The general Bank Act, under the terms of which every bank obtains and holds its charter, is usually revised every ten years, although subject to amendment at any time by Parliament.

Provinces of Canada:- British Columbia, the prairie provinces of Manitoba, Saskatchewan and Alberta, Ontario, Quebec, and maritime provinces of Nova Scotia, Prince Edward Island and New Brunswick are the Provinces of Canada.

Vancouver:- The City of mild winters, Banff and Jasper, located amid the scenic beauties of the Canadian Rockies, the Lake of the Woods resorts, Muskoka and the Thirty Thousand Island, Montreal in the marvelous valley of the St. Lawrence, Murray Bay and the high-cliffed Saguenay, quaint Quebec and the summer resorts of the Maritimes all bring to mind pictures of Canada as a land of summer pleasures. Yet the winter sports of Quebec and the Rockies also have their quota of visitors and admirers.

Transportation & Ports:- The Canadian National Railways operating over 22,000 miles of line and the Canadian Pacific Railway maintaining 14,200 miles constitute the two great systems in Canada. The Canadian National and the Canadian Pacific extend from coast, with Halifax and Saint John as main terminals on the Atlantic and Prince Rupert and Vancouver on the Pacific.

The main Canadian Ports are Vancouver, Halifax, Saint John, Montreal, and Quebec. The first three are open for navigation all the year round, while the others are open for 215 days.

Government:- For political and administrative purposes, Canada is divided into nine provinces and the Yukon and Northwest territories. Ottawa is the seat of the Federal Government. The system of government is a political union differing from the organization in the United States quite essentially since the Dominion Government possesses entire authority on all matters of

National priority, regulation of trade and commerce, navigation and shipping, currency, banking, railways, patents and copyrights. The residual powers lie with the Federal Government, British Parliamentary practice is followed in the administration of both the Federal and the Provincial Governments.

Currency: Based on the British Gold Standard, the unit of the Canadian monetary system is the dollar of 23.22 grains pure gold. The British and the United States gold coins are legal tender. The equivalent of the British Sovereign is \$4.86-2/3. The paper currency of Canada is made up of Dominion notes and those of Chartered Banks.

Foreign Trade of Canada:- The unfolding of Canada's vast natural resources in the post-war period will present unrivalled opportunities for a

6 profitable exchange of products with other countries of the world. Canada has three major agencies to assist businessman in the promotion of trade with other countries. The first of these is the Foreign Trade Service with its six divisions including the new Imports Division. The second is the Exports Credits Insurance Corporation: the third the Canadian Export Board.

The Canadian Department of Trade and Commerce was created by an Act of Parliament in 1887 and was made effective in 1892 by an Order-in Council. The Canadian Foreign Trade Service works for the promotion of Canada's external trade. It consists of the following divisions:- Trade Commissioner Service, Export Division, Import Division, Wheat and Grain Division, Commercial Relations and Foreign Tariffs Division, Industrial Development Division, and Trade Publicity Division.

The Trade Commissioner Service consists of headquarters at Ottawa and offices administrated by Trade Commissioners in various British and foreign countries. The headquarters staff also includes a group of officials in charge of four area sections, namely the British Empire, Europe, Latin America and Asia. At present there are thirty-four Trade Commissioners stationed abroad. With regard to imports, Trade Commissioners assist Canadian imports and manufactures by advising them on the present and prospective supply of goods available in various countries, best purchase, prices, specifications, packing, etc.

Trade developments the world over are reported by Trade Commissioners to the Department at Ottawa and this information is available to all Canadian exporters and importers.

The Canadian Trade Commissioner in India has his office in Gresham Assurance House, Mint, Bombay.

The Canadian Import Division comprises twelve commodity sections, an Exporters Directory Section and the Export Permit Branch.

The Canadian Import Division aims at the re-establishment of import trade connections with the further basic objectives of fostering direct sources Division is comparison of the Canadian market and the trade facilities which serve it and the foreign exporter, with facilities and conditions in markets elsewhere. Wherever possible, an effort will be made to obviate exceptional difficulties which foreign exporters may experience in their direct approach to the Canadian market to its peculiarities.

The Wheat and Grain Division serves as the procurement agency of the Government with regard to orders from Empire and foreign governments for wheat, flour and other cereal products placed through the Government Department.

The Commercial Relations and Foreign Tariffs Division carries on a series of research activities and conducts investigations on many aspects of commercial policy with a view to trade expansion and the renewal and appropriate revision of trade agreements.

The Trade Publicity Division, in addition to stimulating the Canadian manufacturers interest in foreign trade, encourages foreign businessmen to look to Canada as a source of supply and as a market and to direct their attention to the services offered by the Canadian Government to facilitate dealing with Canada.

The Dominion Bureau of Statistical report which correlate in a comprehensive manner various economic data from a national view- point. Economic studies associated with national planning are also undertaken.

The Canadian Government Exhibition Commission renders practical assistance to Canadian producers by promoting the sale of their products in foreign markets by holding exhibitions of various kinds.

The Canadian Travel Bureau also plays a vital role in this process.

Canadian Commercial Corporation:- This was formed in March 1946, mainly to take over the various functions of making purchases in Canada for foreign governments.

The principal seaports of Canada are an integral and important part of Canada's extensive transportation system, forming the connecting links

between the inland railway, waterway and highway carriers and the ocean carries serving the trade routes between Canada and other countries. They have been developed in the interests of the country as a whole by the Government of Canada and are under the jurisdiction of the National Harbours Board, Ottawa.

There are no tariff preference for Canadian goods entering India or Burma.

The Indian Trade Commissioner in Canada has his office in Royal Bank Building, Toronto, Ontario.

Canada May Impose Prohibitive Tariffs:- Mr. Louis St. Laurent, Canadian Acting Premier and Minister for External Affairs, revealed in Ottawa on November 6, 1947 that Canada may soon lift all her embargoes against expected that changes in the tariff systems of various countries will be made only in the light of the decisions arrived at the International Trade Conference held recently in Geneva.

UK SECTION

GREAT BRITAIN

Great Britain comprises England, Scotland and Wales together with Ulster or Northern Ireland. The Atlantic Ocean lies to the west of Britain, on the north lies the North sea and on the east runs the English Channel. 0° longitude runs through Greenwich in England. For practical convenience, it is taken that the imaginary line representing 0° longitude passes through Greenwich, a suburb of London. Greenwich possesses an observatory and the Greenwich mean time is also considered as the world standard time and all other times are based on the Greenwich mean time.

There are hilly districts in the north, west and south-west and plains in the east and south-east. The most important river is the 'Thames' which is 200 miles long. It flows into the North Sea. The 'Severn' is 220 miles long and flows into the Bristol Channel. There are a few lakes which are known for their scenery.

The climate of England is modified by the much broken coastline as also by the 'Gulf Stream Current' which emerges from the Gulf of Mexico. This 'Stream' provides Southampton with a double tide, and passes on to the north-western coast of Europe.

Palaeolithic and Neolithic remains are abundantly found in England. Stonehenge period, the period of the Celtic invasion, the Roman conquest together with its attendant advantages, the Anglo-Saxon invasion and the Norman conquest—all these represent the early history of Britain.

Parliament consisting of one House of Commons and the House of Lords is the supreme legislative authority in Britain. Parliament is summoned by the writ of the King. The stationary life of any Parliament has been fixed at five years.

The Parliament Act of 1911 provides that all money bills (so certified by the speaker of the House of Commons), if not passed by the House of Lords without amendment, may become law without their concurrence on the royal assent being signified. Public bills, other than money bills, or a bill extending the maximum duration of Parliament, if passed by the Commons in three successive sessions, whether of the same Parliament or not, and rejected each time, or not passed, by the House of Lords, may become law without their concurrence on the royal assent being signified, provided that two years have elapsed between the second reading in the first session of the House of Commons and the third reading. The voting strength of the Lords is about 120.

The House of Commons is the popular House and consists of members representing country borough and university constituencies. The minimum age for a Commoner is 21. The Parliament Act of 1918 made women eligible for membership of the Commons. The franchise qualifications for men and women are the same. All civilian residents are registered under the National Registration Act of 1939. Peers, infants, aliens, bankrupts, lunatics and idiots are not entitled for registration.

There are 640 members in the House of Commons and in the 1946 elections, the electorate numbered 32,827,624.

In Britain the King is the nominal executive authority, while in practice, this authority is exercised by the Cabinet of Ministers backed by the majority in the House of Commons. The Prime Minister usually happens to be the leader of the party which wins the elections. A member of the House of Lords cannot become Prime Minister. The other Ministers are appointed on the recommendation of the Prime Minister and the entire cabinet works on joint responsibility. If on any occasion, Government is censured by a majority in Parliament, the Prime Minister can either request the Sovereign to dissolve Parliament and order fresh elections or he can resign together with his colleagues. In practice, however, the latter course has usually been followed.

Prime Minister – Rt. Hon. Clement R. Attlee.

Lord President of the Council and Leader of the House of Commons – Rt. Hon Herbert Morrison.

Secretary of State for Foreign Affairs – Rt. Hon. Ernest Bevin.

Lord Privy Seal – Rt. Hon. Lord Inman.

Chancellor of the Exchequer and President of the Board of Trade – Rt. Hon Sir Stafford Cripps.

Minister of Defence – Rt. Hon. A. V. Alexander.

Lord Chancellor - Rt. Hon. Lord Gowitt.

Home Secretary - Rt. Hon. Chuter Ede.

Dominion Secretary and Leader of the House of Lords - Rt. Hon. Viscount Addison.

Colonial Secretary - Rt. Hon. Creech Jones.

Minister for Labour - Rt. Hon. George Isaacs.

Minister for Fuel and Power - Rt. Hon. Emmanuel Shinwell.

Minister for Education - Rt. Hon. George Tomlinson.

Minister for Health - Rt. Hon. Aneurin Bevan.

Minister for Agriculture and Fisheries - Rt. Hon. Thomas Williams.

Minister without Portfolio - Rt. Hon. Arthur Greenwood.

The following is a list of the British Prime Minister since 1902:

A.G Balfour (Conservative) – 1902.

Sir H. Campbell Bannerman (Liberal) – 1905.

H. H. Asquith (Liberal) – 1908.

H. H. Asquith (Coalition Cabinet) – 1915.

D. Lloyd George (Coalition Cabinet) – 1916.

A. Bonar Law (Conservative) – 1922.

S. Baldwin (Conservative) – 1923.

J. R. MacDonald (Labour) – 1924.

S. Baldwin (Conservative) – 1924.

J. R. MacDonald (Labour) – 1929.

J. R. MacDonald (National) – 1931.

S. Baldwin (National) – 1935.

Neville Chamberlain (National) – 1937.

Winston Spencer Churchill (National) May 1940.

Clement R. Attlee (Labour) – July 1945.

The last general elections were held in 1945.

The total population of Great Britain in 1931 was 44,937,444, which comprised the following units:-

Division		Area in Square Miles	Population
England	...	50,874	37,794,003
Wales	...	7,466	2,158,374
Scotland	...	30,405	4,842,980
Isle of Man	...	75	93,205

The following are the chief administrative counties and county boroughs in England:-

Bedfordshire, Berkshire, Buckinghamshire, Cambridgeshire, Cheshire, Cornwall, Cumberland, Derbyshire, Dorsetshire, Durham, Essex, Gloucestershire, Hampshire, Herefordshire, Hertfordshire, Huntingdonshire, Kent, Lancashire, Leicestershire, Lincolnshire, London, Middlesex, Monmouthshire, Norfolk, Northamptonshire, Northumberland, Nottinghamshire, Oxfordshire, Rutlandshire, Shropshire, Somersetshire, Staffordshire, Suffolk, Surrey, Sussex, Warwickshire, Westmoreland, Wiltshire, Worcestershire and Yorkshire.

The city of London has an area of 675 acres and a population of about four and a half millions (4 ½ millions).

The established church of England is the religion of the majority of people in England and Wales while Presbyterianism is the religion in Scotland.

Education :- Oxford and Cambridge rank foremost among the English Universities. There are 22 colleges in Oxford, while in Cambridge there are 17 colleges. Durham, London, Manchester, Birmingham, Liverpool, Leeds, Sheffield, Bristol and Reading are all university towns.

The English Education Act of 1944 marks a step forward in the progressive re-organisation of the education system in England.

Social Security :- Under the National Health Insurance Acts (1935-'40), the Old Age Pensions Act (1936) and the Widows', Orphans' and Old Age Contributory Pensions Acts (1936-'41), provision is made for Insurance against loss of health for prevention and cure of sickness, compulsory Insurance against unemployment and for pensions for widows, orphans and aged persons.

In 1945, there were 765 trade unions.

Revenue :- The main sources of income to the British Exchequer are :- Customs duties, Excise duties, Motor vehicles Tax, Estate Duties, Stamp Fees, Land Tax, Mineral Royalties, Excess Profits Tax, Income-tax, Sur-tax, Profits Tax, etc.

In 1946, Britain's total debt figures stood at 23,742,000,000.

THE RISE OF INDUSTRIAL BRITAIN

The Romans had been the first to invade Britain. They colonised the Country and started developing its resources. They managed to start certain industries and to establish a fair amount of commerce. During the period of the Romans, we hear that Britain was rich with its flocks and herds, minerals and other commercial products. Agriculture was carried on and public works such as road-laying and other engineering works were started. However, once the Romans left the prosperity of Britain declined owing to internal feuds and instability. During the period that intervened between the Saxon conquest and the Norman conquest crafts and manufacture were few and simple. Fine arts, and works in metal and embroideries were confined to the monasteries. The iron, coal and other mineral resources of the land were left untouched. Agriculture was, during this period, the main occupation of Britons.

The manorial system of agriculture was the prevailing type then and the manor was the basis of agriculture. The 'manor' is a Norman name and means community. The lord of the manor was the feudal chief from whom his humbler brethren held land on lease. They had also to till the lord's land on certain days of the week. The lord had rights of rent paid in services or money. The lord had the duty of protecting the others. He also exercised certain magisterial powers and prerogative. In the manor, all agriculture was done on a collective basis and the three-field system was followed whereby wheat or rye was sown in one field in one year, oats or barley was sown there the next year and during the third year it lay fallow.

The earliest statistical and authoritative records of English industrial history could be found in the Domesday Book compiled under the auspices of King William (Norman). During the time of the Norman conquest there were in Britain 2,000,000

people of whom nearly 1,500,000 were farmers. Kent was then the richest county. London, Canterbury, Chester, Lincoln, Oxford, York, Hereford and Winchester were the chief towns which were engaged in trade. Wool and lead were being exported in small quantities.

Towns grew up slowly due to various reasons. Very often the King gave charters to towns which gained strength under the protection of some great noble or the Monasteries. With the rise of the towns is associated of guilds. The earliest of these are heard of in Saxon times. These were formed on the basis apparently, of social, religious and charitable purpose. In the craft guild members of one craft were brought together. The merchant guilds helped the growth of towns. The guild exercised a moral control over its members, made them do honest work and trained up apprentices. During the eleventh to the thirteenth centuries, the economic condition of England, although depressed, was by no means poor.

The Black Death of 1348 gave rise to a paucity of labourers and this reached on agriculture. On the other hand, the encouragement given to woollen manufactures by Edward III rendered wool trade more remunerative. This induced landlords to enclose their farms for purposes of sheep farming. The growth of sheep farming gave a fillip, in course of time, to the rise and development of cloth manufacture and the weaving industry.

In the Middle Ages England held a monopoly in wool-trade in so far as she was the only wool-producing country in the north of Europe. English wool was much in demand from Flanders where there many wool-manufacturing towns. At the same time coarse cloth manufactured in English homes. Hempen, linen and woollen coverings comprised these manufactures produced under a domestic system. Norfolk and Suffolk were the leading towns in this textile trade. Westbury, Sherborne and Salisbury in the west of England also had a cloth industry.

Edward III encouraged Flemish weavers to settle in England and teach the English. It was after this that the worsted industry developed. Dyeing of cloth was also started. In course of time raw wool was not exported from Britain. But was manufactured there itself and the manufactured goods began to be exported. Labourers also took to weaving in large numbers so much so that labourers could not be procured for other jobs.

About the year 1250, according to Professor Rogers in his "*Six Centuries of Work and Wages*", the following English towns had the manufactures indicated opposite them:-

TOWN	PRODUCT	TOWN	PRODUCT
Lincoln ...	Scarlet Cloth	Hitchin	... Brewing
Bligh ...	Blanket	Ely ...	Brewing
Beverley ...	Burnet Cloth	Ripon ...	Horses
Colchester ...	Russet Cloth	Nottingham ...	Oxen
Shaftesbury ...	Linen Fabrics	Gloucester ...	Iron
Lews ...	Linen Fabrics	Bristol ...	Leather and Hides
Ayelesbury ...	Linen Fabrics	Coventry ...	Soap
Warwick ...	Cord	Northampton...	Saddlery
Bridport ...	Cord and Hempen fabrics	Doncaster ...	Horse-girths
Wycombe ...	Fine Bread	Chester ...	Skins and Furs
Hungerford ...	Fine Bread	Shrewsbury ...	Skins and Furs
St. Albans ...	Fine Bread	Corfe ...	Marble
Maxtead ...	Knives	Cornwall ...	Tin
Wilton ...	Needles	Grimsby ...	Cod Fish
Leicester ...	Razors	Rye ...	Whiting
Banbury ...	Brewing	Yarmouth ...	Herrings
		Berwick ...	Salmon

Norwich and Southampton were ports, while there were mills at Dunwich. Hull, York, Beverley, Lincoln and Norwich were noted for woollen manufactures.

Darmouth, Plymouth, Sandwich, Winchelsea, Weymouth, Shoreham, Dover, Margate, Bristol, Scarborough, Boston, Hull, Lynn, Harwich, Yarmouth, Colchester and Newcastle were the chief ports in mediaeval England.

Throughout the Middle Ages, England remained in a backward state economically and industrially. Even in such limited commerce, foreigners who had migrated to England wielded considerable control. The Hanseatic League was one such instance.

During this period there was a tendency on the part of the King to control and regulate commerce through the manipulation of currency, weights and measures. These feeble attempts comprised the beginning of a system which grew up into the Mercantile system. The Mercantilists sought to regulate England's Commerce in such a manner as ultimately to increase the wealth of England as represented by the store of precious metals.

In 1253, Weaving was introduced into England.

In 1280, Gunpowder was invented by Roger Bacon.

In 1302, The Mariner's Compass was Invented.

In 1406, Trading Companies were formed.

The craft guilds of the Middle Ages sought to secure a decent price for their products and at the time promoted industrial efficiency. They further tried to cut down competition.

Commerce Expands :- The geographical discoveries of the 15th and 16th centuries brought England into the main stream of the World's commerce and the 16th century ushered in a change in English and political conditions. Attempts were made to organise industry and commerce on a national basis. Government gave protection to the various industries and the cloth industry in particular prospered. Fishing industry was encouraged and this incorruptible productable seamen. During Queen Elizabeth's time, foreign traders were discouraged and Burleigh did all to develop all kinds of industries. English chartered companies arose at this period.

In the eighteenth century England began to develop her industrial and productive capacity. On the eve of the industrial revolution. England felt the need to adapt production to commercial expansion. The iron industry needed alternative fuel while the mining industry needed to be organised on a different footing. This period of transition, brought many new mechanical inventions in its wake.

The industrial Revolution:- The years 1760 to 1820 represented the period when the industrial revolution is generally understood to have taken place. However, it would be wrong to limit this development to these sixty years. The change affected the cotton industry first. Kay's Flying Shuttle and then Hargreaves's Spinning Jenny enabled work to be done twice as quickly as before. In 1771 Arkwright made use of water-power in the cotton industry. Yarn spinning was perfected by Crompton's 'Mule' which represented a combination of the spinning jenny and the water-frame.

Watt and Boulton perfected steam-engine which was employed as a pump in coal mine and also in iron-smelting. In 1781 Watt adapted his steam engine to rotary motion. By 1815, machinery driven by either water or steam had replaced the handloom.

Engineering industries grew up and machinery and precision tools were manufactured. It was realized that coke and raw coal could be used for iron-smelting and thus were laid the foundations of the modern English iron and steel industry. Cort made use of the puddling process for producing iron with coal instead of charcoal. Steam provided more powerful blast and consequently output increased.

At this time transport and communications were also definitely improved. Roads, Canals and Railways were built.

Plea for free Trade- By the end of the eighteenth century Mercantilism was discredited

“Wealth of Nations” set politicians and merchants thinking. Pitt in 1786 inaugurated minor reforms in this direction, but had to retrace his steps no sooner was war declared against France when the revenue resources had to be augmented. But the cry for free trade revived after ‘Waterloo’ and Huskisson, President of the Board of Trade instituted certain reforms. On June 1846 Peel repealed the Corn Laws. In 1849, the Navigation Laws were also abolished.

The following table gives the number of articles taxed in Britain in the year indicated:-

Year	....	No. of Articles Taxed
1600	....	1,630
1787	....	1,425
1826	....	1,280
1841	....	1,052
1849	....	515
1855	....	414
1861	....	142
1876	....	42
1924	....	100

With Free Trade came the ‘Golden Age’ in British economic history when there was commercial progress due not solely to the establishment of free trade, but also to the development of communications and the founding of new markets and vast resources.

The growth of industries and the rise of factories led to the necessity to initiate factory legislation on a comprehensive basis.

Another complementary development was the founding and growth of trade thanks to the enterprise of Robert Owen (177-1858) and the “Rochdale Pioneers”.

Relief of the poor and poor-laws and administration were other adjuncts to the industrial development.

It is interesting to note the influence of the growth of manufactures on English agriculture. In the 15th and 16th centuries English farmers enclosed their land in order to engage in sheep-rearing in preference to agriculture because the former had proved more remunerative. But in the 18th and 19th centuries enclosures were made from a totally different point of view. The increase of population in the towns following the revolution made it necessary to produce more food. Agriculture done on a small scale with old-fashioned implements, etc., could no more meet the increased demand for food. Large-scale farming on a scientific basis was necessary if English townpeople were to be fed, and for this purpose farm lands were enclosed because scientific and mechanised farming could profitably be conducted only on a large scale.

With the march of time and the acquisition of colonies, tendencies towards imperialism cropped up which were followed by schemes of Empire-preference in the matter of commerce.

The United Kingdom, during the period 1895-1920, at the parting of the ways. Her world possessions were challenged by other countries. Foreign governments were throwing all their on the side of their own people. They were subsidising the steamships, using the Railway as an effective weapon during commercial troubles, increasing tariffs and striving to secure new colonies and new markets. There began a scramble in Asia, the Trans-Siberian Railway brought Russia to Far East and Japan was steadily evolving into a great maritime power. Germany also grew powerful. The British were no longer an unchallenged world-power and the British colonies were no longer free from aggression. Great Britain had to reorganise her vast possessions on new lines. The Dominions, on part, were willing to fit into some common scheme for defence and trade. The United Kingdom had to choose between abandoning Laissez Faire in colonial matters in order to establish some closer

connection between her overseas possession and trying to be able to hold her own in the new rivalry as she had done in the past. In 1895 Joseph Chamberlain came to the Colonial Office with a view to stop the drift and correcting the condition and remained in office for 8 years. When he vacated his office in 1905, the new lines of constructive imperialism had already been laid.

The difficulty about the co-ordination of the British Empire was that it was really two empires and not one-(1) where Whitemen settled down and enjoyed the benefits of self-Government. These self-governing Dominions developed their own tariff systems on protective lines while the mother country followed the free trade policy. These Dominions may be termed the "Empire-in Alliance".

(2) On the other hand the United Kingdom ruled over a densely populated area where no self-Government had been evolved. This area was governed by the mother country and was made to adopt free trade by force of circumstances. This area is known as the "Empire-in-Trust".

Empire in Alliance:- A policy of closer alliance was pursued along both the political and the economic paths. Attempts were made to make the alliance closer by means of colonial conferences held in 1887, 1907 and 1911. The great war delayed the conference scheduled for 1914. But an Imperial War Cabinet was summoned in 1917 followed by an Imperial War Conference was attended by representatives from India as well. Each of these conference resulted in closer economic union. The following schemes were developed to bring about unity:-

(1) Communications between England and the colonies were developed as rapidly and as cheaply as possible (e.g), the Imperial Penny Postage, the system of cables and Shipping communications. Regular and rapid communications abolish distance and make for unity in international trade and commerce.

(II) The preferential system:- colonies accepted to give preferences to the mother country as an offset for defence facilities. This was usually achieved by reducing the ordinary rate of duty in the case of the mother country or by levying an additional duty a goods of foreign origin. After 1919, the mother country gave a rebate on goods originating from the colonies, the effect of this rebate being a reduction of about £ 3,000,000 in the duty -receipts from goods of imperial origin. Attempts were also made to increase the trade between the mother country and her colonies through the Commercial Intelligence of the Board of Trade and its Advisory Committee. The mother country also helped the colonies in developing the latter's resources. The Imperial Shipping Board, the Imperial Mineral Resources Bureau, the Imperial Economic Committee and the Imperial Bureau of Entomology-all helped in this task.

The empire- in-Trust:- The following are the chief ways in which Britain facilitated the development of her tropical possessions.

(I) By financing the laying and extension of Railway and Roads and the construction of harbours. (II) By encouraging institutions for the study of health in the Tropics (III) By encouraging agriculture and the spread of technical knowledge .(IV) By granting preferences on the export of raw materials, etc.

England to-day depends on foreign countries for her food. This clearly shows that a readjustment of her economy is essential if a proper balance is to be struck.

THE INDUSTRIES OF MODERN BRITAIN

The Industrial Revolution came first to Great Britain and this gave her a start over the other nations of the world. Through the Middle Ages and thereafter she built up her commerce aided by a steadily-growing fleet of merchant ships and at the beginning of the 20th century Great Britain topped the list of the industrial nations of the world.

In modern Britain the chief industries are: Iron, and steel, engineering ship-building, motor-car, motor-cycle and cycle making, textiles, mining of non-ferrous metals, leather, boot and shoe-making, coal-mining, clothing, chemicals, cigarette manufacture, paper-manufacturing and printing, clay and building materials, mines and quarries, etc.

In 1938, the total gross output of British industries equated to 3,464,300.

Great Britain claims to possess 850,000 B.H.P. of water-power resources of which nearly 300,000 B.H.P. are already developed. Coal gas and water gas are produced and in 1943 there were 1,050 gas companies. 38,360 million units of electric power were generated in 1944.

Among the metals produced are copper, iron, lead, silver, gold, zinc, and tin.

Britain possesses fairly large coal deposits and these have facilitated the development of her iron and steel industries. Road tar, creosote. Creosote oil and pitch are the principal coal-tar products obtained. Arsenic., barytes, calcspar, chalk, flint, china clay, china stone, copper precipitate, dolomite, fireclay, fluorspar, gravel, gypsum, iron ore and ironstone, iron pyrites, lead ore, limestone, mica, potter's clay, salt, tin and zinc are some of the mineral products of Britain.

Exports :- 1946, Britain exported the following manufactured articles:-

Coke and manufactured fuel, pottery, glass, iron and steel manufactures, non-ferrous metals and manufactures cutlery, hardware, electrical goods and apparatus, machinery, wood and timber produced, cotton yarns and manufactures, woollen and worsted yarns and manufactures, silk, art silk yarns and manufactures other textile goods, clothing, footwear, chemicals, footwear, chemicals, drugs, dyes and colours, oils, fats and resins, leather, paper, cardboard, locomotive, ships, aircraft, motor-cars, motor-cycles and cycles, rubber goods and others.

British agriculturists grow wheat, barley, oats, corn, rye, beans, peas, potatoes, turnips, swedes, mangolds, sugar beet, cabbage, carrots, onions and flax.

CHIEF BRITISH CITIES AND THEIR INDUSTRIES.

ABERDEEN is a sea-port in Scotland, is a University town, a fishing centre and has ship-building yards, engineering and chemical industries and paper mills.

ABINGDON in Berkshire makes clothing and carpets.

ACCRINGTON in Lancashire is a cotton-manufacturing centre.

ACTION in Middlesex manufactures aircraft engines, motorcars, etc., and has printing and dyeing industries.

ALDERSHOT in Hampshire is a military centre.

ASHNOURNE is a market-town in Derbyshire famous for its scenery.

ATHERTON with cotton mills and coal mines is in Lancashire.

Fine varieties of carpets are made at AXMINSTER in Devonshire.

AYLESBURY in Buckinghamshire owns large printing and other industrial establishments.

Engineering, chemical and woollen industries thrive in Ayre in Ayrshire.

BAKEWELL in Derbyshire has excellent scenery.

BALLANTRAE in Scotland is a fishing town.

BALMORAL is the Royal residence in Aberdeenshire.

BAMPTON in Devonshire has a cattle trade.

BANBURY in Oxfordshire is chiefly an agricultural town, but has a few manufactures.

BANNOCKBURN in Stirlingshire is a coal-mining town with textile and other industries.

BARMOUTH in Wales is famous for scenery.

Limestone quarries and cotton factories abound in Barnoldswick in York-shire while Barnsley has iron and steel, leather, paper and linen industries.

BARROW-IN-FURNESS in Lancashire has many industries. Iron and steel and ship building industries are some of the main business.

BEDFORD in Bedfordshire has large engineering industries.

BEDWORTH in Warwickshire is a coal-mining centre.

BERWICK-UPON-TWEED in Northumberland is a main shipping centre.

BEWDLEY in Worcestershire has rope-making and other industries.

BILLINGHAM in Durbam came into prominence during the great war-Imperial chemical industries have some of their works here.

Ship-building is carried on in Birkenhead in Cheshire.

Cotton and engineering industries flourish in BLACKBURN in Lancashire.

BEDLINGTON in Northumberland mines coal and makes chains.

BIDDULPH in Staffordshire is a coal-mining centre.

Chemicals and shipbuilding are carried on in Billingham in Durham.

Woollen manufacture thrives in Bingley in Yorkshire.

Shipping and ship-building are the chief industries in Birkenhead in Cheshire.

BUCKINGHAM in Buckinghamshire is a centre of wool trade.

BURNELY in Lancashire has cotton and machinery works.

BURTON-UPON-TRENT in Staffordshire is famous for brewing.

CHAPEL-EN-LE-FIRTH in Derbyshire has paper making and limestone quarrying industries.

CHELSEA is a chief residential quarter in London.

CHEQUERS is the offical residence of the British Prime Minister.

CLYDEBANK is 6 miles west of Glasgow and has extensive shipbuilding yards, and engineering works. Sewing machines, chemicals and soap are also manufactured. Cornwall a country in South-West England is known for chaina, clay, tin and copper.

COVENTRY in Warwickshire manufactures motor-cars, cycles, sewing machines, watches and artifical silk.

DARLINGTON in Durham manufacturers locomotives, and has engineering works, iron works, and woollen mills.

DENTON in Lancashire makes hats.

DONCASTER in Yorkshire has engineering works, glass and artifical silk manufactures and railway workshos.

BIRMINGHAM is the second city of England and is situated in the heart of industrial England. This is the cntre of the hardware trade of the world.The chief manufacturers of this city are buttons, bedsteads, bakelite goods, chocolate, chemicals, cycles, cycle spare parts, electroplate, guns, magnetos, railway rolling stock, glass, motor cars, motor cycles, motor tyres, nuts, bolts, pens, nibs, tubes, tyre valves, tools, toys, electrical apparatus, wire, wireless sets, jewellery and brass workings.

LIVERPOOL is England's best port on the Atlantic seaboard and is a chief commercial centre of the world. There are extensive docks on either side of the river Mersey. Shipping is the main industry while cement and chemicals are manufactured. Liverpool handles the imort of cotton which feeds the mills of Lancashire which is famous for cotton and coal-mining industries.

MANCHESTER is the centre of the World's cotton trade and handles the distrinbution of the spinning and weaving of Lancashire. Manufacture of

chemicals and engineering works afford occupation to many. Maryport in Chumberland is known for her shipping industry.

MIDDLESBROUGH, the seaport of Yorkshire, manufactures iron, steel, chemicals and builds ships.

MIDDLETON in Lancashire possesses cotton mills, engineering and chemical works.

MIDDLEWICH in Cheshire has salt and chemical works.

MILLBANK in London houses numerous offices of Imperial chemical industries.

MILNROW in Lancashire is a coal-mining centre.

MITCHAM in Surrey owns industry works, manufactures sweets and grows lavender.

In Monk Bretton in Yorkshire there is a flourishing woolen industry.

MONMOUTH in Monmouthshire, deals in agricultural trade (Wheat, sheep and apples.)

MONTROSE in Forfarshire is known for flax-spinning, linen-manufacture, shipping and fishing. MORLEY in Yorkshire has a thriving woolen industry.

MORPETH in Northumberland has coal-mining, brewing, and malting industries.

MUSSELBURGH in Midlothian has a paper-making industry.

NETHERFIELD in Nottingham hosiery-making industries.

NEWARK in Nottinghamshire has engineering works, malt houses and breweries. At the same time it is an agricultural centre,

NEWCASTLE-UNDER-LYME:- This is Staffordshire and its chief industries are chemicals, pottery and coal-mining.

NEWCASTLE-UPON-TYNE:- A port in Northumberland, it is famous for coal-mining, ship-building, engineering works and electrical and chemical manufactures.

NEWPORT in Monmouthshire has iron and steel manufactures.

NORTHAMPTON in Northumberland is famous for shoe-making, tanning, textiles, breweries, iron foundries and brick works.

NORTHUMBERLAND, the Northern-most country of England has shipbuilding industries, blast furnaces, glass-works, potteries and electrical goods manufacture. Coal-mining is widespread in Nottinghamshire.

Brewing and tanning are conducted in PENRITH in Cumberland, while ENRYN in Cornwall has brewing and tanning industries as well as granite polishing and exporting.

Dyeing glass and linen-making, iron-founding and brewing are the industries of PERTH in Perthshire.

Piccadilly, A MAIN STREET IN London houses many modern hotels.

PLYMOUTH is the chief sea-port of Devon and is the port of embarkation for those who leave England by sea for America. Agricultural implements are made at POCKLINGTON in Yorkshire. Stone-quarrying is done in PORTLAND in Dorset.

PORTSMOUTH is a naval station in Hampshire.

PORT TALBOT has engineering industries and copper-smelting and tin-plating works.

RADCLIFFE in Lancashire is noted for coal-mining, while RAMSBOTTOM makes cotton goods and has bleaching and dyeing works.

Fishing is conducted in RAMSGATE in Kent.

Iron and Steel goods are manufactured RAWMARSH in Yorkshire.

READING in Berkshire is an agricultural town, but has engineering works and manufactures biscuits.

REDDISH in Lancashire has cotton mills and makes machinery and chemicals, while REDDITCH in Worcestershire makes motor-cycles, needles, etc. REGENTS PARK in borough of MARYLEBONE (London) houses the zoological and botanic gardens.

REGENT STREET IS ONE OF London's shopping centres.

Brewing and printing are done in RICKMANSWORTH.

RIPLEY in Derbyshire has collieries and textile mills.

ROCHESTER in Kent manufactures cement.

ROMFORD in Essex has breweries and engineering industries.

ROTHAMSTED in Hertfordshire is an agricultural centre.

Pottery, metal and chemical works are situated at ROTHERHAM in Yorkshire. ROTHWELL in Yorkshire mines coal and manufactures cloth, while ROTHWELL in Northamptonshire manufactures boots and shoes.

ROYSTON in Yorkshire produces iron and steel.

ROYTON IN Lancashire produces textiles.

RUNCORN in Cheshire makes soap and chemicals.

Boots and shoes are made at RUSHDEN in Northamptonshire, while RUTHERGLEN in Lanarkshire makes chemicals.

RYTON in Durham is engaged in coal-mining and iron and steel industries.

SADDLEWORTH in Yorkshire manufactures woollen goods.

ST. AUSTELL in Cornwall mines china clay.

SEDGELEY in Staffordshire manufactures hardware.

STAFTESBURY in Dorset is an agricultural centre.

SHERBURN in Yorkshire is a colliery town.

SHREWSBURY in Shropshire contains steam works.

Agriculture, coal-mining, iron industries and the manufacture of pottery, bricks and tiles are centred in the country of Shropshire.

Ironstone mining is carried on in SKELTON in Yorkshire.

SOUTHWARK in London has printing and other industries.

STIRLINGSHIRE in Scotland is an agricultural centre.

STOCKPORT in Cheshire is a cotton manufacturing centre.

STOCKTON-IN-TEES in Durham has machine shops, glass works, iron foundries and ship-building yards.

STOKE-ON-TRENT in Staffordshire makes pottery.

STOURBRIDGE in Worcestershire manufactures glass and fire-bricks.

STRATFORD-ON-AVON, Shakespeare's birthplace is an agricultural town.

SUNDERLAND in Durham has ship-building, machinery and chemicals manufactures.

SHEFFIELD in Yorkshire is famous for the manufacture of heavy steel, engines and machinery. Tanning, confectionery, silver-refining, brass founding and bicycle making are also carried on.

RECENT ECONOMIC DEVELOPMENTS

Since the end of the war, Great Britain has been finding it hard to establish her economy on a stable footing. She has been faced with many crises and she was forced to take a huge loan from America. An all-out attempt is made to set up production.

BRITAIN'S TRADE IN 1947

Britain's export trade in 1947 reached the record value of £ 1,137,000,000 being nearly two and-a-half times the 1938 figure.

This is revealed in the official figures of Britain's overseas trade during last year. There was a sharp increase in the volume of exports in the last quarter of 1947 in general, and in December in particular.

The figures showed an over-all rise in volume to 8 per cent above the 1938 figure. Compared with the target set for June this year-140 per cent above the pre-war figure-this improvement would appear only moderate. It should, however, be remembered that this 8 per cent rise as the average for the whole year takes into account the heavy setbacks of last winter's fuel crisis.

In the first and second quarters of 1947, Britain's exports barely topped the pre-war figure. By the end of the third quarter, however, they had risen to 114 per cent and in the fourth quarter to 117 per cent, above the 1938 figure. Moreover in December the volume of exports rose to 20 per cent above the pre-war figure, half-way to the mid-1948 target.

Coal Exports:- Reckoning on a daily basis, these December exports were the highest so far recorded. Taking 26 days as the normal working month, December exports totalled £114,500,000, compared with £106,500,000 in November and £82,500,000 in February and March, the two lowest months of the year. One encouraging feature of the December returns was the increase in coal exports at 138,000 tons. They were the highest for any month since January.

All classes of British exports shared in the £8,000,000 increase in the December exports. Exports of food, drink and tobacco were the highest for 18 months. The quantity of silks sent abroad was the highest since 1942, while exports of raw materials rose by £300,000 owing to the increase in coal shipments.

While exports of manufactured goods rose in November by just under £5,000,000, they were lower in value than in either July or August. Exports of machinery, however, reached a record total of £17,700,000 while those of electrical goods, exceeded £5,000,000 for the first time. Woollen and worsted goods at £6,600,000 were the highest since 1921, and the value of iron and steel shipments at just over £8,000,000 was the highest in 1947, apart from July.

Main Exports:- Turning to the year's export trade, the report shows that Britain's six leading groups were machinery, vehicles iron and steel, followed by cotton, chemicals and wool. One of the most marked features of the year's developments apart from the rapid rise in exports in the second half of 1947 was the expansion in metal goods, which accounted for no less than 48 per cent of Britain's total exports, compared with 44 per cent in 1946 and only 37 per cent in 1938.

Another interesting trend has been the increasingly important part played by British countries. Whereas in 1946, exports to foreign countries were larger than to British countries,

the larger, by the fourth quarter exceeding those to foreign countries by 19 per cent.

Adverse Balance:- But even the record export figure of £1,137,000,000 was outmatched by that for the year's imports, which amounted to £1, 787,500,000. Taking into account re-exports at just over £59,000,000, the British adverse trade balance for the year was £591,200,000 compared with £336,100,000, in 1946.

ONE OF THE TWO MAIN OBJECTIVES OF THE BRITISH EXPORT DRIVE IN 1948 IS TO WIPE OUT SUCH A GENERAL DEFICIT BY MEANS OF INCREASED EXPORTS AND REDUCED IMPORTS.

Even if this is achieved, it will not cover Britain's dollar deficit. Thus, increased dollar earnings is the other objectives of the export drive, the aim being to achieve an expansion of at least 50 per cent on 1947.

BRITAIN'S EXPORT CAMPAIGN

New moves in Britain's "Export or Die" campaign were announced on January 19th, 1948 by Mr. Harold Wilson, President of the Board of Trade.

The Government are asking exporters to show the utmost vigour in selling to Canada, the United States, and Argentina, the three markets which it regards as of "outstanding importance." British industries are to be advised by the Government as to which are the markets where export earnings will be particularly valuable.

Mr. Wilson said that cotton textiles should show the largest expansion in 1949. "We are planning to boost the present rate of about 10 million yards to about 100 million yards by the end of the year."

Mr. Wilson defined Britain's aims in bilateral negotiations, of which there is a whole series running at present. "We have to use our bargaining power to secure our essential imports on terms which involve the smallest possible call on our reserves. Any general suggestion that international trade should consist entirely in the exchange of essential commodities is greatly to our disadvantage. Consequently the removal of import restrictions and quotas on British goods must figure high in our aims."

British Imports more than Exports:- Britain bought from abroad last year £591,200,000 worth more goods than she exported. This trade deficit was more than two-thirds greater than that in the previous year.

Disclosing this, the British Board of Trade, valued imports at £ 1,787,500,000, exports at £1,137,100,000, re-exports at £59,200,000.

In a 1st-minute drive, Britain exported goods worth £110,200,000, during December, only £ 50,000 worth less than the previous peak monthly figure during her great post-war export drive.

RECORD TEXTILE PRODUCTION IN BRITAIN

Britain's cotton production reached new post-war peaks during November as a result of the introduction of over-time work in some mills, and an increase in the total labour force, the Official Board of Trade Journal announced. New high figures were announced shortly after the President of the Board of Trade, Mr. Harold Wilson, had told an audience of Lancashire cotton workers that the Government were watching the curve of textile output with "acute interest, if not anxiety". Cotton workers during November turned out

the larger, by the fourth quarter exceeding those to foreign countries by 19 percent.

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BRITAIN'S EXPORT CAMPAIGN

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"In the new era," Mr. Kitson said, "We have come to you not as teachers but as guides, philosophers and friends. It is a deal between two partners who have complete trust in each other, and each of whom hold some very high trump card. I refer to that of goodwill".

PROSPECTS OF INDO-BRITISH TRADE PACT

A COMMERCIAL TREATY IN THE MUTUAL INTERESTS OF Britain and the Dominions of Pakistan and India may be negotiated, Sir, Percival Griffiths, formerly of the Indian Civil Service and lately leader of the European Group in the Indian Central Legislature, declared in Birmingham on January 18th 1948.

The time would come when British business interests would require to know the terms on which they could remain in India, and he believed such a commercial treaty would be negotiated.

STEEL QUOTAS FOR 1948

Sir Stafford Cripps, British Chancellor of the Exchequer, announced on January 12th 1948 increased allocations of steel for 1948 to Britain's engineering. Coal mining, electricity and agricultural machinery industries, and reduced allocations to ship-building, factory and Government building and the gas industry.

Asked whether the reduction in the ship-building allocation by about one fifth of the 1947 figure would bring British ship-building down to the figure

more than 14,000,000 lbs. of single cotton yarn a week-seven per cent, more than in the same period in 1946.

They produced nearly 5,000,000 lbs. of doubled cotton yarn a week, a 11 percent, increase over 1946. The output of cotton cloth averaged 37,800,000 liner yards a week, while the output of rayon cloth was 9,400,000 yards a week.

INDIA-CHIEF BUYER FROM U.K.

Speaking in Bombay on Dec. 16th 1947 Mr. G.V. Kitson, Deputy High Commissioner for U.K. in India said that Britain will no more interfere in India's affairs.

He added: "The machinery for consultation and co-operation between the Dominations is so close that it has not been necessary to have any treaty alliance such as is usual between foreign countries. There has always existed between the Dominations a feeling of mutual trust which makes such formal instruments unnecessary."

Mr. Kitson felt that there was one defect in the arrangements for inter-Dominion consultations, namely the absence of any machinery for dealing with disputes between Dominations.

Referring to the future prospects of trade between U.K. and India, he said that in the first three-quarters of last year, India had headed the list of buyers of British textile machinery and other commodities.

"The need in India for industrial equipment is far larger than the U.K. can meet," he added. There had been curtailment in the export to India due to import restrictions imposed by the India Government and Dollar shortage all over the world."

"In the new era," Mr. Kitson said, "we have come to you not as teachers but as guides, philosophers and friends. It is a deal between two partners who have complete trust in each other, and each of whom holds one very high trump card. I refer to that of goodwill".

ROSECTS OF INDO-BRITISH TRADE FACT

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desired by the U.S. State Department, he replied: "I should think the answer is no".

"I have not compared the two figures because we take the view that the U.S. State Department desires us to earn as many dollars as we can, and this is one of the best means of doing it," he added.

A RECORD FOR STEEL INDUSTRY.

"If the 1948 target of 14,000,000 ingot of steel is achieved, it will be a record in the history of the British steel industry." Sir Stafford said. "Yet we shall still be experiencing a severe shortage, and we must do everything we can to exceed even this record target."

Britain's output of steel for 1947 would work out at rather more than 12½ million tons, Sir, Stafford disclosed. The Minister gave no detailed figures for the increase and reductions in allocations but said agricultural machinery manufacturers would get "a substantial increase", engineering and vehicles industries "rather more", and consumer goods "a little above" last year's allotments.

PRODUCTION PRICE MUST BE CUT

Production costs must be slashed and non-productive wage increases checked, if Britain is to hold her place in a declining sellers' market, Sir Stafford Cripps warned the Britishers in early January, 1948. He further warned that export market is hardening.

EXPORT PRICE OF CARS CUT

The Nuffield Organisation, one of Britain's leading motor manufacturing concerns, announced today that substantial reductions had been made in the export price of the majority of Morris, Wolseley and Riley cars, and Morris commercial vehicles. The action follows closely upon Chancellor of the Exchequer's (Sir Stafford Cripps) call competitive price levels. Price cuts have been made possible by greater internal consolidation and a reduction of the profit margin. Mr. F.R. Hanks, Vice-Chairman of the Organisation, said it was impossible to say just what the cuts would be but they would vary according to the situation of the country concerned. The cuts would operate chiefly, he said, in those countries where sales would otherwise be difficult.

BRITAIN FACES DOLLAR DEFICIT

Britain might, "within a matter of months", not have the Dollars to pay for her food and for raw materials essential to her production for export, Lord Balfour of Burleigh, Chairman of Lloyds Bank-one of Britain's "Big five" -warned in his annual statement published on January 23rd, 1948.

Unless the balance of British external trade could be restored, the respite gained by additional Dollars from The U.S. would be merely temporary and "shortlived at that", Lord Balfour said.

He advocated a reduction of direct taxation, especially "pay as you earn," increase of indirect taxation, and cutting public expenditure as methods of promoting a large budget surplus to aid Britain in her "formidable" situation.

The goal to which Britain must direct her efforts, he said, was the most efficient use of the economic resources of Europe and the British Commonwealth taken as a whole.

VALUE OF STERLING

Sir Stafford Cripps, the Chancellor of the Exchequer said in the Commons that the purchasing power of the £ on December 16th 1947 was provisionally estimated at 60 percent of the 1938 value.

The British Government does not propose to alter the rate of Sterling in relation to other currencies as the result of France's decision to devalue the Franc, at its controlled rate and to recognise a free rate.

EMPIRE PREFERENCE

Mr. Bernard Baruch, leading American financier, said on January 19th 1948 that the British Empire should be allowed to retain her system of preferential tariffs intact for another three years.

He couples his suggestion made before the Senate Foreign relations Committee with the proposal that Britain's Sterling debts with other countries be settled promptly and "realistically", as should power countries be settled promptly and realistically", as should pre-war and war-time debts, built up in the United States by other

Bruch, architect of control of atomic energy, and top presidents in gave the Senate Committee a radical scheme for world recovery and American economic stabilisation.

He did not enlarge on the continuation of British Empire preferences, but suggested that European nations band together in economic and political union with the eventual aim of lowering tariffs between themselves, and the outside world.

Each nation in the union should mutually guarantee support of the others in event of aggression, while the United States should give a similar guarantee—"and by guarantee I mean a firm promise to go to war if any of them are attacked" Mr. Baruch added.

BRITAIN SHOULD MAKE MORE USE OF SCIENTIFIC TALENT

SIR Henry Tizard of Britain's war-time Boffins, and now appointed to discover why thousands of British workers produce only half as much as their American counterparts, spoke about the first of his findings.

Already, in an off-record talk, Sir Henry, one of the work's great scientists has told M.P.s, that if British industry would adopt more scientific methods, it could aim at a production target 50 per cent above the present output.

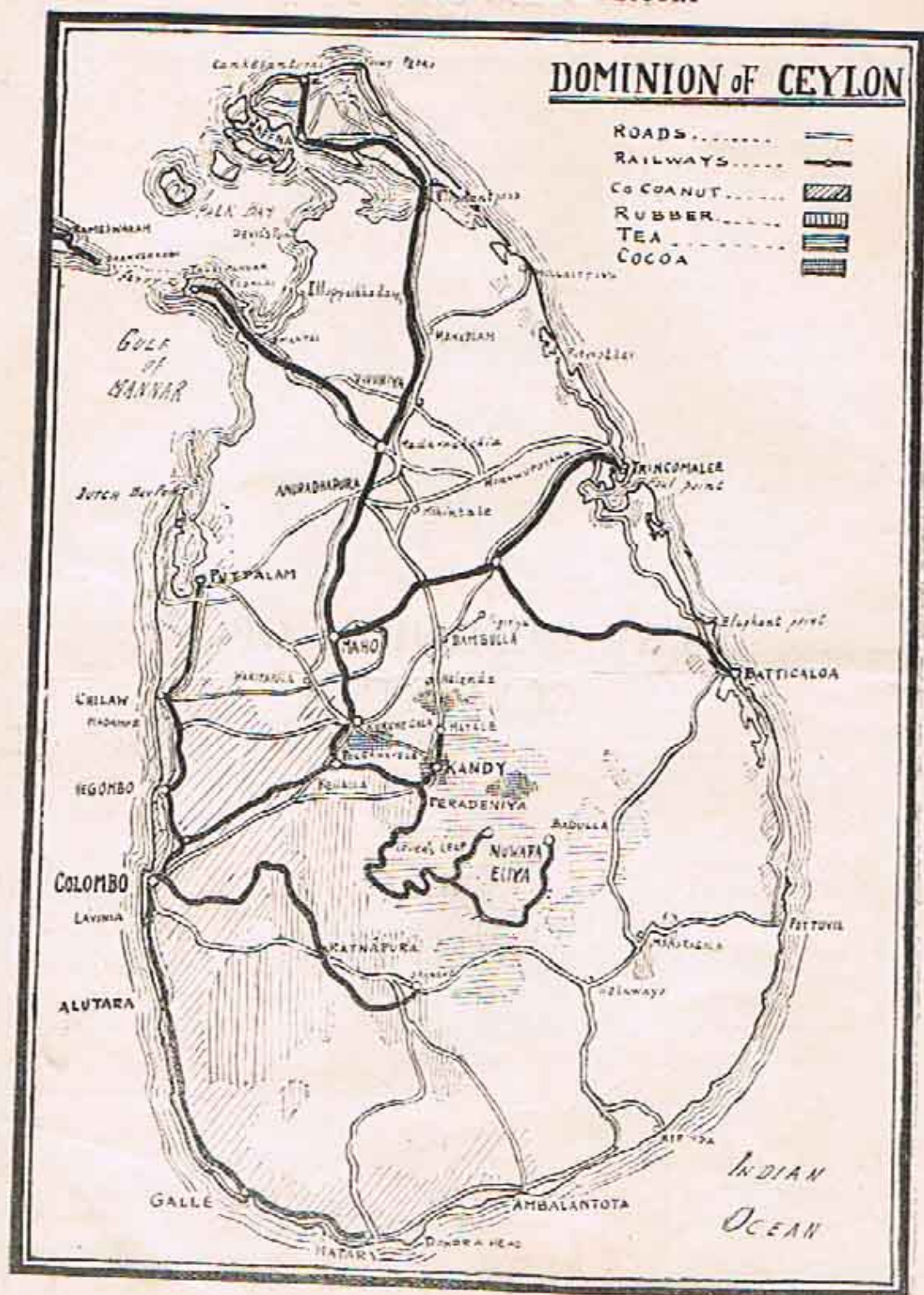
He said: "The general answer why some of our industries lag is because they have not kept up-to-date. In many of our factories and mills, the managements are too conservative.

"Technologically, the Americans have far outstripped us. Their factories are better planned: they are more ready to adopt new scientific ideas, and they make great use of highly trained efficiency experts

“We are short of properly trained efficiency experts, and in any event, many firms would explode if it were suggested that they ought to call one in.

“Generally speaking, we are ahead of the Americans in science, but in the application of the latest scientific knowledge we are say behind.”

COUNTRY PROFILE
OF
OCEANIC COUNTRIES
SRILANKA SECTION



THE DOMINION OF SRILANKA

Ceylon lies in the continent Asia, to the south of India and almost linked to that vast peninsula by a chain of boulders named Adam's Bridge. This beautiful swept Island is separated from India by a narrow sheet of water known as Palk Strait, which has a span of forty at its narrowest point.

The area of Ceylon is 25,332 square miles; it is therefore roughly half the size of England, or a third of France, or almost of the same as Ireland, or of Holland and Belgium put together. In size and population the nearest parallel in India is the State of Mysore.

Ceylon is famed not only for its quality tea, but for lustrous gems and pearls, not to speak of other products like coconut, rubber and cacao.

ARCHAEOLOGY IN CEYLON

Ceylon affords ample food for reflection to a student of an archaeological turn of mind or one who takes special in probing into the dead past. The array of mounds, now less dignified after their so-called restoration, the pillars left of edifices devastated both by the hand of the invader and the ravages of time, stone images-many of them mutilated-all tell their tale in mournful numbers.

Anuradhapura, built in 473., is only miles north-east of Colombo, accessible both by train and motor car and is at present the foremost city of antiquity. When the veil is lifted, one sees imposing piles of dome-shaped buildings called "Dagabas" and around them standing pillars denuded of roofs. Abhayagiri and Jetavanarama are by no means small in size. The Brazen Palace, with no brazen ornaments or even remains of the many rooms which once were wont to house hundreds of priests, is only represented by a number of stone pillars. The Sacred Bo-Tree said to have been planted two thousand years ago, is yet to be seen and around it is people gather in humble supplication.

Mihintale is yet history's place only miles from Anuradhapura. It was on this hill that Mahindra preached the Gospel of Buddha and drew King Tissa and his subjects into the faith in 243 B.C.

If Anuradhapura is interesting, more so is *Polonnaruwa*, which is accessible by rail and motor car. It is now a town in the wilderness, but between 781 and 1000 A.D. mighty scepters held away in that city. Some of these ruins, however, as they are not so ancient as those at Anuradhapura, are preserved *in situ*. Such are the floral altar and other structures. The most fascinating as well as the most appealing archaeological art at Polonnaruwa is the rock-hewn impression of Buddha in "Nirvana", or the passing away stage with his beloved disciple Ananda mournfully watching him.

Sigiriya, a little out-of-the-way hamlet to-day, once afforded shelter on its summit for the parricide King Kasyappa. The rock carving is a marvel, and likewise is the fresco painting which even to this day retains its freshness. The palace with its watch towers and caves afforded no relief to this king of accursed memory, for later he lost his kingdom to his brother who avenged the death of his father.

The rock temple of *Dambulla* with vaults over an image of Buddha stretching forty-seven in length, and with its treasures is not without interest to a sightseer or an archaeologist.

THE ALL INDIA BUSINESS DIRECTORY SCENERY

The scenic beauty of the Island of Ceylon speaks for itself. It testifies to the manifold blessings of nature. To one who leaves the harbor of Colombo, and drives round the fort where modern buildings, business houses and up-to-date shops are to be found, and afterwards journeys through the Pettah into the "Mayfair" of the city which is concentrated in Cinnamon Gardens and ultimately bidding *au revoir* to the modern and artificial beauty of the city, flits away to the interior of the Island, the real charms and attraction of Ceylon are brought home with ever-increasing emphasis. As major Lloyd George, during his recent visit to the Island, aptly summed up its bewitching interest, it is "Fairyland". One sees on a higher elevation the rubber trees which also at the moment are a somber picture set to melancholy music, but a few years back these vibrated with activity in unison with the course of rivers that rush against their rocky impediments or peacefully gurgled over the cabook soil to rest their feathery foam. And away in the background are chains of mountains with their shrubs and trees of emerald green exposing here and there great weird masses of granite rock. When the train or motor car creaks at the penance of climbing at low speed up the circuitous paths on the Kadugannawa incline, then, is visible the panoramic view of the terraced paddy fields hundreds of feet below. The atmosphere changes and a refreshingly cool blowing breeze caresses one's face. Then rises yet another picture. On the canvas are to be seen beautifully trimmed bushes, and their name is brought home by the strong aroma from the factories. The traveler nods assent now to the works of the advertisement: "Drink Ceylon Tea-noted for its flavor". Amidst the tea shrubs are dusky figures, and on a closer on a closer view one recognizes women briskly plucking tea leaf and filling their baskets or the pouches at their waist.

Nor does the scenery restrict itself to the narrowest confines of hills and dales. It stretches to the north on level plains where rise, amidst the haunts of men and beasts of prey, piles of buildings partly preserved and partly wrecked by the hand of time, monuments at Anuradhapura, Polonnaruwa, Sigiriya and other places proclaiming the ancient glories of the past. The scene is laid amidst crowns of spreading trees or in the dense jungles where the chirping of birds, the howling of the jackal, the trumpeting of the elephant, the squealing of the monkey, the croaking of the frogs and the whining of the dogs discourse the strange of nature. The ruined buildings have a charm of their own, especially when, as often they are, silhouetted against the silvery blue canopy of the sky having in the foreground an abundance of tropical greenery supplied by a variety of trees and palms. It was here that Mr. Ramsay Macdonald was lost in rapture during his visit to the Island and drew pen pictures for the London "Sphere". The clear moonlight in the northern parts of the Island, the sunrise and sunset with their colouring-the latter is visible also from the Galle Face, Colombo-reflect among others the natural glories of the Island.

AGRICULTURAL AND MINERAL PRODUCTS

Tea :- "The cup of a thousand virtues", according to Chinese legend, was discovered in China in 3000 B.C. But, according to some authorities, India is to be regarded as the true home of the tea plant. A Chinese legend supports the theory that the plant was taken to China from India by a wandering hermit. In Europe it was known about A.D. 1517 when it was regarded as a luxury to drink a cup of tea-a pound of tea then costing £10! In days gone by it was China that supplied all the tea, now known as "Green Tea", but later black tea from India, Ceylon and the Dutch East Indies came into the field to compete with the green tea.

The tea shrub is not indigenous to Ceylon. It was introduced into the Island in A.D. 1840. For about ten years experiment after experiment was conducted but only with partial success, till in 1870, when the coffee industry was completely paralysed by leaf disease, *the planting of tea was taken in hand in dead earnest, and today it is the staple export product of the Island with 559, 237 acres under its cultivation.*

Rubber :- The history of the voyage of Columbus has a reference to rubber-the rubber used by the inhabitants of Haiti for the purpose of recreation. This is probably the first notice of rubber. Although the product was known about 400 years ago, it became, however, a commercial product of some value only in 1791. But in 1839, after

good year and others found the commercial possibilities of rubber by vulcanisation, it was recognized as a commercial product of great value. Para rubber was introduced in the East by the Government of India in 1876. Heneratgoda Botanical Gardens, which are 17 miles from Colombo (Gampaha being the modern name for Heneratgoda), was the first home in Ceylon of the rubber plant. Here the plants sent from the Botanical Gardens of India were first planted and later distributed for planting from this centre. *The districts where rubber is grown to a great extent are Kulutara, Kandy, Matale, Galle and the Kelani Valley. The acreage under rubber cultivation in Ceylon in about 605, 152 acres.*

Cocoanut :- The coconut palm fringes almost the whole coastline. The coconut tree is acclaimed as the “Universal provider of the East”, as it supplies food, drink, fodder, rope, mats, manure, fences, roofing for huts, firewood, light, oil and so on. According to some botanists the coconut palm is a native of Tropical America and was carried westward across the Pacific Ocean. It is surmised that from Polynesia it reached New Guinea, then Malaya, and from there came to Ceylon. According to other botanists the home was the eastern Archipelago in the proximity of Sumatra and **Java**. In Ceylon it was planted first in Weligama, a town in south Ceylon.

About 1,100,000 acres are under coconut cultivation. Cultivation is confined mainly to elevations below 1,500 feet, a well-distributed rainfall of 50 to 90 inches is required.

Copra is the dried kernel of the coconut is used for the manufacture of oil, which in turn, is used for the making of soap, margarine, etc. The number of nuts required to manufacture a candy (560 lbs) of copra varies from 900 to 1,500 according to the size of the nut.

Desiccated coconut is produced in mills by the following process. The white kernel is washed and inserted into a disintegrator and shredded. When it is dried and cooled it is sifted into fine, medium or coarse and packed in boxes to contain 130 lbs. apiece. About 1,000 nuts are required to produce 330 lbs. to 375 lbs. of desiccated coconut

Alcohol :- The juice extracted by tapping the unopened spathe before the nuts mature is collected in pots. If time is not used in the pots the liquid will be converted into “Toddy”, the local beer. Toddy has an alcoholic strength of 4.8 per cent. By the distillation of toddy the “Arrack” or local spirit is produced, and as in the case of toddy it is sold in taverns. The Excise Department of the Government controls the liquor traffic, including foreign intoxicants.

Coir or Fibre : - The husk of the coconut has stout fibres and these are extracted by machinery or by hand by first immersing the husk in water for softening and then extracting the fibre. The output of fibre is used locally as well as for export of bristle, mattress fibre and coir yarn.

Cacao : - Cacao was first introduced into Ceylon by the Dutch. Commercial cacao is produced from the seeds of the plants, Theobroma Cacao. The Forastero variety was introduced in Ceylon in 1878. It took the place of the old “Red Ceylon” and almost resembles its colour.

There are about 34,000 acres under cacao cultivation. Cacao cannot be successfully grown below 500 feet or above 2,000 feet elevation and should receive a well-regulated rainfall of 60 to 80 inches. The cacao plantations of the Island are located in the Kandy and Matale districts of the Central Province.

Cinnamon :- Cinnamon was the export of the Island when the Portuguese and the Dutch were the masters of the maritime provinces. At present only 26,000 acres are under cinnamon cultivation of which 58 per cent is in the Southern province, mainly in Galle district, and 41 per cent in the Western Province, mainly in the Negombo district. The industry is entirely in the hands of the Ceylonese. The majority of the plantations are small areas of 10 to 25 acres in extent. An acre yields about 120 lbs. quills.

Citronella Oil :- Citronella oil is the product of a coarse grass that thrives best in a moist and hot climate up to an elevation of 2,000 feet. It is a grass propagated by division and cut twice a year. The citronella cultivation takes only eight months; about 33,000 acres are now under cultivation.

The oil is obtained from the leaves by distillation. Forty lbs. of marketable oil is the estimated output of an acre of plantation. The oil is strong in aromatic odour and is an excellent preventive against the bites of mosquitoes and leeches. Citronella oil is used in the manufacture of soap and perfumery.

Cardamoms : - About 6,000 acres are used for cardamom cultivation. Three kinds are cultivated, namely the Indigenous, the Malabar and the Alleppey or Mysore variety. The last named is found to be of more robust growth and therefore preferred for cultivation. In fact, the Ceylon indigenous variety is considered to be a type of the Malabar cardamom. The plant grows in clumps. It is cultivated under the shade of forest trees on an elevation between 2,800 and 4,000 feet, where there is a rainfall of 100 to 150 inches per year.

Tabacco :- About 14,000 acres are under tobacco cultivation, of which over half is in the Northern Province, a quarter in the Central Province (Dumbara District), and the balance mostly in the North-Western Province followed by the Eastern and North-Central Provinces.

Of the two centres of tobacco cultivation, the Northern and Central Provinces, the latter, though it produces lighter tobacco, is, along with the local Jaffna tobacco of the Northern provinces, found unfit for the English market for the manufacture of cigarette and pipe tobacco. The White Burley tobacco now planted in these areas, however supplies the exception.

Areca nut : - 69,000 acres are devoted to areca nut cultivation, but unfortunately most of the areca nut trees are found with other plantations and the only exception to this is in the Kegalle District, where there is some sort of systematic cultivation. Several varieties are grown promiscuously and these thrive well in the damper climates up to an elevation of 2,000 feet. The stem of the tree, owing to its thinness and length, is used for various purposes. The crops are obtainable throughout the year. The fruits, when ripe, are harvested and sold as unhusked and husked nuts. Dried nuts are readily procurable in the market, and these are cut into thin shavings by the areca nut scissors and used as an adjunct for chewing purposes along with betel and lime.

Palmyra :- The valuable palm which the widest planted area (except dates) in the warm climates outside Ceylon is seen in large numbers only in the Northern and Eastern Provinces of Ceylon, where are about 50,000 acres under cultivation. The palm is known as the "Kalpa", meaning tree of life. Mr. Ferguson, who wrote enthusiastically about the palm, points out that including the fruit and leaves it can be utilized for eight hundred purposes. Further, he is of opinion that it supplies one-fourth of the food supply to Jaffna Peninsula. The palm bears fruit after fifteen to thirty years of its plantation, and the long stem is priced high when the tree is a hundred years old, and finally cut down. The wood is used for building purpose and the making of well-sweeps. *At present the only export trade is done with India in regard to the timber, which is priced higher than the Indian palmyra timber owing to its more solid and durable quality. Palmyra fibre is in demand now and then for outside markets.*

Kapok :- Kapok flourishes under a wide range of conditions. It is able to withstand a long period of drought, but if there is a good supply of rain during the growing season it will thrive luxuriantly. The soil that suits the plantation best is sandy loam that is well drained. The parts suitable for the cultivation of the plant are Matale, Kandy, Gampola and adjoining areas.

Papaine :- Papaine is a digestive enzyme prepared from the latex of the papaya fruit. It is a valuable medicinal product; chewing gum and special foods are made out of it. It is also used for various other commercial purposes.

Papaya has been grown successfully in Ceylon on lands under Re-forestation and as a "catch crop" on young rubber plantations.

The Kitul Palm :- In Ceylon Kitul is known as the Jaggery or Wine Palm, in Bombay as the Hill Palm, and in Orissa as the Salopa. It grows abundantly in hilly districts of between 2,000 and 3,000 feet elevation. It takes about twelve to fifteen years for the palm to flower. The palm, however, could be inter planted among other plants.

The kitul can be put to a very great number of uses. Its fibre is preferred to that of other palms for the manufacture of sort brushes. It is interesting to note that from 1893 up to 1897 there was a demand for the fibre; over 2,000 cwt. per year were shipped and the countries that imported were in 1893 the United Kingdom, British India; in 1894 Belgium ; in 1895 Germany; in 1896 Australia; in 1897 France and Holland.

MINERAL OUTPUT

Plumbago :- Graphite or plumbago may be reckoned as the chief mineral product of the Island . It occurs in tiny crystals in some of the granulites and crystalline lime stones. Plumbago is of commercial value when found in pockets of pure graphite unmixed with other minerals. Invariably quartz, mica, pyroxene, apatite, etc., are associated with the graphite. The most frequent country rock is a pyroxene granulite of the charnockite series.

In some parts of the Island graphite occurs almost close to the surface, but the mines that are rich in the mineral go down to a depth varying from 600 ft. to 800 ft. A good number of these large mines are equipped with modern machinery and lit with electricity. The smaller mines, however, are worked according to very primitive methods.

In times past plumbago was one of the chief exports of the island, and during the years 1915, 1916 and 1917 over 15,000 skilled workmen were employed in the industry; but from 1919 a decline set in, and in the following year a good number of the pits were closed down, and the situation was still much the same till the Great World war. It would appear that in view of the big surface deposits of plumbago in Madagascar, and consequently on account of the lower price of the mineral obtained there, it was found difficult for Ceylon plumbago to compete with that of Madagascar during peace time.

The mines of the Island are worked largely by Ceylonese capitalists and those tea estate owners on whose land plumbago is found. It is stated that the larger mines can turn out 100 tons a month and that Ceylon is capable of producing 30,000 tons a year. Plumbago is chiefly used in the manufacture of crucibles, furnace-facing electrodes and stove polish; also for manufacturing lubricants, black paint and lead pencils.

Gems : - Ceylon from times immemorial has been famed for its gems and pearls. The oyster banks that were wont to produce the "luminous pearls" have, of late, been barren. No fishing has been held for quite a large number of years. Nevertheless, the precious stones that are produced in this island still enjoy a world-wide reputation.

TRADE AND COMMERCE

Import : - The imports are classified by the Government thus: (1) food, drink and tobacco, (2) raw materials and articles mainly unmanufactured, (3) articles wholly and mainly manufactured, and (4) animals not meant for food. Under category (1) are listed: grain and flour, feeding for animals, meat, food for living animals, other foods including drinks and narcotics; (2) includes coal, non-metalliferous mining and quarry products and the like, non-ferrous metalliferous ores and scrap; wood and timber, raw cotton and cotton waste, other textile materials, seeds and nuts for oils, fats, resins and gums and skins (undressed), rubber and miscellaneous; (3) includes coke and manufactured fuel, earthenware , glass abrasives, etc., iron and steel and manufactures thereof, cutlery, hardware, implements and instruments, electrical goods and apparatus; machinery, manufactures of wood and timber, cotton yarn and

manufactures, woolen and worsted manufactures, manufactures of mixed materials silks and manufactures of other textile materials, apparel, chemicals, drugs, dyes and colours, oils, fats, resin, manufactured leather and manufactures thereof, paper and cardboard, vehicles (including locomotives, ships and aircraft), articles wholly or mainly manufactures.

The chief exports are tea, copra, coconut oil, desiccated coconut, coconut fibre, coconut poonac, coir yarn, coconut (fresh), rubber, cacao, cinnamon, cinnamon oil (leaf and bark), arecanuts, unmanufactured tobacco, plumbago, citronella oil, skins (dressed and undressed), papain, cardamoms, kapok, gems.

IMPORT TARIFF

The import duties vary according to the nature of the goods and details of these are inserted in the "Customs Tariff". There are preferential and general tariff, which are generally imposed *ad valorem*. It must be said that Colombo is not a free port and hence the duty on manufactured cigarettes, tobacco, and that on foreign liquor during this period varied from Rs. 2 to Rs.7 a pound or gallon according to the country of origin and the nature of manufacture, while in the case of petroleum a duty of sixty-five cents is levied on a gallon. On the whole, the duty charges are not prohibitive except those that come under the category of "luxuries" according to the concept of the local Politian and decision of local administrators.

CEYLON'S FOREIGN TRADE DURING WAR YEARS

"The Ceylon Trade Journal" of January 1946 gives us the following information :-

"At the outset it should be noted that movements in figures denoting values, cannot be taken as representing relative changes in the quantity of goods; rises in the declared values to a greater degree in imports than in exports.

Average value of imports as a whole rose by 5 per cent in 1941 (1934-38 average - 100) and 192 per cent in 1943 and as much as 233 per cent in 1944, but remained only a little higher than this level in 1945. Export prices rose by 32 per cent in 1941 (1934-38 average - 100), by 58 per cent in 1943, 87 per cent in 1944 and 99 per cent in 1945. This general rise in average values must always be borne in mind when comparing the current values with pre-war ones."

General Review :- Ceylon's economy primarily depends upon the export of her raw materials, mainly tea, rubber and coconut products (96 per cent of the total value of all exports) which pay for her normal requirements of food and drink and manufactured goods received from abroad.

Ceylon's principal exports, namely, tea, rubber, copra, coconut, oil, plumbago and cinnamon were bought by the British Government at regulated prices under purchasing schemes, for her own use and for distribution among the other Allied nations.

Unprecedented demands were made upon Ceylon's raw materials especially rubber, exports of which were of critical importance to the war efforts, and the shipping space provided for this purpose was of immense benefit to Ceylon for getting her own requirements of essential supplies. After the fall of Singapore, Ceylon became the arsenal of the East and the headquarters of the South-East Asia Command.

TRENDS IN FOREIGN TRADE

Imports continued to increase in value from the pre-war total of Rs.236 million in 1938 to Rs.287 million in 1941, but dropped to Rs.274 million in 1942 mainly owing to the loss of the Far Eastern sources of supply, following the entry of Japan into the war in December 1941. In 1943, however, the value of imports increased to as much as Rs.423 million, chiefly because of the availability of lend-lease supplies from the U.S.A which partly offset the loss of supplies from the Far East. Imports continued to raise in value thereafter to over Rs.500 million in 1944 and to as much as Rs.592 million in 1945, representing an increase of 251 per cent over the value in

1938. The sharp increase in values in values between 1942 and 1943 was the result of the rapid hardening of import prices, by about 93 per cent, consequent on the sudden dislocations in trade, following Japan's entry into the war. This led to the tightening of controls over imports, their use and consumption and generally the increase in prices was checked somewhat, and the increase in import prices between 1943 and 1944 was only 14 per cent.

From a pre-war value of Rs.264 million in 1938, exports of Ceylon produce show a continuous wartime expansion to a peak of Rs.617 million in 1944, representing an increase of 134 per cent over 1938. But in 1945 the value of exports dropped 4 per cent below 1944, to Rs.591 million. The increase of Rs.113 million or 29 per cent between 1941 and 1942 is significant and was largely due to the unprecedented demands made upon Ceylon's raw materials following the loss of the Far Eastern sources of supply. The increase in export prices (21 per cent) during the period was less pronounced than that in import prices stated earlier, mainly because export prices were stabilized at fixed levels under the purchasing schemes.

Re-exports also increased in value from Rs.20 million in 1938 to Rs.71 million in 1945. This increase was continuous save from the decline of about Rs.5 1/2 million between 1941 and 1942.

As a result of these favourable movements the active balance of trade in merchandise rose from Rs.49 million in 1938 to a peak of Rs.257 million in 1942, but dropped thereafter to Rs.74 million in 1945. It should be noted that the differences in the balance of trade figures are affected to some extent because they are c.i.f. values in the case of imports and f.o.b. values in the case of exports. But it is interesting to note the shifts in the terms of trade which clearly show the marked fall in the price level of Ceylon exports since 1939, partly because of the comparative stability of export prices as contrasted with prices of imports of foodstuffs, clothing and other essentials. A given quality of Ceylon exports, for instance, exchanged for a little over half (54 per cent) of that quantity of imports in 1943.

IMPORT OF SOME PRINCIPAL FOODSTUFFS

There has been a marked contrast in the imports of foodstuffs during the period before and after the spread of the Far East. This was because Ceylon normally on the Hemisphere of her food supplies. The loss of Burma in 1942, which normally sent over two-thirds of Ceylon's rice requirements, mainly resulted in a drop of more than half the quantity of rice received in 1942 as compared with 1941. Rice supplies deteriorated further in 1943 and 1944 when the quantity received was about a fourth only for Ceylon's normal requirements. Rice imports in 1945, were slightly better than those of 1944.

THE CEYLON CUSTOMS TARIFF

The latest Customs Tariff was published in April, 1947. This is for the purpose of guidance only, as changes occur now and then according to notification appearing in the Government Gazette.

Import Duties :- All goods, merchandise, and machinery, not otherwise charged with duty, exempted from duty, prohibited or restricted are subject on first importation to a duty of Rs.15 for every Rs.100 of the value thereof; i.e., 15 per cent *ad valorem*.

The preferential rate of duty are charged on the respective goods, wares and merchandise, provided they are proved to the satisfaction of the Principal Collector of Customs to have been produced or manufactured in, and to have been consigned from, the United Kingdom of Great Britain and Northern Ireland, the Dominions, the territories administered by His Majesty's Government in the Dominions under mandate or otherwise, the British Colonies, the British Protectorates and Protected States, or the mandated Territories of Tanganyika, the Cameroons under British Mandate and Togoland under British Mandate.

THE ALL INDIA BUSINESS DIRECTORY

The "Value" referred to is the true wholesale market value.

Class 1 – Food, Drink and Tobacco :- This includes grain and products of milling and allied industries, feeding stuffs for animals, meat living animals for food, other food and drink, and narcotics.

Preferential Duty – 15 per cent to 25 per cent *ad valorem*.

General Duty – 20 per cent *ad valorem*

(Unit of quantity in cwt., gal., 7 lbs.)

Class II-Raw Materials and Articles mainly unmanufactured :- This includes coal, non-metalliferous, mining and quarry products and the like; metals (ores and scrap); wood and timber, raw cotton and cotton waste; other textile materials; seeds and nuts for oil; oil, fats, resins, gums.

Preferential Duty – 10 per cent to 25 per cent *ad valorem*.

General Duty – 15 per cent to 25 per cent *ad valorem*

(Unit of quantity ----tons, cwt., lbs., sq. ft.)

Class III – Articles Wholly or Mainly Manufactured:- This includes coke and manufactural fuel, non –metaliferous mining or quarry products, iron and steel, non-electrical goods and apparatus; machinery, including component parts. Machinery, manufactures of mixed materials, silks and satin and manufactures thereof, manufactures of wood and timber, cotton and manufactures excluding apparel, woollen and worsted manufactures excluding apparel, manufactures of other texile materials excluding apparel, chemicals including, dyes and paints, oil, fats, resins manufactured leather and manufactures thereof, paper and card-board, vehicle and spare parts and accessories, rubber manufactures; and miscellaneous articles wholly or mainly manufactured.

Preferential Duty - 5 per cent to 30 per cent *ad valorem*.

General Duty – 15 per cent to 40 per cent *ad valorem*.

(Unit of quantity – tons, cwts., doz., yds., gals., coils).

CUSTOMS CHECK-UP

Examination of baggage is made at the port of entry, but passengers entering Ceylon *via* Talaimannar may if they prefer to do so have their baggage or any portion of it placed in the sealed van for examination at the Baggage Office at Colombo or for storage against reshipment. In such cases, a charge of 25 cents per package is made by the Railway for delivery of goods from the railway Station to the Baggage Office. The charge for storing in the Baggage Office is 15 cents per package per diem. If the passengers' stay in Ceylon is likely to be prolonged, it may be cheaper to bond the baggage with one of the local travel agencies. *Bona fide* baggage includes wearing apparel and personal effects, provided that the articles are the property of, and imported for the personal use of the passenger or for the use of members of his family travelling with him. Passengers' baggage shall not include articles imported for sale or on behalf of other persons or for gifts to other persons. *Bona fide* baggage shall not include the following articles, on which duty must be paid in all cases:-

- (a) Arms and Ammunition
- (b) Alcoholic liquor exceeding two quarts and perfumed spirits exceeding one pint.
- (c) Cigars and cigarettes exceeding a total of 50 and 100 respectively, whether on opened boxes, and other tobacco exceeding ½ lb. in weight.
- (d) Pianos, pianolas, harmoniums, gramophones (except portable) and phonographs and records there for, carriages, motor cars, motor cycles and side cars.

- (e) Articles for household use such as furniture, pictures, carpets, glass, crockery, cutlery, cooking utensils, household linen, lamps, house furnishings, curios, foodstuffs, silver and plated ware, except such articles (other than furniture, lamps, house furnishings, curios and carpets) as shall be required for the personal use of the passengers whilst travelling or immediately upon his arrival at his destination.

The following articles under rule(e) shall, if imported for the household use of the passenger coming to Ceylon for the first time or returning after not less than 3 months out of the Island, shall if imported for the use of the passenger's house hold be passed free of duty up to the limit of value shown against each item :-

		Rs. Cts.
Pictures	....	30.00
Glassware and Crockery	...	100.00
Cutlery	...	125.00
Household linen	...	200.00
Cooking utensils	...	50.00

Baggage and Cargo :- There are a good number of Tourist Agents who clear passengers baggage at rates according to the size and number of packages. For ordinary baggages from the ship to the Jetty or *vice versa* cents 50 cents 75 per package are charges according to the size of the trunks or boxes.

Landing and Shipping Cargo :- Sundays-Rs.2.50 per hour subject to a minimum of 2 hours.

Holidays-Same as on Sundays.

On a Saturday , the overtime charges begin at 3 p.m.

*Other days Rs.2.50 for every hour , after 6 p.m.

Transshipments from Ship to Ship - *For directly transshipping cargo from one ship to another at any time, Re. 1 an hour, in addition to the commuted charge during the hours when such commuted charge is payable.

Note :- If the transshipment involves more than 2 ships or if the quantity of cargo to be transshipped exceeds 50 tons, additional Tidewaiters will be employed and extra charge for each Tidewaiter will be made of 25 cents an hour.

For discharging, landing or shipping coal outside the hours of general attendance-50 cents an hour.

For landing petroleum at any time, 50 cents an hour.

*For removal of cargo from the Customs premises after 5p.m on all days.

(a) Frozen produce direct from lighters; cattle, sheep, goats and fumigated plants* - 75 cents an hour.

(b) Each horse – 50 cents.

(c) Each motor car – Rs.2

(d) All other manifested cargo, for each importer taking delivery-Re.1 an hour.

N.B.- *Overtime charges for the Fumigatorium Inspector and Labour are payable to the Port Commission.

GENERAL INFORMATION ON “CONTROLS”

Imports :- The conservation of shipping space and the most economic use of all available material for the successful prosecution of the war were two of the main reasons for the introduction of import and export control in the Island. As a result many emergency departments were set up for this purpose and though most of these departments still exist, there has been a considerable relaxation in both import and

export control. The former is retained now largely on account of exchange considerations and the need to comply with programmes relating to items in short supply, e.g., foodstuffs, fertilizers, etc., while the latter is in force solely to ensure that goods in short supply are not sent out of the Island. The Price Control Department was inaugurated in December 1942 to control both prices and distribution of miscellaneous articles in short supply. Later it was found necessary to decentralize control to deal with the large number of applications received from the public. This scheme of decentralization took effect in November 1944 with the appointment of an Assistant Controller of Prices to each of the nineteen major districts, into which the Island was divided for the purpose of the control. Exchange control was introduced in September 1939 for the main purpose of conserving foreign and of pooling it in a central reserve only to purchase munitions and other necessities of war. The entry of Japan in to war created a very difficult situation in the matter of textiles. Imports of textiles dropped heavily and prices began to soar up. Accordingly the Textile Control Department was set up in 1943. In the subsequent years though the total imports slightly improved, textiles continued to be very much short of the effective demand. The import of rice and sugar is regulated by the Food Supplies Ordinance No.30 of 1947.

IMPORT LICENCES

The Defence (Control of Import) Regulations as amended by the Supplies and Services (Transitional Powers) Order 1946 prohibit the importation of any article into Ceylon except under the authority of a license (General or Individual) issued by the Controller of Imports. Any goods arriving in Ceylon not covered by an Import Licence or by special exemption are exemption are liable to be confiscated.

2. For import control purposes, articles have been divided into 3 categories: A, B and C.
 - i. Category A - Articles the importation of which is prohibited from any country whatsoever.
 - ii. Category B - Articles the importation of which is prohibited if they originate from Canada, Newfoundland or any territory not forming part of the British Empire. The importation of Category B item originating from Empire territories, other than Canada and Newfoundland is regulated by import licence.
 - iii. Category C - Articles the importation of which is permitted subject to import licence, irrespective of the country of origin.
3. Certain articles in categories B and C are included in Open General Licences issued by the Controller of Imports, and may be imported without an individual import licence, if grown, produced or manufactured in certain specified countries.

Reference to the number given in column 4 in the Schedule will indicate the Open General Licence which applies.

The following Open General Licences have been issued:-

- (1) Covers goods grown, produced or manufactured in the Maldives Islands, Burma or India (other than Portuguese India).
- (2) Covers goods grown, produced or manufactured in any country.
- (3) Covers goods grown, produced or manufactured in the Union of South Africa.
- (4) Covers goods grown, produced or manufactured in any territory forming part of the British Empire, except Canada and Newfoundland.
- (5) Covers goods grown, produced or manufactured in Australia.
- (6) Covers goods grown, produced or manufactured in any territory forming part of the British Empire, except British India, Canada and Newfoundland.

- (7) Covers goods grown, produced or manufactured in any territory or place except the United Kingdom.
4. For all goods requiring import licences and not covered by one of these open general licences, an individual import licence is necessary and must be obtained before any order is placed. Goods arriving in Ceylon, not covered by an import licence, are liable to be confiscated.
5. Import licences are usually stamped on indents in quadruplicate. Two copies of the indent are returned to the importer; one to be sent to supplier and the other for production to the Customs on arrival of the goods.
6. All import licences issued prior to the year 1943, and during the years 1943, 1944 and 1945 should now be regarded as cancelled.
7. Under the regulations the Controller is empowered to call for any information, books, accounts or other documents; and any false statement made in reply to such inquiries or in preparing the application form will render the offender liable to the refusal of a licence and to imprisonment and or fine.
8. The following exemptions apply to the goods listed in the categories shown against each exemption:-

Category

- (1) Firearms proved to the satisfaction of the Principal Collector Of Customs to be intended for the use of His Majesty's Naval, Military, and Air Forces in Ceylon, including the Ceylon Defence Force and the Ceylon Naval Volunteer ForceA.B.C.
- (2) Goods consigned to or imported by or for the use of Consular Officers named in any order of the Governor issued under Section 21 of the Customs OrdinanceA.B.C.
- (3) Goods, other than firearms, exempted from payment of import Duties under Section 22 of the Customs OrdinanceA.B.C.
- (4) Goods required to be passed duty free under Section 47 of the Customs Ordinance.A.B.C.
- (5) Goods exempted as passenger's baggage within the meaning of The Customs Regulations.A.B.C.
- (6) Goods imported by visitors, or residents returning to the Island, in such quantities as the Principal Collector of Customs may consider reasonable in the circumstances of each caseA.B.C.
- (7) Goods proved to the satisfaction of the Principal Collector of Customs to be articles re-imported in accordance with the Regulations made by the Principal Collector of Customs under Schedule "A" to the Customs Ordinance.A.B.C.
- (8) Goods imported for any purpose approved by the Principal Collector of Customs other than the purposes of sale or barter In such quantities as the Principal Collector of Customs considers reasonable in the circumstances of each case.
- (9) Goods imported as samples or patterns by commercial travellers or indent agents.B.C.
- (10) Telegraph apparatus imported by Cable and Wireless Ltd., for the maintenance and working of the Cable Station at Colombo.B.C.
- (11) Goods specified in item A-43 imported solely for re-exportation and Under Customs Bond until re-exported. ...A.

*Originating only from British Empire other than Canada and Newfoundland.

CEYLON BECOMES A DOMINION

Following the recommendations of the Solbury Commission, and as per arrangements made already, in early 1948 the British Crown Colony of Ceylon became a new Dominion in the British Commonwealth of Nations. The formal celebration inaugurating the Dominion of Ceylon was held in early February 1948 when Great Britain was represented by the Duke of Gloucester.

Mr. D.S. Senanayake is the Prime Minister of Ceylon.

Today Ceylon is a free nation and she is ably equipped once more to pursue her destiny free from foreign shackles and to re-establish her name on a stable footing quite in consonance with the glorious past which has become her unquestioned heritage.

INDIA-LARGEST SUPPLIER OF GOODS TO CEYLON

A "Memorandum on Trade between India and Ceylon", issued by the Office of the Economic Adviser to the Government of India, points out that India has provided Ceylon with the necessities of life when supplies from other countries have been difficult to obtain due to import and export restrictions. Her goods satisfy the needs of a population with low purchasing power. *"In certain commodities, like cotton piece goods, woollen and silk goods India has an assured market in Ceylon which other countries can scarcely hope to surmount."*

The General economic development of the new Dominion is expected to lead to increasing trade with India.

It is, however, emphasised that Indian manufacturers should study intensively the needs of the Ceylon market. Lack of interest on the part of Indian exporters and no long-range study planning for a potential market may result in severe shrinkage of our exports at a time when competitors are returning to the field to renew their pre-war trade operations.

Ceylon being predominantly an agricultural country, her trade with India is more competitive than complementary. India, therefore, purchases a comparatively smaller share from, than she sells to, Ceylon. The Island, however, has a favourable balance of trade with many other countries, and the opinion is expressed that she could well utilise the same in purchasing a large number of articles from India.

INDIA'S EXPORTS

India's principal items of export during the war were; cotton manufactures, grain, pulses and flour, fish (excluding canned fish), fruits and vegetables, spices, oil-cakes, seeds, coffee, provisions and oilmanstores, animals (living), manures and jute manufactures.

Giving details of the trade in these articles, the Government of India "Memorandum" says that India being one of the principal producers of cheap goods is likely to have a flourishing market in Ceylon despite the latter's efforts to increase local production.

Supplies from India formed a large proportion of the Island's cotton piece-goods imports before the war. The United Kingdom and Japan were also in the field, and supplied mainly grey, dyed, printed and coloured piece-goods. But after the outbreak of war, the share of the U.K. in all categories decreased considerably, while Japan went out of the market. India, therefore, was able to increase her share in practically every variety of cotton piece-goods, and exports reached their peak in 1943-44 when they amounted to 37 million yards valued at Rs. 90 lakhs in 1937-38. In 1943-44 cotton piece-goods alone made up nearly 35 per cent, of the total export trade with Ceylon and ranked even higher than grain and pulses which till then had topped the list. It is felt that India has now established a firm footing in this market, and her cotton piece-goods are improving in quality.

Ceylon requires rice and other foodgrains, even though she is trying to extend her acreage and yield. It is not likely, however, that India will be able to resume her exports of foodgrains on any substantial scale, at any rate for some years to come.

Therefore is scope for India to develop her exports of fruits and vegetables. Since 1941, she has been supplying nearly 90 per cent of the remainder. So far, India has supplied only fresh fruits and vegetables to Ceylon. Due to high railway rates on perishable goods and "faulty marketing organisation of fruits", it has not been possible for the Indian article to compete with imports of preserved fruits from other countries. With increased use of refrigerators for fruit and vegetable preservation, however, India can hope to do better.

There is already a growing demand for Indian films. Indian pictures are popular as they can be appreciated by the masses.

Other articles needed by Ceylon include carry-staff, onions, potatoes, ghee, eggs, fertilisers, coal, sugar, etc. There is an expanding market for Indian coffee if it is properly graded and standardised.

During the war, India purchased goods from Ceylon in quantities greater than ever before. Coconut products formed the bulk of these imports. In 1945 this country received nearly 25 per cent of the Island's total export of this commodity, valued at Rs. 1,62,78,509.

The most important product among them was copra, which accounted for Rs. 96,11,679. Coconut oil and desiccated coconut figured second and third respectively.

The next highest item of India's imports is spices, including arecanuts, cardamoms and cinnamon. During 1939-45, India imported from Ceylon 18 per per cent of her requirements.

India is Ceylon's leading customer in hides and skins. But recently imports have declined due to their absorption in local manufacture. Other articles imported by India are rubber, citronella oil, etc.

CEYLON'S STERLING BALANCES

Sir Oliver Goonetilleke, Ceylon's Minister for Home Affairs left Colombo for Britain on 19th March 1948 to discuss Ceylon's sterling Balances with the British Government. The figures stood at £53,000,000 at the turn of this year. He is also expected to discuss with the British government other matters of mutual interest.

It is also rumoured that Sir Oliver may become Ceylon's first High Commissioner in London.

Textile control to be lifted:- The control on textiles in Ceylon is scheduled to be lifted by the end of March 1948. Price control of textiles will, however, continue.

AUSTRALIAN SECTION

AUSTRALIA

In ancient times men often discussed whether there was a great Southland in which Southlanders dwelt. Aristotelians believed that there was, because they argued that the Southern must be like the Northern hemisphere. Many books were written about alleged discoveries on the east and west coasts of Australia, but with little consequence. It was held that before 1600, some people knew that below New Guinea was a strait, below which there lay a continent. Prehistoric knowledge of the Pacific is not available in any authentic form. The Spaniards and the Portuguese had, in their times, sent roving individuals on expeditions of discovery and hunt for wealth. Then came into the field the English and the Dutch East India Companies. The Dutch East India Company had the Dutch East Indies as their base in their efforts to discover Australia. Their discoveries in Australia were trading centres. The first discoverer of Australia was the captain of the "Duyfhen" who sailed along the coast of what he thought New Guinea from 5th to 13^{3/4}° S. Latitude, that is from the west coast of New Guinea to Cape Londonerry in Western Australia.

The various discoveries made during this period formed an unbroken ring round the coast, from almost the north-east tip of the Gulf of Carpentaria west, south and eastward right up to Spence's Gulf. The impression conveyed by the first explorers was that the "miserable Southland" was savage, barren and waterless. These discoverers had not come into contact with the "better half of Australia." So they thought that this new Southland will be of no use to them.

In the meantime Tasmania was discovered in 1642 by Tasman who landed in Frederick Henry Bay and carved his name on a post. Then he discovered New Zealand, the Tonga and Fiji Islands and then sailed home. Cape Maria Van Deimen at the northern end of Tasman Bay commemorates the name of Tasman's lady-love. For over hundred and thirty years after Tasman's voyage Tasmania and his other discoveries remained in comparative darkness. The route of the English East India Company at the hands of the Dutch in the Moluccas constrained the former to leave Australasia alone provisionally.

The year 1764 saw the rise of a rivalry between the English and the French—a rivalry which was the indirect cause of voyages like those of Cook in 1768-71, 1772-74 and 1776-79. During his last voyage, Cook had been told that the aim of his voyage was "not the acquisition of treasure or the extent of dominion, but the improvement of commerce and the increase of knowledge." He was, it is contended, secretly instructed to take possession of convenient stations in countries he may discover and this was to be effected with the consent of the local inhabitants. Cook did all that the Dutch had left unfinished. He completed the circuit of Australia but for a few gaps like that between Tasmania and Hick's point which was made good by men like Furneaux, Bligh and Bass. Thus the Dutch and the English together had discovered the entire coastline of Australia and New Zealand. Cook also discovered Norfolk and Lord Howe Islands, New Caledonia, the Cook's and Austral Islands. He further rediscovered the New Hebrides and Hawaii Islands. He was killed in Hawaii in 1779.

This was the time when the French, under De Bougainville and others, were vying with the English, and Captain Cook in similar enterprises and with similar results. All together they made the Pacific colourful and frequented.

Settlement in Sydney. The closing years of the eighteenth century saw the growth of their American colonies. These were the years when Captain Cook and others toured the waters of the Pacific and strove to find new places and

new peoples. Frenchmen and others interpreted this as a move on England's part to discover and establish a new Empire in the east so as to retrieve the loss of an empire in America. Englishmen, however, maintained that the expeditions were organised with the motive of securing an ideal settlement for criminals under sentence of transportation-criminals who until the loss of the American Colonies were condemned to transportation to America where they usually worked for four years as pure serfs and then for three years as serfs on a wage-basis when they would become free to do anything but return home.

The passing of an Act in 1787 by the British Parliament constituted the final stage in the establishment of a convict settlement in Australia. A criminal court was constituted with Captain Philip as governor of the New Colony which was bounded on the north by Cape York and by South Cape in Tasmania on the South. The 135th parallel of longitude and the nearby islands on the east comprised the western and eastern limits respectively of the new colony. In May 1787, Philip left England with 212 marines under major Ross, 28 marines wives and 600 males and 185 female convicts. About 700 of the convicts had been awarded a sentence of seven years which was the shortest term then known. The party were equipped with rations for two years.

During the voyage to Australia, Philip discovered that from a little below the Cape of Good Hope right up to Tasmania there runs an ocean current which accelerated the pace of the ship. 6200 miles, that is, from Cape of Good Hope to Sydney, were done in 38 days. Thus Philip discovered the western route to Botany Bay. Later, a second colony was established on Norfolk Island, 1200 miles to the north-east and 500 miles away from New Zealand.

From the time the first colony was founded until 1824, there were roughly three periods in the history of Australia.

Governor Philip was in power from 1788-'92 when the marines comprised the new colony's defence force.

Lt.-Governors Grose and Paterson were in charge from 1792-'95, which which was part of the period representing the struggle for existence.

Governor Hunter resigned from 1795-1800 and Governor King from 1800-'06. From 1791-1810, the New South Wales corps formed the defence force.

The period of Governor Bligh (1806-'08) and Lt.-Governors Johnstone , Foveaux and Paterson (1808-'09) represented years of capitalistic struggle. 1809-1825, when Governors Macquaire and Brisbane were in power saw the struggle for existence succeed. The problem of food induced Philip to start State agriculture and State cattle-rearing. Flax, hemp, grapes and hops were also grown. However private monopolists competed with the state and won the day. One chief cause for the failure of State enterprise was that it had to manage with unwilling convict labour. In course of time ex-convicts who became the earliest bona fide settlers supplied the labour force which was advantageously utilized by the officers of the State who gradually became middleman and traders – a development which caused considerable alarm, which, coupled with the heavy expenditure incurred on convicts proved disappointing to the home Government.

Change of outlook. From 1801 to 1810, conditions in Australia changed for the better and great hopes of colonization were let loose because Sydney became a naval and commercial centre, whales and seals were caught, coal was discovered in New castle at the mouth of the Hunter, timber was exported to England and sandal-wood was found in Fiji. Rivalry from the French which revived in 1802, led to the founding by the English of colonies at Hobart, Port Philip and Launceston. England at this time was finding it difficult to receive wool from the European continent in sufficient quantities in New South Wales in Australia if only he could be lent co-operation from the home Government.

McArthur returned to Australia in 1805 with authority to pick and choose acres 'in perpetuity with the usual reserve of quit rents' and thirty convict Many capitalists took the hint, sailed to Australia, pushed inland and one another in the matter of sheep-rearing and wool production.

Governor Macquaire gave encouragement to the new capitalists, instituted banks and made new routes across the mountains. In 1817-'18 Oxley went on his inland explorations as a consequence of which Port Macquaire was colonized by convicts in 1820. These events resulted in unsettled and temporary pastoral industry as well as nomadism.

Dispersion and extension marked the second epoch in early Australian History. The Swan River Settlement in western Australia, discovery of copper in South Australia and founding of Port Essington were answers to this spirit of extension. In the meanwhile, the French took possession of Tahiti and New Caledonia.

"Australian extension was due not to wars and treaties, like Canadian and Indian extension nor like Australian dispersion, to theories of colonization or to international competition but solely to commerce. Sydney was commercial queen of the Southern Hemisphere, and the commerce of Sydney meant wool."

Soon it became necessary to find men and larger pastures for the sheep that were multiplying quickly. There was a rush to Victoria. The economic crisis that enveloped Tasmania in 1830 and its consequences led to a trek from Tasmania to Victoria.

Gold comes into the scene. By the year 1840, men like McEwen, Strzelecki, Balkefield and Smith had picked up gold quartz pebbles on the banks of the tributaries of the upper Macquarie and speculation was rife that if the Urals and the Altai ranges in Russia could contain gold, then certainly the Australian range, made as it is of similar rock according to the testimony of geological experts, should gold bearing quartz. Finds were, in the meantime, heard of from South Australia well. New South Wales also reported the occurrence of larger gold finds. Bathurst, Ballarat and Bendigo were all in succession infected with the spirit of gold-hunt. During years of the Australia gold-rush, cattle, agriculture and wool exports were not neglected, but actually doubled. By 1853 efforts were made to organize regular gold mining in place of haphazard gold digging. In other words, gold-getting passed from the unsettled to the settled stage. A system of licensing and periodic visits by Gold Commissioners was introduced and this in 1854 prompted a rebellion.

These gold discoveries stimulated spontaneous immigration from England, China and Tasmania. Railways, planned in 1845, first came into operation in 1854-55 in New South Wales and Victoria. Steamers sailed the coast from 1831. In 1846 a monthly England-Australia mail ship was introduced. Gold only stimulated all these enterprises. Next came a period when a steady and voluntary inflow of immigrants was kept up. During this stage, the State seems to have helped the settlers with loans and other facilities to construct railroads and waterworks. Railways were constructed in Eastern and Western Australia. With these enterprises came labour problems and labour laws.

Australia possessed a variety of resources. Pastoral products have been, throughout, forming a chief of Australia exports and they have always, that is, even through the years of the Age of Gold and thereafter, maintained a stable and definite ratio to the total Australian exports. Since 1882, pastoral products included frozen meat wool. Other exports have been gold, coal, silver, copper and other metals. In the meantime, more markets came within the scope of these exports.

In 1859 Queensland was constituted into a separate colony on purely technical grounds. The consequent exploration of Queensland gave rise to the discovery of much mineral wealth, and in 1872 telegraphic connection was given to Queensland. Gold was found in Arltunga, 60 miles east of Alice Springs and in Tarcoola and Wilgena in Queensland.

Discovery of Kimberley. Till 1879, no one had talked of the areas which now constitute the Kimberley Gold Mines, for it was only that year that Mr. A. Forrest predicted the discovery of gold in that locality. This prophecy showed symptoms of materialisation in 1885. Then followed the usual gold-rush and allied developments.

Australian Federation. In 1900, the Australian Commonwealth Act was passed and the Australian Federation was inaugurated on January the first the following year. A close scrutiny of the historical and commercial interests and peculiarities of the

various States in Australia reveals that in fact they were not essentially different States in so far as "Trade, geography, England and the crimson thread of kinship made them one from the first". The first movement towards a federation was set afoot as early as 1847.

Defence, as usual was one chief motive which stimulated the forces for a federation. Next came the flare for Dominion. Australia to become a power in the Pacific, but so did New Zealand as well. However, a common foreign and colonial policy from London avoided conflict and gave rise to the growth of an Imperial Federation and Australia marched towards an inter colonial federation. Into the welter of arguments for and against federation came the maxim 'Australia for Australians' which was forcefully recommended during the years 1893 to 1900. The result was that a referendum was held and federation adopted in 1900.

PRODUCTION AND INDUSTRY

Though Australia has been noted from the past for the pastoral habits of her people, yet it should be noted that she has many other industries as well. Agriculture with wheat, oats, barley, maize, and sugar-cane as the chief products, dairying, forests and fisheries, mining and manufactures from the many occupations of Australians.

The following table gives the figures of the value of Australia production in the years 1942-'43 and 1943-'44.

		1942-'43	1943-'44
Agriculture	...	£ A. 77,093,000	£ A. 78,701,000
Pastoral	...	101,014,00	108,406,000
Dairying, etc.	...	53,291,000	58,100,000
Forests and Fisheries	...	16,070,000	19,876,000
Mining	...	30,767,000	27,159,000
Manufactures	...	352,001,000	366,236,000
Total	...	£ A. 630,236,000	£ A. 658,778,000

PRIMARY PRODUCTION

From 1937-1945

Years.	Wool in million lbs	Wheat in million bushels	Butter in million lbs
1937-'38	1,023	187	430
1939-'40	1,128	210	475
1940-'41	1,142	83	432
1941-'42	1,167	167	375
1942-'43	1,151	156	384
1943-'44	1,169	110	350
1944-'45	1,017	53	319

Agriculture and Livestock:- The total area of land in Australia is estimated at 1,903,732,100 acres, the chief crops and their produce were :-

Crop	Acreage	Produce in Bushels
Wheat	8,463,151	52,879,802
Oats	2,034,480	8,969,697
Barley	613,944	5,029,228
Maize	256,955	6,462,987
Hay	2,408,683	1,993,518 tons
Sugar-cane	325,978	4,598,318 tons.

The following table gives the livestock position in the years 1943, 1944 and 1945.

Description	1943	1944	1945
Sheep	124,615	123,174	105,371
Cattle	14,005	14,184	14,133
Horses	1,518	1,449	1,359
Pigs	1,563	1,747	1,631

In 1944-'45 Australia produced 1,017,398,000 lbs. of wool (in the grease) which was valued at £ A.36,843,000. 319,904,000 lb. of cheese and 121,142,000 lbs. of bacon and ham were also produced in the same year.

Canning Industry :- This has become an important industry in recent years. The following table gives details, the figures representing cases of 24 cans of 30 oz. weight each.

Item	Pre-war	1943-'44	1944-'45
Sweet corn ...	5,000	23,257	103,966
Beans ...	5,000	136,372	292,932
Peas ...	50,000	207,855	357,883
Tomatoes ...	40,000	158,312	165,830
Tomato Juice ...	----	497,107	484,844
Other vegetables ...	----	1,593,175	1,858,083

Mineral Produce :- In the year 1945, Australian gold mines produced 657,000 fine oz. of gold valued at £7,031,000. Silver, lead, copper, tin and coal were also extracted.

In 1944 lead valued at £ 4,414,682 copper valued at £2,602,195. Tin of value £837,929 and coal valued at £12,683,878 were produced. In all £33,178,305 worth of minerals were obtained from the Australian mines in 1944. The output of copper has been considerably stepped up since 1939, while the production of zinc and lead in Australia is the largest in the world but for the United States of America.

Manufactures :- Australia had 28,930 industrial establishments in 1944-'45 and 750,579 workmen were employed in them. That year, the wages paid to these workmen aggregated to £A.207,651,800. The plant and machinery utilized was valued at £A.183,917,000 while the land and building associated with these industries cost £ A. 182,580,000. £A. 496,889,000 worth of materials were used, while the value of the final output of Australian factories during 1944-'45 was evaluated at £A. 886,005,000.

IMPORTS AND EXPORTS

In 1944-'45 Australia import and exports amounted to £ Sterling 188,483,095 and £A. 155,271,489 respectively.

In the same year, India imported from Australia £16,145,338 worth of goods while the movement in the reserve direction amounted to only £A. 15,798,539.

The following table gives the list of imports into Australia from various countries during 1944-45:-

Sterling		£. Sterling			£.
Fish	...	643,689	Sewing silks, cotton, etc	...	771,370
Tea	...	3,691,706	Hides and Skins	...	399,761
Tobacco, cigars, cigarettes	...	3,097,437	Electrical machinery and Appliances...	...	6,446,264
Whisky	...	339,301	Motor cycles, etc	...	278,530
Trimmings and Ornaments...	...	292,126	Machine tools, etc	...	1,444,402
Canvas and 'Duck'	...	1,264,909	Jewellery	...	436,631
Cotton and Linen	...	16,948,893	Glass and glassware	...	355,585
Silk material	...	6,505,335	Plated ware, Cutlery, etc	...	483,187
Woollen material	...	376,824	Paints and Varnishes	...	491,755
Jute	...	1,371,391	Paper, Printing	...	1,916,506
Carpets	...	46,664	Books and other stationary	...	1,958,21
Floorcloths and Linoleums...	...	16,629	Seeds	...	1,857,647
Bags and Sacks	...	5,331,004	Fertilizers	...	1,385,312
Woollen yarns	...	2,985,634			

The following table gives the list of Australian exports to various countries during 1944-'45:-

	£A.		£A.
Wool	... 49,386,611	Barley	... 57,277
Biscuits	... 618,468	Hides and Skins...	6,602,283
Butter	... 8,260,545	Soap	... 277,649
Meat	... 14,107,757	Timber	... 360,180
Milk and Cream	... 1,780,297	Sugar	... 1,853,628
Cheese	... 1,975,333	Jams and Jellies...	692,056
Fruits	... 4,397,747	Wine	... 595,298
Wheat	... 9,752,156	Tobacco	... 532,566
Flour	... 6,731,717	Pearl-shell	... 5,198

COMMUNICATIONS IN AUSTRALIA

Railways :- The State railway open to general traffic in 1945 were distributed between the various States in the order shown below. Gross receipts are also indicated.

	Miles	Gross Receipts
New South Wales	... 6,128	£ 32,377,137
Victoria	... 4,748	£15,258,317
Queensland	... 6,566	£13,809,312
South Australia	... 2,547	£ 5,459,632
West Australia	... 4,381	£ 4,276,250
Tasmania	... 642	£ 900,074
The Commonwealth lines in 1945 were :-		
	Miles	Gross receipts
The Trans-Australian	... 1,108	£ 977,353
The Central-Australian	... 771	£ 934,323
Northern Territory	... 317	£ 500,669
Capital Territory	... 5	£ 11,673
Total mileage	... 27,213	£ ----
Total gross receipts	.... ----	£74,504,740

The Trans-Australian Government line connects Kalgoorlie in West Australia with Port Australia in South Australia. It forms a link, including Kalgoorlie-Fremantle line (387 mile_ between Fremantle and Brisbane in Queensland – a length of 3,372 miles.

The gross earnings of all Government lines in 1944-'45 were £74,544,740, their working expenses £61,134,388. The cost of construction and equipment was £327,275,774. In that, passenger journeys numbered 535,412,182 and 40,781,985 tons of freight were carried.

The Sydney and Melbourne Suburban Systems are electrified.

Tramways :- There are 566 miles of tramways in Australia. In recent years extensive conservation to electric traction have been effected. Governments own 393 miles, Municipalities own 164 miles and the remaining 9 miles are maintained by private companies.

Shipping :- The entrances and clearances of ships plying with overseas cargo, recorded at the various ports in Australia in 1944-'45 were :- 1,059 (corresponding to 4,483,835 tons) and 1,088 (aggregating 4,648,516 tons) respectively.

Sydney, Melbourne, Adelaide, Fremantle and Hobart are the chief harbor-towns.

The Corvettee 'PUNJAB' – the first naval vessel built in Australia for the Royal Indian Navy-was launched in October 1941 at the Sydney Dockyard.

Motor Vehicles:- On June 30th 1945, there were 853, 982 motor vehicles (505,782 cars, 57,239 motor cycles, 290,961 commercial Vehicles) registered in the various States.

The Revenue derived from Motor Vehicle Tax amounted to £6,139,435. Motor omnibus services operate extensively in all major towns.

Post and Telegraphy :- In 1945, Australia had 8,148 Post Officers, while 40,377,253 words were transmitted and received overseas by means of wireless. There were also 6,380 Telephone Exchange with 577,777 lines and 827,862 instruments.

Civil Aviation :- 230 Licensed and 390 recognised landing grounds constituted the ground – compliment of Australian civil aviation in 1944-'45, when 242,914 was the recorded regular mileage flown per week.

Federal capital :- Canberrsa, the federal capital is 202 miles distant from Sydney in New South Wales. The territory for the erection of the federal capital was acquired from New South Wales in 1911. Original area of the acquired land was 911 square miles which in 1917 was increased by 28 square miles secures at jervis Bay for erecting a Naval College. Total net expenditure incurred on the Australian federal capital territory amounted to more than £ 14,800,000. In Canberra are situated the Australian War Memorials, Parliament House, Commonwealth and the nucleus of a University. Canberra is connected by a 5-mile railway line to Queensland and by modern roads to Melbourne and Sydney. In 1945 Canberra recorded a population of 14,925.

Australian Currency :- Silver and Bronze coins of the same content and weight as English coins are minted in Melbourne, and are legal tender in Canberra as well as all the colonies where English gold is accepted as legal tender. The Commonwealth Bank of Australia founded in 1913 has monopoly over the issue of bank notes. In 1942 the total note circulation was £ 48,800,000.00 in Australian notes.

Currency notes of 10 sh., £1, £5, £10, £50 and £100 are in use.

Australia has adopted the same weights and measures as in England

Customs Rules :- Specific as well as *ad valorem* duties constitute the Australian tariff. The British Preferential tariff, the Genertal tariff and the Intermediately tariff are the three main sections. A 10 per cent *ad valorem* duty is levied and above the general tariff rates.

Wireless Stations :- There are 29 medium-wave broadcasting stations in Australia Sydney, Newcastle, Corowa, Brisbane, Rockhampton, Adelaide, Crystal Brook, Perth and Hobart have all wireless stations.

Travel :- Australia affords all that is beautiful and charming to the traveler who wishes to enjoy scenic beauty and to recuperate his health under the auspices of climate, sport and game.

The winters of Queensland, yachting and regatta in the waters of the varied sea-side ports of New South Wales, the picture-houses, parks, bazaars and museums of Sydney, golf in South Australia, bird-watching in West Australia, the Summer and the chances for game in Northern Australia and Tasmania of scenic originality and island panorama – these can never the traveler and the holiday-marker unimpressed.

THE PROVINCES OR STATES OF AUSTRALIA

New South Wales :- This State has an area of 309,433 square and in 1945 had a population of 2,912,791. In 1933 the Church of England had 1,143,493 persons in its fold; the Roman Catholic Church 556,106; Presbyterians 257,522; Methodists 203,042; Baptists 29,981; Independents 20,274; Salvation Army 9,610 And Hebrews 10,305. Climate is equable and healthy. first colonized in 1788, New South Wales joined the federation in 1901. Education is compulsory between the ages of 6 and 15 and is non-sectarian and free in all State Schools.

In 1946, there were 14 trading banks with £279,700,000 deposits.

The railways and tramways of New South Wales are State-controlled. There are 126,058 miles of road. Aviation is subject to the control of the Commonwealth Government.

Industries :- Agriculture is the main occupation of the people. In 1945 land under cultivation amounted to 5,045,000 acres. 17,133,870 bushels of wheat, 182,760 tons of hay, 2,437,317 bushels of maize; 1,755,674 bushels of oats; 1,692,747 bushels of rice; 80,587 tons of potatoes, 3,107 cwt. Of dried tobacco leaf; 200,050 tons of sugar cane; 950,795 cases of bananas and almost all fruits and vegetables were produced, while there were 16,000 acres of vineyards.

Livestock :- New South Wales is ideal country for sheep-rearing. The famous 'Merino' variety was introduced into this State in 1707. In 1944-'45, 448,683,000 lbs. of wool, 76,222,000 lbs. of butter, 4,492,000 lbs. of cheese and 45,131,000 lbs. of bacon and ham were produced.

The estimated value of agriculture output in 1944-'45 was £21,443,000; dairying and farmyard produce £24,862,000; pastoral produce £38,697,000; forests and fisheries yield £7,071,000; mineral output £16,004,000 and manufactures £159,875,00.

New South Wales possesses 11,000,000 acres of forest land.

Minerals :- Gold mines were opened in 1851 came coal, copper, lead, zinc, tin and iron.

In 1945 the total value of minerals extracted other than coke and Portland cement, was £17,467,422. 21,390 miners were employed in 1944.

Factories - In 1944-'45 there were 11,359 factories, and 314,678 workers were employed in them. Their output was valued at £387,659,000. Large iron and steel works with various subsidiary are in operation in Newcastle and Port Kembla in proximity to the coalfields. Iron and steel of diverse grades, pipes, boilers, steel wire and wire netting, copper wire, copper and brass cables and spun cast iron pipes are produced. In 1944-'45 over a million tons each of pig-iron and ingot steel were produced.

Sydney, the State capital stands on the shores of Port Jackson and has large facilities for loading and unloading cargo. Sydney harbor extends 20 miles inland, is famous for scenic beauty and is the finest harbor in the world. Sydney has a population of 1,400,000. The University and other colleges, the National Art Gallery, the museums botanic and zoological gardens, free public libraries, observatory, Cathedrals, Churches, Conservatorium of Music and large public hospitals clustered round the numerous and admirable parks add beauty and glamour to the chief city and port of New South Wales.

The volcanic Lord Howe Island is a dependency of New South Wales.

QUEENSLAND

This State has an area of 670,500 square miles and a population of 1,085,681. Originally a part of New South Wales territory, Queensland has been a separate colony since 1859. Primary education is secular, free and compulsory.

In 1946, the revenue amounted to £ 24,774,406 while the expenditure was £24,756,538.

Production :- Gross value of primary production in 1944-'45 was £69,860,000 (Agriculture £24,228,000; dairying £13,597,000. Pastoral £23,343,000; poultry and bee-keeping £1,781,000; mining £3,540,000; £2,936,000; fisheries £352,000 and manufactures £30,902,00).

Wheat, maize, English and sweet potatoes, cotton, tobacco, oranges, pineapples, grapes, bananas, mangoes, papaws, peaches, plums and many English fruits are produced.

In 1945, there were 6,623,000 cattle, 21,292,000 sheep, 381,000 horses and 438,000 pigs.

There are 17,500 acres of commercial timberland. 706,000 acres are reserved for National Parks.

Minerals :- There are rich deposits of gold, copper, tin, lead, zinc, Silver, lime-stone, iron, wolfram and coal.

Exports :- Meat , wool, butter and sugar form the chief exports. Brisbane, the capital with 393,580 people, stands on Brisbane River which is navigable by large vessels up to the city.

South Australia :- This State has an area of 380,070 square miles and a population of 631,596. Proclaim a British Province in 1836 , the present constitution of South Australia is based on a Law of October 24th, 1856.

Primary, secondary and technical education is given by the State and is secular, free and compulsory.

There are 10 banking institutions in Adelaide, including the commonwealth Bank of Australia and the Stae Bank of South Australia.

Production:- The value of Production in 1944-'45 was crops £13,621,000; pastoral £8,964,000; mines and quarries £3,225,000; dairy £4,440,000; fisheries, game and poultry £3,791,000.

Wheat, barley, oranges, lemons, apples, apricots, peaches, stone fruits, olives, currants, sultanas, raisins and vines are produces. Fruits and wine are sent overseas.

Iron, gypsum, slat, gold, and opals are extracted. In 1943 their total output was estimated at £3,400,000.

In 1945, there were 2,182 factories and 65,472 hands were employed in them. Their output amounted to £65,106,000.

In 1946, there were 3,861 miles of railway, 150 miles of electronic tramways, 52,000 miles of road and several good harbours.

Main exports are breadstuffs, pastoral and dairy products, fruits, wine and minerals.

Adelaide, the capital with 370,000 inhabitants is the chief town.

Victoria :- This State with a population of 2,013,489 and an area of 87,884 square miles has warm summers, rather cold winters and rain all through the year. Victoria was originally known as the Port Philip District of New South Wales, and was constitute a separate Province in 1851. Primary education is free, compulsory and secular between the ages of 6 and 14. Melbourne has a State-aided University with five affiliated Colleges-Trinity, Ormond, Queen's, Newman and the University Women's College.

There are 13 banks including the Commonwealth Bank of Australia.

Production :- Total value of production in 1943-'44 was £209,294,000 (Agriculture £25,027,000; pastoral £29,148,000; dairy £16,998,000; poultry and bee-keeping £7,335,000; trapping £2,864,000; forestry £7,335,000; mining and quarrying £2,180,000; fisheries £409,000; and manufactures £123,231,000.

Wheat, oats and vine are grown.

The production of gold rose from 24,119 oz. in 1930 to 180,567 oz. in 1940 Coal, kaolin, tin, gypsum and bauxite are also produced.

Wool, wheat, flour, butter , livestock, milk, cream, meat and poultry are the main products .

In 1944-'45 there were 9,669 factories. But their output was intended mainly for home consumption. The chief exports are pastoral and agriculture. Victoria imports from overseas, textiles, manufactures fibers, machinery, metal manufactures, tea, timber, petroleum, spirit , paper, stationary, drugs and chemicals.

Melbourne, the capital has wide streets, park lands, public gardens, University, public library, museum and large Churches, Ballarat, Bendigo and Warrannambool are other important towns in Victoria.

Western Australia :- With an area of 975,920 square miles, Western Australia has population of 188,457 Church of England followers, 74,354 Roman Catholics, 44,521 Methodists, and 32,694 Presbyterians. This area was first settled in 1829, Responsible Government was conference on Western Australia in 1890. Education is compulsory and free.

There are 8 Cheque-paying Banks including the Commonwealth Bank.

Production :- Gross value of primary production in 1944-'45 was estimated at £9,794,000 (pastoral £7,692,000; dairy, poultry and bee-keeping £4,236,000; forestry and fisheries £1,741,000; and mining £5,764,000).

In 1945-'46 the wheat grown amounted to 20,500,000 bushels. There were 853,000 cattle, 10,000,000 sheep, 164,000 and 97,000 horses. The wool clip amounted to 81,083,000 lbs. in 1944. There was also about 21,200 acres of orchards.

Forestry :- The finest hardwoods in the world are obtained here. Eucalyptus and Marginate are largely exported.

Minerals :- Coolgardie and the neighbouring gold fields in 1945 produce 468,000 fine oz. Of gold valued at £A. 5,010,540. Magnetic iron, lead, copper, tin, manganese ores and coal, asbestos, bauxite and gypsum are also produced.

In 1945, there were 1,931 industrial houses with 29,146 persons working in them.

Communication :- In 1945, there were 4,381 miles of State railway, 277 miles of private railway and miles of commonwealth lines.

Wheat, wheat flour, timber, hides and skins, beef, mutton and lamb, butter and fresh fruits formed the primary exports in 1944-'45.

Perth, the State capital with a population of 235,000 in 1944 is 12b miles from Fremantle and stands on the bank of the Swan River. King's Park located on a hillock overlooking Perth, possesses unique, natural and scenic beauty.

Fremantle, Kalgoorile, Boulder, Banbury, Albany and Geraldton are other cities on West Australia.

TASMANIA

Lying in the South Pacific to the South of Australia and separate there from by the Bass Straits, Tasmania contains an area of 26,215 square miles including the Furneaux Groups King Island. Tasmania is one of the States of Australia. In 1940 the population was estimated at 239,574.

The surface of Tasmania is hilly and forested. The climate is good and approximates to European conditions.

First settles in 1803 by the English, Tasmania was separated from New South Wales in 1825. In 1901 Tasmania became one of the States of the Australian Federation.

Primary education is compulsory, secular and free.

Apples, potatoes, hay, any other fruits, hops, peas, oats, green forage and wheat constitute the agricultural produce. Over 260,000 cattle, nearly 3,000,000 sheep, 50,000 pigs and 31,000 horses represent Tasmania livestock wealth.

There are 1,562,000 acres of forest lands. Forest waste in ultimate for producing wood-pulp.

Copper, zinc, tin, silver and gold are the minerals produced.

Industries :- Fruit presenting factories, woolen mills, confectioneries, cement and metallurgical factories provide employment to many in Tasmania.

Hydro-electric projects have been executed and Tasmania can rightly claim to have benefited considerably there by.

THE COMMONWEALTH OF AUSTRALIA

Hobart is the capital; Launceston and Devonport are other important towns.

THE NORTHERN TERRITORY

Having an area of 523,620 square miles and a population of about 5,000, the administration of Northern Territory was taken over by the Commonwealth Government in 1911 from the Government of South Australia. The administration head quarters is Darwin in the far north.

Peanuts are produced in abundance, agricultural development having been very slow. Tropical products can be grown. Pastoral industry is the staple industry at present.

Gold, wolfram, tantalite, tin, high-grade mica and other minerals are steadily being worked.

Darwin the capital overlooks Port Darwin. Alice Springs in the MacDonnell Ranges possesses fine climate.

PAPUA

This territory was placed under the administration of the commonwealth Government in 1906 and comprises a part of New Guinea, the Trobriand group of Island, Woodlark, the d'Entrecasteaux group, the Louisiades, the Conflict group and the Laughline group. Papua's total area is 90,540 square miles.

NEW GUINEA

Taken over from the Germans in 1914 and later mandate to Australia by the League of Nations, New Guinea is 93,000 square miles in area.

All tropical products can be grown. Coffee, cocoa, kapok, yarns, bananas and other fruits are grown.

New Guinea has great possibilities in the direction of minerals wealth. Gold mining is already carried on in some parts of New Guinea.

Rabual, the capital was once destroyed by volcanic eruption and it is likely that the administrative centre may be removed to a comparatively safer station.

Norfolk Island is 930 miles from Sydney, and has an area of 8,528 acres.

Naru Island of 8 square area is administered jointly by Great Britain, Australia and New Zealand under a mandate from the League of Nations.

Antarctica :- A part of this area is assigned to the Commonwealth of Australia

State enterprise in Australia :- The controversy, State versus private enterprise, is in the modern age, a live one in all progressive countries, and Australia has not been an exception.

It is noteworthy that the largest industrial enterprise in Australia is the State Electricity Commission in Victoria which commenced its operations in 1933 when there were in that State no fewer than 96 separate power-supply schemes. The State Electricity Commission is now working on a ten-year extension programme. Its huge works unearthing the brown coal deposits at Yallourn in Eastern Victoria, today supply the power that moves most Victoria industry as well as a major element of the State's transport. A part from the brown coal deposits Government in Victoria controls the coal mines at Wonthaggi. This enterprise provides conditions and pay for workers unequalled anywhere else in Australia. It supplies black coal to the Government railways for much less than the cost of coal from the fields of New South Wales.

AUSTRALIAN PROPOSAL AT HAVANA TRADE CONFERENCE

Australia has submitted to an International Trade Organisation Sub-Committee, a proposal on international investments that is generally considered a good working for agreement. The United States, Britain, India, Brazil, Ceylon and Mexico, all favoured the proposal which stipulated that International Trade Organisation members should have the right to ensure that foreign investments were not used as a basis for interference in the international affairs and national policies of members.

The proposal also stated that members should have the right to determine the extent, and terms on which investments should be allowed within their territories.

That members should have the right to prescribe requirements concerning the ownership of investments within their territories, and,

That the interests of members whose citizens had capital for investment and of members' investments would best be promoted by bilateral or multilateral agreements.

A Sub-Committee approve insertion of a provision article 94 which deals with general exceptions.

The proviso which was suggested jointly by India and Pakistan, concerns the situation arising from the partition of India. It allows interim arrangements between the two countries, which could not be bound by charter obligations.

The arrangements would continue until reciprocal commercial relations were estimated.

Indo-Australian Co-operation :- The geographical position of India and Australia made it most necessary for both countries to co-operate to the fullest extent in different fields of activity, said the leader of the Australian Scientists' Delegation, Sir, John Madsen in Calcutta on January 12, 1948.

Speaking at a luncheon given in honour of the delegation by the President of the Indian Chemical Manufacturers' Association, he said that many problems which arose in the development of secondary industries were common to India and Australia. Australia was being very greatly helped in the development of her secondary industries by scientific research.

It was clear that both countries could help each by maintaining the closest possible co-operation.

ATOM BOMB RESEARCH

Reports from Canberra the Federal capital of Australia say that the Australia cabinet decided on 12th January 1948 to set up a Cabinet Sub-Committee to deal with civil defence against atomic bombs. It was also decided to arrange for a group of senior officers with special knowledge to advise the Sub-Committee. This decision, it is revealed was taken following a letter of the confidential received from the British Ministry of Works on the effect of Atomic bombs.

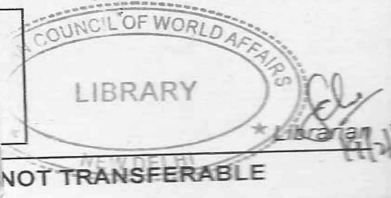
Search for Uranium :- It was also proposed to offer rewards ranging from £1,000 upwards for the discovery of Uranium ore in Australia. Mr. B. Chifley the Australian Prime Minister said that the most important localities for investigation were the beach sands on Australia's east coast (for Thorium) areas of South Australia (for Uranium) and parts of West Australia (for as well as Thorium). A reward of £1,000 would be paid for the discovery of any new uranium ore deposit of economic value. A further £2,000 would be given for discoveries capable of production 25 tons of uranium oxide with 'pro rata' payments for quantities over 25 tons.

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PREFACE TO THE PRESENTATION PAPERS ON SPIRITUALITY OF MUSIC

1. Being a person interested in research activities and in Indian culture, I naturally wanted to know more about the various music experiences, the music of India and its interdisciplinary connections with other arts and sciences of India. When I explored the various books on music I knew that I cannot enjoy music through literature on music. Reading a book on music is like reading about a mango. You cannot taste, chew, digest and assimilate a mango by reading about it. So it is, with music. When I read the compositions of Sage Tyagaraja and when I hear them sung by a talented musician the experiences are different. I eat the mango when I hear the music and taste and assimilate it. I experience music when I hear it through all of my physical, mental, intellectual and spiritual faculties working together to make the music part of myself. Hearing, feeling, acknowledging the Naada, and internalising it through all aspects of my being, the essence of the music is made available to my inner spirit. Reading about music cannot make this happen. That means the paper which I am presenting now, though it speaks of music cannot give you the experience of music. This is so when one writes about spirituality too. One can theorise and give ideas through one's writing. But to get the experience one has to make self efforts. This is common to spirituality and music because essentially both are the same.

2. The cosmos is Naadabrahma. We are Naada, living in a sea of Naada or sound. Music is created when the vibratory waves of this ocean are made visible or audible into material form. Musicians drop in to the ocean, bring us their pearls with which they are consciously or unconsciously in touch. The dreamer creates the dream and moulds the material into form he or she can accept and honour, then pours it forth into the world as music. When musicians become aware of their higher and finer vibrations and the effects of them on the listeners, music becomes a powerful tool for the evolution and transformation of our individual consciousness and for the transformation of the world we live in.

3. Music connects us with the cyclic nature of life. Indian music according to the mystic poet Saint composers describes the contents of eternity as all that exists in the present moment. Their formula for inner peace, for the discovery of heaven on earth, is to live in the now, the eternal present, free of yesterday's regret and tomorrow's fear. Music can bring us to the awareness of this eternal now because it can only be experienced in the now. As we are concentrating on the music, we are in the eternal now.

though we are enjoying an ancient composition from the past. Experimenting with a sequence of sounds, a Pallavi, or a melody or Raaga, you can feel your body, mind, intellect and the whole being interpenetrated by it, permeated by it and immersed in it. We are within the sound waves of the ocean of naadabrahma, swimming in it, floating . in it, not aware of our individuality, not aware of the physical world. Nothing but the sound exist. The duration of the raaga becomes the eternal now for us. The time stands still. The melody gives the mind rest and relaxation and provides space for the heart to open and receive the music. Sitting near the seashore imagine the bottom of the sea, waveless, still, . quiet, peaceful. That inner silence of the turbulent sea is just like that of

your inJi1ersilence while hearing a raaga exposition. You float on the Raaga like Vishnu, you feel the inner depth of the ocean of Raaga, you see the pearls of wisdom in it and you float on it unaware of time space or yourself.

4. Music reflects the evolution of life and is one with the process of change and Growth. Ancient Saint composers were not only prophets I but also orchestrates of the flow of life in the present moment. They had the willingness to and ability to hold past traditions with a light open hand. For alistener, a corresponding surrender of the past is needed to be truly in tune with life's flow and to be one with past and future in the present moment. Only then one can do justice to those ancestors and their music through the help of a musician's music. The music of a culture describes its people, their roots, their desires and their highest strivings. To be able to listen to that music with unconditional ears and mind is a means of moving closer to that people. Away to the heart is through the music. The broader the musical preferences the wider that path becomes. Open the ears willing to surrender the mind and sacrifice your old concepts about what is structurally correct. To hear music as formless, orderly but infinite without boundaries it is necessary to develop communion of Guru and Shishya, (-parent and child, communion between American and Russian, Hindu-Muslim-Christian and Buddist, between musician and listener, and self and self.) We live in a world of no boundaries, in a world of ocean of Naada, as the Indians puts it. But in our day to day life-we create boundaries around us and shut out our fellow beings from it. Music reflects the world most accurately when it is allowed to flow and evolve as life itself evolves. There is no music without movement. Vibrations and motion is inherent in music and in the reflection of culture and consciousness and hence according to the Indian concept music reflects the creative prakrithy in the ocean of Naadabrahma. Arts, especially music, gives us a meaning and purpose are design for our existence and we feel fulfilled. It depict the reality of the present, it may be historical are ethnic, connecting us with our roots, our heritage. It may concern with our future, prophesying what we may expect in our future generations and in the world. Music, dance and literature are mirrors of our reality, reflecting who and where we are, why we are, and what we are.

5. The concept of harmonious music and harmonious universe: are perfectly understood in both western and eastern traditions. Occultists like P.D. Ouspensky and Rudolf Steiner found what they considered striking correlations between the octave with its intervals and the movements of the stars and planets. The pranava is composed of all sound and is the fulfillment and embodiment of all the tones of the cosmos and as all vibrations of light are present in the white light, so we too are all sound and all colours. To recognise and be one with the 'word' or Pranava we have to accept all sounds, all forms and names and all of this universe as the 'one'. And in this the Tantra, Mantra and Vedic scientists and Indian aesthetics (to which music and literature belong) are of the same opinion. It is in the realm of Advaita that they join hands and minds together. The story of western civilization is a continuous effort to subdue nature, building metro cities, tearing down forests, diverting rivers, covering precious soil with concrete. Following this pattern we, Indians are also forgetting our heritage, our source. The native tribes of India, America or any where in the world recognised and honoured their dependence on mother earth and nature. Their lives are partnerships with mother earth and her creatures. To be truly at home on our planet, to feel its nurturance, its consciousness as a living being, and to have a harmonious relationship with her which is essential for our spiritual and physical survival, growth and evolution we have to know the culture and heritage of our forefathers and live accordingly.

6. The music of mother earth is felt, heard and expressed in infinite ways. In the silence of the dark clouds, in the raindrops, in the waterfall, in rivers and oceans. In the seed bursting in the soil, the growth of grass towards the sun, the blooming of flowers, and within our own silence we can perceive the muffled barely audible music. In the cyclical seasons, in day and night, in the sun, moon and stars one can feel the music of the cosmos and the spheres. All the creatures on earth make their own music. The buzzing insects, birds and animals. The life giving, health promoting qualities of the trees and wind and that of bird's music has to be listened to. All these are faithfully reflected in our traditional music as the harmonious blend of notes. Carry on a wordless conversation with nature. Pause and listen for the response. Allow the sounds to flow from your centre to nature, and wait for sounds to stream back to you from nature. Become one with nature, mother earth and cosmos through the medium of sound. A similar exercise is needed to go into the harmony of music rendered by a musician. Do not allow your ego to intervene between the sound and its flow. The ego of knowledge, the ego of fame or any other ego of our personality should be forgotten to merge with the flowing sound and then the transformation you experience is what is called the 'Naadalayayoga of a listener. Playing or listening to music can bring us to our inner reality in an instant. It is as though a golden cord extend from our spiritual essence and the physical world. Music exists in our spiritual self as inaudible Paraa. Pasvanthi and Madhvama and in the

physical world and our physical body as the audible sound Vaikhari 'bound by space time. The experience of our spirituality through audible sound is related to the awareness of this golden card (Suvarnarekha in Sanskrit). One can see the symbol of this in the jyothirlinga at Mookambika temple.

7. Every one has the gift of music. It is intrinsic in our nature. It is within us and outside us all pervading and omniscient in the cosmos. We are all musicians, receivers and performers of vibrations and pulse, motion and silence. But what makes a human being a musician? The special God-given gift are years of study and practice? Determination coupled with enthusiasm for the art of music? Nature or nurture? All of these in fact Musicians are exceptional in the sense that they are willingly and lovingly receiving the gift available to all human beings while we are not. They have taken what is offered by God to the entire humanity, magnified it with their enthusiasm. And constant practice and made it their own. The formula for efficiency in any field of activity is,

Efficiency = enthusiasm X expertise X experience - frustration.

8. This is true of the classical musicians of India too. Years of Saadhana and practice and the expertise derived from it and the enthusiasm to learn more and to perfect their art which is God-given makes one a classical musician. The decision to be a musician, to use music as a primary vehicle for one's journey through this life, is made generally at an early age. Somehow one feels that one has always wanted to be a musician. It would be more natural to and healthier to be unaware of choices, allowing music to flow into one's being freely, without conscious decisions. Musicians are in intimate touch with their being - the physical body which is essential for making music, emotions since there is no music without feeling, the mind which masters the technicalities of the notes, and the instruments, and the spirit, that unbroken tie with the inner being. For some this wholeness is experienced at an unconscious level. Musicians feel most happy and healthy while playing music. As they become aware of the ways in which music is making them whole, they begin to expand that circle of wholeness to include others and ultimately the entire world and cosmos. Music thus becomes a spiritual practice, bringing the divine into every aspect of one's being and consciously expressing that spirit in every musical experience. Then the listeners also feel the same divinity in them and become one with the cosmos. That is how this temple art conveyed spirituality of the highest quality to the listeners from the performer. When both the temple performer and the listener become conscious of the process, they are exalted into a realm of no duality. The heaven which the mystics seek is this experience of nonduality. That is why Tyagaraja, Surdas, Kabir, Meerabai, Aandaal, and Chaitanya attained liberation through music and devotion.

9. This is a book on spirituality of music. I have been working on this theme for more than a decade now. But I started this journey more than four decades back without any awareness of what I am doing, just plunging into the music of the cosmos and of nature and to the divine devotional music of Smt. M.S. Subbulaxmi. When I had the awareness of what is happening to me I wanted to go deep into the subject. Searching the texts, modern and ancient alike, about music and its effects I found that without an interdisciplinary approach one can not understand Indian classical music. Thus, the sciences of astronomy, music, Vedas, Thantra, Manthra and Yoga all came to my help in unravelling the secrets of the most aesthetic of the arts and sciences of India. I am trying to capture the ideas and ideals and the experiences I have recorded in this sojourn. May be this might come useful to the students of some future generations interested to know about their tradition and culture.

10. We are living in a world of diversities. The popular meaning for religion and spirituality has become confused. In Sanskrit the meaning for the word Matham, the equivalent for religion in English language, is 'an opinion'. People can have different opinions. When one says that I - believe so, it is just that person's opinion and he/she is given opportunities to prove it and make one's point clear. This was an ancient practice in India and "it was this practice which gave opportunity to the religious faiths of other continents to grow here. Since every individual is entitled to have a mathamar opinion of his own, we can have as many opinions as there are individuals on this planet earth. As long as individuals are aware of this and allow others to live peacefully, there will be a harmonious existence on earth. The Sanskrit equivalent for the English word spirituality is Aathmeeya (related to Atma the self) and at this level there is only one experience possible. It can not be a relative experience of one individual. It is the absolute experience of the entire humanity. At this level no duality is possible. It is the level of Advaita. The nondual, all pervading, One experience is the spiritual experience. This experience is the basis of tolerance of many opinions(or religions) in India, from time immemorial. The logical aspects of the spirituality of the Indian subcontinent is best depicted in our Prasthanathraya (Upanishad, Gita, Brahmasoothra) and the Advaita philosophy it upholds. The mystical experience part of practical Advaita is seen in the Bhakthy Sampradaaya and in the Yoga Sootra. Music gives the mystical experience related to Bhakthy and Naadalayayoga. Music is spirituality. Without music there is no spiritual experience.

11. I am trying to analyse this ancient tradition of our land with my experiences. The analysis is done with the help of music experiences and with an extensive literature survey and an interdisciplinary approach.

Place : INDIA

Abdul Jaleel. A

Chairman

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ABOUT SPIRITUALITY OF MUSIC

While doing a literature search on the spirituality of music I found a book on this profound subject written by Selina Thielemann. She has a Ph.D. in the Vaishnava temple music traditions of Vraja and her thesis focuses on Indian devotional music and religion. Since 1994 she is based in Vrindavan where she is conducting research and is currently establishing an academic centre for cultural documentation and research. In her book she gives us the spiritual as well as mundane equalities of music, the dialectics of music, how it is an offering and a blessing, and the infinity of music, She establishes the divinity of music and the relation of it to devotion, beauty, harmony, love, creativity and spiritual union. Then she proceeds with how communication, service and realisation 'occur through music. I have a special preference for this book since I too belong to the tradition of Vaishnava Bhakthy Sampradaaya and because the experiences of music which she explains happens to be mine too. Moreover she quotes profusely from Raveendranath Tagore who is my favourite poet. In this chapter I will briefly give some ideas expressed by I Selina Theilmann in her book.

The vital essence of music is bliss and sweetness. The soul of music remain uncapturable, recorded in the musician's heart. Music is spiritual energy. For the Baul singer of Bengal their music is their philosophy. They practice or rather live their religion through music. In their songs they not only teach their experience but also teaches through experience. A musical creation, like any other creation has a play of being and becoming, arises from the union of two creative forces. One which generates the imaginative spark (The God) and the one who receives it (The Human Being) the Paramaathma and the jeevathma. The eternal singer and the eternal listener. Music is more than merely a harmoniously structured arrangement of sounds. It is more than bland entertain merit. It does reach beyond the limits of organised sound. It has all the qualities of cosmic truth. It is cosmic energy of love, bliss- The energy emanating from supreme transcendental truth into all being, all life, all existence. Emanating from the formless source of everything, the nameless root of all names, the soundless essence of all music. The omnipresent force of all movement, the all pervading radiance of light, the inexhaustible flow of sweetness that fills the universe with bliss. Music is not only the expression of that energy but that energy itself. It penetrates the cosmos as an invisible inaudible vibration of bliss. When we hear the audible visualisation of that bliss, the bliss we get is internalised in us. Even when the audible sound ceases, we take this internalised sound and the experience of bliss home within our soul, and get bliss continuously. Therefore it is not temporary pleasure. The Paramaatma chooses the jeevathma for His companion of eternity, and it is music which makes their communion perfect. That is why Indians conceive God as the embodiment of Naada. Krishna

embodied itself etc. are just symbols of this. Through music the soul of the singer communicates her secrets to her lover, the God, renders her service to her master and attains to her Lord ever again in the unending play of love.

eternal creator as the singer of the cosmic music (Paramaathma) and the eternal listener of it (the jeevathma as musician or poet or composer) together is the divine music maker. The Vaishnava and baul traditions have this teaching. When a jeevathma sings in ecstasy and offers his soul as music (given to him as a gift of God) to the God, there is a reversal of places. The God or Paramaathma enjoys the bliss of music of the Bhaktha. He incarnates in human form as a Rasika to enjoy the bliss of the music. In this way every singer and every listener become not merely jeevathmas but the eternal creators and listeners rolled in one in Advaita. All jeevathmas are Radha (the female principle) and God alone is the Purusha (male principle) and the play of their communion in the world (Vrindavan) is the Raasee in Vaishnav tradition and the medium of communion is music and arts. Unless one understands this the spirituality of music cannot be understood properly.

In music the infinite meets the finite, timeless meets the momentary, divine meets the human. It melts all dualities. In the beginning, music to be rendered needs two (Dvaita) the God (the eternal singer) and the Bhaktha (musician the listener). One who sings and one who receives it. The creator and the recipient. They act in unity and harmony and form a single entity (Advaita) and are mutually respondent. Hanuman tells Rama "when I think of me as the physical, I and you appear different. When I think of my mental and intellectual I, I am a part of you. But when I experience the spiritual, I am you." This spiritual experience of oneness with God is the aim of music and it is the perfect state which can be attainable by any musician.

Music at its core is a spiritual experience whose perceptibility remains out of reach of sense organs. It is neither visible touchable, testable, or smelt. Yet it is perceived, by a person who is alert at all times to it. It is heard at all times, since it exists as naadabrahma in the cosmos, everywhere at all times. But it can be heard in different ways. By some it is just heard and forgotten. Then it is a temporary physical external method of entertainment. This type of listening gives only momentary pleasure. But for many, it is an internalised spiritual experience, heard always everywhere, even in the absence of the external audible sound are the presence of the physical body of the singer. It is such people who perceive music and create it like the Vaishnava baul traditional singers. They transcend all physical planes, live in a spiritual plane with eternal music -the Naadabrahma-vishnu incarnate as Saamveda. Similarly a poet addresses her heart

whenever she speaks of her longing to attain spiritual perfection, and she knows that rational explanations can never adequately answer the questions about the origin of her music. It is experience of that supreme reality which cannot be apprehended by science nor perceived by sense organs.

Offering and blessing are the two sides of the same coin. Rabindranath Tagore said

My songs are the same as the spring flowers.

They come from you.

Yet, I bring these to you as my own

If my song flowers are frail

And they fade and drop in the dust,

I shall never grieve.

For, absence is not in your hands

And the fugitive moments that blossom in beauty

Are kept ever fresh in your wreath.

When the Jeevathma offer the songs to God, they are really the blessings offered to him by God. The offering, the blessing, the devotee and the devoted become one. Sound we hear is finite in space time. Music is not. Music springs up as inspiration even before the first note is uttered. It lasts long after the last uttered sound has died away. It is there as the vibration of the universe, as beauty, love and harmony.

Sound, the messenger from the transcendental shore of cosmic ocean, retreats upon having despatched its message to the human realm but the message itself is left behind. The message-music-remains as the permanent truth, while the messenger -sound-fulfils only a temporary role. It is this persistence, its permanence in the heart of people as an emotional factor, which makes music an infinite presence beyond the limits of the musical sound.

The audible sound disappears, become inaudible but it does not cease to exist. Its vibrations continue to penetrate the endless spheres of the universe, losing themselves in the boundlessness of infinity. Likewise music persists through the silence, and only one who knows how to listen to soundless music will be able to truly comprehend the sounding musical reality. Music is heard by ear but listened to and perceived by the head and soul. To a person who hears music with ears and listens to it and perceives it with heart and soul it casts a lasting effect. But for the one who just hears the audible sound such a lasting effect may not occur. Music has been given a dual role in human life from time immemorial. From the point of view of the listener as Sri Aurobindo puts it aptly it is the transcendental listener himself who flashes the spark of inspiration on the musician's mind and causes his accumulated emotional potential to burst out in a downpour of melodies. How does this transcendental music come to the human being? It comes as a blessing of divine grace bestowed upon the human listener to fulfil the longing of his heart voiced in the prayer conveyed by his song. The dialectic process of giving and taking, offering and receiving, singing and listening progresses in a continuous cycle of mutual responsiveness. The musician voices his prayer in the altar of the divine listener as musical offerings. The infinite one receives and accepts the simple string of notes as the sacred garland of love, and for him the humble song offering becomes unbounded grace manifested as the most beautiful cosmic music. The lord of the cosmos offers in return to the human singer, a melody of his own, and thus the offering and blessing get transformed into each other. The listener who is immersed in the music directs the mind at the divine being and weaves silent prayers of his heart into a melodious current that makes its way up to the spheres of the infinite cosmos, that listener, though outwardly passive, is inwardly as actively engaged in the offering as the musician himself. Consequently both the singer and the listener partake in the blessing of the divine.

Rabindranath Tagore said:

The singer alone does not make a song,

There has to be some one who hears

One opens' his throat to sing,

The other sings in his mind.

Only when waves fall on the shore

do they make a harmonious sound

only when the breeze shakes the woods

do we hear a rustling in leaves.

Only from the marriage of two forces

Where there is no love,
Where listeners are dumb,
There never can be song.

The divine musician listens to his own tune through the ears of the human listener, and the divine listener makes the human musician create the melody for his own delight. It is the divine listener through whom the musical creation is inspired in its flow. Only When Krishna listens, the song of Meera and Surdas become divine. Tagore said "at thy silently listening smile my songs would swell in melodies." The divine assumes a two fold manifestation, as the eternal musician and the eternal listener in order to instigate the response in the human soul which is needed to make the love of the divine being complete.

Joanne crandall in her book self transformation through music gives us the picture of a listening body, heart, mind and spirit (the listener) and the communion of such a listener with the eternal singer (God). In a musical experience it is the ego of individuals which becomes the obstacle to get the transcendental experience. There is a story about a zen master. An intellectual went to him to know about zen. The master was pouring tea into the visitor's cup. The tea spilled over the visitor's cup. But the master continued to pour. The intellectual said: "my cup is full. It cannot hold anymore." The zen master said: "Yes. Like your cup your mind is full of your own ideas which appear precious to you. You must first empty that cup and then only you can receive anything from me."

When we go for a performance we go with our mind full of our own ideas and ego so that we criticise and find fault with the. Singers even though they are transcendental and divine ones blessed by the eternal singer/listener. For a profound musical transcendental experience of Naadalayayoga one has to go with an empty mind, totally receptive to what the singer offers. We have to remove our burdens of ego and scholarship and knowledge at the gate just like we remove our slippers when we enter the temple. The temple art of music is a divine experience of Layasamadhi and for it one has to have a receptive mind, not an egocentric scholarly mind which is always seeing the grammar, as Sankara says in his Bhajagovindam poem. Be detached, unbiased, indifferent to results. This is a divine indifference which encompasses, not excludes compassion, tenderness. Only in this way the listener's mind see the nondual-truth, and is energised, nourished and transformed. After attending a musical event which is transformative and transcendental, find a quiet, silent place where we can sit or lie down in silence. With eyes closed, breathing gently recall the performance. Feel the music within you, how it has permeated your entire being, intellectual, emotional and physical. Observe the energy and vitality of your self, the stillness of your

mind, the openness of your heart. Feel the spaciousness, the energy, the love the music has unfolded in you towards the entire cosmos. Acknowledge the divine nature in such music and express your gratitude to God for giving such divine music. This expression of gratitude may be through your own creativity, -poetry, music or art, or may be through your prayers. This makes you a different individual. That is the power of Indian classical music as a divine art. We limit music when we have fixed ideas about music and its grammar since music is essentially a language of the heart, spirit, and self and there no grammar exists. It is beyond the intellect and comprehensible physical world of existence. It is always transcendental and divine and to experience this one has to be transcendental and know the divine spark in oneself. This is essential for both the singer and the listener. Both should be receptive to the divine gift so that they experience God by the art.

VEDIC MUSIC

The most ancient music of India is seen in the Veda. They were vocally recited by the poet singers called the bards (Rishis) and the Gandharvas. The terms for the hymns (gir, vaani, vaac, storna, stotra, uktha etc.) reveal their vocal nature. The verses in the Rikveda served as texts for the melodies or Saamans. The Himkaara and the Vasatkaara also constitute the vedic vocal music.

In the Vedas music is considered to be a power substance with magico-spiritual significance. It has power to bless and curse. All primitive people consider it as the most important of all arts. Egyptians, Sumerians, Chinese, Greeks, Romans, the Biblical people etc. used music at various social, cultural and religious occasions. In India it is an essential part of temple Utsava (festivals), religious observances (Vratha) and sacrifices (!Yagna). The music and musicians were highly praised and the Saamaveda is identical with glory (Yasah), royal power, empire (Samraajyam). The singer (Udgaatha) is equivalent to Prajapathy, dear to Indra. The sun is said to be a Oevagandharva (celestial divine Gandharva) wandering in the three worlds, singing hymns of glory, spreading light and sound everywhere, giving Praana to everything. All sounds, lights and energy on earth originate from this divine Gandharva, his rays and is energy fields. Prajapathy, feeling perfectly happy, sings hymns. Sun and Agni sing and spread their energy, and are perfect. According to Saamaveda whoever thinks himself/herself quite perfect, either sings or delights in singing. (either a singer or a listener and enjoyer of music).

Samaveda, the origin of Indian classical music is said to be born out of manifestation of Sooryanaarayana (Sungod-Vishnu), the Vishnu of the Vedas. Facing to the east Brahma created Gayathri, Rikveda, Trivrt stoma, and Rathantharasaamam. Towards south, Yajurveda, Trishtup, Panchadasastoma, Brihat Saman. Towards west Samaveda, Jagathy, Saptadasastoma, Vairupasamam. To the north Atharva, Ekavimsa, Anushtubh, and Vairajasamam.

Saman is music. Saman is truth. Saman is God, and God created the Goddess Vaach (Saraswathy) according to the Veda. Sama is Vishnu and Udgeetha is equivalent to his Sakthi, Lakshmy. (Saamaswroopi Bhagavan Udgithi KamaJaaJaya). Thrisama, Saamaga, Saamagayana are names of Vishnu in Vishnusahasranama. He is Jyestasaamaga in Mahabharath, and according to Vishnu Puraana all the poems and songs constitute the body of Vishnu who has word as his form. Vishnudharmottara says while worshipping Vishnu vocal, instrumental music and dance has to be employed. Gandharvas and Apsaras

always please Vishnu because they are adept in these arts. According to Yagnavalkya, by singing Saamagaanaattentively, one reaches the highest Brahma. The songs Aparanthaka, U/opya, Madraka, Prakari, Auvika, Sarobindu.

Uttara, Rggatha, Panika, Dakshavihitha, and Brahmageethika are also known as Moksha (liberation) and study of these leads to salvation. Apart from salvation music gives heaven, rains, cattle, food, freedom from diseases and evil spirits. The Vedic importance of music declined during Buddhist times. According to Lalithavisthara, Buddha was an adept in the science of music and could sing well, but he avoided to obtain alms by means of singing and prohibited singing for a livelihood. According to his commandments and also in Jaina commands vocal and instrumental music should, not be heard or practised. In the post Biblical Judaism music was prohibited in the Synagogue. Worldly music was considered by the Church to be the work of devil and therefore it was to be kept away from divine worship. The early Christians banished the elements of joy of singing from their chants. Ecstasy caused by music was prohibited by Buddhist, Christian, Parsi and Muslim traditions (except the sufi).

In India, and in other tribal and ancient civilizations the musical genius was considered on the other hand as the gift of God and it pleased God. This dual position of music as divine and satanic in different cultural settings is interesting.

Naradeeyasiksha says, that Shadja pleases Gods, Rishaba pleases Seers (Rishis) Candhara the Pithrus, Madhyama the Candharvas, Panchama pleases the Gods, Pithrus and Rishis alike, Nishada the Yakshas, and Daivatha the Bhoothas.

Why was music prohibited? It is because of its sensuality, aphrodisiacal quality and attraction of the opposite sex. Gandharvas and Apsaras though divine are all notorious for their passionate behaviour. Mahabharatha says women love good singers, sweet tongued, beautiful, wearing garlands. In the 20th Gaatha of the Lougaakshysoothra sung during the marriage ceremonies Goddess Saraswathy says "I Turn to Gods. We women love singers. Women love singers, not one who recite vedic hymns." Vedas say Devi Saraswathy enter the heart of good singers and make them Rishis because She loves singing. But sensuous women also try to get into their heart and seduce them. Therefore Vedas attribute a Oviswabhaava (two different types of characters) to music and musicians. In India during marriage ceremonies and household functions sensuous music is practised and in temples and sacrifices devotional

The ability to sing and to enjoy music is considered due to Vasanaas of the previous births (Pourvadehikam) and God given. Divine spiritually inclined singers are blessed individuals, selected by God and loved by Goddess Saraswathy. They are respected and praised as pure (Suchi). Whereas, singers who use music for charming and seducing opposite sex were considered of low origin and shunned. Saraswathy lives in the body of the singer and Lakshmy in the sound of musical instruments (Vishnusruthy). Music creates harmony and is useful for social order. Chinese thought music is conducive to good government. Indians also thought that for good governance the king should hear good music in the morning and while going to bed. Pythagoras says that a man instructed in musical tradition right from childhood approves the good, disapproves the bad, does not do any dishonest action, will be always useful to his country and will not injure social harmony either by his actions or by his speech. According to Milton music makes people gentle from rustic hardness and distempered passions. Music can control natural phenomena like water, fire and can even perform miraculous deeds according to Veda. The Arka songs created by the Gouthamas could bring Gods to earth. In Rkveda music carries Gods (Girvaahasa) like Agni and Indra. Stomaas (Keerthans) are carriers of Gods (Vaahishta). The Rkvedic singer hopes. "May It turn you, O Maruths, by means of good songs (Suvrkthibhih) for the benefit of both the worlds."

Music has control over large spheres and special distance can not create difficulty for effectiveness of music. Songs of Vasishtha brought Indra from very great distances. Musical power of attraction can attract all beings including gods from beyond space time and good music reaches divine spheres. Rama (Vishnu) was born not only to kill Ravana but also to hear the sweet music of his devotee Hanuman. People from far and wide reach the Kachery spot when a blessed individual sings. Rkveda says "The Riks or verses desire (Kaamayanthi) him who awakes. The Samans (melodies) approach (Yanthi) him who awakes. Agni is the one who awakes and both Riks and Saman approach Agni."

According to Veda gods enjoy music and are fond of it. Lovers of music are godly or divine beings. Sumerians thought gods were charmed by the sweet tones of citharas and flutes, allowed themselves to be touched by the songs from the earth. Vedic gods are desirous of music and when they hear it they are extremely delighted, and ecstatic and intoxicated by its sweetness. This delight is compared to the ecstasy of drinking Soma. Agni the most powerful Vedic God, always thinks of and loves music. Agni is a Manota (thinker), appreciator, and enjoyer of bright Speech (Vachasa) and music. He is a Vidwan of Saaman (melodious music). The powerful musical hymns increase the strength of the listener (Vardhana). The touch of sweet music is compared to the touch of a loving wife. Agni knows the path of Gandharva order (Rta)

elements, and Gods give inspiration to musicians. No sacrifice can be performed without music. The music give him support (Dhrithi) to sacrifice. It props (Uthambh, Visthamb, Aarabh) the sacrifice'. So Jbharasaaman sung on the fourth day of Dasarathra sacrifice is the splendour of the brhathy Saaman. When Indra hurled thunderbolt by means of Brhat sama, the splendour of Brhat became the Soubharasaman. For the preceding days Brahathy verses, each with 36 syllables are sung. On the fourth day Viraj verses with 30 syllables are sung. Agnim vo Vridantham also is sung on the fourth day. Soubharasaman props up the fourth day. On the 7thday Souparna saman is sung. When Yagna (sacrifice) wandered in the form of a Suparna bird Gods kept it fast (Aaraboudha) with Souparnasamam. (Yagna is Vishnu, Souparna bird is Garuda, Vishnu's carrier). Music protects Yagna. In the firebuilding ceremony, Gaayathry meter addressed to Agni is recited. Music invigorates sacrifice on 7thday of Dasaraathra, Samans for curing of the Qthday Gayathrasaman is sung On the tenth day, the Gayathry is identical with mind and should be sung in the mind only. Gayathri metre has 8 syllables in each foot. In Deekshaneeyeshty of Agnishtoma, the cake for Agni is baked in 8 potsherds (8 syllables/8 divisions of the space time continuum) and Gayathri is Agni's own meter. The sacrificial post should have 8 corners since it like Gayathri is the forepart of the sacrifice. The octagon(Ashtakon), the 8 petalled lotus(Ashtadalapadma) signify the universe, Gayathry, Agni (energy) and the mother goddess. The power of Vishnu (Sreedevi) and Agni (Parasakthy) are together invoked in the Sreesooktha of Rkveda and in it the godess /Agni (Agnir vai Vak-Agni is Vagdevi) is called Soorya, Chandra and Suvarna (the golden one, the ecstasy and food of the Suvarioka, the third Vyahrithy). During creation of gold or Suvarnam also Prajapathy had to take 8 steps. He first created waters, then foam, clay, sand, pebbles, stone, metal ore, an-d as an eighth step gold (Suvamarn). In this process energy flowed 8 times and that is why Agni or energy as Gayathry is 8 syllabled. Occasionally when uttered with Pranava, Gayathry is considered 9 syllables. In Adityeshty (sacrifice to j sungod) cake for Agni is baked in 9 potsheds. The 9 and 8 syllables on a vertical and a horizontal planes make 72 cubes.

1	2	3	4	5	6	7	8
2							
3							
4							
5							
6							
7							

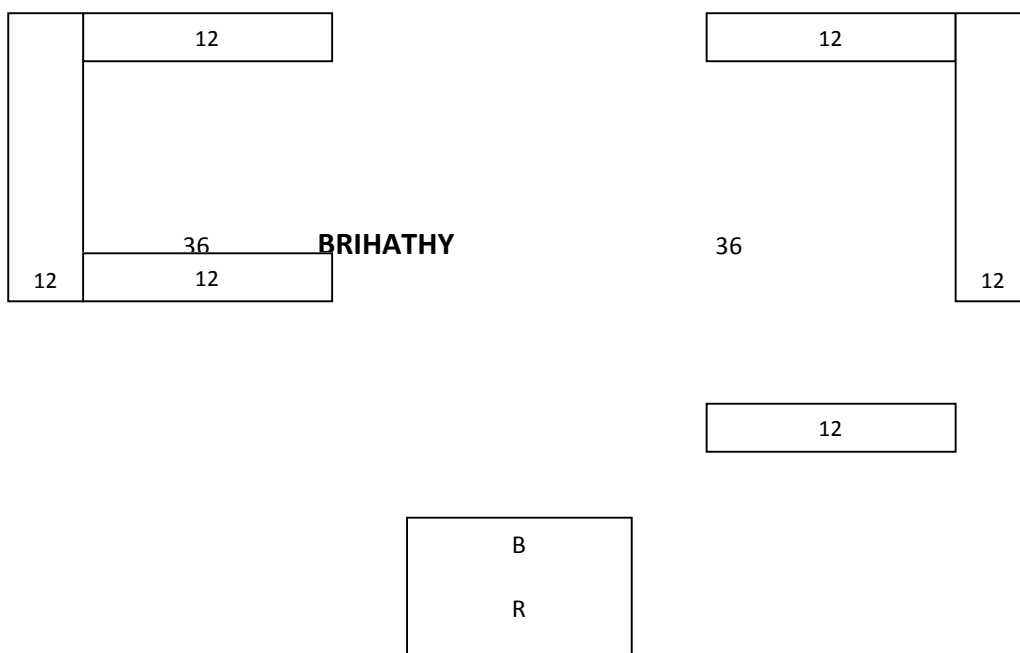
8							
9							

Figure. 1

Brihati meter has 36 syllables (Shadthrimisathy). In fire building ceremony, in the middle layer the Brihathy bricks of 36 are put (12 bricks each on the south, west, north sides). Brihathy is autocratic. To make it democratic 36 more bricks are kept on the opposite side (total 72) and this is Gayathry. So that Brihathy is included within the Gayathry. This is how the 36 Tatwas or Poorvame as becomes 72 along with the Utharame as.

In page 566 of Sangheethakalpadruma is a quote from Bharathamuni. It says, Each Gopi sung a Raaga in front of Krishna. Thus 16000 Raagaas originated (this and the 8 wives or Ashtalakshmy make up the 16008 Raaginis of Krishna: During my (Bharatha's) time the number is reduced to 36.

There are 6 Purusharaagaas (Rithu or seasons) and 6 wives to each, according to same making up the 36. Others hold that the 36 Sakthytatwps are the 36 melas. That is for each Rithu (60 degrees in zodiac) each 10 degree has a Raagini. And later on when the two left and right Jda, Pingala ar Utharayana, Dakshinayana were considered each Raaga became 5 degree and there were 72 Meakarthas.



RATHANTHARAM

A

T

The Dwadasaha sacrifices mystically said to be of 36 days (one is consecrated for 12 days, performs upasad for 12 nights, the next 12 days the person is considered to be born anew purified into the gods Dwija). The 12 day sacrifice is the way of Brihathy. At the first turn of the morning pressing Soma is 8 times(for Devi Gayathry) for the bird which is golden or Suvarna coloured or Suparna with brilliant wings, carrying the Yagna to heaven (Suvarloka). Just like the 8 syllables Gayathry there are 8 Vasus and 8 Lakshmis for the householders who recite the Gayathry. She gives both spiritual and worldly riches.

The meters including Gayathry are clothes of Agni (Chandamsiva agnei vaasah) and are dear to it (esaavaa agneh triyah tanuh yachamdaamsi). Agni is Gayathry(Gayathro vaa agni gayaschandah). Speech or Vak is Gayathri (Vag vani gayathry). That is why Lord Vishnu says among meters 1 am Gayathry. It is one of the manifestations (Vibhoothy) of Vishnu / Krishna.

In Aswamedha 3 verses in Anushtuph are used. 3×8 is 24 or one Gayathry.

24×3 is 72. Or three Gayathry makes 72. It is also 8×9 .

This we will have to see more since it is related to the origin of the Melakartha scheme.

Samvatsaro vai Gayathry. Gayathry is also representing the unit of time(year). In, one year there are 12 fullmoon days, 12 Ashtami, after full moon days, and 12 new moon days which make up 36. Since the sun shines established in this, it is said that the sun shines established in Brihathy(which is within the Gayathry) and Brihathy also is considered as the year. Each metre has a season equivalent to it, Gayathry is

spring, Trishtuph is summer, jagathy is rainy season, Anushtuph is autumn, and , Pamkthy is winter and so on.

The sun decides the six seasons. Each seasons have their own Gandharvas and Apsaras. They sing and dance in praise of the sun in the respective,seasons to increase the light and the potency of the sun and thereby get the divine blessings.

Season	Gandharva	Apsara
Spring	Thumburu, Narada	Krithasthala
Summer	Haha, huhu	Menaka, Salajanga
Rainy season	Suchisena, Ugraratha	Pramloehini, Vimloehni
Autumn	Chithrasena, Vasuruehi	Viswaehi, Ghrithaehi
Winter	Chithrasena, Urnayu	Poorvaehithy, Urvasi
Cold	Dhritarashtra, Suryavarehas	Thilothama, Rambha

The 12 Vasis are the originating points of the 12 Brahmageethikaas sung by the respective Gandharvas . The 7 metres are the seven horses of the sun's chariot. The 7 Swaras. The 7 colours etc are also representing the Vaahanas of the sun. The 8th metre Viraj protects the sun. Sun's movement during the morning protects the Rks. During noon it protects the Yajur and during the evening it protects the Saama. Itis the 3 quarters of the Gayathri, Bhu, Bhuvir and Swar. The Saama ia Swar. The sun is Saamapriya. Gandharvas like Narada sing to please the sun. Which is the energy giver so that life sustains on earth. The Gandharvas are celestial beings or celestial light. They and the Devas eat Suvarannam or the food of the Swarloka which is Swara itself. The Chandogya Upanishad says Swara is Suvarna (Swara eva Suvarna). The Suvar is connected to the Swara and the sun and the heavens and the golden colour. There are 27 Gandharvas apart from the sun according to the Vedas, representing the 27 star clusters each connected to each Raasi and therefore to each seasons. Whereas the Gandharvas are connected with light and sound(Naada and Prakpa)the Apsaras are related to jhala or water and with Gathy or movement and their abode is the ocean. They swim as celestial birds in the ocean. The rain has to be obtained from their abode by the daughter of the' sun called Surya. Gandharvaas get Soma from it (rain) and are increased by it Into the Soma the Ghandharvas put Rasa. It is through the mouths of the Gandharvas that the gods

drink Somarasa. Without Gandharva's gods cannot experience the Rasa of Soma or Sama. They are called Somyas since they drink Soma. The 4 Gandhrvas protecting the Soma are Suvaac, Nabhraat, Anghaary, and Bhambhari. Once the metres carried it away from them. The Gandharvas then changed their names. They through Viswavasuu, (Gandharva) approached Devi Vag, to get it back and she helped them to get it back. The Brahmins who listen to the Gandharvasangheetha reach Brahmaloaka, Kshthriyas reach Jndraloka, Vaisyas reach Maruthloka and Sudras reach Gandharvaloka and become Gandharvas. A person who sprinkles fragrant water on Vishnu becomes happy in the company of Gandharvas for 10000 years according to Vishnudharmotharapuranaam.

According to Rkveda and Atharvaveda there is a story about how the practice of marrying in front of the Agni(Agnisakshy) came about. This is also seen in some Puraanas. According to this a girl when she attains puberty and hairs grow on her body is married to Soma, and when she attains menarche she is given in marriage to a Gandharva, and when breasts become prominent she is married to agni and only after these three gods does a human being become her husband. Therefore, the third husband is giving her over to the fourth, and hence Agni is kept in front as witness to the ceremony. On the first day of marriage to prevent intercourse between husband and wife a symbolic stick (named Viswavasuu) is kept in between the couple on the bed. It is for the Gandharva, the second husband of the girl to witness the intercourse between the couple. During Karvachoudh, while the husband's face is seen on full moon night the first husband of the girl also shares this witnessing power and confers long life to the girl's husband.

Music is the cosmic food(Suvarannam) according to the Vedas. By Swara the food is given to gods and Gandharvas. Swarena vai daivebhyo. Annam vai stoma. The Udgatha causes the sacrifice to enter the sun(Vishnu) by uttering Om. By the next syllable Vac, he gives him to the moon. This is equal to food and Amrithatwa. The importance of 'Swara in music is that it is identical with the sun. Ya aditya swara eva sah. But'Swar means light as well as sound as the sun shines(Swarathy) I'with il. That is, it is the origin of both light and sound. The sun is the Saman. It is the same with everyone as everyone thinks "it faces me". The rising sun is Himkara. The risen sun is Prasthava. The noon sun is , Udgitha, the afternoon sun is Prathihara and setting sun is Nidhaana. Speech' or Vak is identified with the sun. Saa ya saa vaag asan sa Aditya.. The Udgatha while muttering the manthra "obeisance to the gandharva" looks at the sun. Suryo Gandharva. One of the Gandharvas have the name Suryavarchas. In the buddist canon an Apsara "is called Suriyavachasaa.

Fire, Agni, a source of light and sound is kindled by music. Gayathri is the metre of Agni. Agni belongs to Gayathri. Agni is also described as a Gandhrva. In the Vedas Rathantharasamam represents the horizontal lightening, identical with Sreedevi or Agni (see figure 2B). When its Prasthava is sung one has to close the eyes. Otherwise the eyesight will be lost. Being the electrical power, when music is sung one has to shake oneself with the current of music. This helps to grow plants, trees and cattle and riches. The Brihatsaman is the vertical lightening representing Vishnu. If these two (Brihat and Rathanthara) are joined one gets the Brahmi lipi KA which is the earliest form of the Chithrakoota stones of the snakeshrines and the early cross form (fig 2B).

The Vaamadevyasamam has to be sung softly and without hurting as if a shecat takes her young one between teeth without hurting or biting or as the wind blows gently over the water. Rathantharam is earth, Devi and Brihat is Vishnu Deva and the Vamadevyam is the sky. The 24 half-months(horas) of the year and the 24 hours of the day are represented by the 24 verses in the sacrifice, the 24 syllables in the Gayathry since Gayathry is the year itself. Samvathsarovai Gayathri. There are 12 syllabled Prasthavya for Brihatsaman. There are 12 months and 12 Brahmageethikas, and 12 shobhas in music. The Vedic instruction is that the music should come out of the heart, it should be a pure, balanced, pleasant, continuous, firm fresh, correct, appropriate, proportionate, well-measured one full of Rasa. Only then it will have the desired effects on the listeners on the nature and on Gods to whom they are offered.

Suresh Chandra Dey in his book, The quest for music divine, says that music harmonises and opens the way to God. Music, a spiritual art is a yogic science of harmony. Confucius was aware of the dual role of music:-It is needed for a harmonious life in an individual and for harmony and Jityin society. Inspired words, manthras, beautiful poetry, holy music are powerful means or catalytic agents for spiritual awakening. Soundlor {aada produce light. If one vibrates a glass rod at ultrasonic frequency and hold it between finger and thumb, it will burn the skin. Since Naada produce light it should also produce a form. In japayoga, Swami Shivananda says that each Naada produce a form in the invisible world. This is the basis for the shapes given to the various Raagas and Raaginis. The serial electrical vibrations can create shapes. Therefore the form of the Raagas has to be accepted.

Naadabrahma is the power or Sakthi of Kaala(time) the timeforce or Zeitgeist. It is the eternal and innate power. The ultimate reality reached through Naadayoga (Bharthruhari) through Sabdhasamskara by the grammarians. The purification of words is to discard all unchaste words (Apabramsa) and for permanent spiritual advancement. Unless Sudhaswaras and Sudhasruthy are not properly harnessed in

Nadayoga Vagdevi is not pleased. The tongue (Uihwa) should be kept pure by uttering only good and auspicious things. [da, Bharathy, and Saraswathy are the three blazing flames of Agni (Parasakthy) and in Sreesooktha all the three are initiated. The first syllable (Pra) and the last syllable (Gna) of Pragna is kindled by the sound (Nada) when Prana and Agni meet. Nada has the last syllable (Na) or ecstasy of Prana, and the first syllable of Dahana (Agn;) or Brahmathejas. Therefore if one utters Naada properly as said above one creates ecstasy and gets Brahmathejas in oneself and in the listeners. Hence the good musicians were called Suchi (Pure). The colour of Sahasrara where this ecstasy and Brahmathejas combine, as described by Maharishy Aurobindo is blue with a golden light around (Neelaabha Suvarnajyothy) which commands a higher thinking mind, an illumined mind opening upwards, and an intuitive overmind. Sankara calls it Satchinmaya neelimaaroopam. This Yogic vision of Krishna (blue) and Suvarna (golden) together is the ultimate in spirituality. According to Vaishnava mystics nature's suprasensual music eternally praise the divine glory of Radha and Krishna in the celestial immortal Vridavan (Nityavrindavan). According to Confucius the superior man tries to ; promote music as a means to the purification and perfection of human , life and culture. When such music and musiciansexist people's minds are led towards the right ideals and aspirations and we may see the appearance of a great nation, harmonious and peaceful.

MUSIC THERAPY

With music therapy the gap between art and science is bridged in the western world recently as it was formerly done in Epidauros, Greece and in Ancient India. Socrates had said that a society that sank into chaos could save it from doom by having many generations that grow up with harmonical music and establish itself in natural harmony so that it could withstand any exterior chaos. Pythagorus was a physician, mathematician, scientist, musicologist and philosopher who believed that the microcosm of music being associated with creation was the ideal place to gain theatrical and practical knowledge of nature's laws of harmony. Kepler derived his planetary laws from the microcosm of music (refer PeterHuebner) Music strengthens our immune system and activates a normal and natural order in the biological function.

There are some worldwide common facts about music whether it be in India, China, Egypt or Greece.

1. Basically evolved through religion /spirituality, from the quest to know God, to praise God, and to recite religious verses or Bhajans.
2. The art of music evolved through the temples and from the natural folk arts and cultures.
3. Music anywhere in the world basically was performed during festivals and ceremonies.

There are several instances in the world literature where a disease is said to be cured by a divine touch and by divine music. The divine touch of a Christ or Budha or Krishna brings back health and life and is equivalent to the touch of divine music which does the same whether it be from a Tyagaraja or from the harp of a David or the divine lovelorn songs of a Solomon. Krishna's flute and Saraswathy's veena are all powerful instruments to bring about a total transformation in the listeners. The mental calm and ease of tension leads to physical wellbeing since the mind body complex works as a single unit.

Apart from the therapeutic benefits of music which is used by medical institutions the world over the music culture has other benefits on the personality development. Most of our great musical personalities have the benefits of this effect.

If we go to the Farlow music therapy services on the webpage we will find a few goals of music

1. Communication skills.
 - a. Improve expressive language (ability to communicate thoughts and feelings)
 - b. Improve receptive language (ability to understand)
 - c. Improve speech and verbal communication.
 - d. Promote effective use of nonverbal communication.
2. Academic behavioural skills.
 - a. Encourage the ability to imitate
 - b. Improve the ability to comprehend written language.
 - c. Improve ability to count and associate numbers with concepts
 - d. Improves ability to discriminate colours
 - e. Promote reality orientation
 - f. Improve memory skills
 - g. Enhance on-task behaviour
 - h. Improve ability to follow direction
 - i. Increase participation
 - j. Decrease interfering behaviour.
 - k. Promote ability to complete activities of daily living
3. Motor skills
 - a. Maintains improve fine motor functioning
 - b. Maintain and improve gross motor functioning
 - c. Promote identification of body parts
 - d. Improve the reach/grasp/release skills
 - e. Maintain the improve range of motion
 - f. Improve the eye/hand coordination
 - g. Improve the auditory and visual perception
4. Emotional skills
 - a. Increase the verbal/nonverbal expression of feelings
 - b. Improve self esteem
 - c. Improve impulse control
 - d. Increase attention span

- f. Decrease stress and anxiety
- g. Facilitate grieving process
- h. Teach relaxation techniques
- i. Facilitate exploration of spiritual concerns.

5. Social skills

- a. Improve social interaction with others
- b. Improve appropriate eye contact
- c. Improve ability to touch others appropriately
- d. Increase willingness to be touched by others
- e. Increase ability to share materials and equipments with others
- f. Improve the ability to accept constructive criticism from others
- g. Improve ability to make choices and initiate responses
- h. To improve ability to accept praise and give praise to others
- i. To decrease isolation
- j. Improve ability to participate in appropriate play activities
- k. Improve interpersonal skills
- l. To build relationships

6. Leisure skills

- a. Develop skills to participate in appropriate leisure time activities
- b. To develop knowledge of available leisure time activation

7. Other skills

- a. Decrease pain
- b. Teach pain management skills
- c. Promote independence
- d. Facilitate reminiscences and life review.
- e. Develop creativity and sense of identity

Any one who is exposed to good music from childhood develop these skills. That is why the South Indian Tamil families expose their children to a music culture from an early age. I had the good fortune to listen to music from the age of four and I must humbly admit that what all qualities I have acquired in this life might be due to this exposure. Of course the development of the personality traits depend on how

much we pursue and maintain our interest in music throughout life. Only those who have some poorvapunya become involved with music.

What I want to assert from the beginning of this music therapy project is that music is not like a chemical substance or like an allopathic medicine, just to be taken when there is an illness. It is more like a lifestyle to be adopted by anyone who wants to remain healthy and happy throughout life.

The western researchers have done great research on the Mozart effect. When Mozart is prescribed to one group of patients, others are left without any music therapy and a third group with jazz, rock etc. They found that the group exposed to Mozart were benefited most, the group without any music remained indifferent but those given jazz etc. became worse. Other researchers proved that if children are exposed to jazz rock etc. they become violent later on in their life and with emotional disturbances. So parents have to watch out their children's tastes and take pains to expose their children to good music. In India we have a Tyagaraja effect or a Subbalaxmi effect and in modern times a Jesudas effect which can be utilised for the goodness and development of our society .

Music is a culture in itself and it has its rich classical tradition in India which is not much tapped for the therapeutic purposes by the medical fraternity. I propose we take up this challenge and do something to improve the quality of patients and of the society through the medium of music therapy.

By definition music therapy is the systematic use of music within a developing relationship between patient and therapist to restore, maintain, and improve physical, emotional, psychological and neurological functions. It is an established healthcare profession that uses music and music activities both as treatment programmes which address the physical, emotional, social and cognitive challenges faced by children and adults with diverse illnesses and special needs and in wellness programmes which promote the maintenance of good health in the general population. The therapy is a specific intervention designed on emerging knowledge of how music affects the brain function.

MUSIC THERAPY IN SERVICE OF OCCUPATIONAL THERAPY

Patients that have reached their maximum level of functioning and subsequently are no longer served by traditional rehabilitation programmes are helped by music therapy. Music strengthens the muscle groups and increases range of motion through positive music making experiences. It improves the physical functioning by utilising the pleasurable and motivating aspects of rhythm and ensemble playing through the use of

vocal /instrumental music.

This has to be conducted by a music therapist and a physiotherapist, the purpose of the group is to help the participants to provide themselves with musical assisted self range of motions that can be practiced outside the actual physiotherapy sessions and at home. It motivates patients to initiate movements in parts of body that have limited movement, maintain the movement in affected extremities, increase the range of movement, and build up a repertoire of exercises that can be done at home.

The function of music therapist is to provide improvised music that encourages participants to move and to give musical cues to the movements that are initiated. Provide music that can create a nurturing energetic atmosphere. The music should be responsive to the musical identity of the participants. The physiotherapists should instruct and assist the participant in a variety of movements. Music therapy is helpful in increasing the self expression, socialisation and self esteem of patients so that it increases the quality of life.

MUSIC THERAPY IN MOTOR SPEECH DISORDERS

Institute of music and neurological function affiliated to the Beth Abraham family, with grant from Haym Solomon foundation has done a pilot programme in patients with Aphasia and dysarthria. The patients had 20% improvement in Dysarthria. They were unable to carry over speech therapy techniques to their daily activities. But the melodic musical expressions could help them to internalise such speech mechanisms. Patients with non fluent Aphasia (very limited verbal output but reasonable comprehension) were able to retrieve words embedded in songs. Words and phrases are sung to simple melodic themes until carry over is achieved for basic speech. New techniques are being developed to maximise the carry over.

MUSIC PSYCHOLOGY FOR ADULT REHABILITATION

Individual and group sessions are useful to patients with dementia, diabetes, heart ailments, stroke, multiple sclerosis, cancer, depression, coma, Lyme's arthritis etc. The methods are based on guided musical improvisations, compositions, music listening, accompaniment and vocalisation. The music therapy intervention has to be designed depending upon the diagnosis and the needs of the patient. Physical, psychological, and spiritual issues of the patient (which the patient brings to the session) has to be dealt with individually and on the musical preferences.

ROLE OF MUSIC THERAPIST IN HELPING THE PATIENT

Music therapist should help the patient to express themselves through improvised or composed music that focuses on specific patient issues.

They can be encouraged to compose songs /music related to issues experienced by them during the hospital stay. That will help to facilitate the expression of the patient's feelings related to here and now, his disease, his hopes, fears, his soft thoughts. Improvised or recorded music is to be used for relaxation and pain reduction. Music therapist has to facilitate interpersonal and intrapersonal communication through improvised techniques. They have to help the patients in coping with the disease through music. This

In a music therapy group sessions can be audio taped so that patients can hear them in and outside the sessions. Stimulating the memory, facilitating realisation, increasing self expression and socialisation, and self esteem Music therapy groups develop a positive trusting dynamic where patients are encouraged to explore new ways of self expression and to experience greater self acceptance when positive feedback follows. The familiar songs activate patients to move, sing express their opinions more freely about various topics. Music is the facilitator of a process that incorporates established music therapy goals. Group therapy sessions are conducted in Indian music from time immemorial as Bhajans in temples.

Individual therapy sessions should be planned carefully and each patient should be assessed for his musical preferences and musical background. A preliminary questionnaire and later on a few personal sessions with the music therapist has to be there. Only after the assessment of the patient's musical background and preferences the therapist can prescribe raagas for them. Lyric writing and samasya are done to facilitate self expression for patients who are cognitively intact but who have limited verbal ability. By writing Lyrics the individual is able to develop a strong trusting relationship with the therapist and can explore deeper and more meaningful forms of self expression. This is the beginning of a therapeutic process for clients.

In Beth Abraham family of health services there is a special group for younger populations. This' is an open group and any young person can participate in it no matter what their musical skills are. Another music therapy support group for relatives and friends of patients also functions. Having a loved one who is sick and/or hospitalised is a stressful and emotional experience for the caregivers and relatives. In the music therapy group for these people their feelings and experiences are shared and processes in a musical environment. The group provides help to caregivers to feel more in control of the process and facilitates emotional release, self exploration, self expression through music. Techniques of music relaxation and stress reduction are taught in a nurturing and confidential environment. Both the patient and the caregiver are invited together to participate in the session. This will enhance communication between caregiver and the patient. Music functions as bridge between patients, caregivers (relatives, doctors, nurses etc). The caregivers are to be given assistance to select the best musical tapes (Raagas) for their patients. This is the responsibility of the music therapist who prescribes the Raaga for the patient depending upon the disease, organ affected and j the musical preferences and background.

IMPORTANCE OF BRAIN RESEARC.HAND MUSIC

Music is the most aesthetic art of the world for centuries. But study of its therapeutic effects gained intensity in the last half of the twentieth century in the western world. Interest in the healing powers of music has accelerated in response to the growing scientific study of cognition, perceptual neurophysiology, neurophysiology, brain development and function, audio engineering and psychoacoustics. The development of

music therapy as a discrete clinical discipline has also been a key factor. For the last forty years research was focused on music perception and 'performance. Today basic science continue to yield promising new information about neuro scientific effects of music. Practising music therapists are reporting significant results. Scientists and academicians at over 18 universities and clinical sites in the U.S. and Canada are currently involved in music and brain functions research. These investigators and leading clinicians maintain that if specific responses to music can be mapped and linked to what is needed by patients to accelerate their healing we will find new ways to apply music prescriptively to hasten recovery. Such research has enormous possibilities for millions of impaired people throughout the world.

Brain functions of the experience of music were assessed using imaging equipments like MRI, MEG, SQUIDS, PET, EEG, Emotional responses to music are studied with psychological tests and physiological measures, blood pressure, hormone levels, skin responses, respiratory rate, electromyograms. Cognitive and behaviour scales were also used. Both qualitative and quantitative methodologies have been used. The question whether there is a separate music centre in brain is explored. Processing of musical information is very complex. Music affects our neurological, physiological, physical functioning in areas as learning, language processing, emotional expressions, memory, physiological and motor responses.

The left brain is the seat for the general musical ability, perception . and production of speech, perception and rhythm of parasody, lyric performance during singing, temporal sequences of reading ability.

The right brain processes the musical pitch, control sound intensity and voice modulation, identify musical chords, and the melody perceptions even in non musical persons. Actual singing, visual pattern recognitions, auditory pattern recognitions expressive rhythmic and melodic behaviour are also taking place in the right brain centres.

The new research is on the overlapping areas of music and language processing, how the rhythms positively influence the brain activity during learning. After a rhythm response is stopped, brain activity occurs in anticipation. Music based communication is possible even when language processing is missing. Low frequency vibrations and psychoacoustic techniques have clearly shown to have some positive neuromuscular effect in managing spasticity. Research using psychoacoustic technique is ongoing. The future of music-brain research is bright: Additional study is needed to specify the effects of each of the component of music (rhythm) on specific areas of brain activity, to specify areas of brain activity during emotional response to music, to analyse the structural similarities between music and language, to study the neuromuscular effect of low frequency vibration and music and to study the effects of music on retrieval of short and long term memory.

The effect of music on stroke rehabilitation, effect of low frequency sound on spasticity and pain management, music therapy in enhancement of motor functions etc. have been established. We know that once there is degeneration of nerve the regeneration is not possible. Music has been used for recovery of nerve injury in neurodegenerative diseases. The possibility of music promoting the activation of exciting neural connections, establishing alternate nerve pathways that can be used to re-establish behaviour and/or facilitating reorganisations of structure and function of mature brain cells has been suggested. The effect of music on recovery of movement especially the recovery of walking and dancing are being examined.

In the Ireland cancer centre, since 1985 Deforia Lane (music therapist) has helped 20000 adults and children new ways to deal with physical and emotional problems of carcinoma diagnosis and treatment.

MUSIC AS SCIENCE

Music decreases the BMR (Basal metabolic rate) respiratory rate, decreases blood pressure, reduce anxiety and tension and depression, reduce pain by increasing the endorphin secretion, increase the production of hormones that increase the speed of healing and decrease the danger of infection.

MUSIC AS AN ART

Provides a creative outlet for emotional concerns of hospitalised patients, encourages and enhances relationships with other people and family members, reduces the sense of isolation experienced by cancer patients, lessens stress and encourages relaxation.

Patients can refer themselves to the therapist or referrals can be made by doctors/nurses/socialworkers. On designated days the therapist see the outpatients and inpatients. A typical therapy session extends for 15 to 60 mts a maximum of 2 hours. The session starts with a brief assessment and discussion with the patient, get an understanding of patient's musical preferences, musical background and receptivity. This should be a very informal assessment, though a questionnaire may be used as a preliminary. The therapist patient informal interaction is the most integral part of the session. It is based on this the entire therapy is started. Get an opinion of the treating physician about which are the organs affected. This is to select the Raagas for the specific organs related to the 6 Chakras (Shadchakras). If possible get the date of birth and asterism so that we can use the specific Raags originating from that part of the zodiac.

The intervention ranges from singing, playing rhythmic instruments, listening to recorded live music, songs sung by the therapeutics and the patient together, engaging in relaxation exercises with background music, compose original songs, and doing Yoga or physical exercise with appropriate BGM provided by the therapist. The family members and caretakers can join and share a meaningful and enjoyable time during therapy. Group music therapy with Bhajans and march songs has been proved to give peace and boost morale of the participants respectively. Any type of classical music and melodies have a healing effect on the temporal lobe/limbic system.

MOZART EFFECT

Don Campbell, the founder of the institute of music, health and education lists benefits of using your voice to enhance mood and memory.

All forms of vocal music-singing, chanting, humming, reciting, even simple talk can be therapeutic. Nothing rivals toning according to him. Toning is a word that goes back to 14th century. It means making sounds with elongated vowels for extended periods of time. If you tone regularly for 5 minutes a day you become relaxed, fearless free from pain and emotion. DO it before a test, if there is tinnitus or headache

imparts general sense of wellbeing. According to Campbell certain sounds have certain effects on body and emotions.

AHHH immediately evoke a relaxation response.

EE..YY Most stimulating of vowel sounds, helps with concentration, release pain and anger.

OH..OM The richest of sounds. It calms down the mind and body, relaxes the muscle tension, warm the skin temperature. (This is the Pranava of Indians which is being chanted by Rishis and Yogis for thousands and thousands of years) Try toning with OM starting with 5 minutes per day tone 2 'weeks and then gradually increasing the time. See the effect yourself. If this is done in the Brahmanuhoortha, with the background of a Thambura the effect will be more.

Humming gives a positive difference in mood and memory. Mozart hummed as he composed. Children hum when they are happy. Adults also do the same and humming raise or lift their spirits and tunes their minds. Consciously focus on humming during the day. The sound activate your brain, you will feel more active, brain will feel more tuned into the moment.

Listening to classical music and melodies activate and stimulate the temporal lobe and bring peace and ecstasy to us. This gives more concentration and efficiency to a normal person's brain, relaxation and ease of tension to a diseased person's brain.

Research in the University of California at Irvine (UC) showed that Mozart's sonata increased visual spatial learning skills. Complex music facilitate complex neuronal patterns involved in high brain activities like Maths and simple music has an opposite effect according to Gordon Shaw, one of the researchers. Mozart strengthens the creative art brain processing center associated with spatial reasoning. Listening to music acts as an exercise for facilitating symmetry operations associated with higher brain functions. Don Campbell gives a nice summary of this in Mozart effect. Temporal lobe process memory and music. Certain types of music activate them, help them learn, process and remember information more efficiently certain types of music open new pathways into mind.

From my own experience I can say that classical music (South Indian) ,and melodious light music (including film songs) can have this effect on 'our brain. I used to hear to melodies and classical music from a very tender age and though I didn't know its effects I had all the positive ,effects the researchers of the western world mention. Possibly we can call it the Tyagaraja effect or more precisely Suseelal Subbalaxmil Jesudas, effect. We are yet to proceed in this direction.

At the same time the new western research has pointed out that heavy metal music, lyrics of hate and despair, western music other than western classical are destructive to the brain cells. What your children hear or listen to may hurt them permanently. Therefore teach them to love 'classical music while they are young is the advice of the western scientists. Dr.Thomas Verney in his book the secret life of the unborn child says that foetuses prefer Mozart and Vivaidi. The foetal heart rate become steadied, kicking lessened. Rock music drove foetuses to distraction and they kicked violently and showed their displeasure. Classical music is the most beautiful, smoothening, stimulating effect with positive effects on the brain. Learning music at any age will activate the temporal lobe neurons, process and produce rhythms and rhythms are important in healing and health. The chanting can focus one's concentration and open the mind. A special trancelike quality is experienced. The peace and tranquillity positively open up the mind to new experiences and learning according to these researchers and I can say that I had these benefits from constant hearing of music. Rosalie Rebollo Pratt and her colleagues prescribed Mozart 3 times a week for brainwave biofeedback sessions. They found that Mozart reduced the theta wave activity, better focus on mood and mind control, diminished impulsivity and improved social skill.

In our culture the effect of the lyrics of the trinity, the effect of the voice of divi ne singers like Subbalaxmi or Jesudas can be having the same effect. I think the effect of Tyagaraja's lyrics sung by the melodious soft voice of Jesudas can be studied as a research project.

Music experiences and skills are unique and universal in all human . societies, even in animals, whales, birds etc. Human music like human language is complex, governed by rules, acquired in developmental stages with all individuals acquiring the basic musical appreciation and some going on to develop remarkably high skills. Music is a consequence of biological evolution and is associated with specific brain architecture. Discrete brain systems and computations active for particular music experiences and skills and these systems are distributed through the left and right cerebral cortex, subcortex, and cerebellum. There are changes in brain organisation and functions that result from acquisition of a high musical skill.

The rhythmic sounds act as sensory timers to brain and that is the basis for music therapy according to Prof. Michael Thaut. Noninvasive brain mapping has facilitated music brain research. Role of music in health and disease is studied by mapping. The musical form and structure is the map of the human mind and soul and tracing the map the mapmakers of the future will be using the language of the 'poetic science', foreseen by the Russian neuropsychiatrist Luria, opines Prof. Paul Robertson in his lecture on the ART AND SCIENCE OF THE MUSICAL MIND in the Royal institute of Great Britain.

How is music perceived, organised, remembered and performed? Perception begins when sensory system is stimulated by acoustic information-sounds according to pitch range, temporal proximity, similarity of timbre, harmonic relationships. It is interpreted by the listener's knowledge of musical systems and structure-identification of the style and the generation of expectation, and form an interpreted memory representation. Performing music whether from memory or from a written note requires the performer to generate conceptually well oriented units and motor programmes for their execution. Humans have an impressive repertoire of musical abilities. Some are basic and not strongly dependent on explicit musical training. They are presenting infants. The other extreme is the special skills acquired through years of assiduous training.

THE MUSICAL INFANT

Inspite of limited experience the infants have distinct musical preferences. They like some styles. Prefer consonant and dissonant music. Enjoys mother's speech and crooning and become calm and attentive while she sings. The infant while in the womb hears only one rhythm, the rhythmic heartbeat of the mother which is exactly 72 per minute.(like the 72 Melakarta Raaga). It can recognise this rhythm so that the moment you cuddle the infant to your bosom it becomes quiet.

The infant's perception of pitch and temporal pattern are surprising. Hearing a song at one pitch and tempo the infant recognises when it is shifted to another. Infants remember precise musical details when a melody conforms to universal or near universal principles of musical structure. In atypically structured melodies they remember /retain coarse grained information rather than fine details. Therefore the infants begin life as musical beings. Music is not only part of our culture but part of our nature.

Children express their musical ability by singing, improvising, moving and dancing, performing instruments, describing music verbally, represent music through their invented notations. The most notable improvements one can notice in children between ages of 2 to 9 are the pitch, melody, form, tonality, timbres, dynamics, mode, beat, articulation; meter and rhythm. Music instruction develops cognitive abilities especially spatial, increases self-esteem, personality traits, motor skills, achievements in language and maths. If we look at the south Indian Tamil speaking population we can see that mathematical skills, musical skills and language skills go together in certain ethnic family groups.

In 1989 John Kratus did a quantitative analysis of compositions of children between the ages of 7 to 11. Learning and feeling of music can occur even when no external sound is present and therefore the hearing of music is in one's head according to him. 40 Children who were not musically trained were tested on the intermediate measures of music audition test which measures how well they can mentally hold tonal or rhythmic information. Later they were given 10 minutes to compose an original piece. The ability to audiate compared to the amount of time spent in exploration, development and repetitive quality of the composition evaluated. The greater the auditory ability better the quality of the composition was the result. The conclusion was that a nine year old child is a genuine composer. When I read this I remember my childhood days when I used to hear Tamil film songs, classical music of M.S, and that of Chembai. I was an ardent listener and I remember my first poem was at the age of 8. Does it have any relation to the music I heard or to the poems I read and was familiar with or due to my previous janmavasana is a debatable question yet it is interesting to note that I had been a child composer as John Kratus observed.

Another thing I remember is my passion for "hearing music even when I was studying my lessons. I could concentrate better when I listen to music. Even when I do some serious research work listen to music. In 1997 Cockerton T. Moore et al published the effect of cognitive test performance and background music. 30 Undergraduate students were subjected to the test. 2 cognitive tests one in silence and the other with background music was given. The second enhanced the performance and more questions were answered. More correct answers were given while there was music. The heart rates were regular and equal and the students were at ease. It is possible that I had this effect throughout my life while I look back at my lifestyle and the knowledge systems I have been familiar with and learned during this short lifespan.

If we give music during treadmill there will be changes in the performance, level thresholds. When 10 well-trained adult males of 25 years were subjected to treadmill with music, the heart rate decreased,

BP and the lactate levels decreased. Music reduce muscle tension and lowers plasma lactate even after exercise. Blood samples have to be tested before and after treadmill, with and without music.

You might have seen the musicians using headphones. The two hemispheres act in unison to hear a third signal, the difference between the two tones send to the two ears by stereo headphones. This is an electrical signal(not actual sound) perceived in the brain by both the hemispheres working together. Enhanced result is a focused whole brain state called hemispheric synchronisation, an optimal condition for improving human performance. Specific combinations of tone signals can help individuals achieve laser like focus and concentrate. Different tone signals used to facilitate profound relaxation, expanded awareness or other desired states.

Digital brainwave music helps in meditation and creativity. Good meditation frequencies are in the alpha range (8 hertz to 13 hertz).

When a certain brainwave state is experienced and practised over a period of time the brain will learn the state change and it will become easier to self produce the desired brainwave state at will. Thus same of the effects are got later even without any immediate external stimulus.

The theta state of 4 to 7 hertz increase the learning capabilities. Children spend more time in theta state than adults which explain the accelerated learning ability in children. Alpha frequencies are also useful for learning purposes. One can play soft classical/light music as a background while learning to get a maximum effect of enhanced learning. Half an hour a day of the theta state can replace upto 4 hours of sleep. Once we practice Naadalayayoga, hearing music for half to one hour in the Brahmanuhurtha with Yogic concentration and preferably at night before going to sleep we can reduce our sleep needs and thus get more energy and time for more quality work (mainly intellectual). This was what the Yogi/sages of yore did. I have been practising this for years and have found it very rewarding.

Music improves your self esteem, improves concentration, and give you more intellectual acumen.

Naada generate vibrations which reach our body and produce their effects. Music is the power of the universal cosmic energy in the form of Raagas. The repeated listening to a particular Raaga (a particular cosmic vibration) produce a network of sound vibrations beneficial to a particular disease or organosystem involved(in relation to the 6 Chakras). Muscle / nerve plexuses (Chakras) contract with the impulse and relax during the interval between two impulses(between two Swaraas). During contraction the blood flow out from that particular area related to the chakra stimulated. When it is repeated the flow of blood and cosmic energy in that part is increased. This ensures fast and good healing. UEF(universal energy field) vibrations flow to Human energy field(HEF) and transmitted by strokes of different tones of Raaga and affect the central nervous system. This is the basic of Indian system of classical music. It starts from the cosmos, from the Raasimandala (UEF of the western world) as the 72 Melakarta Raagas and transmitted to the HEF through the 6 nerve plexus Chakras and spread through Ida and Pingala the left and right nerve channels as the Poorva and Uthara Melaas and when you sing these 72 Raagas or hear them all the centres in your body are opened up naturally. The Yogi tries to open the Chakras with vigorous exercises and has to take effort to do so. The music enthusiast as the Naadalayayogy attains the state of Samadhi naturally and without effort through the medium of music. Not only the singer but also the listener becomes a natural Yogi.

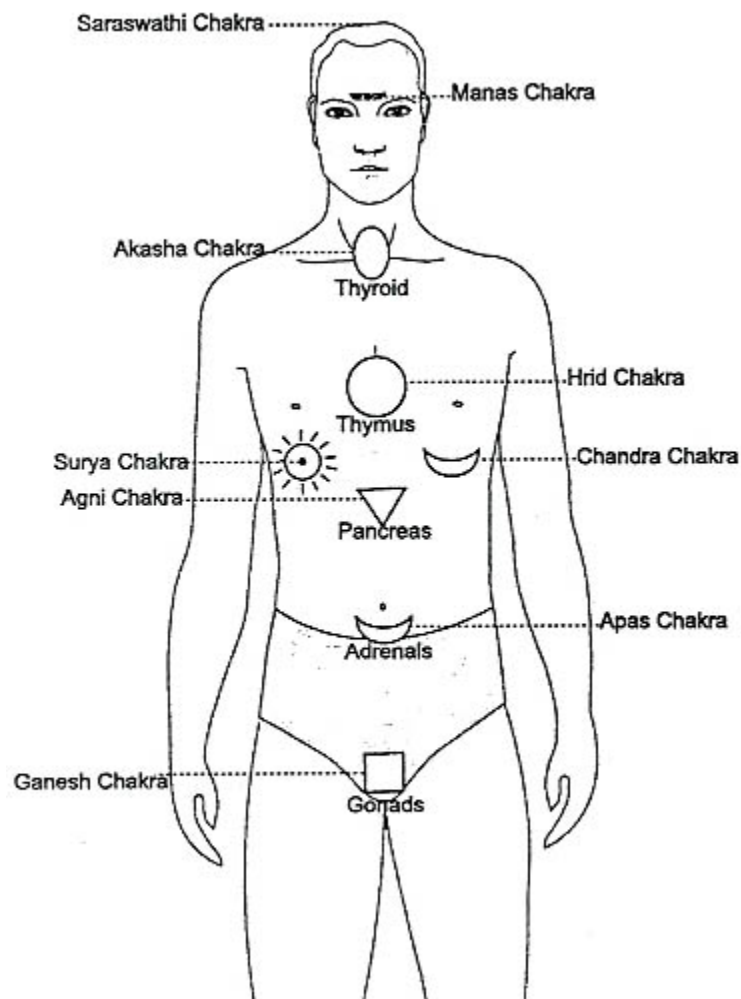
In India the research on music therapy is still in infancy though we have a very rich tradition of music. There are individual musicians claiming the effect of therapy but a hospital based scientific data is still lacking. I would request the medical fraternity who love music and who are interested in research to come forward and do the research themselves in their clinics or hospitals and to collect data on their own. (See the attached diagrams for identifying the organ systems which are affected by each of the nerve plexus awakening and the raagachakra associated with each plexus or Shadchakra). Since we have a rich musical tradition which have been used by the Rishis and sages for curing ailments.

THE SHADCHAKRAS AND THE SCHEME OF MUSIC THERAPY

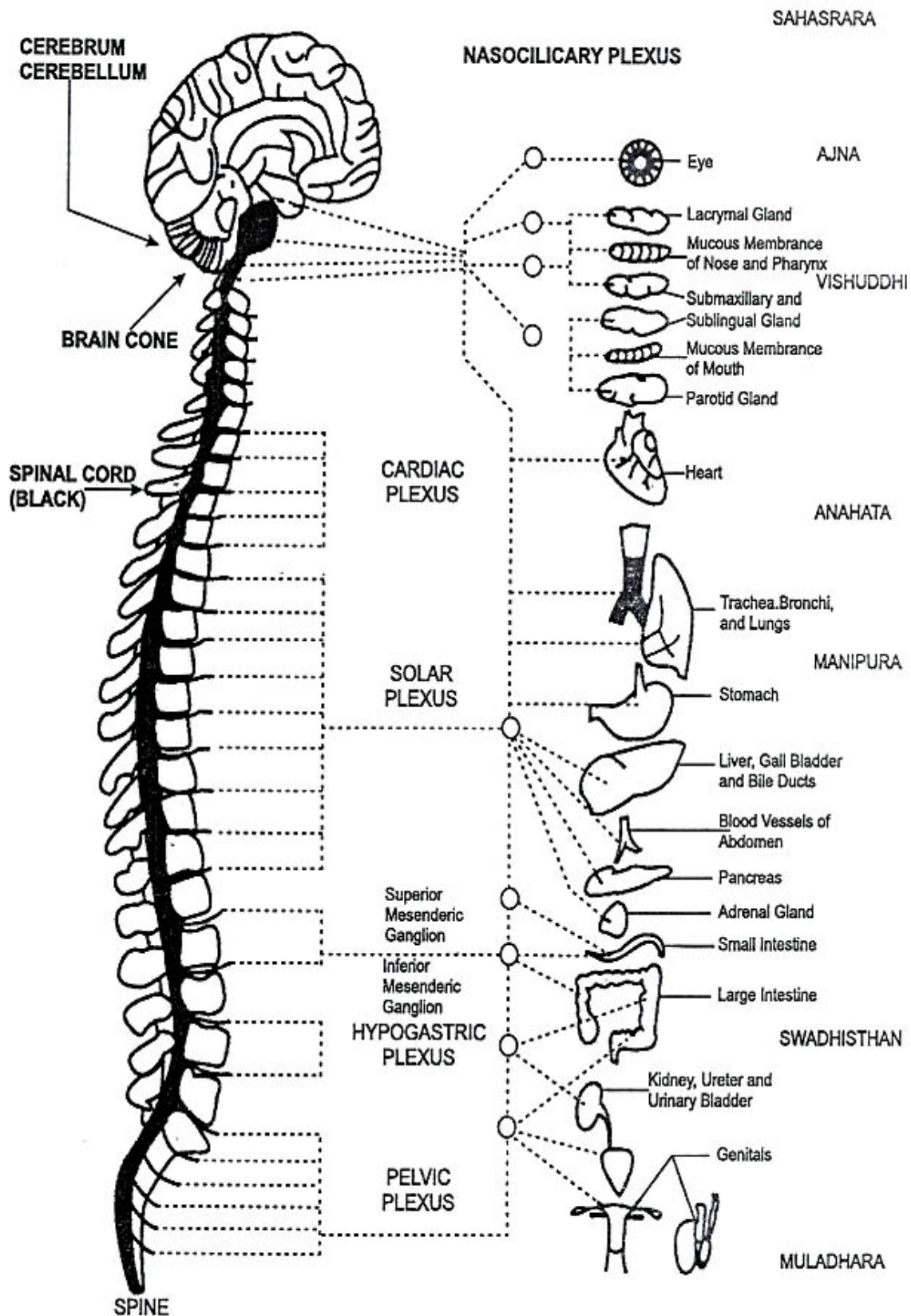
The Shadchakras

The Layayoga for the supersensible body is described in the Shadchakra Nirupana verses 10 and 11 thus "Over it shines the sleeping Kundalini, fine as the fibre of the lotus stalk. Like the spiral of a conch

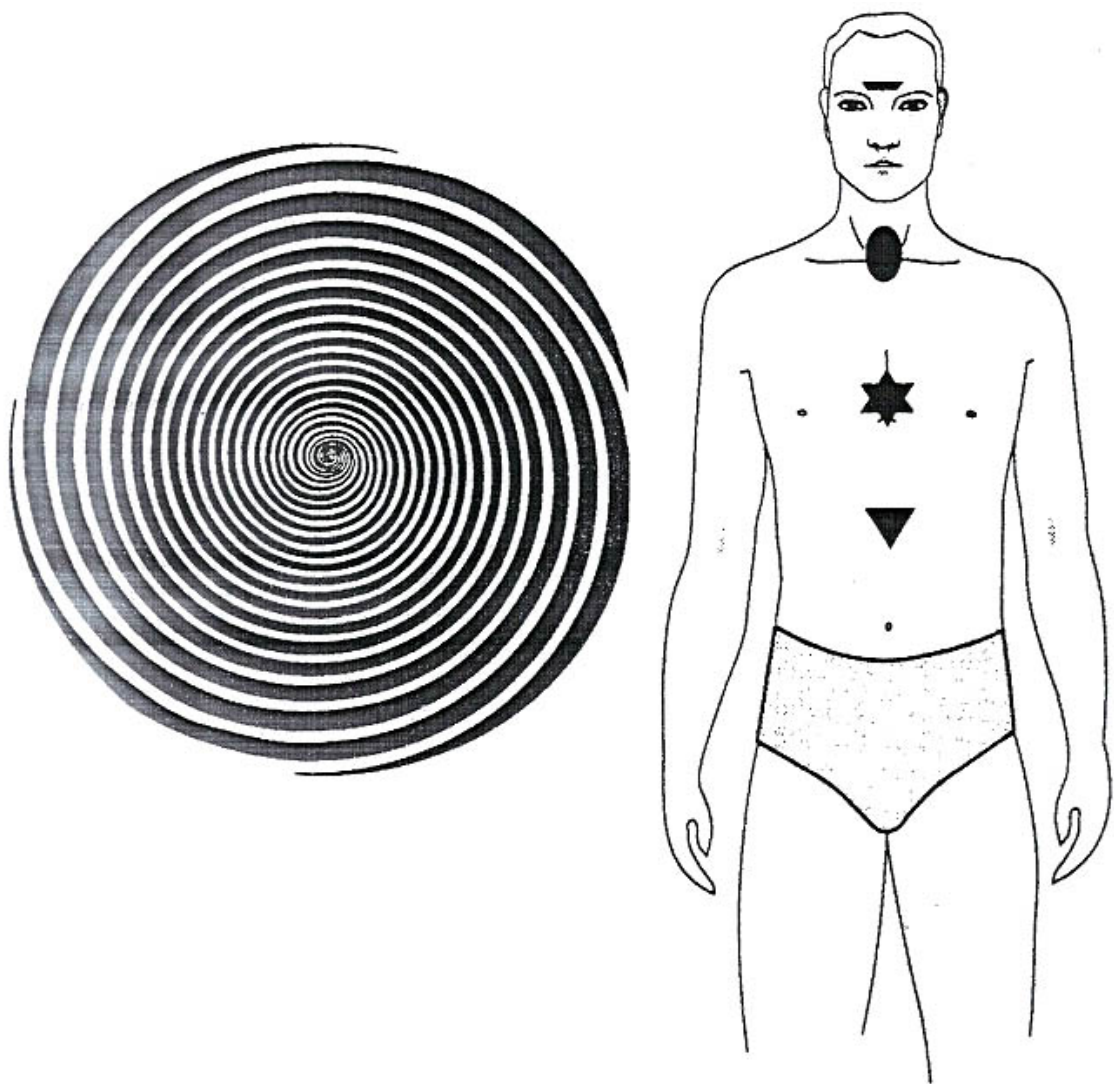
shell, her shining snakelike form goes three and a half times round Shiva and her luster is as that of a strong flash of young lightening. Her sweet murmur is the indistinct hum of Swarms of love-mad bees. She maintains all the beings of the world by means of inspiration and expiration, and shines in the cavity of the root chakra as a chain of brilliant lights."



Organ equivalent Chakra Chart with Alternative Chakra Names

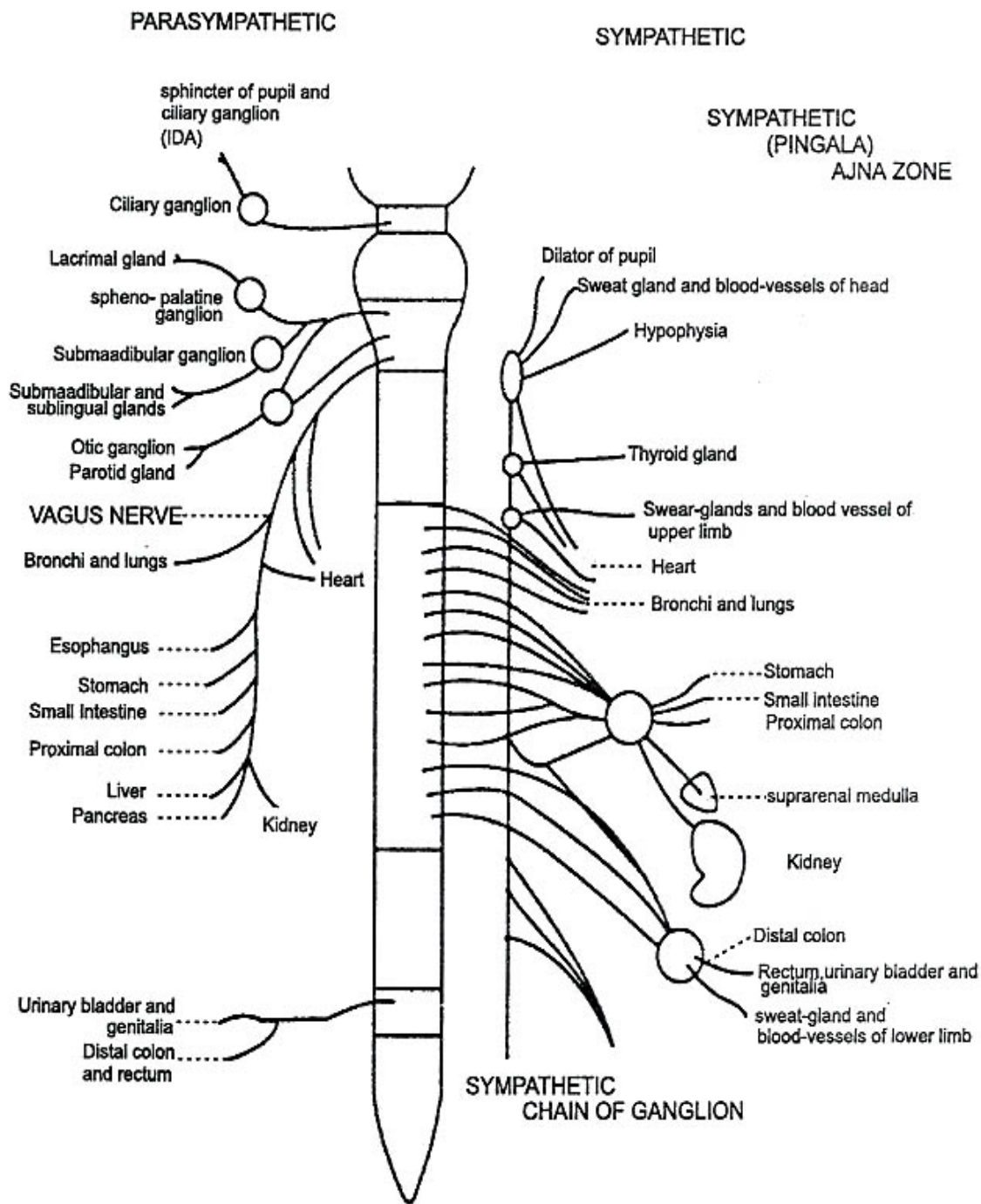


Physical Anatomy and the Psychic Chakras



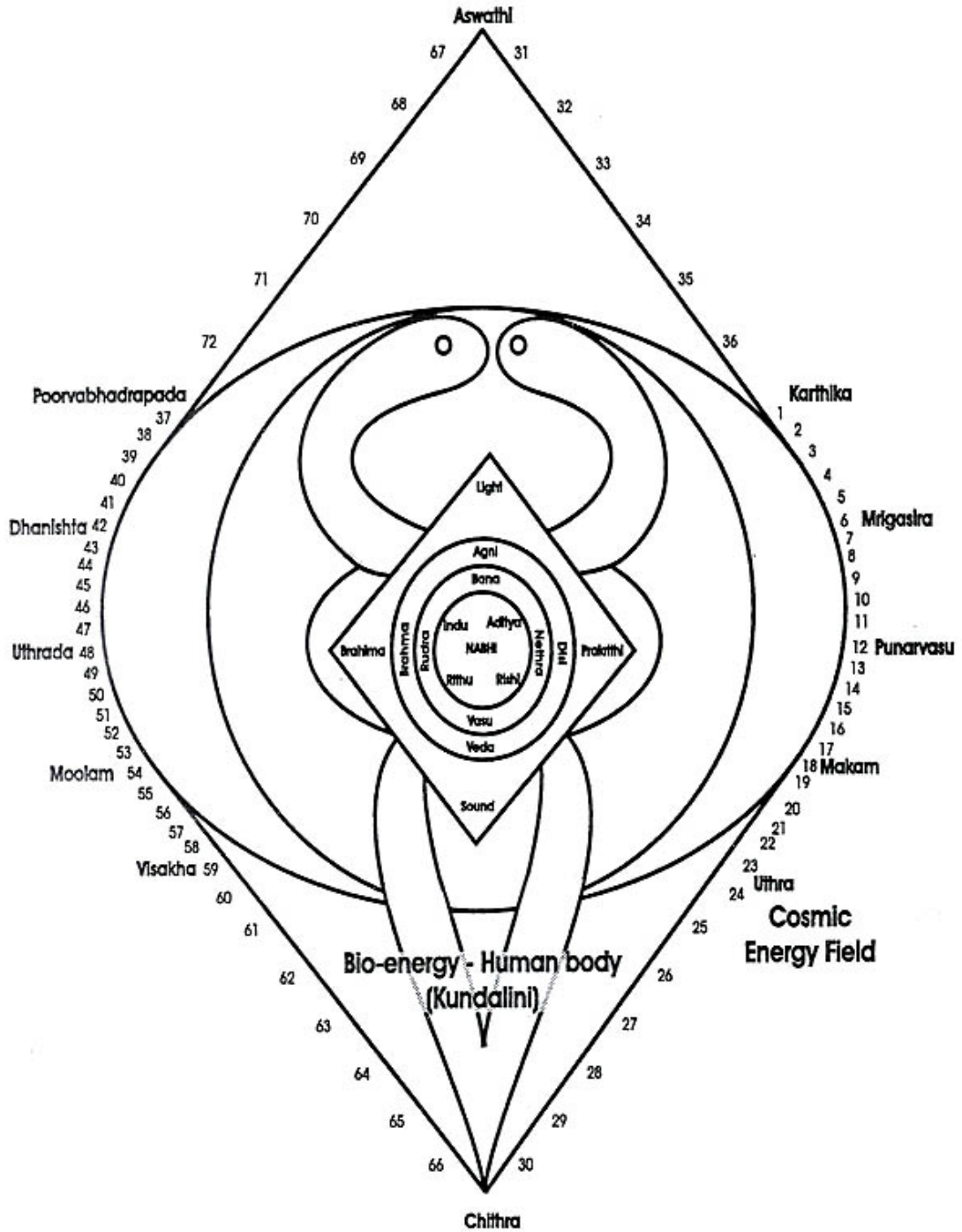
Psychic Shavasana Clock wise Re-entry Spiral with

Alternastive Chakra Entrance Points



Schematic Diagram of Parasympathetic and Sympathetic Nervous Systems

Sahasrara Chakra (Saraswathi Chakra)



Mooladhara Chakra (Ganesa Chakra)

*Diagrammatic Representastion of the Body of the Singer, with Kundalini, the 72
Melakartha ragamalikachakra and the Cosmic Chakra (Rasichakra)*

These diagrams show the Shadchakras, their corresponding nerve plexuses in the human body and the organs related to them, the 72 basic Raagas coming from the Raasichakra and concentrating in the Naabhi of the singer to spread in 6 x 2 Chakras as 72 Raagas corresponding to the cosmic asterisms of the Brahmanda.

As already said all the living and the nonliving world is composed of Naada and Prakasa in variable proportions. The body of a living being is created by six Bhavas.

1. & 2 are Mathrujam and Pithrujam(the genes from the mother and father)
3. Annajam.(from the food we take in)
4. AtmajamUcha, like and dislikes, Bhavana, effort, knowledge, jnanendriyas, Anthakarana consisting of mind and Budhi are from the Atma or self). It is because of this the children of the same parents, eating the same food become different in character. The reflection of the qualities of the previous births are seen in this janma too.
5. Satwikam. The faith in God or truth, the interest in upholding Dharriaare called Satwika.
6. Salmyajam, every being is influenced by the atmosphere it is brought up, like the home, school, village etc. and the habits of the grownups there. This character acquired from the atmosphere is called Salmyajam.

It is important to realise that the body I acquired in this Janma from my parents and the food I take, and the habits and customs I acquired from the place I grew up are not the real me. I am the Satwik guna with the power of Atmaja which I have acquired from the previous births. The style of Naadalayayoga is to discover the Atma which is in the form of Icha, jnaana, Kriyasakthy.

The Three Avasthas

Jagrad, Swapna and Sushupthy are the three Avasthas (The fourth one Thureeya also is there). When we are awake our sense organs and mind are jumping from one object/subject to another and we do not have a concentrated mind. For getting concentration Pathanjali advocatesYoga.' In Swapna there is no external objects. Yet the mind creates imaginary objects with the expertise of a magician and plays in it. In Sushupthy the mind is dissolved in the self. At this stage we don't remember that we are the body, mind or the intellect. The self alone is awake as a witness. This is comparable to Yoganidra or Samadhi. In

Sushupthy there are no dreams but sometimes a few visions are seen by the witnessing Atma which become predictive. Same times these visions give us knowledge of the self and the previous janmas. In Naadalayayoga, even when we are awake mind is dissolved in Praana and Praana in Naadabrahma naturally, and we get Thanmayeebhava with it. We can control Chitha without any effort. A state of bliss is experienced by the singer and the listener which is equivalent to Samadhi state. By this the Kundalini is awakened naturally without any effort by the singer and listener and the qualities of the rising of Kundilini is seen in them.

1. Mooladharam. This has 4 petals denoting 4 types of bliss. Yoganandam, Veeranandam, Sahajanandam, Paramanandam
2. Swadhishtanam. six petals. Denotes the qualities of vinaya, cruelty, lack of ego, Moorcha, lack of faith and Avagna. All these are derived from Kaama. The Vinaya towards the loved person, lack of ego in front of him/her, lack of faith once we possess the loved one (by marriage) from !that the cruel behaviour, the state of Moorcha (dazed) due to Kaama, and the state, of Avagna (contempt) due to familiarity.

When Vinaya and lack of ego are diverted to a Guru or God, the ,person becomes an expert in experiencing Moorchana with Raaga and literature and to produce it in his /her Rasikas. The lack of faith and contempt is restricted to bad people only. Slowly even that disappear.

3. Manipooram. There are 10 petals. The power of sun is concertinaed in this. It is in the Navel area. The east petal is Sushupthy and it is in this petal the Naada creation (or visualisation of the manifested Naada.) happens. From here to above, in between the Manipoora and Anahatha, the sun Chakra and moon Chakra are seen at the nipples of the two breasts and they are the breasts of Devi Saraswathy giving the Amritha of Sangheetha and Sahitya. These and the Agni above the Naabhi form a triangle which gives all the Sidhis of the Vasinyadi Vagdevathas.

In Sreesooktha which has its Devatha both Sree and Agni, the goddess is called Agni, Soorya and Chandra to denote it as the power of Sun, Moon and Agni.

4. Anahatham. The Shiva as Pranava is visualised in the Anahatha. There are 12 petals. The first, eighth, eleventh and twelfth petals denote movement less state, Samatha or equality, wisdom, and Ahamkrithy. Usually in people with Sangheetha and Sahitya this Chakra is awakened.

5. Vilsudhichakra. 16 petals. The Kachapi Veena of Saraswathy is situated in this. In petals 9 to 15 are the Amritha, sa, ri, ga, ma, pa, dha, ni which is the Veena of Saraswathy giving musical nectar. In the Lalanachakra at the root of tongue are 12 petals and in the tenth and eleventh petals are concentration and bliss. Only if these two are awakened the musical Sidhi become perfect.
6. Agnachakram. In the centre of the eyebrows. There are 3 petals. In the center is the Satwa or the third eye. On either side are the 2 winglike tamas and Rajas and this is called the Khechari. Attached to it are the Manaschakra with 6 petals, the seat of Gnana and the Somachakra with 16 petals . If Agnachakra is awakened these two also are awakened. Those with awakened Manaschakra will be jnanis. In the petals of Somachakra are kindness, patience, honesty, boldness, Vairagya, Ohruthy, Harsha; humour, Romancha, Ohyanashru, fixed nature, grandeur, ability to start great works, purity, Oudharya and concentration (These are the signs of Bhakthy also). In a person if we see all these qualities it means Agnachakra is awakened. And in him/her is a perpetual flow of Amrithananda from the Sahasrara. This state I can see in Jesudas and most probably these are in Subbalakshmi too, listening to her music but I don't have enough contact with her to verify it.

THE ENERGY CHAKRAS IN THE COSMOS

There are energy Chakras corresponding to the Shadchakras in the I cosmos. Since both Naada and Prakasa spread together from Pranava they are the same. In Rasichakra there are 6 Raasi on one side and 6 Raasion the other side of the Utharayana-dakshinayanarekha. They are just like the Ida and Pingala of our body. The Utharayan/ Oakshinayan axis is the Karkitaka. Makaram axis and the Punarvasu/Utharaashada stars. Utharaashada is the birth star of the sun and Punarvasu is that of Vishnu as Rama and also it is the point from where we start the Poaja of Lakshmi, the consort of Suryanarayana. We have to give 3 Raasi each on either side of this axis line and parallei to it are the 6 Chakras in which are 6 Raagas each. This corresponds to the Shadchakra of human body. In this way we have to achieve Nadalayayoga by allowing the Naada and Prakasa to flow through the energy centers of our body. The cosmic energy is allowed to flow through the human body. The singers who can sing all the 72 Melakarthis naturally have awakened all the nerve centres in their body and are awakened to a state of perfect Nadalaya.(see the table for the melakartha scheme).

The Punarvasu and Uthrasdam of the cosmic navel and their Raagas have a specific Devi Swaroopa. It is like this.

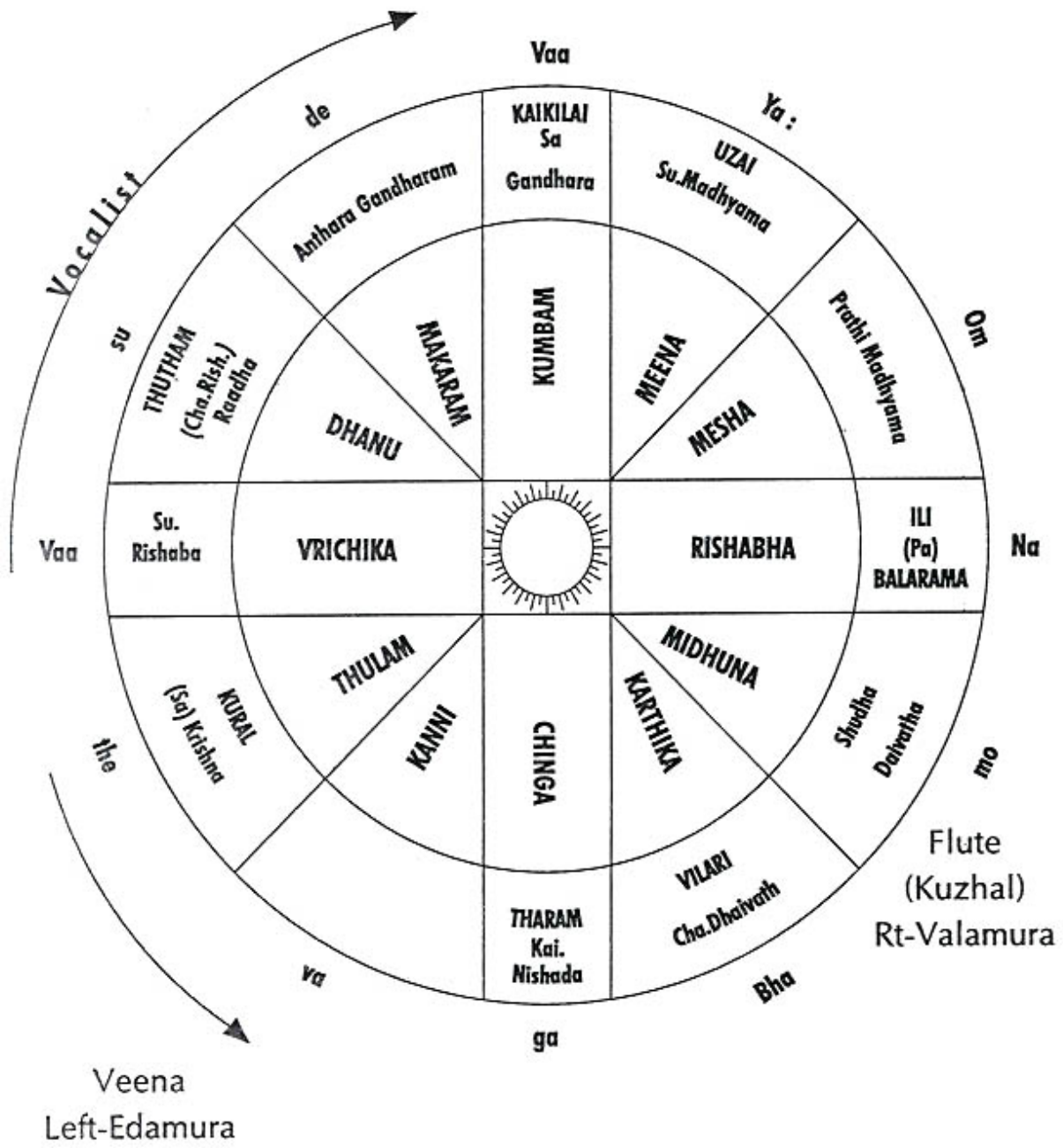
	Punarvasu	Utharaashadam	
Nethrachakram	Natakapriya	Suvarnamgi(souri)	Vasuchakram
	Kokilapriya	Divyamani	
Agnichakram	Roopavathy	Dhavalambari	Brahmachakram
	Gayakapriya	Namanarayani	

The Parasakthy Swaroopam for these Raagas as the names of the Raagas indicate is golden colour(Suvarnamgi) white dress(Dhava Jambhari) love of iyal, isai, nataka (Natakapriya, Kokilapriya, Gayakapriya) and beautiful (Roopavathy) Namanarayani. The Namanarayani in the padmasana position as we see in the famous Thanjavur Saraswathy. In this idol at Thanjavur we can see the serpent protecting the Divyachintamani over the head of the Saraswathy who is in a Yogic posture. In the idols of Vishnu, Shiva, Subramania, jina, Budha etc. We find a serpent denoting the fact that they are Yogis awakening the Kundalini. Those who are able to awaken the Vagadheeswary by music and literature are lucky and they definitely have Purvapunya.

MELAKARTHA SCALE FOR MUSIC THERAPY

RASHI	NAKSHATHRAM	NAKSHATHRA DEGREE	MELAKARTHA CHAKRA	RAGANAMAM	YOGISHARIRAM SAHASRAARA M
Medam Mesha	Aswathi Bharani Karthika - 1/4	13° 20 26° 40 26° 40 To 30° (3 ⁰⁰ 20)	Rithu	Yagapriya-5 Ragavardhini 1-10 Gagayabhushini - 15 Vagadhiswari - 20 - Shulini - 25 Chalanatta - 30 -	Agya
Edavam Rishaba	Karthika 3/4 Rohini Makayeeram 1/2 Mrigasheersha	40° 53° 20 60°	Indu	Kanakangi - 35 Rathnangli - 40 Ganamoorathi - 45 Vanaspathi - 50 Manavathi - 55 Thanaroopi - 60	Vishuddhi
Midhunam Mithuna Dakshinayanam	Makayeeram 1/2 Thiruvathira Punarvasu 3/4	66° 20 80° 90°	Nethram	Senavathi - 65 Hanumathodi - 70 Dhenuka - 75 Natakapriya - 80 Kodilapriya - 85 Roopavathi - 90	Anahanam
Karkidakam	Punarvasu 1/4 Pooyam Pushya Aayilyam Aslesha	93° 20 106° 40 120°	Agni	Gayakapriya - 95 Vakulabharanam - 100 Mayamalvagaulam -105 Chakravakam -110 Suryakantham - 115 Hatakambari - 120	Manipuram
Chingam Simha	Makam Pooram Uthram 1/4	3° ° -20° 146 ° 40 146° 40 To 150°	Vedam	Jhamkaradhwani - 125 Natabhairavi - 130 Keeravani - 135 Kharaharapriya - 140 Gowrimanohari - 145 Varunapriya - 150	Swadhishtanam Dharmavathi - 220 Neethimathi - 215
Kanni Kanya	Uthram 3/4 Atham Hastha Chithira 1/2	160° 173° 20 180°	Banam	Mararanjini - 155 Charukeshi - 160 Sarasangi - 165 Harkamboji - 170 Dhirasankarabharanam -175 Naganandini - 180	Mooladha
Light				Sound	Human Body

RAGANAMAM	MELA KARTHA	NAKSHATHRA DEGREE	NAKSHATRHAM	RASHI
Sucharitha-360 Jyothiswarupini - 355 Dhathuvardhini - 350 Nasikabhushini - 345 Kosalam - 340	Aadithya	360° 346° 40 333° 20	Revathi Uthrattathi Uthara Bhadrapada Puroruttathi 1/4	Meenam
Salaga - 330 Jalarnavam - 325 Jwalavarali - 320 Navaneetham - 315 Pavani - 310 Raghupriya - 305	Rishi	320° - 330° 320° 306° 40	Puroruttathi 3/4 Poorvabhadrapadam Chathayam Sathabhisham Avittam 1/2	Kumbham
Gavambhodhi - 300 Bhavapriya - 295 Shubha panthuvareli 290 Shadvidhamargini - 285 Suvarnamgi - 280 Divyamani - 275	Vasu	293° , 20 to 300° 293° 20 280°	Avittam 1/2 Dhanishtam Thiruvonam Sravanam Uthradam 3/4	Makaram Uthara yanam
Dhavalambari - 270 Namanarayani - 265 Kamavardhini - 260 Ramapriya - 255 Gamanasrama - 250 Viswambhari - 245	Brahma	266° 40 To 270° 266° 40 253° 20	Utharadam 1/4 Uthara Ashadam Pooradam Poorva Ashadam Moolam	Dhanu
Shyamalangi - 240 Shanmughapriya - 235 Simhendramadhya mam - 2-230 Hemavathi - 225	Dishi (Desha)	240° 226° 40 213° 20	Thrikketta Jyesta Anizhum Anuradham Vishagham 1/4	Vrechikam
Karthamani - 210 Rishmbhapriya - 205 Lathangi - 200 Vachaspathi - 195 Mechakalyani - 190 Chitthrambari - 185	Rudra	210° 200° 186° 40	Vishagham 3/4 Chothi Swathy Chithira 1/2	Thulam
Sound				Light



Dwadasakshreemanthram

EXECUTIVE SUMMARY

The seven notes of music do not only sound pleasing to all ears, but also have a therapeutic effect on patients with certain diseases and disorders. Music therapy, when imparted by a trained and knowledgeable therapist, does show positive results, says Mr. Peter Mag Schick, International Secretary, Universal Harmony and Healing Tours Charitable Trust.

Since time immemorial music has been used in every aspect of human life, be it the expression of elation or sadness, pain or loneliness, wonderment or melancholia. Every form of nature's bounty, the trees, the winds, the rivers, the oceans... has a music associated with it. Every living being expresses itself joyfully, by singing one way or another, whether it be the cuckoo's call, mating call of the toad, buzz of the bee or rustling of the leaves in the wind; one of the most significant aspects of the property of sound is the weaving of the musical lyre.

Throughout history, music has been used to facilitate healing. Aristotle believed that the flute in particular is powerful. Pythagoras taught his students to get relieved of emotions like worry, fear, sorrow and anger, through the daily practice of singing and playing a musical instrument.

The systematic use of music by a qualified therapist, to bring about positive change(s) in people's lives, is termed as music therapy. It is a unique treatment methodology that combines art and science to help a person in need, under which the prescribed use of music and music related strategies assist or motivate a person towards specific, non-musical goals.

Music therapy (MT) is of two types adaptive, which is used to help people adapt to their handicaps, and palliative, which is used to treat the symptoms of patients with physical, mental and emotional disturbances.

A music therapist uses his training as a musician, clinician, and researcher and works in a variety of settings, including educational, medical, psychiatric, and gerontology facilities. Being an allied health professional, a music therapist assesses emotional well-being, physical health, social functioning, communication abilities, and cognitive skills of his patient through musical responses, to initiate changes in

Let us take a few instances to see how the use of music can facilitate learning and adaptation in a few individuals with special needs. MT is quite effective on hearing and visually impaired children. Using vibrations, such children are made to experience music without having to hear or see it. A child, who is suffering from Down's syndrome, poor language development or cerebral palsy, can learn fine motor movements, if allowed the use of a simple instrument like the harmonium. He learns to swing the arms, if allowed to play the drum, and learns concentration and rhythm on the sticks or cymbals. So while normal speech inputs might sound boring, the same sounds, when taught through musical notes, become more interesting and are accepted more easily.

Similarly, music plays a very significant role, while educating children with special needs, by providing an environment in facilitating the rest of the learning process. The play-way method also extensively uses music for composing stories and creating games to make learning more interesting.

In working with the elderly, music proves an effective medium of getting an emotional response from people, who are otherwise considered senile, forgetful and difficult to deal with or perhaps have behavioural problems characterising Alzheimer's disease. Dr. Adarsh Kumar, study co-author and research associate professor in the department of psychiatry and behavioural sciences at the University of Miami School of Medicine in Florida, and colleagues studied the effect of music therapy on the levels of five brain chemicals of individuals suffering from Alzheimer's. Blood analysis indicated a significant increase in blood melatonin levels and participation in music therapy sessions and also that the increase continued even after the therapy had been discontinued for 6 weeks. The patients, who participated in music therapy, became more active, slept better, and were more cooperative with nurses.

Similarly, congregational or group singing in religious places (whether bhajan or Kirtana), which is a part of people's lives (especially in our country) proves to be a stress reliever and enhances self esteem, along with the vigour that rhythmic clapping brings and joy that fills the heart, when it expresses certain emotions. The activity proves therapeutic without a lot of people realising it.

Lyrics, a very significant part of the musical expression, are not merely an expression of the ones, who have expressed themselves in the times bygone, but a subconscious study of their poetic content helps in focusing the mind of even those who hear them indifferently. A child, who is aurally disabled, will benefit from the use of poetry sung to musical rhythm, whereas someone, who is suffering from

Some would say that playing of music in hospital wards constitutes music therapy. Loosely speaking, it would, because it takes the mind of the patient away from the problem at hand, to something that relaxes or creates different images. But strictly speaking, unless it evokes another reaction; unless it is individualized, it cannot be termed as therapy. An individual may benefit from a certain ragaa or a certain piece of music, and that might be therapeutic for him at that point of time; that alone is not music therapy. MT does not require great performances or gurus or pandits. It requires individuals who have a sufficient understanding of the idiom of music in its various forms, the ability to create music and a whole lot of exposure to music from various parts of the world.

The playing of music from a pre-recorded piece of music alone is also not MT, as is largely taken. Needless to say, everyone has favourite music and music suited to various moods and occasions. But using a favourite piece of music is therapy only to the extent that taking an aspirin for a headache, off the counter, is treatment for the headache. Anyone can impart music therapy, only to the extent that anyone can impart physiotherapy.

Since this is a relatively recent application of music, there are few professional music therapists across the world. The first country to offer systematic training in the field, United States, has about 3900, Canada accounts for about 150, Ireland had the first batch of professionals entering the workforce only in 2000, Netherlands has about 3000 of them, Australia 350 and Japan 580 (mostly self taught).

Being the home of one of the most ancient forms of classical music, India is an ideal place for the practice of music therapy, given the rich tradition of ragas that have been set according to the time cycles of the day and seasons. However, at this moment, Indian music is largely a performance oriented music and though musical ragas are said to have healing.

INDIAN DEVOTIONAL MUSIC AND YOGA

Na naadena binaa gnaanam

Na naadena binaa sivam

Naadaroopam paramjyothy

Nadaroopi swayam Hari

Hari (Vishnu) who is Yogayogeswara is Naadaroopi. Naada is energy, both static and dynamic. The energy centres produce different amplitudes and frequencies and from their combinations several patterns are produced which when condensed take the form of gross matter. Thus Manthrasasthra based on sound principle is evolved. Since we know that energy (E) is equal to mass and velocity square one type of energy can change into another form. Energy and matter are inter convertible. And due to law of conservation of energy cannot be created or destroyed. Sound and light consists of vibrations which are frequencies of energy radiated or transmitted and the resonance effects. The Sangeetharatnakara begins with cosmogony and then proceed to the structure of the human body, stages of human pregnancy and then only discusses the science of music proper. The reason is music originated in the cosmos with light and it resides in the human body' and for invoking music in human body one has to invoke the power of Kundalini residing in ones nerve plexuses. Naada is very subtle in the Naabhi, subtle in the heart, Pushtamor Vyaktham in the throat. In the head it is Apushtam and Avyaktham and when it reaches the mouth it becomes artificial.

A Yogi is greater than a Tapaswi, Gnaani or a Karmi according to the Gita, and therefore Krishna asks Arjuna to become a Yogi. (Tasmaad yogibhavaarjuna). God according to the Indian seers is the embodiment of the nectar of all the Rasaas (Akhilarasaamrithamoorthy) and Aanandaghanamoorthy (form of dense bliss) because he is Naadamaya.

Dhyana is equal to one crore of japa.

Laya is equal to one crore of Dhyana.

Gaanam is equal to one crore of Layam.

There is nothing beyond Gaanam.

Because Gaana is the embodiment of all Rasaas and of bliss. Lord Vishnu dwells not in Vaikunta but in the heart of a devotee who sings about him. Therefore Chaitanya and other Vaishnavites were fond of the Raagamarga Bhajans, Mahanaamasamkeerthan and their Raaganuga devotion lead them to the absolute state of ecstasy called Dhyanasamadhi. Music is the ultimate principle which best realised in the Anandamayakosa or the layer of absolute consciousness, the subtlest and highest sheath of layer of existence above all the other layers. Nadalayayoga is the science and philosophy of causal sound and Yogic path to realisation of Naadabhakthy.

Human body consists of Annamayakosa (the gross physical body), the Sukshma or subtle vital body or Pranamayakosa, the mental plane of thoughts which rationalise and understands called the Manomayakosa, the astral Vignanamayakosa which is experienced as visions and visionary dreams by some people, and finally the absolute consciousness or bliss, the Anandamayakosa.

In Yogic parlance beyond these realms there is a secret environmental consciousness in which are determined our unseen connections with the world outside us, including our previous births etc. Each one of us carry it with us around us by which we are in touch with others and the, universal forces. In our body infinite sound vibrations on different layers of consciousness, the permutations and combinations of which go from human bodies and bodies of other organisms, the vital energy, the mental

faculties etc. exist. According to the Naadayogi there is only one Naada in the beginning and that primordial causal sound or Pranava (Om) through vibrations create the entire universe which is visible. The entire creation is a solidification of sound waves or the visible universe is nothing but the solidified Nadabrahma. Every sound has a form of its own. It is not just avibration. By proper concentration of notes of music one can see a visible form. The practice of Nadalayayogamakes the mind motile and subtle, completely purified of all objective notions and by this one can rise above the subject and object relationship. In the beginning (Satyanandaparamahansa)one has to close the eyes, concentrate and listen to the inner voice minutely (at Paraa stage). As one progress, one hears Naada similar to the chirping of bird, bell, conch, flute, rain, clouds and other natural phenomena(Pasyanthi) and sonorous sound (Madhyama) out of which come fullthroated singing (Vaikhary). Singing Keerthans and listening to them with rapt attention a Premabhava or Madhurabhava to God blossoms out and the devotee forgets the existence of the exterior world. This is called Avesha or Bhavavesha. According to

Swami Sivananda a singing devotee attains trance or Samadhi while participating in Samkeerthan. Singer and listener are spellbound (Manthramugdha) by the Naada as in a trance.

A singer who aims at excellence in the art of music should not only be a good musician with full control over the 12 Swaras and 22 Sruthis. He should be quite learned, maintain a good physique and sound mind. A sharp memory with intuitive faculty help him/her to sing Aakaars, the special poetical improvisations and impromptu ornamental additions to the main. composition. From the Aakaars sung by Sriramakrishna one can get to know the special Anuraaga and devotion he had. The Raaga shows Bhava or sentiments (emotions) and have a Roopa or form and they produce Rasaas. If these are not there to evoke Rasaa and ecstasy in the mind of the listener, the mere knowledge of the grammar of music is, of no use. The ultimate measure of a good musician is the ability to produce Rasa and Bhava in the listener.

Swamy Vivekananda had learnt classical music from his father and from renowned musicians like Veni, Ustad Ahmad Khan, Uzir Khan and Kaanilaal Dhendi (Esraj player) and was a connoisseur in the art and was familiar with the musical traditions of Tansen and his disciples. But he never preferred to demonstrate his skill in vocal acrobatics or mastery over the grammatical and technical aspects of classical music. He propagated the bold opinion that music which is Sarva Jokaasukhaprada (giving bliss to all), Mokshaprada and Sarvasanthaapahary (destroyer of all miseries) should not remain conferred forever in the hands of a few professional adepts who are blind followers of some bad traditions. One day he heard a friend singing like a stereotyped professional. He said "Mere tune and tune keeping are not all of music. It must express an idea." The idea underlying a song must arouse the feelings of the singer, the words should be articulated discretely and proper attention given to time and timing. The song that does not awaken a corresponding idea in the mind of the singer and the listener is not music at all.

Devotional music is Naadabrahmasakthi that can arouse the Kundalini. It awakens the latent and potential powers lying dormant in an individual and produce the image of the central idea of music. The supreme Naada -(whether pure Raagasangeeth (classical) or Bhavasangeeth (based on profound emotions) pursued sincerely in true spirit of Yogasaadhana -as music manifests supreme mundane powers in so many ways in different situations. Tyagaraja says in Sriapriya that "Music is yoga".

The strong belief and unflinching faith in a personal loving God, combined with metaphysical view of creation on a cosmic scale is the dominating and all pervading theme which swells up through sacred music if the composer saints-Purandaradasa, Tyagaraja, Swathythirunal, Dikshithar, Shyamasasthri, Thukaram, Eknath, Kabir, Meera, Nanak, Surdas, Thulsidas, Vidyapathy, Jayadeva, Chandidas, Vivekananda and Tagore. Music and dance, the living forms of worship in India never separated from spirituality, devotion and temple arts. The greatest composer singers had all been devotees of God.

Naadalayayogasaadhana (singing and listening and enjoying Bhajans, Keerthans, hymns, Manthras, stavagans, classical Raaga Raginis) require quite a lot of concentration and meditation and an atmosphere of purity and harmony. For Naadasidhi, like Manthrasidhi, we need purity of body, mind and intelligence (Ohasudhi, Chithasudhi, Praanasudhi). Only with this purity the opening or awakening of the psychic being (Chaityasatha unmeelana) happens. A misconception among musicians is to lay exclusive stress on the voice culture and grammar of music and neglect the process of purity of body, mind and vital breath. Chithavirithyirodha, an essential part of yoga is needed for purity. The body is made into a perfect

instrument (Gaathraveena) of the divine, a tabernacle of God or a temple dedicated to learning of Naadaparamavidya. Tagore's Bramasangeeth says "Take up my body and transform it into a sacred lamp in your holy shrine so that the flame of aspiration of my entire being keeps on burning towards realisation of supreme reality."

Yoga experts recommend Praanayama for vocal music. With each breath a divine current passes through the body and a correct tuning is achieved with the psychophysical organism and nature. Youthful vigour is obtained, wrinkles soften and disappear, body stay supple upto advanced age. Yoga of music demands a perfect coordination and synthesis of Naada and, Raaga (Manthra, japa, Ohyana, and awakening of Kundalini with Bhakthyyoga, salient aspects of Gnaanayoga and Karmayoga. The Sadhaka should refrain from smoking, drugs and alcohol and illicit contacts with opposite sex. With the ever burning flame of aspiration mingled with hope and confidence, faith, absolute trust in the grace of Guru, realisation of supreme Naadabrahma is not a mere dream. The absolute bliss(Sukham aatyanthikam) is the apogee or zenith of all Sangeethasadhana and is described in the works on Yoga by Aurobindo. The realisation is possible since the body is made of the fire of Yoga(Yogagnimayam sareeram). The Naadayogasadhaka (both singer and listener) reaches a Trigunatheetha state. The Satwa in him/her is transformed to Prakasa and jyothis (holy manifestation of divine light). The Rajas into

Tapas(dynamic divine energy) and Thama,sto Sama or Shanthi the divine peaceful state of Yoganidra. In this state he/she sublimates him/herself from the Adhibhouthik (physical gross) state to Adhidaivik (godly being) state and Adhyathmic body(highest level of spiritual self) and is completely oriented towards the supreme yogic vision. He/she automatically becomes a willing partner, an integral part and parcel of Poornayoga or Adhyathmayoga system because mother nature is doing this Tapasya for the highest manifestation of divinity on earth. Mother Saraswathy adores and loves such a person and enters him/her and makes him/her Rishi, her dearest vehicle on earth. Such a Sadhaka will not remain under the influence of any particular creed or cult, illusion and hallucination, self complacency or frustration. The Sadhaka is Sadaajaagrath (ever vigilant and wakeful) in the sphere of Vignaana (divine intelligence) and Ananda (celestial bliss absolute) and is the seat of Satya and Dharma. The Iswarasakthi realisation can bring participation in a higher dynamism and a divine working and total unity and harmony of the being in a spiritual nature. The Sadhaka comes to know Vasudeva or Viswa or Virat or Prajna (Paramatma) as one half and jeevatma as the other half consisting of Anna, Praanaand Manomayakosa. Enjoyment of Sachidananda of the cosmos and the Lord in their divine and eternal Raasleela or play of love the Sadhaka becomes one with absolute bliss. The climax of the Advaita (nondual) ecstasy of Premabhakthi of the two(duality) leads to Poornayogasadhana which liberates from the cycle of rebirths.

Dolaayamaanam Covtndam

Raasastham Madhusoodanam

Radhe cha vaamanam drishtwa

Punarjanma na vidyathe

Mukthy occurs when Kundalini Sakthy unite with Shiva. When there is perfect Samadhi state. The fourfold discipline or Tapasya of Sadhaka include.

1. Tapasya of love(bhakthy, prema)
2. Tapasya of knowledge(gnaana)
3. Tapasya of power(Sakthy, Devi the female principle)
4. Tapasya of beauty(aesthetics or Soundarya)

Self surrender to God at once personal and impersonal occur with the Tapasya.

The integral Yoga discipline is in perfect concordance with the sevenfold Vedic Mahavyahrithis deriving cosmic energy and harnessing it for human welfare by meditating on the seven Beejamanthras or the seven Swaras.

Bhuhloka	Ecstasy of "I exist" on earth (body, mind)	Krishnam
Bhuvarloka	"I am Gnaanaswaroopam" (intellect, wisdom)	Poornam
Suvarloka.	"I am Anandaswaroopam" (Atma, self)	Suvarnam
Maharloka	Ecstasy of "I am Mahah" without any duality. (not even gender)	Mahaarnavam (ocean of Akshara, the "word" Pranavam)
Janalka	I shall become many from one	First vibration of creative urge

Tapoloka	For that I will do Tapasya	Concentration (Yoga, Nirvana)
Satyaloka	Realisation of truth of existence	Absoh.he truth (consciousness) or Bodha. Thureeyaatheetha

Beauty and bliss(Soundarya and Ananda Lahary) in the absolute is an ancient form of worship and realisation of Vidya (Devi) to experience the supersonic truth. Indian music is the creative invocation of a great presence and it is the same as the Indian aesthetic ideal. Indian aesthetics conceives of every art as the pathway of jeevatma to the Paramathma, the absolute. The true Yogic attitude of admiring the Sundaram (beauty) of the divine truth (Satyam) which is auspicious (Shiva) is a living tradition in classical music. With that even an Asura is transformed to a Sura. The word Sura means divine or Deva, but it also means Swara in many an Indian dialect including Sanskrith, Tamil and Bengali.

It is said that Sri Ramakrishna went into a trance seeing a duster of white cranes across an azure sky, and by listening to the musical renderings of Swami Vivekananda alike. Swami Vivekanda entered a trance by seeing India from the Vivekananda rock. Aurobindo tells us that the fire of Yoga purifies us. Tagore says the fire of music purifies us. Both are true since music is Yoga, Nadalayayoga,as described by saint composer Tyagaraja. Even 2000 years ago our Sages knew that music is the finest of all arts. Vajra and Markandeya Rishis in Vishnudharmotharapuram says "Without the basic knowledge of drawing and painting, no proficiency in sculpture is possible. Sculpture depend upon dancing, and dancing - on instrumental music. Instrumental music depend upon human vocal music and therefore music is the Sarvothamasookshmakala (greatest and the subtlest" of all arts). The ancient Indians, Tibetan Buddhists and Pythagoras were of opinion that each sound or Manthra has a living force behind it and each atom and each planet and star in the cosmos sings its own song. Those who are attuned to this cosmic music are indeed divine and lucky individuals.

As compared with the other art forms music is an integral art and the musician has everything within him/her. That is why Ouspensky said that if you can enter into a musician's heart and know it you have known everything. Tagore says that the musical notes come from the depth of life led by the singer artist. The composite note-cum-rhythm I patterns are not materials gathered from outside. The musician's ideas , and expressions are like brother and sister(idea is vishnu and expression is Devi his sister). They are born as twins. Just like an eternal listener and an eternal singer these two are inseparable Siamese twins. It

gives out" beauty as a whole, express what no words can ever express. Music and musician are inseparable (as music and Rasika are) because music remain the eternal union with life and joy of the creator artist. In this way, the world -song (Prapancha and the singer in it is never for a moment separated from the supreme singer-God.

According to Sarangadeva, Kusaareeram (bad voice) is that which lacks harmonics (Anudwanaviheenatwa), harsh (Rooksha), unattractive (Tyaktaraktika), unpleasant (Nissaratha), ugly (Viswara), throaty (Katitwam), unblending with Swarasthana, very thin (Karsyam) and extremely loud(Karkasyam). There are 24 Gaayakadashas due to incorrect breathing and improper resonance and fear, shyness, unsteady gaping etc. Prana control, Sarvangasana, Savasana etc. help to remove these.

The merits of a singer according to Yagnavalkyasiksha and Panineeyam are the sweetness of voice, clarity of pronunciation, pleasant one quality even in the separation of words, fearlessness, ability in time measures. Bharathamuni gives 6 qualities.

1. Sraavaka(reasonably loud to be heard)
2. Ghana(pleasing, audible, without any wobbling)
3. Snigda (pleasing, smooth, soft, without harshness)
4. Madhura (sweet and pleasant even when high notes are rendered)
5. Avadhaanavaan (neither too soft nor too loud)
6. Thristhaanasobha (Pleasant and bright in all the 3 sthaanas-mandra, madhya and thaara.)

Illamkovadikal in Chilappathikaram says that the musician should be unshakable in the path of ethics and Dharma apart from his proficiency in music.

Now the most important question arises. "Who gets such a perfect blend of all qualities and a divine vocal instrument from God? Who keeps a Daivi Veena or Sariraveena as the Aithereya aranyaka calls it or a Gathraveena as Naaradasiksha calls it? Sarangadeva says "One who gives Vidya to others, who have done Tapas and was ardent devotee of God in previous births, is gifted with such a perfect vocal instrument. Musical notes being embodiment of life and energy, the creative principle or Devi is said to reside in a musician's vocal cord.

The ancient composers by contemplative Dhyana saw the Raagas And formulated them for posterity. The artists drew the colourful pictures of Raagas. Sabdamayathanu (the body of sound) is thus transformed into Devamayathanu(a divine body of a deity). Each note reflects the infinite. The language of beauty, the caress that comes from the heart of singer(creator) reaches the heart of the listener. Standing alone Tagore could hear the melodies of the eternal singer.

Socrates considered philosophy as a kind of subtle music. Because there is a deep meditational grandeur in both. A dedicated musician who carry Naadabrahmasadhana will have a deep insight (Anubhavishty) into the world of aesthetics and he will acquire the deep intuition and extraordinary capacity to create rare and immortal things of beauty with God's grace (Apporvavasthunirmaana kshamaa pragna). According to Benedetto Croce such gifted artists have rare intuitions and their experiences, visions and intuitions are not lost, but are externalised so that the listeners capture it. In their music there will be a universal appeal irrespective of the ancestry, cultural heritage, training background, style or regional moorings. Because they-are the chosen ones by God and are Naadayogins due to the grace of their Poorvajanma Punya. The Rasa (the sap of aesthetic creativity), Bhava (emotion) are blended in them to give the highest state of aesthetic experience called the sublime.

A devoted Naadasidhayogin was Swami Haridas, of Vrindavan, the Guru of two immortal musicians - Tansen and Baiju Bawre-and also of Sant Meerabai, wedded to the Premabhakthi tradition. It is interesting to note that though Meera and Tansen lived at the same time and Tansen was a renowned musician and Meera was not, Tansen did not have the ego of his technical excellence and went to see Meera who was more divine in her Premabhakthi. Tansen went to Meera because he knew that Excellence in music depends in the Bhava and Rasa, and not merely in technical perfection.

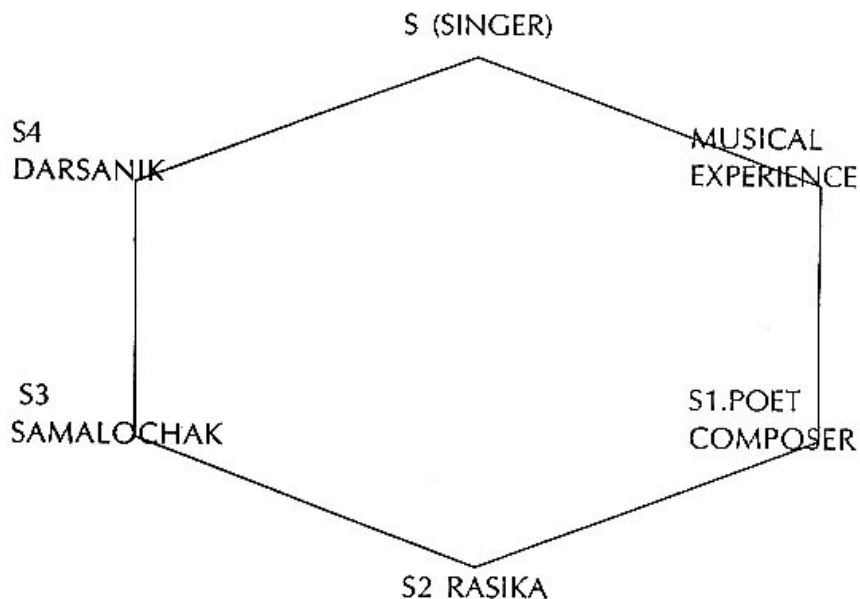
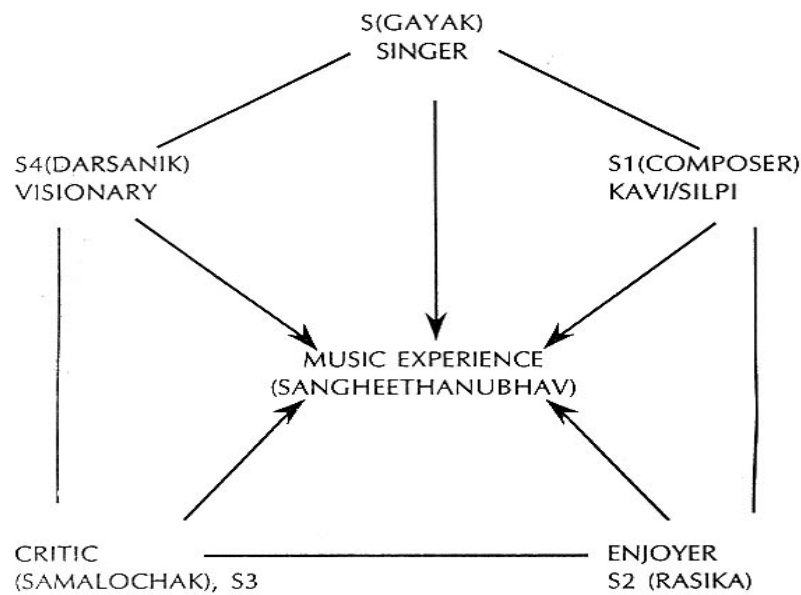
The musician's thirst for the knowledge of a Raaga, its structure, grammatical composition and other background materials, the aspirations for perfect identification with the Dhyana-roopa of the raaga will inspire him/her to plunge into selfless Karmayogasadhana by Swaraabhyasa (which corresponds to the Abhyasayoga of the Gita). Singing it gracefully and by', surrendering one's self and the Karmaphala to the Goddess of music; the musician becomes a Yogi. John Ruskin said "All one's life is music, if one teaches the notes right and in time" A corollary to this is seen in: Sri Aurobindo's saying "All life is yoga". Saraswathy, the Goddess of learning and music is adored as the tongue of Vishnu (Vishnujihwa Saraswathy). She is the tongue or word of Vishnu and she is said to have blessed the brothers of the Naga dynasty with special boon of art of music by means of which they could master the knowledge of notes. The Raaga. Bhairavi is a raga borrowed from the women folk of the Virabha tribes who are snake charmers

and is similar to the folk tune played on the gourd pipe by snake charmers of different parts of India(North and East)even today. The Spanish gypsies have a tune which they call1ndiana, and it is surprisingly similar to Bhairavi. The snake charmers are considered to be devotees of Shiva and his Naagas and their Raaga is Bhairavi, the consort of Shiva. The serpent worship and the Kundalini Yoga which is associated with the Naadajayayoga has relation to this belief.

(In the coming chapters the Kundalini and the Naadalayayoga of Tyagaraja will be discussed)

MUSIC EXPERIENCE- A YOGIC IAESTHETICBLISS

The music experience or Sangheethanubhava ensures an organic unity between the performer (Gaayak), poet (Kavi), Rasika (listener-enjoyer), Samaalochak (critic) and the Darsanika (visionary). There cannot be an experience of music which is different from the performer/composer/listener. We can have the music experience either as a pentagonal figure where the experience is central or a hexagonal figure where the experience occupies a peripheral part as shown below in the two diagrams.



The singer gives material and subject matter to elicit a music experience. The experience reflects (imitates, mimics, copies, represents) the singer and his feelings. It also symbolizes (expresses) the feeling, intentions purpose, meaning, idea, and vision of the poet. The poet also, participates in creating the experience. The poet-composer- singer like Tyagaraja is identical with the musical experience. The identity of the creator of music (poet, singer, composer) and the music experience is physically inseparable though logically distinguishable. The performer through the musical experience is communicating the feelings (intentions, meanings, ideas, visions) to the listeners. The experience entertains the listeners, but it is not mere entertainment. The performer enjoys the musical experience actively and the listener may appear to be enjoying passively. The listener who enjoys a certain level of aesthetic experience admires the creator of that experience, the singer. There are some listeners who stop there, being life-long fans loving and admiring the singer. Others become Samalochaks (critiques) and they grades, evaluates, criticizes and appreciates the performance, and the musical experience as well as the singer. They think for the singer and points out the defects so that the performer can improve his singing. The Darsanika is concerned with defining the notion of the musical experience, his position in it, his identity with the eternal singer as an eternal listener. The musical experience stimulates the aesthetic sense and the attention of all the listeners but to varying levels. The Darsanika is the one who understands and experiences the aesthetic experience of the poet singer at a Yogic level. It is such listeners who speaks about the musical experiences they had and tries to do it coherently. Sociologism is the theory which states that the artist can never be isolated from his listeners and from his culture. An artist can never work in a vacuum. To understand and appreciate any music or its greatness, the listeners and the singers would have to be from the same society according to Ritwik Sanyal (Philosophy of music).

Mysticism enjoins the artist to have an intuitive vision of ultimate reality, which leads to performance in great depths. The idealisation here is the result of some kind of meditation, is intensive use of creative, as well as spontaneous imagination. DHYAATVAAKURYAT. (Meditate I and then execute or do the action). The purity of our imagination and emotions and the intensity of it takes us to a higher level of delight than we could know before. We experience sheer undifferentiated bliss (Aanandaikaghanam) for we have come into direct contact with the deepest recesses of our own unconscious where memory of a primeval unity, between man and the universe, between man and God is still very strong.

Music is a quest rather than refuge. We explore our own theories and practices of life through music. We search for still greater knowledge and virtuosity than we have achieved. The ethnomusicologist's task is to expound the standards accepted by his race. The philosopher's duty is to

system has integrated mysticism of Brahmavaadam and is called Naadalayayogam. In Indian music there is a perspective or viewpoint (Ohrishty) and it is not merely a formal technique (Paddhathy). Axiology (theory of values) which is the branch of philosophy that deals with values and value terms is very important in Indian musical system.

To know the value of traditional musical system of India we have to know the Pramaana and Pramithy (methods and systems of knowledge) and their practical side in our life.

PRAMANAM	PRAMITHY	PRACTICALITY	PRAMAATHA
Dehapraktyakhsya	Dehagnanam- Prelogical	Cheshta- Body Behaviour	Gross body
Apprehension Indriya Praktyakshaja	Sadharana gnanam Common Sense	Kaarukala Crude Arts	Indriya
Praktyaksha Athdhqrana or Maanasa	Vignanam (Science)	Yanthrakala (Technology)	Bahyakaranam
Dharana Prasuthayukthy (conceptual reasoning)	Yukthyvignana (formal logic)	Vakyakala (Argument)	Budhy
Yukthyyukth Avadharanam (Reasoned Judgement)	Darsanasasthra (Philosophy)	Charukala (Fine Arts)	Anthakaranam
Avadharitha Dharmam (Judged Action)	Dharmasasthra (Spirituality)	Acharakalam (Morality, Ritual)	Ego
Krithopalabthiy (Realisation)	Mokshasasthra	(Mysticism) Yoga (Samadhy)	Atma (Self)

Music is a system of knowledge belonging to the last three systems of knowledge. It is a mysticism of yogic Samadhy state with adherence" to Dharma and philosophy and the finest of all fine arts and the knower or enjoyer is the self. It combines the realism and romanticism of naturalism, psychologism and sociologism of humanism, the moralism and mysticism of idealism and therefore it belongs to the

relational Telioiogism. There is non relational deontology of formalism in its technical side but that does not make it formidable. The naturalism and romanticism gives us the experience of natural forces in music, the humanism in it allows us to see the entire creation as one (Advaita) and the mysticism in it gives us the most beautiful experience of God in music. Both the performer and the listener gets these experiences and hence it is the perfect blend of aesthetics and mystic experience.

When I look at these characteristics of music, I realise that I was fortunate enough to listen to the divine Naada of M.S.Subbalaxmi at a very tender age and to listen to another divine singer Padmashree K.J. Jesudas for over 40 years. My musical experiences and observations on musical experiences in this book are mainly centered around these two divine singers.

While M.S. concentrated mainly on the idealism of music Jesudas has an equipped view of naturalism, humanism and idealism which makes him stand out as a jewel in the world of music. Because though we have good musicians, they are shut out in their small worlds and do not recognise the nodal role. Jesudas is different in this respect. He embodies his humanistic ideals in his Advaita and religion of love.

The idealistic account of music recommends Yogic and tantric exercises to extend the boundary and range of our system. Music in relation to the 6 psychic centres (Shadchakra) in our astral body is realised as the power (Shakthi) of the artist. She represents the Devi Saraswathy. Idealism naturally culminates in mysticism. Mystical music is music in great depths. The identification here is the result of some kind of meditation, ie intensive use of creative and spontaneous imagination.

Let us see what Abhinavaguptha speaks of aesthetic experience.

1. The Sahridaya loses the sense of the present time and space. While listening to music all worldly considerations are lost including the feeling of our own body consciousness
2. Desires and anxieties dissolve. Hearts respond sympathetically (Hridayasamvada) but not selfishly.
3. Total all engrossing response or Thanmayeebhava and transcendence of the ego. The I of the waking state is suspended.
4. The hard knot of selfness is untied and we are in an unprecedented state of mental, emotional,

5. Purity of our emotion and the intensity of it takes us to higher levels of pleasure which is sheer undifferentiated bliss (Anandaikaghanam). We are in direct contact with the deepest recesses of our being.
6. We have reached our inner terrain as that occupied by the mystic. We search out these experiences on amore permanent basis.

THE ELEMENTS OF MUSIC

1. Objective determinants of music are the cosmological complex of 3 elements Dwani, Kaalam and Vak (sound, time and speech) the Sanskrit name for it is Naada or Paraavak.
2. Objective components of music. Deontological complex of 3. Elements tone (Swara), beat (Thaala), verse (Pada).These are the Roapa, Bandha and Nirmithy. The Sanskrith equivalent is Raaga.
3. Objective constituent teleological complex. 3 Elements resonance (Anuswara), rhythm (Chandas), meaning (Artha) the Sanskrith ward is Rasa. The aspect of feeling or beauty matrix.
4. Subjective determinants. Egological complex of 3 elements the artist, the Rasika and the critic (gayak, rasika, panditha) sanskrit equivalent is Atma (self). The Rasa, the Ananda and the experience of the self by which the subjective determinant merge with the objective determinant is of prime importance in the aesthetic experience of music.
5. Subjective components. The 3 elements of Yogavadhanam (creative prehension), Bhogavadhanam (aesthetic prehension) and Bodhavadhanam (critical prehension). The Sanskrit avadhanam - includes intuition (philosophical) and imagination (psychological).
6. Subjective constituents. Kriyopalabdy (action) Bhavopalabdhhy (feeling)and Tatwopalabdhy (understanding) Sanskrit Upalabdhy is the realisation of experience.
7. Music as subject-object relation. Creative delight (Yoganandam) emotive de1ight (Bhoganandam) cognitive delight (Bodhanandam).

In music it is not attack or Agatha but resonance (Anuranana) that become suggestive and meaningful in conveying musical feeling.

Abhinavagupta says less the Agatha and more the Anuranana the music will be good.

Agatha	Anuranana	Music
Less	More	Good

Equal	Equal	Indifferent
More	Less	Bad

These half qualitative criteria along with 2 full qualitative criteria of beauty namely Snigdha and Madhuraswara make music most delightful and beautiful. A singer with these qualities are loved dearly by the listeners because of the aesthetic experience associated with the performance. According to Abhinavaguptha Avadhana is Yogaroopam. It is the quality for the best composer-singer (Vaggeyakara). Dakshaprajapathy tells Dattila that it is Avadhana which form the Gaandharva, and the other factors like Swara and Pada etc. come after that. Without Avadhana (Yogaroopa) the perfection in music cannot be achieved. Creative prehension are of 3 types. That of the performer, the listener and of the critic. The singer has to concentrate in thought and visualise in imagination (in mind's ears) the music as an art object and plan the techniques he has learned to bring out the result. It is the Prathibha. The creative imagination is Karayithri Prathibha different from contemplative imagination (Bhavayithri prathibha). There are 3 stages of felt prehension. Passive, sensuous and emotional.

In certain situations the music may not claim the full attention of the listener. (eg. the movie sound track to reinforce the moods of the visual scene). Listener hears the music passively but does not actually listen to it. Enjoying a musical event without having any understanding of the music gives a pleasurable sensation. and this is called sensuous. This type of enjoyment does not reveal the full value of the music. When the listener prehends the emotive stereotype present in the musical act and in himself and then reacts with his own emotions and moods which the music arouses. The music then produces a sublime experience in the listener. Emotional listening is an inherent attitude towards music. It does not require intense concentration or training.

Music as an art object free the listener's mind from the stresses and strains of personal joy and sorrow and he develops sufficient aesthetic involvement or identification with it so that he relish a mental state of detached calm and ecstasy. The intensity of identification depends on the excellence of artistic presentation and the sensitivity of the audience. But the objectivity of Rasa (beauty) depends on the psychic distance. Critical prehension requires a perceptive listening which needs concentration on the music itself and sharp awareness of what is going on musically. This type of listening brings appreciation. Music appreciation in this sense means knowing what to listen for, understanding what is heard, and thereby having an objective basis for experiencing music as an art. Perceptive listening can be developed by attention, repetition, familiarity, background knowledge, participation, auditory and visual approaches.

I would like to describe a critical listener's prehension of music as

1. Focusing attention from without on music as a thing, identify the art and its creator, its history
2. focus attention from semi-without on the art, identify the subject matter, material and tonality
3. focus attention from semi-within on the medium
4. focus attention from within on the art object andprehend the aesthetic object
5. focus attention from detached within on the aesthetic object and savour the flavour, recollect the music maker's aesthetic experience in tranquillity is, identify the state of being of the performer and share it with him vicariously. Only with the fifth, the listener can feel the sheer de light or Ananda of the music.

The realisation(Upalabdi) has 3 aspects -the acted, felt and cognitive. One and the same person can realise the music in all the 3 modes. Realisation is turning the possible into actual experience. Realisation of all values{including musical values) is culture. Repeated realisati6n of preferred values makes for happiness. In a situation wherein a value is realised the subject unites with the object. The Ananda of music is arithmetically given in the Taithareeya Upanishad.

The bliss of Ghandharva, Pitrs, Oevas, Indra, Brihaspathy, Prajapathy and Brahma increase in astronomical proportions. Music is Ghandharvaveda. It is experienced by Oevas and Brahmadeva on astronomical proportions while ordinary men enjoy it, but to a lesser degree the bliss or Ananda of Brahmanubhava. is experienced by Nadalayayoga and as there is nothing to surpass that absolute bliss, it is the most desired Ananda of the universe.

The Yogic aesthetic bliss experienced by the singer and the listener the creator and the observer, make them enjoined as one, the Brahma experience of Advaita and this is the most beautiful part of the art. The music, the producer or creator of music and the listener or enjoyer of music become one. This state of Brahmanubhava is achieved at the level of the Atma (self), intelligence (Budhi) and Manas (mind). The Nirvana or Samadhi state of Nadalayayoga in the listener and the singer is the same as the experience of advaitanubhava of Vedanthins.

TYAGARAJA'S NAADALAYA YOGA

Ragaratnamaalikache ranjiJlunata

Baagasevinchi sakaJabhagyamondum daamu rare

Naigama shat chaastra puraana aagamaartha sahitama

YogivaruJuyaanandamunonde sanmaargamata

BhaagavathothamuJu gudi baade kirtanamuJatha

Tyaagaraajukadatera taarakamani chesina sata (Reethigaula)

(come one and all and sing the hundreds of gemlike melodies of Tyagaraja composed for the salvation of humanity. Songs which contain the essence of the Vedas, the six Sastras, Puranas, Aagamas which the Bhagavathaas congregate and sing forth and which show the right path, to attain the bliss realised by the Yogins.)

Music is Yoga and Sidhi, a path and end. in realisation of God. It gives Btahnandam to us(NaadaJoJudai brahmaananda mandave, manasa).

His krithis which expound the true words of the exalted Upanishads if sung by correct placement of Swaraas and rhythmic turns and pauses, which reflects true devotion and vairagya, which are dripping inside and out with juice like grapes and are rich in nine Rasaas.

(Nigamasirorthamu gaJgina nijavaakkuJatho,

swarasudhamuto, yati-visrama-sadbhakthyvirati-

draakshaarasa-navarasa-yuta,kritiche) .

In traditional Indian literary criticism there are two main styles of composition. Nalikerapakam and Draakshapakam. In Nalikera type of compositions the beauty is deep inside and it has to be slowly enjoyed with an effort, just as we have to break the shell of a coconut to drink the sweet water. The composition in

Oraakshapaka. Music which is the art of arts is Draakshapaaka and it leads you to the ultimate spirituality of Yogic Samadhi state without much effort. Therefore Tyagaraaja asks musicians (in Thodi) to east off sleep, get up early morning and practise, culture the voice well in the still early hours of the morning. Take a Tambura for your Sruthy, let your mind be pure, intone the Swaraas correctly and well, and stick to the Sampradaaya.

Nidduraniraakaranchi,

Mudduga dambura batti.

Suddhamaina manasuche, susvaramuto,

Baddutappaga, bhajiyinchu

A well trained and sweet voice, perfect sruthy, spotless personal character and faithfulness to tradition are the fundamentals of the art of music. In Brahriadharmapuraana and Naaradasiksha reference is made to a conversation between Rishi Naarada and Vishnu.

Narada : Twam thu brahmaparam vishno gaanam cha brama chaapyayam.

Vishnu : Yathaavidhikritham gaanam jaganmohayathe chiram

Souswarya cha vidhignaatham gaanedwayamapekshyathe

Athisethe vidhignaanam souswaryathuphalaadhikam

According to vishnu two things are essential for music to become , spiritually equivalent to Naadabrahma (Vishnu himself) and these are Vidhignaanam (technical knowledge) and Suswara.- But he continues, of these two the Suswara has got Phala Adhikam or more effect on the Rasikaas in imparting the Spiritual message. To demonstrate this to Narada Vishnu called Shiva and asked him to sing. Shiva sang in Sreeraaga which is the Raagini of Gaandhara and when he sang Vishnu melt in the Rasa

as if he' was embraced by sree and became Rasa itself, and from that Thanmayeebhava he became Gaanabrahma and eternal.

When Siva's suswara embraced Hari he became melted into it and the two together became eternal music. This Thanmayeebhava with the singer and listener is essential for Naadalayayoga. Naada took human form in Raama according to Tyaagaraaja.

Swaramulaarunnokati ghantalu

Vararaagamu kodandamu

Duranayadesyamu trigunamu

Niratagatisaramura

Sarasasanghati sandharbhamu.

The beautiful Sangathy should be attended by emotional propriety and contextual relevance to give the desired effect. Each Raaga incarnates as a beautiful daamsel and dances with tinkling bells when Tyagaraaja sings. In his Jaganmohini Raaga he adores these Raaginis as 'sobhillu saptaswata sundarula bhajimpave manasa'. In his Athana song Sripapriya he sings 'raagambulu manjulamagu avathaaramuletti manjiramu ghallani natinchu.

Rama is Ananthakalyanaguna Swaroopa and Tyagaraaja worships the endless good qualities of his loved one. The personality of Raama has bewitched for ages the millions of our country. One of the qualities Valmiki has given to Raama is Gaandharvam cha bhuvishreshta bhabhoova bharathaagraja.

Raama is elder to Bharatha (Bharatha means Bhava, Raaga, Thaala also). He was born on the Navami Thithi while Sun was in Aries, Maon was in Punarvasu and Lagna in Karkitaka. Bharatha his brother was born on the same asterical positions but on the next dayan Pushya Nakshathra. Tyagaraaja was also born on this Nakshathra and his horoscope is that of Bharatha. No wonder Tyagaraaja was an adept in the Bharathakala and he loved Raama as Bharatha did. Tyagaraaja calls Raama a lover of music several times (Sangheethaloa, Gaanalola, Geethapriya, Saamagaanalola, Raagarasika Raagarahitha, Sangheethasampradaayakudu, aadabrahmaanandarasaakrithy, Naadabra-hmaanandaroopa and so on). In his Athana h asks the mind to resort to the Upaasana of music which is dear to the Lord. 'Sripapriyasangheethopaasana cheyave, omanasa.' The lord being Sq, ptaswarachaari (one who dwells and sojourns in the 7 notes) if one do Upaasaha on music he attains the Lord. The Ishtadevatha of Tyagaraaja is thus music itself in the symbol of Raama or Vishnu. He had a guide or Guru in Hanuman, not only for the

Ishtadevathanishta but also in musical excellence. Anjaneya was the one who had established the schools of music (Mata) in India according to legends.

Geetharthamu sangheethanandamu

Neetaavuna joodaraa o manasaa

Seethaapathi charanaabjamu nidukonna

Vaathaatmajuniki baaga delusuraa.(Suratti)

The best music is always sacred as Coleridge has once remarked. Tyagaraaja's music is spiritual and to have the sacred feeling of it to perfection the singer has to be pure in heart and soul. Raama (Vishnu) incarnates himself whenever such a pure and sacred musician sanctum is born just to hear him sing. Raama was born to listen to Hanumaan. In temples of early Pallava and Chola period on the southern side of the sandum is depicted the Veena-Dakshinaamoorthy teaching the path of salvation to sages like Sanaka. In later temples this is replaced by Yogadakhinaamoorthy. This is in accordance with Yaajnavalkyasmrithy. In it is mentioned how to deen the senses, mind and memory and intellect of all the other objects and to contemplate upon the pure Atma with Saamagaana practising it with concentration. Constant singing of them bring salvation. Yaajnavalkya continues "He who knows the truth of Veena music , who is an expert in the sruthis, and their varieties and understands Taala reaches salvation without effort." Tyagaraaja repeats this opinion in his Chenchukaamboji Vararaagalayagnalu...swarajathimoorchanaabhedamul svaandamandu deliyakayundi. And when he addresses Naarada in Kaanada as VeenavCladanatatwagnalnhis Saaramathi Mokshamugalada he says it is indeed hard for one to attain Moksha if one knows not the mind of Siva who always delights in the playing of the Veena. Hence Naarada goes about with a Veena always singing the praise of Lord Tyaagaraja definitely know the importance of playing the Veena in Aswamedha and other 'Vedic sacrifices and the Vedic statement that Veena is the form of the Goddess Lakshmy. Sriyaa vaa vaa ethad roopam yad veena.

The control of breath, mental absorption (concentration) and the maintenance of a blissful state have made the art of vocal music a veritable Naadayoga. Tantric and Yogic schools of philosophy give prime importance to Naada in spiritual realisation. The Vijnaana Bhairavathantra says that the mental absorption produced by music gradually leads one to the realisation of oneness with the divine spirit.

Yoginasthanmayatwena manorudisthadaatmataa

Thantryadivaadyasabdeshu dheergheshu kramasamsthithe

Ananyachetha pratyantthe paravyomavapurbhaveth.

Tyagaraaja points out the origin of Naada in Moolaadhara and observes that knowledge and realisation of Naada is itself bliss and salvation.

Moolaadhaaraja naadamerugutha

Mudamagu mokshamuraa.

He says Bhakthy with the ambrosial Rasa of Swaraas and Raagaas is itself Swarga and Mukthy (in Swararaagasudhaarasa). In Sankaraabharana (Enduku peddalavale) he compared Veda, Sasthra, Advaita, and secrets of Naadavidya and gives more importance to the latter in achieving mukthy easily jnaani gets Mukthy at the end of many births with effort but one with a natural devotion and immersed in Raaga becomes jeevanmuktha here and now. Music is jeevanmukthy in Saaveri

Bhaagavathula gudi bhogamulella Hari-

Ke gaavimpuchu veenaagaanamulatho

Naigamacharuni sreeragamuna baaduchu

Tyaagaraajanutuni baaguga nammuvaaru

Samsaarulaite nemayya?

(what if he is a Samsaarin, he who can sing of the lord with Raagaas playing on the Veena?) God naturally protects those who combine divine love with music (Raagaswarayutapremabhakthajana-rakshaka in naa moralanu-Aarabhi). In Hindola he describes Krishna as well versed in music which is the nectar that came out of Saamaveda and the light shining on the hill of Naada, made up of the 7 Swaraas born of the pranava, the matrix of the whole veda. The light on the hill of Naada !Naadaachaladeepa) is compared to the Upanishad Brahman. This is repeated in Lalitaraaga (Samvidroopanaadapradeepa) and in Kalyani (Naadapradeepa). In Andolika Raagasudhaarasa gives one the blessings of Yoga, Yaaga, Tyaagaand Bhoga. Knowers of Swara, Naada, and Pranava arejeevanmukthas.

Raagasudhaarasa paanamu jesi

Raajillave manasaa

Yaagayogatyagabhoga

Phalamosange

Sadaasiva mayamagu naada omkaara swaravidulu

Jeevanmukthulani tyagaraaju deliyu .

Naada, Swara and Pranava are the very form of Sadaasiva. Vishnupuraana says

Kaavyalaapascha ye kechid geethakaanyakhilaani cha

Sabdamoorthydharyasyaithai vishnoramsaa mahaatmana

In Kharaharapriya Naadathanumanisam sankaram the same idea of Naada is the same as God is expressed. In Kalyanavasantham Brahmananda is attained through Naada Upaasana and it is the path followed by the Thrimoorthis. (Naadaloludai brahmaananda) One who does not float on the ocean of music, adored by the Vedaas and the Gods, and which is Brahmaananda itself, is verily a burden to earth according to Tyagaraaja.

Sreenayakaakhila naigamaarchitha

Sangeethagnaanamanu brahmaananda

Saagar meedani dehamu bhumi bhaaramu {Garudadwani}

Nadayoga is the Mukthy as well as the Mukthymaarga and the Saadaka has to do Saadhana to achieve it with Curubhakthy, Sradha (concentration) and constant practise. He/she has to avoid contact with bad people and bad influences and remain pure and simple and devoted to Naada. The singer /poet become immersed in Naada as Kulasekhara Alwar said in Mukundamaala.

Paanidwandwa samarchayaachyuthakathaam srotradwaya twam srunu

Vishnum lokaya lochanadwaya harerghachamghriyugmaalayam

Cighra ghraana mukundapaadathulaseem moordhannamaadhokshajam. In Mukhari (Induka I tanuvunu) and in Neelaambari (Ennaga manasu kurani) Tyagaraaja expresses this. In Nidhi chaalasukhamaa the acquisition of mental tranquillity, self control, sama dama are placed above the acquisition of mundane things.

Without Saanthi or tranquillity there is no happiness, whether one has controlled senses, be a Vedanthin, or a Crihastha, be one who has done japa or Tapas or a scholar of Vedas and Sastraas be a performer of Yagaa,s or other meritorious Karmaas or be one who has established himself as ameritorious Bhagavathar (Saanthamuleka soukhyamuledu). Bhaagavatha streses the need for Satsanga. Kapila, Rishaba, Naarada, Krishna in advice to Uddava and all scriptures uphold this. Tyagaraaja. stresses the Satsanga and Curubhakthy in many of his compositions.

Among the higher states of devotion are the god realisation (Bhagavadanubhava) and Taadaatmyaasakthy (Advaita anubhava) or oneness with God. Tyagaraaja shows in his compositions this type of devotion.

When we try to understand and enjoy this experience in a Tyagaraja Krithi, we will have to resort to a voice of our times to have the full effect, We cannot enjoy or internalise Tyagaraja just by reading it. The lyrics and the Raaga of Tyagaraja come to our mind through the medium of a modern singer's voice. So the effect becomes a Tyagaraja-singer effect. In my case I have listened to Jesudas for knowing Tyagaraja so this is a Tyagaraja-Jesudas effect. Similarly to enjoy Meera I have experience with Subbalakshmy and there is a Meera-Subbalakshmy effect. It is never pure Tyagaraja effect or Meera effect. When we internalise it through a singer's voice. Hence a pure entity like mozart effect is impossible in our situation. This point I stress because the spirituality of music has to come through the medium of the voice of the singer in vocal music. Naadalayayoga in vocal renditions has the strong component of voice preferences of the listeners. Regarding music therapy also this is applicable.

CHRISTIAN AND SUFI TRADITIONS IN INDIA

Music is a universal language which knows no boundaries of caste, creed or sex or of religions. In India from time immemorial music and Bhakthy are like Jeevathma and Paramaathma. This is especially seen in the Radhakrishna Vaishnavasampradaaya.

8 X 9 X 7

ashtavagdevi X navarasa X sapthaswara

ashtadalapadma X navagraha X saptharasmi (colour)

In this Raasamandalaleela the 72 Raagaas are born in the 12 Aadityamandalaas of the cosmic regions. In every Chakra 6 Raagaas each are elaborated. In every Melakartharaaga are 7 Swaraas in 12 Swarasthaanaas.

In the Vaishnava tradition we find the Sanakaadhi who are Haridaasas and are Brahmacharis who lead many jeevaathmasanghaas to the Vishnudhaama by anointing them with the Karpooora, Thulasi and Chandan. Almost a similar belief we see in the Christian tradition. The four angels Michel, Gabriel, Uriel etc are similar to this. Yet, the 'Raagaraaginis of the classical Indian music is rejected by the Christian church. The love songs of King Solomon and the wine in the grail of the Mary of Bethlahem are considered as sin by at least a few churches. In the Bloodline of the Holy Grail, Laurence Gardner has evaluated this in detail music of the grail he says ogdod (8 or Ashta), Ennead (9 or Nava) and Hebdomad (7 or Saptha) are included in the cult of Mary Magdalene. In the initial KA or the early Chithrakoota of the Naaga tradition of India and in the early cross and swasthik we find both the Naada and the Prakasha, the music and the jyothishchakra (conch and Chakra). The Sanakas were the first slips of India. They found out that one has to find the place where the telluric current from sun and the earth force meet and at that point one should make a temple and with a Soocheshethra one has to make dynamic sound vibrations (Naadakampana). If this is done the earth force will increase in the area where the temple stands and the current will pass through the human body which visits the place and thus our current (biological) merges with that of mother earth and father sun. This Raasa with the sui1(Sooryanarayana)and Bhoodevi experienced as Rasa by the artist and the audience alike and both merges with it. It is this jeevathmaparamathma merging which is the ultimate of all temple arts including music

Music is form of geometry. The geometry of the human body also is a manifestation of it. For kindling the Godly vibrations in one's body one has to lead a pure life and should have love of God. All these are seen in the Christian traditions yet they do not allow musical traditions of India to get into their Churches. Because of this even if the Churches of India have a 2000 year history in our land , Indian traditional classical music has not entered its walls so long. In the book of K.M.Tharakan, published by Sahitya Akademi (M.P.PAUL page 148-149) there is mention of a Mamman Bhagavathar who was a Syrian Christian. He went to Thanjavur because of his love of music at an early age. He learned music from Brahmins (who taught him music even though he was Christian) and performed Kacheris in various parts of India. But he didn't get any encouragement from his own community in Kerala. The author observes that though Mamman was an expert in Karnatic music, he was unlucky to have been born in a community which does not understand him,. He continues to say that even though the Syrian Christians are cultured educated and good people, they keep a distance from the arts like music, believing that their religious beliefs will be lost if they do so. The author also predicts that the Christians cannot remain like that forever, aloof from the main Indian traditions and a time will come when they will understand that the cultural heritage of India and the classical arts of India belong to them also and they will one day join the old and new and create a new era of Advaita. This prediction has come true through our Jesudas. The 2000 year tradition of the Christian church was broken when Jesudas sang a classical Kachery in Padivattom, in the bishop's council's auspices on December 2, 1999. Kerala and Keralites are lucky since the illluck that befell Mamman Bhagavathar did not happen to Jesudas. Jesudas, and before him his father, Augustine Joseph had been regularly singing in the Kappela of St. Joseph for years. This is a socially and culturally important event viewing from the view of age old Church tradition of preventing Indian music to enter into its premises.

Prof. Omanakkutty and her disciples are singing some Christian classical songs denoting that apart from Mamman Bhagavathar there were one or two Christians (like Mosavalsalam Sasthry) who were trying to take classical music to their Churches *(but their individual attempts were not successful to gain a popular and mass momentum and hence failed to produce the desired effect on the church authorities) Jesudas has succeeded in bringing music to the popular forums and by the popularity and love he receives from all the communities, and the way he has bridged the gap between religions by his music, has stayed and after a hundred years from here he will be considered as the father of classical traditions in the Churches of Kerala.

In Islam Sufi cult there has been a long and rich tradition of music. By Sama (hearing music) one can

accepted by the Sufis and through the mystic experience the Sufi gets bliss. Khavvali is a method of Upaasana for the Sufi singer and it gives awakening of the Atma. It is the Sadir(rich food) to Atma to make it grow. There is a special Sahitya and a grammar, and a style for the Sufi music of India and Pakistan and Smt. Regula Berkhardt had analysed them in her book Sufi. Music of India and Pakistan.

According to Bharathamuni from Bhava is Rasa created and not vice versa. All singers have Sruthy, Thaala, and Raaga. But the Bhava and Laya may be lacking. It is from these Rasa is created and without Rasaanubhava there is no music. This is why the music of Jesudas has become endearing and enduring. The Bhavalaya of his music has brought him Rasikas from various walks of life. What are the Sthaayibhavaas created by his Kachery?

1. The extreme ecstasy of Bhakthy. Devatha is Vishnu, colour is a greenish blue just like that of Prakrithy(earth).
2. The Paramasaanthi of Bhakthy, Devatha Paramapurusha or Brahma, colour beyond all colours(Sarvavarnaatheetham).
3. The Viraha from the beloved God, creating pain mingled with the expectation of reunion, the ultimate Madhurabhava, Devatha Dharmadevan, colour Kapatha.
4. Wonder(Vismaya) Devatha Brahmam, Suvarna Vamam. All these are Satwikabhaavaas. The Lakshana of each of these Bhavas are;
 - i) Transcendental Darshana by the stilling of all emotions
 - ii) The wonder of how this experience was created.
 - iii) Tears of joy and Harshapulaka .
 - iv) The total Saantha or tranquil state where everything merges in oneself.

With these Bhaavaas and Lakshanaas people go back to their respective homes and it is this experience of Ananda which brings them again to his Kachery. In this meaning we will have to agree to Karl Marx's opinion that music(like religion) is an opium which makes man an addict.

The ultimate aim of all music is awakening of Atma. Sangheetha is Saama. Saama is Soma. The nectar or Madhu which gives experience of bliss. In one of the pentacoastal hymn is said "Veni, creator spiritus" (the addictive wine of the creator). The Jaava tradition call Mahalaxmi who awakens from the milky ocean like this. The Saamaveda Mahavishnu is in Yog3nidra in this soma ocean, and Christ is born in

the virginity of this ocean. It is in this the Jeevathmas merge and where the Raaginis originate, live and merge.

In the Bhakthy tradition of Nimbaarka Nishkamakarma is for liberation. Only in a pure soul does knowledge shine. Therefore one has to purify mind with Nishkamakarma. Music is the synthesis of knowledge and Upaasana. For this total surrender in front of God(Prapathy) and Guru(Guroopasathy)are needed. With the Upaasana of OM all these will be obtained naturally without any effort. There are 6 types of Saranaagathy.

1. Anukoolasyasamkalpam. The firm decision that I will travel only through the path of God.
2. Prathikoolasyavarjanam. The firm decision that I will avoid the people and situations which are against this.
3. Rakshysiatheethy viswasam. The firm belief that lord will protect me.
4. Gopthruthwavaranam. Chosing the Lord asthe Goptha or saviour.
5. Atmanikshepam or Prapathy.
6. Kaarpanyam. Liberation from all by the feeling Anyathaa Saranam Naasthy.

All effects and burdens are entrusted in the Prabhu and one is totally immersed in the Naadabrahma in a beautiful experience of ecstasy. All these are seen in the Christian and Sufj traditions also, yet Sufi accepts the music and Christian Church does not. The light of Prathibha is the kingdom of God or the Suvarloka of India. (Christian apocalypses Pauli chapter 210) To see it in one' s own heart people try. And those who succeed are anointed by Michel, Gabriel, Raphel and uriel (the Sanaka group of Rishis). The angels thus anoited Inoch. The light of Suvarloka was called God by St. John. And the Corpus Hermaticum. It is this light which leads man to God and gives him/her the direct vision. This is known to all religious groups. The Prathibhaasarga is through Vaasanaas of the eternal life.

According to Guru Nitya, Mary and Martha were to Christ what Maithreyi and Karthyayani were to Yagnavalkya. According to Laurence Gardner, Mary of Bethany was equivalent to the Ishthar of sumeria, Ashthoreth of Canaan, and the Astharthe of phoenicians. In the Veda she is the Ushas, wife and sister of the sun or Suryanaarayana. She is the Saraswathy ,the sister, mother and wife of Brahma, in Puranas. In south India She is the Karumaari (black) and the Gouri(white). In Europe She is the black and white Madonna. She is related to fertility, creativity. In a 191hcentury murai painting of Serj Ivanov, one finds Mary showing a red fruit to king Tiberius as a symbol of fertility and he afterbirth(Punarianma). Mahalaxmi

has a Bilwa fruit, with the same meaning. Mary was the daughter of Syrus, the priest of the old synagogue in Cappennorm. But in a picture drawn by Peter Robson, she is shown as killing a serpent and wearing the black dress of the esoteric church, and wearing the symbol of the double serpents of modern medicine and wisdom. It is surprising that in India Budha(mercury) and Saambha(son of Krishna) is also shown with the same symbols. In the Treatise of Hermes Trismegitus discovered from Chenobhoskiyon in Egypt, it is mentioned that those who want eternal life in God get it because of their constant tapas the ogdod (8) and that enlightens the ennead(9) in them. In between these two heavens are situated the hebdomad(7) the seventh heaven of earthly life. The graH in the hand of Mary is comparable to the pot of nectar in the hands of Ohanwanthary and Vishnumohini who subdued the sinning Asuras or bad people and the Kaama or desires. It is the Maari(rainin tami) which gives fertility to earth and life on it, and which comes from Suryanarayana. In Biblical tradition Christ means the anointed. The anointing in Bible is done in the house of Simon. And the rite is performed by the Mary of Bethany, according to Gardner. The priesthood of Christ was that of Melchizedek(Hebrew 5:6:7) and a picture to show this is kept in the northern gate of Chartres cathedral. In this cathedral, the door for the initiates is led by Melchizedek(Genesis 14: 18-20). There is a grail of Manna(nectar) in his hands. According to Biblical tradition the first woman in the series of Manna or nectar in the grail is the great grandmother of David, called Ruth. Mary, mother of Christ, and Mary of Bethany, both belong to this race of women.

Gardner gives us many evidences to prove that the grail is the fertility and the race of man. The sun needs the grail of earth to create races of men and women. "I am the true vine John:1). I am the vine, ye are the branches: Thou hast brought a vine from Egypt and planted it(Psalms 80.8). In all these the mothers who gave birth to the race of David is also mentioned according to Gardner. The vine, the grape, the wine (God, Goddess, eternal bliss) are the symbols of Somarasa as mentioned by the Saam, a Vedins. The vine of Judah or the bloodline of the Messiah is the meaning given to the grail by him. Therefore if someone prays to take away the grail from him* (as Christ did) it is a prayer to liberate from the life of householder and to enter into the line of Sanyasins. Only then the thought of the women of the race become sin. That is how the thought of Mary of Bethany or Magdalene became sin to Christ. Otherwise he would have married her and led a normal life of a householder. Gardner even says that actually she was Christ's wife.

He quotes the words of the Council of Constance (1417) in which it is said that the Joseph of Arimathea established his race in Europe, as he nurtured his race in the vineyard of the Lord.

The Yogasampradaaya of Vaishnava and Christian traditions have many things in common. The early Christian and Indian traditions were not different from each other. The one became different as time elapsed. When ONE realises that there is oneness in all. There is no meaning in conversions. There is no meaning in wars. There is no meaning in unnecessary power politics. One will live and breathe and merge in the eternal present in total bliss. That experience has to come from the melodious music because it is the universal language which transcends all boundaries.

In her book Regula Qureshi writes that experiencing Sufi music means charting a process of interaction between musicians and listeners, between music and audience responses, in short, a performance. What is the nature of this interaction? What does music say to the audience, and how does the music performance situation affect the music? To know this one has to attend not one Kachery of one performer but different Kacheris of the same performer and of different performers. One has to analyse the sound idiom as a self-contained rule system for generating music in performance (the Kachery Padhathi) to identify the context of performance, the total situation in which the music is produced and to understand its social and cultural dynamics. And one has to relate the performance context to the music in a way that will identify the contextual input into the musical sound. This is a standard ethno music logical programme of action.

Indian musical theory, has its own long established principles for describing and analysing musical sound. The extension of scholarly analysis to Indian musical practice was hampered by the traditional separation of the learned music scholar from the unlettered performing musician. This gap is being bridged by performers like Yesudas who combine both methods.

For an ethno musicological analysis of a music performance it should focus on what can be tested, the observable. To actually analyse a performer's performance situations we have to listen to the performer on various performance situations. We should have a working knowledge of the Kachery Padhathi in general and that of the performer in particular. We have to make and record our observations in each situation and get the observational data from other listeners, for which we will have to get in touch with people who are regular visitors of Kachery of the same performer and also the views of the performer himself.

To do justice to the domain of her selection, the Sufi Kavvali music Regula chose a single shrine, the

extensive network of shrines linked to the Sufi music cult. She took the shrine of Nizamuddin Auliya as a representative of high spiritual pedigree, with its own heritage of Sufi teachings and poetry, its own traditions in

music. The disciple of Nizamuddin, Amir Khusru and his mystical verses were studied and interpreted with their meanings and thus trying to enter into the bhava of the Sufi music to get the experience of Rasa.

The Sufi listener can describe his experience, even the music he hears, but it is the musician who has mastered the idiom so as to create to. Only the musician can unlock the essence of its structure. To analyse this musical idiom Regula sought the guidance from the musical genius of the performing artist and applied it in her Kavvali repertoire.

I have adopted almost a similar method. I have learned my Kachery experiences with a prototype spiritual singer, Jesudas to study the spirituality of Indian classical music, I have applied the musical genius of this performer in my study of musical repertoire. I have a prediction to make "from my observations. I feel the St. Joseph's Church in Kannamaali will be remembered by the posterity as the shrine of Augustine Joseph and Jesudas as that of Nizamuddin Aliya and Amir Khusru. And lovers of music from all over the world will come over there to know and analyse the spiritual tradition of this musical genius.

APPENDIX 1

MUSIC THERAPY

ASSESSMENT – CHART (Questionnaire)

To be filled by the Patient

Name : Date of Birth :

Star of Birth : Organ Affected:

Nature of Treatment :

Have you learned music? How Long? Vocal?

Instruments? Which instrument?

Type of Music interested in ?

Vocal (Classical) Instrumental (South Indian) Combined (North Indian)

Light Music :

Film Songs : Sad, Love, Fast, or Slow

Philosophical : Bhajans or Devotional

On which form of God:

Volume / Bass

Malayalam Hindi Tamil

Voice : Male / Female

Favourite Singer :

Emotions or feeling while listening to music:

How often do you listen to music?

Does it help you in anyway?

If yes, how?

Have you identified any Raagas / Songs that help you?

To be filled by the Physician

Ref. No. :

Diagnosis :

Symptoms :

Signs :

Organs affected / likely to be affected

Date : Before Therapy After Therapy

Remarks

pulse Rate :

Respiratory :

B.P :

Stages:

Subjective feeling of well being:

Pain:

Description of pain:

Pain superficial / deep intensity character:

Aggravated by:

Relieved by:

Affects sleep – Functional disability:

Intensity:

None, 0-mild, 1-moderate, 2-severe, 3-excruciating,

4-** character

Burning / pricking / throbbing / aching / shooting

Current medications (for pain), dose, & response:

Anxiety scale:

To be filled in my Music Therapist

Raaga's chosen

1)

2)

3)

According to musical preference:

According to star:

According to shadchakra:

The position of raga in melakarta scheme:

If more than one raga chosen specify each:

Raga Shadava Audava Swarnatharam / PM / Ghanna / Naya Vakra / Speed

List of ragas selected by the music therapist

- 1) Hypertension
- 2) For tension / stress
- 3) For pain relief:

(depending upon the raga preference of the patient the music therapist will add other ragas)

APPENDIX 2

HAMILTON ANXIETY RATING SCALE (HARS)

T. Hamilton anxiety rating scale was devised to assist the physician, clinical psychologist, or psychiatrist in evaluating each patient as to his/her degree of anxiety and pathological condition. Total HARS score in general, the higher the total score of the patient the more severe is his/her anxiety. Assignment of the anxiety level to a particular HARS score may be difficult because of rating variations between physicians. Nevertheless, the total scores are useful for monitoring the progress of patients through periodic reassessments with the scale.

Rating 0 = none

1 = mild

2 – moderate

3 – severe

4 – severe, grossly disabling

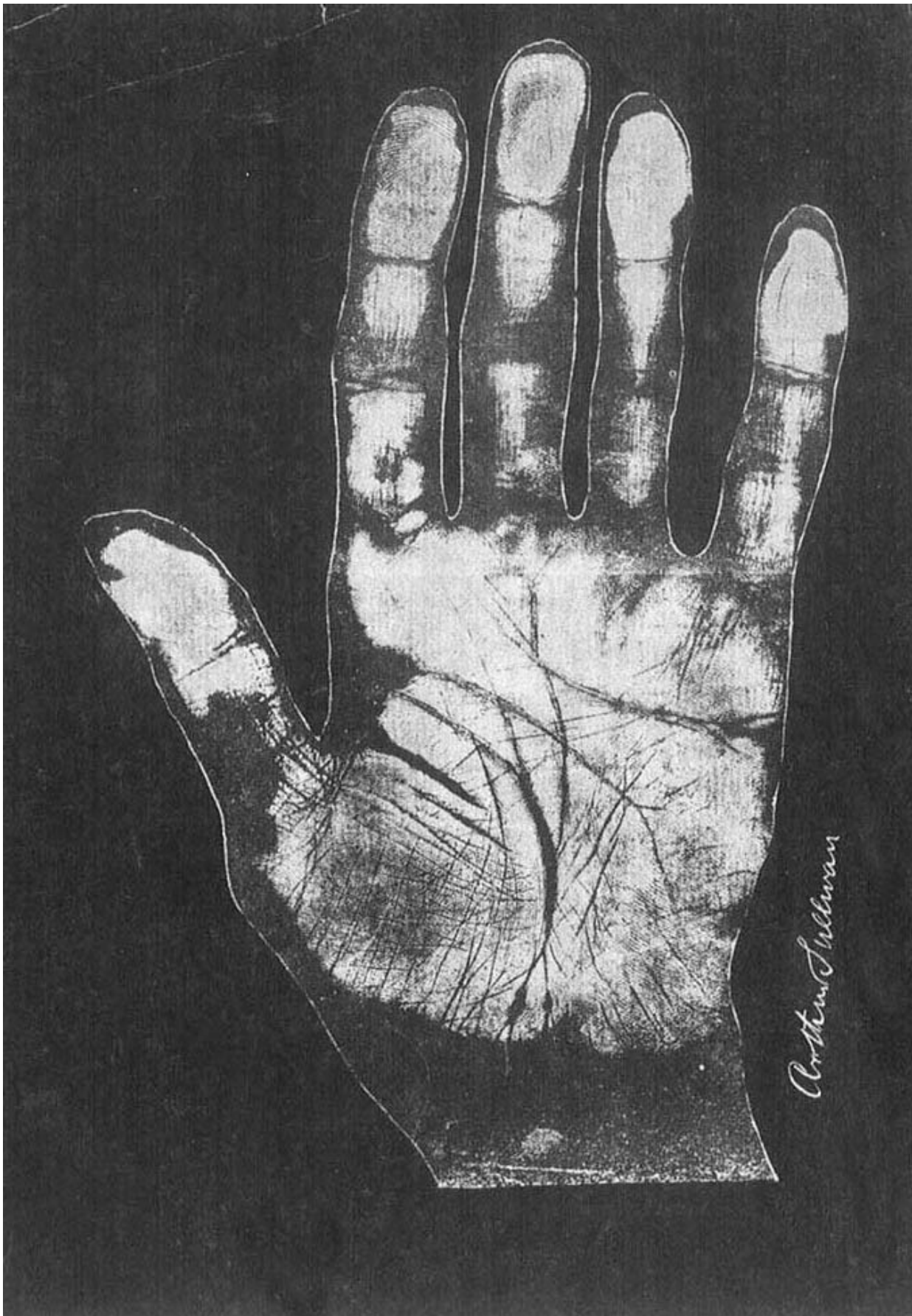
Anxious mood worries, anticipation of worst, fearful anticipation, irritability tension, fatigue, startle response, easy, tears, trembling, restless, cant relax. Fears, of dark, strangers, being left alone, of animals, traffic, crowds insomnia difficulty to fall asleep, broken sleep, fatigue on waking, nightmares, night terrors.

Intellectual (cognitive) difficulty in concentration, poor memory.

Depressed mood loss of interest, lack of pleasure in hobbies, depression, waking early, somatic (muscular) pains and aches, twitchings, stiffness, myoclonic jerk, grinding teeth, unsteady voice, increased muscle tone. Somatic (sensory) tinnitus, blurring vision, hot and cold flushes, feeling of weakness, pricking sensation, cardiovascular tachycardia, palpitation, chestpain, throbbing vessels, fainting, missing beast.

Respiratory pressure constriction on chest, choking feeling, sighing, dyspnoea, gastrointestinal difficulty in swallowing, wind, abd pain, burning sensation, abdominal fullness, nausea, vomiting, borborygmos, loose bowel, loss of weight, constipation.

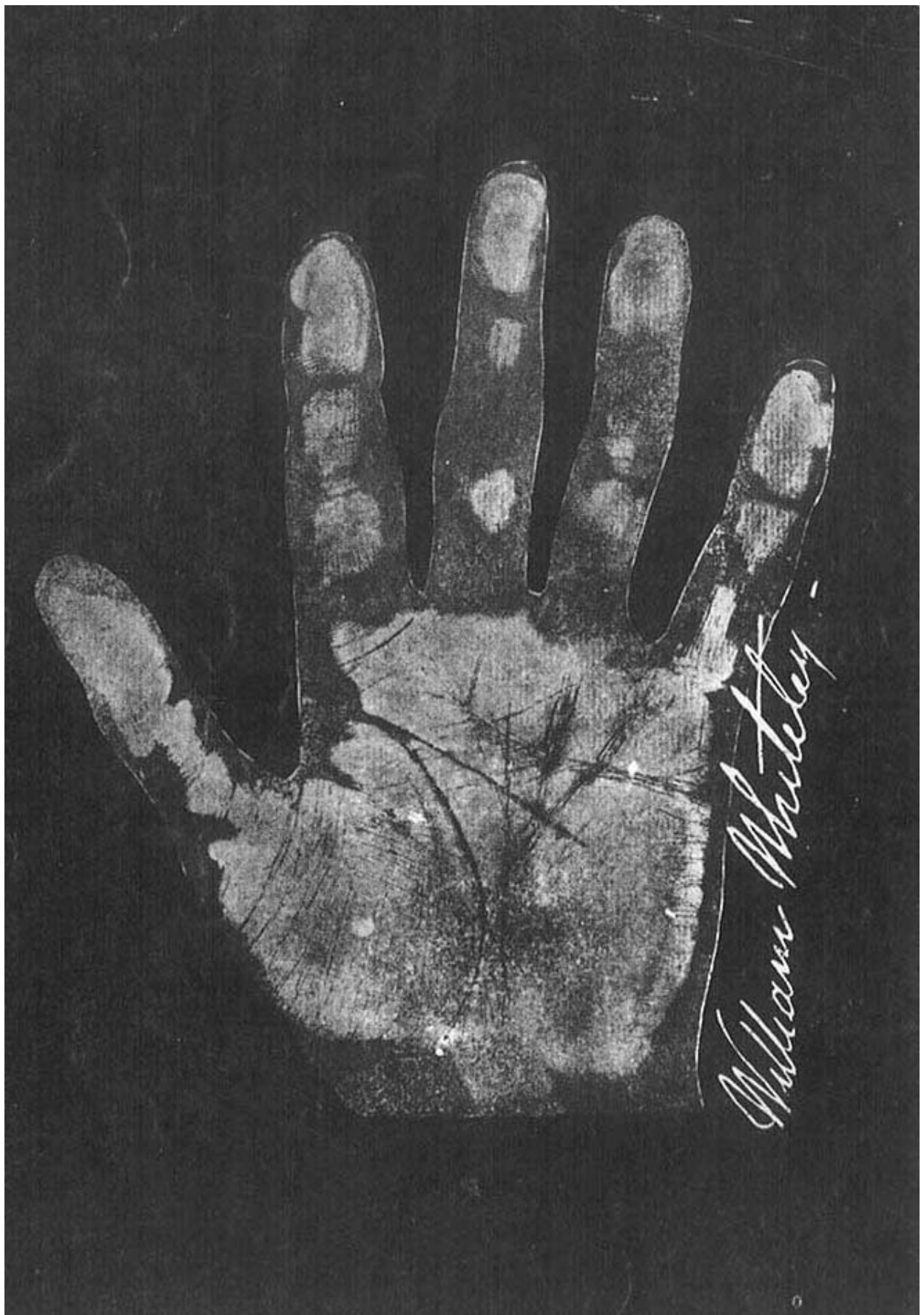
Genitourinary frequency on micturition, urgency



THE RIGHT HAND OF SIR ARTHUR SULLIVAN, Br.

Plate IV

For details see page 205



THE RIGHT HAND OF SIR ARTHUR SULLIVAN, Br.

Plate IV

For details see page 205

PREFACE

To believe is to perceive - either by the senses or the soul. This distinction constitutes two classes - the sceptic and the believer, which, though dependent on, may yet be incomprehensible to, each other; but both being necessary to establish the balance of thought, they are forced into existence and become the links and cross-links which make life's endless chain from thought to truth.

In placing the following work before the public, though deeply conscious of my responsibility, I am also conscious of the good that may be derived through such a study. I have therefore endeavoured to write, not for any distinct class, but for all, believing in the ultimate universal acceptance of those natural laws which constitute nature and control mankind, and which are peculiarly exemplified by this study of the hand.

A trifle is concealed immensity - the atom is equal to the whole in the importance of its existence; if, therefore, this study be considered by some too trivial for their attention, I would remind them that many of the greatest truths the world has known, though once considered trivialities, have become sources of infinite power. I would ask of such people nothing more than that they investigate this "atom" for themselves, resting assured that the study will prove its truth, whether examined from the palmistic theory, or from the fact that "progressive specialisation of structure" produces suitability of shape, which by study can be classed under various heads dealing with those characteristics common to occupations, surroundings, and temperaments.

In the accompanying Defence of Cheiromancy I have endeavoured to collect the many facts, both medical and scientific, which can be brought forward to demonstrate that, as the hands are the servants of the system, so all that affects the system affects them. In following out the ideas of many famous men on the subject of the nerve-connection between the brain and the hand, I have in every case given my authority for whatever statement I have adopted. I trust that in this way even the greatest sceptic in such matters will be led to see that the study of the hand has not been

on the contrary, that men of learning, both among the philosophers of Greece and the scientists of the present, have considered the subject worthy of their time and attention.

When the mysterious action of the brain and its influence over the entire body are considered, it is not surprising to find that those scientists who first proved that there are more nerves between the brain and the hand than in any other portion of the system now go so far with their investigations as even to decide that the brain cannot think without the hand feeling the influence of the thought. It will thus be seen that, viewing palmistry from this standpoint alone, it becomes a study not contrary to the dictates of reason, but in accordance with those natural laws that we observe in the shaping of even inanimate objects, which, by demonstrating the effect of a heretofore cause, are in themselves the cause of a hereafter effect.

In presenting with this work the hands of famous people, I have done so with the object of enabling the student to study the hands of those with whose lives and characteristics he is probably acquainted, and also to show the reader at a glance the difference that exists between the hands of people of different temperaments. It would not be in keeping with the purpose of this book if I were to give a delineation of such hands. In the first place, their owners were too well known to make the readings of value as a test; and in the second, the student will derive greater benefit by tracing out for himself the lines and formations that exhibit each well-known characteristic.

In the following chapters I have endeavoured to place clearly and candidly before the intelligence of the reader the rules and theories that I have proved to be true, and those from whose foundation I have built up whatever success I may have achieved. I have done so for two reasons: the first - and most important - being, that I believe in cheiromancy and wish to see it acknowledged as it deserves to be; the second is, that the time is not far distant when, from considerations of health and demands from other fields of labour, I must perforce retire from the scene and leave others - I trust more competent - to take my place.

Nothing has been more removed from my thoughts than the intention of giving offence to any section of the community by any expression, religious or otherwise, contained in these pages. I have, however, used my right of independence of thought and freedom of speech. If, therefore, my remarks should give offence to any sect, community, or people, I am willing to take the responsibility for such statements; but I ask of my accusers that if, in the court of their conscience, my expressions should be condemned, it be on my head alone they hurl their condemnation, and not on the much-maligned study which it has ever been my effort to raise - not to disgrace.

CHEIRO

NOTE TO THE TWENTY-SEVENTH EDITION

The twenty-seventh edition of this famous work has been entirely revised and recast to conform to present-day taste and preference. During the course of the work of revision it became apparent that a number of the "hands" of prominent people illustrating the book, and which had served a useful purpose in earlier editions, had now largely lost their significance. It was therefore decided to include none but the quite outstanding from the wide choice of specimens available. One further requirement was added: that the choice be deliberately restricted to the hands of people now dead. This last provision was thought desirable as it would then be possible to view the life of each subject as a completed picture, thus enabling the reader to study the signs, portents and tendencies revealed in the hands and to decide for himself to what extent they were borne out by actual events. To assist the student toward this end, the author has drawn attention in each case to the characteristic points to look for. His comments, however, though excellent as guidance, do nothing to detract from the value of the hands as exercises from the point of view of the reader intent on making his own analyses.

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A DEFENCE

*The greatest truth may lie in smallest things,
The greatest good in what we most despise,
The greatest light may break from darkest skies,
The greatest chord from e'een the weakest strings.*

CHEIRO

If any science, art, or work has for its beginning, its object, and its end the improvement of humanity and the advancement of the race, then that work, art, or science deserves the encouragement and recognition that is its due.

Of all branches of the study of human nature, that of the hand has the most powerful claim. By it one can detect, not ' only the faults in mankind, but the way in which those faults may be redeemed. It is the key to that cabinet of character in which nature conceals not only the motive power necessary for everyday life, but those latent talents and energies that by the knowledge of self we can bring to bear upon our lives.

There are few - if any - of us who, looking back upon the past, will not at some time confess to months, years, and often the greater part of life's span, that have been lost, through the fault of parents and our own ignorance combined.

"Know thyself," the motto of the ancients, is the simplest but the grandest sermon that can ring within our ears. By the knowledge of nature do we honour nature; let us then consider the study that can give such knowledge; for by the knowledge of self may we master self, and by the improvement of self may we also improve mankind - to the advancement of the race, to the honour of the world, and to the glory of those who, in the march of time, will fill life's broken ranks and some day take our place

To endeavour to show the solid and sufficient foundation that this study rests upon, I will merely ask my readers to follow the pages of this defence, with curiosity if they wish, but, I hope, with curiosity tempered by common sense and patience.

It shall therefore be my province to assume the position of the student, and not that of the partisan. Thus, discarding the argumentative standpoint, do I present the history of the study, and the facts upon which it rests, feeling assured that the result will be satisfactory to the reason, the logic, and the common sense of those who, from it matters not what motive, may examine this study for themselves.

To consider the origin of this science, we must take our thoughts back to the earliest days of the world's history, and furthermore to the consideration of a people the oldest of all, yet one that has survived the fall of empires, nations, and dynasties, and who are to-day as characteristic and as full of individuality as they were when thousands of years ago the first records of history were written. I allude to those children of the East, the Hindus, a people whose philosophy and wisdom are every day being more and more revived. Looking back to the earliest days of the history of the known world, we find that the first linguistic records belong to the people under consideration, and date back to that far-distant cycle of time known as the Aryan civilization. Beyond history we cannot go; but the monuments and cave temples of India, according to the testimony of archaeologists, all point to a time so far beyond the scant history at our disposal, that in the examination of such matters our greatest knowledge is dwarfed into infantile nothingness - our age and era are but the swaddling-clothes of the child; our manhood that of the infant in the arms of the eternity of time.

In endeavouring to trace the origin of palmistry, we are carried back to the confines of a prehistoric age. History tells us that in the remotest period of the Aryan civilization it had even a literature of its own. Beyond this we cannot go; but as fragments of this literature are even now extant, we must therefore conclude that it had a still more remote infancy; but into that night of antiquity we dare not venture. There are no stars to guide, no faded moons to show us light; and so, standing on the borders of the known, we gaze into the darkness of the unknown, from the

they are helps to knowledge; they are weeds upon the sands of time; they tell us of days before our days, of races before our race, of verdant islands, of civilization sunk for ever in the ocean of antiquity.

As regards the people who first understood and practised this study of the hand, we find undisputed proofs of their learning and knowledge. Long before Rome or Greece or Israel was even heard of, the monuments of India point back to an age of learning beyond, and still beyond. From the astronomical calculations that the figures in their temples represent, it has been estimated that the Hindus understood the precession of the equinoxes centuries before the Christian era. In some of the ancient cave temples, the mystic figures of the Sphinx silently tell that such knowledge had been possessed and used in advance of all those nations afterward so celebrated for their learning. It has been demonstrated that to make a change from one sign to another in the zodiacal course of the sun must have occupied at the least 2,140 years, and how many centuries elapsed before such changes came to be observed and noticed it is impossible even to estimate.

The intellectual power which was necessary to make such observations speaks for itself; and yet it is to such a people that we trace the origin of the study under consideration. With the spread of the Hindu teachings into other lands do we trace the spread of the knowledge of palmistry. The Hindu Vedas are the oldest scriptures that have been found, and according to some authorities they have been the foundation of even the Greek schools of learning.

When we consider that palmistry is the offspring of such a race, we should for such a reason alone at least treat it with respect, and be more inclined to examine its claims for justice than we are at present. In the examination of these points we therefore find that this study of the hand is one of the most ancient in the world. History again comes to our assistance, and tells that in the north-west province of India, palmistry was practised and followed by the Joshi caste from time immemorial to the present day.

It may be interesting to describe here, in as few words as possible, an extremely ancient and curious book on the markings of hands, which I was allowed to use and examine during my sojourn

in India. This book was one of the greatest treasures of the few Brahmans who possessed and understood it, and was jealously guarded in one of those old cave temples that belong to the ruins of ancient Hindustan.

This strange book was made of human skin, pieced and put together in the most ingenious manner. It was of enormous size, and contained hundreds of well-drawn illustrations, with records of how, when, and where this or that mark was proved correct.

One of the strangest features in connection with it was that it was written in some red liquid which age had failed to spoil or fade. The effect of those vivid red letters on the pages of dull yellow skin was most remarkable. By some compound, probably made of herbs, each page was glazed, as it were, by varnish; but whatever this compound may have been, it seemed to defy time, as the outer covers alone showed the signs of wear and decay. As regards the antiquity of this book there could be no question. It was apparently written in three sections or divisions: the first part belonged to the earliest language of the country, and dated so far back that very few of the Brahmans even could read or decipher it. There are many such treasures in Hindustan; but all are so jealously guarded by the Brahmans that neither money, art, nor power will ever release such pledges of the past.

As the wisdom of this strange race spread far and wide across the earth, so the doctrines and ideas of palmistry spread and were practised in other countries. Just as religion suits itself to the conditions of the race in which it is propagated, so has palmistry been divided into systems. The most ancient records, however, are those found among the Hindus. It is difficult to trace its path from country to country. In far-distant ages it has been practised in China, Tibet, Persia, and Egypt; but it is to the days of the Grecian civilization that we owe the present clear and lucid form of the study. The Greek civilization has in many ways been considered the highest and most intellectual in the world, and here it was that palmistry, or cheiromancy - from the Greek *cheir*, the hand - grew, flourished, and found favour in the sight of those whose names are as stars of honour in the firmament of knowledge. We find that Anaxagoras taught and practised it in 423 B.C. We find that Hispanus discovered, on an altar dedicated to Hermes, a book on cheiromancy written in gold letters, which he sent as a present to Alexander the Great, as "a study worthy the attention of

an elevated and inquiring mind." We find it also sanctioned by such men of learning as Aristotle, Pliny, Paracelsus, Cardamis, Albertus Magnus, the Emperor Augustus, and many others of note.

Now whether these ancient people were more enlightened than we are, has long been a question of dispute. The point, however, which has been admitted, and the one which concerns this study most, is, that as in those days the greatest study of mankind was man, it therefore follows that in a study like this their conclusions are far more likely to be right than are those of an age famous for its implements of destruction, its steam-engines, and its commerce. Again, if an age like the present will admit, and has admitted, that those Greek philosophers were men of extraordinary depth of thought and learning, and that their works, thoughts, and ideas are worthy of the deepest respect, why should we then lightly consider their authority on this subject, and throw aside a study that so deeply occupied their attention? And again, if we go back, as we do, to these men for their learning in other matters, why, in the name of all that is reasonable, should we reject their knowledge in this?

Now, as in the study of mankind there came to be recognized a natural position on the face for the nose, eyes, ears, etc., so also on the hand there came to be recognized a natural position for the line of head, the line of life, and so on. The time and study devoted to the subject enabled these students to give names to these marks; as the line of head, meaning mentality; the line of heart, affection; the line of life, longevity; and so on, with every mark or mount that the hand possesses. This brings us down to the period when the power of the church was beginning to be felt outside the domain and jurisdiction of religion. It is said that the early Fathers were jealous of the power of this old-world science. Such may or may not have been the case; but even in the present day we find that the church constitutes itself in all matters, both spiritual and temporal, the chosen oracle of God. Without wishing to seem intolerant, one cannot help but remark that the history of any dominant religion is the history of the opposition to knowledge, unless that knowledge proceed from its teachings. Palmistry, therefore, the child of pagans and heathens, was not even given a trial. It was denounced as rank sorcery and witchcraft. The devil was conjured up as the father of all palmists, and the result was that men and women, terrified to acknowledge such a parentage, allowed palmistry to become outlawed and fall into the hands of vagrants, tramps, and gipsies. During the Middle Ages several attempts were made to revive this

ancient study; as, for instance, *Die Kunst Ciro-mania*, published in 1475, and *The Cyromantia Aristotelis cum Figuris*, published 1490, which is at present in the British Museum.

These attempts were useful in keeping the ashes of the study from dying out; but it is in the nineteenth century that once more it rises, a Phoenix from the fire of persecution which has tried in vain to destroy it. The science of the present has come to the rescue of the so-called superstition of the past. On almost every side proof is being added to prove that this ancient study is not a delusion, but a real thing - a jewel, as it were, dimmed and covered by the accumulations of bigotry and superstition, yet one which contains within its depths that light of truth which nature's followers delight to know and worship.

It may be well here to defend palmistry from the attacks of the Church. Let us examine for a moment the right of the Church to attack it. Alas! his majesty Satan has still the reputation of being behind every person who dares to advance any science or thought that may not be in accordance with the interpretation of the Church's idea of right and wrong. I had not been in London one month before a Catholic priest refused to give absolution to an entire family because they had consulted me against his orders. In America, during my first year, I was visited by two clergymen, with the object of persuading me that my success was due alone to the agency of the devil. One went so far as to tell me that God had sent

I him to offer me a clerkship - at a small salary, of course - if I would only give up my relations with the Evil One. But all this is not to be wondered at when one remembers that in one of the most prominent churches in America, a very noted clergyman used these words:

Let me tell you what I saw a few years ago with my own eyes." Then followed a long description of "a fiery animal shaped like a horse, that glowed like a burning coal, which had a man mounted upon it without arms. It rolled from one end of the island to the other, and from side to side with immense speed. The people were terrified; they thought it was the devil, and they implored me to intercede for them, but I refused. ... I have travelled all over the world and seen the greatest sights and wonders of the earth; but I never saw anything like that before. It was a

warning to all who saw it, and represented Satan and his army, who are to visit with awful results the sinners of the earth. "I make no comment. I quote the above words verbatim from a leading New York paper, which reported the entire sermon.

The Church is not consistent; its foundation is the Bible, and from the first of Genesis to the end of Revelation the Bible is a book of fate. In the opening chapters we find that God ordained a certain time when a virgin would conceive, and a little later when a Judas would betray. Poor Judas thus becomes a selected victim, a child of fate, from whom opportunities would arise to alter the destiny of nations. It is useless to say that Judas was a free agent; if he had shirked his fate would not some other man have had to take his place "that the Scriptures might be fulfilled"? Over fourteen times in the Gospels do we find these mysterious words. In, almost every portion of the Bible we find the spirit of prophecy encouraged. We find "Schools of the Prophets" established for such a purpose, and indications that divinations were held in high repute by God's chosen people. Among the Hebrews, as among the Hindus, Egyptians, Chaldeans, and all nations who encouraged the spirit of prophecy, the prophets were a separate and distinct class from the priesthood. Among the Jews the prophets often acted in direct opposition to the priesthood, denouncing in the strongest language the abominations and corruptions that they practised. Again, what can be more mystical, or more allied to magic, than the ancient cabbala of the Jews? According to tradition it was communicated by God to Adam, by Adam given to Seth, and lost by the latter in some mysterious way. It was renewed again by God to Moses on Mount Sinai, from Moses to Joshua, from Joshua to the Seventy Elders, and was sometimes utilised by learned Jews instead of the counsels of the Talmud. Examining the Biblical statement that the Jews were in bondage to Egypt at a time when the Egyptians were famous for their magic, it cannot be wondered at that after leaving that land of mystery they would still cling to the teachings imbibed while there. According to many authorities, the description of the Hebrews despoiling the Egyptians on the eve of their departure, and robbing them of their ornaments, signifies in cabbalistic language " the taking from them the external rites and ceremonials of their magical worship." We therefore find that the Bible, upon which the creeds of the modern Church are founded, is tinged with the mysticism common to its time; that it encourages prophecy, and that it teaches fate: which three things in the study of palmistry arouse the wrath of the Church, and are denounced as sorcery, witchcraft, and everything else contrary to the teaching of God.

In view of the opposition of the Church, it is interesting to notice the many important phrases in the Bible in which hands are mentioned. There are many authorities who affirm that among the arts learned by the Jews while in Egypt was this study of the hand; but the most important verse that is used in support of this is the seventh of the thirty-seventh chapter of Job. In the original Hebrew it appears to have a very different meaning from that given to it by the English version. One translation of it runs, "God placed signs or seals in the hands of men, that all men might know their works." This verse, about the middle of the sixteenth century, caused some very great discussions among theologians and commentators. Among them we find that many advocated the cheiromantic aspect that the lines of the hand are "the markings of God, that all men might know their works." Among those in support of this view were Franciscus Valesius, Schultens, Lyrannus, Thomassin, and Debrio, and this is all the more remarkable when one remembers that these men could not have lived in a more antagonistic age in which to propagate their views. The translation of the Bible into English at a time when the opposition to palmistry, sorcery, and witchcraft was at its height, is very probably the cause of the wording of this verse as it now stands.

Among other verses that seem to bear a relation to this point might be mentioned:

"Length of days is in her right hand, riches and honour are in her left" (Prov.iii.i6).

"What evil is in mine hand?" (i Sam. xxvi. 18).

"And receive his mark in his forehead, or in his hand" (Rev. xiv. 9).

But of all the many allusions to the subject, the verse in Job is certainly the most important and one which, as I have shown, has called forth the support of even theologians.

In connection with the opposition of the Church, the most absurd point, to my mind, is that this very Church does not hesitate to preach fate for another world while determinedly tabooing such a doctrine as regards this. There are a great many sects who openly advocate the doctrine of

so far as to make it one of her articles of faith, as in the seventeenth Article of Religion, where it is (stated that "predestination to life is the everlasting purpose of God, whereby, before the foundations of the world were laid, He hath decreed by His counsel secret to us," to do this, that, I or the other, according to the ideas of the learned gentlemen who framed the article.

To deal thus with an eternity of life, thus to plan out the political economy of that which is unknown, is a thousand times more unreasonable than to ask people to believe that as the hands are the servants of the system, so all things which affect the system affect them. It is strange, but it is a fact that the people who believe the most extraordinary theories as regards religion are the very people who cry out that it is absurd to believe in any study like this of palmistry. Surely this is not consistent.

We will now see what science has done for palmistry, and whether or not it has any foundation beyond that of mere speculation and hypothesis. In this age of specialism which is so characteristic of the present century, we find in almost all departments of life men devoting their time to some one particular branch of study. In past ages it was common for a man to be a physician, a chemist, and a surgeon combined. There was, in fact, no limit to the things to which he might turn his attention. In the nineteenth century, however, and particularly towards its close, we found specialists arising in all directions. A surgeon need not practise as a physician, nor a physician as a surgeon; a dentist need not be a doctor, and a chemist need not be a bone-setter. Particularly in science is this change seen, and with very astonishing results in the independent discoveries and improvements that have been made.

This specialisation has, however, one very great evil. It may give greater knowledge on particular things, but it confines men to a narrower line of thought. It therefore happens that the physician may know little about anatomy, whereas the surgeon may know next to nothing of medicine; the nerve specialist won't treat the common ailments of life, and the doctor will not infringe upon the latter; the physician who devotes his talents to consumption cures won't treat fever patients; and so on. Now all this leads up to a very grave point, namely, the unreasonable way in which the ordinary populace treat the ordinary medical man. A man sees, perhaps, a strange experiment in hypnotism; he goes to his physician, and because that physician who

probably has never devoted five minutes' study to such a subject, pronounces such a thing impossible, the patient goes away and tells his acquaintances to pooh-pooh the idea, because Dr. So-and-so does not believe in it. Now, when one considers that even in medicine there are hundreds of mysteries perfectly unknown to the ordinary medical man, how much more so may it not be in regard to the mysteries of life and nature, which are subject to invisible laws beyond the power of man to analyse?

I respect doctors as a body of educated men; but I do not respect the idea that they should be the appointed judges of such matters as telepathy, mesmerism, clairvoyance, and so on, without any other qualification but that of having M.D. to their name. It was Voltaire who said that "Newton, with all his science, did not know how his hand moved." Almost every day in my work, the following conversation occurs:

"Well, sir, you have told me the events of my past life so accurately from these lines that I am half-inclined to believe you can tell the future; but I have asked Dr. So-and-so; he says it must be all humbug, so I really do not know what to think." Alas! Dr. So-and-so too often turns out to be a man who has never had the time, the opportunity, or even the inclination to study the connection between the brain and the hand. He has not even read the works of medical specialists on the subject. He has confined himself to the treatment of fever, pneumonia, the illnesses of children, or the hypochondriacal fads and fancies of age. He knows that there are such things as hands, that they are dry and hot during fever, and that is about all.

In reference to this I quote a few remarks from the address of the president of the New Jersey State Medical Society, in which he said:

How many physicians know anything of the natural cause of most diseases except by hearsay? How many have had the courage to observe for themselves while sternly combating the seductive opportunity of prescribing a variety of unnecessary medicines?"

Not more than twenty years ago almost every physician of note cried out that hypnotism was impossible. To-day the same profession embraces it, and studies the very laws whose existence it once denied. It is the same with cheiromancy: for years they have pooh-poohed the idea; to-day they admit that diseases are indicated in a marvellous manner by the hand, and at present the study of the shape of the nails is a branch calling forth the greatest attention from medical men in both London and Paris.

If the medical profession could only forget their old-time prejudices; if they could only be persuaded to take some reliable work on palmistry and study it for themselves - they would without doubt come to the conclusion that, in the words of Hispanus, it was indeed "a study worthy the attention an elevated and inquiring mind."

In relation to this I publish the following letter which appeared in the Student, a paper belonging to the University of Edinburgh, Scotland.

CHEIROMANCY

Sir: Some years ago I was walking through one of the wards in the Royal Infirmary when suddenly the idea occurred to me that I would examine the lines on a patient's hand.

I went to the nearest bed, and without pausing to look at the patient, I examined his hand. I knew little of palmistry, and believed still less; in fact. I hardly knew more than the names of the five principal lines, and that breaks in those lines meant misfortune. I examined the hands, and saw the life-line broken in both hands, and the fate-line, before it had reached a quarter of its natural length, stopped and replaced by a large cross. I questioned the patient, and found that he was twenty-three years old, and far gone in phthisis. He died in a few days. I could multiply instances, but space forbids. Would you then allow me to offer a few suggestions as to the possible relation of these lines to processes carried on in the cells of the grey matter ? I am well aware that palmistry is considered quackery and humbug; but, after all, facts are stubborn things, even if they do not rest on any known scientific basis

[A few suggestions on the possible relation of linear markings on the palm of the hand to certain physiological and psychical processes in the brain.]

1. The hand is a high stage of development peculiar to man as a reasonable being.
2. Tendencies, such as eloquence, anger, and affection, are shown by movements.
3. These movements are coarse and fine, and so produce large and small creases or lines.
4. Creases and lines, therefore, bear a definite relation to movements, and so to tendencies.
5. There are four well-marked creases or lines on every hand, found by experience to bear a definite relation to the tendencies of affection, mental capacity, longevity, and mental bent, or what cheiromants call "fate."
6. A line crossing the longevity line, a branch or break in it, interferes with its uniformity, and therefore interferes with the uniformity of the tendency to live.
7. Nerves regulating courses and finer motions, and so creases or lines, contain chiefly motor fibres; but probably also other filaments transmitting in vibrations the resultant or combined effect of acquired and constitutional tendencies, and determining it to that part of the longevity line that will be affected, and there causing a crease resembling a cross by its junction with the main line or a branch, as the case may be.
8. The same train of reasoning obviously applies to avoidable accidents - that is, accidents caused by carelessness.
9. Unavoidable accidents. Certain tracts of cells in the conical grey matter are, incredible as it may seem, probably affected by coming events, and made to vibrate; hence, vague fears, intuitive perception, but no actual train of reasoning. The vibrations excited in these cells cannot awaken the activity of the cells engaged in certain peculiarity will run in families for generations, and that each succeeding race will also show in temperament whatever that peculiar characteristic is. But again, it will be found that in the markings of the hand some children bear very little resemblance, in the position of the lines; to those of the parents, and that, if one watches their lives, they will, in accordance with this theory, be found very different from those who gave them birth. Again, one child may resemble the father, another the mother, and the markings of the hand will also be found to correspond with the markings on the hand of the particular parent that the child resembles.

It is a very popular fallacy that the lines are made by work. The direct opposite, however, is the case. At the birth of the infant the lines are deeply marked (Plate IX). Work, on the contrary, covers the hand with a coarse layer of skin, and so hides instead of exposes them; but if the hand is softened, by poulticing or other means, the entire multitude of marks will be shown at any time from the cradle to the grave.

The superiority of the hand is well worth our attention. Scientists and men of learning in all ages have agreed that it plays one of the most important parts of all the members of the body. Anaxagoras has said: "The superiority of man is owing to his hands." In Aristotle's writings we find: "The hand is the organ of organs, the active agent of the passive powers of the entire system." More recently, such men as Sir Richard Owen, Humphrey, and Sir Charles Bell all call attention to the importance of the hand. Sir Charles Bell wrote: "We ought to define the hand as belonging exclusively to man, corresponding, in its sensibility and motion, to the endowment of his mind".

Sir Richard Owen, in his work on *The Nature of Limbs*, said: "In the hand every single bone is distinguishable from one another; each digit has its own peculiar character."

It has long been known and recognised that the hand can express almost as much by its gestures and positions as the lips can by speech. Quintilian, speaking of the language of (hands, says: " For the other parts of the body assist the speaker, but these, I may say, speak for themselves; they ask, they promise, they invoke, they dismiss, they threaten, they entreat, they deprecate, they express fear, joy, grief, our doubts, our assents, our penitence, they show moderation, profusion, they mark number and time." We will now give our attention to the skin, the nerves, and the sense of touch. Speaking of the skin, Sir Charles Bell once said: "The cuticle is so far a part of the organ of touch that it is the medium through which the external impression is conveyed to the nerve. The extremities of the fingers best exhibit the provisions for the exercise of this sense. The nails give support to the tips of the fingers, and in order to sustain the elastic cushion that forms their extremities they are made broad and shield-like. This cushion is an important part of the exterior apparatus. Its fullness and elasticity adapt it admirably for touch. It

fingers. On a nearer inspection we discover in the points of the fingers a more particular provision for adapting them to touch. Wherever the sense of feeling is most exquisite, there we see minute spiral ridges of the cuticle. These ridges have corresponding depressions on the inner surface, and they again give lodgement to soft, pulpy processes of the skin called papillae, in which lie the extremities of the sentient nerves. Thus the nerves are adequately protected, while they are at the same time sufficiently exposed to have impressions communicated to them through the elastic cuticle and thus give rise to the sense of touch."

As regards the nerves, medical science has demonstrated that the hand contains more nerves than any other portion of the system, and the palm contains more than any other portion of the hand. It has also been shown that the nerves from the brain to the hand are so highly developed by generations of use, that the hand, whether passive or active, is in every sense the immediate servant of the brain. A very interesting medical work states "that every apparent single nerve is in reality two nerve cords in one sheath; the one conveys the action of the brain to the part, and the other conveys the action of the part to the brain."

In connection with this, it is important to consider the corpuscles that are found in the hand. Meissner, in his *Anatomy and Physiology of the Hand*, showed that these corpuscles in the hand have a very important meaning. He demonstrated that these "unyielding molecular substances" were found in the tips of the fingers, the lines of the hand, and disappeared completely at the wrist; that these corpuscles contained the end of the important nerve fibre, and during the life of the body gave forth certain crepitations or vibrations, which ceased the moment life became extinct. "I have counted, says he, "in the first phalange of the volar surface of the forefinger of a full-grown man, one hundred and eight corpuscles, and about four hundred papilla in a square line."

These investigations were afterwards followed up by experiments as to the noises or crepitations that they gave forth during life. It was demonstrated that people with acute hearing could detect these vibrations distinct and different in every human being. And in the case of a man experimented on in Paris, who was born blind, but whom nature had compensated by giving him a greater sense of hearing, it was found that by listening to the vibrations of these corpuscles "he

could determine the sex, age, and temperament, the state of health, and even their nearness to illness and death."

We will now turn our attention to what, perhaps, as far as palmistry is concerned, may be the most important point of all, namely, as to the ideas of men of learning as regards a fluid or essence in connection with the nerves and the brain.

On this point Abercrombie stated: "The communication of perceptions from the senses to the mind has been accounted for by motions of the nervous fluid, by vibrations of the nerves, or by a subtle essence resembling electricity or galvanism." We find that this theory has been very freely circulated by those who have devoted serious thought to the subject. Miiller also said: "Perhaps there exists between the phenomena of the nervous system and of electricity a sympathy or connection at present unknown, analogous to that which has been found to exist between electricity and magnetism." And again he said: "We know not as yet whether or no, when the nerves convey an impression, an imponderable fluid flies along them with inconceivable rapidity, or whether the action of the nervous system consists of an imponderable principle already existent in the nerves, and placed in vibration by the brain."

I had the honour of knowing personally Professor Savary d'Odiardi, a well-known French savant who devoted the greater part of his life to investigating the curative effect of electricity in disease. The astounding cures made by this man, through his knowledge of the part that electricity plays in daily life, made him one of the greatest living authorities on the subject of his time.

During a conversation I had with him he also stated that he considered the nerves a kind of telegraph system in conveying the current of thought from the brain to the body, but more especially in their connection and relation to the hand.

Herder, in his *I dies sur la Philosophie de l'Histoire de l'Humaniti*, published Paris, 1827, wrote also in favour of this theory. He spoke of the action of the nervous fluid, which he taught is

an essence far more subtle than that of electricity, and used to convey the impressions of the brain to the nerves. All such opinions from well-known men who devoted time and thought to the subject go far to show that the influence of the mind in this or that direction must affect the lines, the nails, and in fact every portion of the hand. There is nothing superstitious in such a theory; it is based upon the findings of science, and has been supported by facts that are undisputed. After all, why should it be otherwise? According to eminent authorities we find that "in the examination of a skeleton, a zoologist recognizes that the irregularities and ridges found upon the surface of the bones are the result of the action and pressure of muscles and nerves"; that from the broken fragment of a bone the scientist can build up the entire structure and proportions of the dead animal, his race, habits, and even the diseases he would be liable to. If such can be done from the fragment of a bone, looking at the subject from this standpoint alone, how much, I ask, may we not do by a careful study of the most important member of the body - the hand? Is there anything absurd or ridiculous in the idea that the hand specialist (as the true palmist is) should attempt and be able to read the health, the surroundings of the past and present, and even the future, from an examination of the hand, independent of any palmistic theory of lines to go by?

That the lines are not produced by work we have noted earlier. If, therefore, as has been demonstrated, they are not produced by work, they likewise are not produced by constant folding. It is true that the hands fold on the lines, but it is also true that lines and marks are found where no folding can possibly take place, and if so in one case, why not in all? Again, there are many diseases (as, for example, paralysis) in which the lines completely disappear, although the hands continue to fold as before. The folding argument, it will therefore be observed, does not hold ground.

As regards the question: Is the study of phrenology and physiognomy to be considered as an aid in a cheiromantic examination? - a little thought will convince the inquirer that such is not by any means necessary. A thorough study of the hand will combine both. The hand, by its direct communication with every portion of the brain, tells not only the qualities active, but those dormant, and those which will be developed. As regards physiognomy, the face allows itself to be too easily controlled to be accurate in its findings, but the lines cannot be altered to suit the purposes of the moment.

It is Balzac who has said, in his *Comedie Humaine*: "We acquire the faculty of imposing silence upon our lips, upon our eyes, upon our eyebrows, and upon our foreheads; the hand alone does not dissemble - no feature is more expressive than the hand."

We will now turn to the question of the future as revealed by this study, and carefully examine the reasons advanced for such a belief.

In the first place, we must bear in mind that the meaning of the different lines in conjunction with the different types of hands dates back to that period already referred to when this study lay in the hands of men who devoted their lives to its cultivation. Now, as there came to be recognized a natural position for the nose or the lips on the face, so in the study of the hand there came to be recognized a natural position for the line of head or the line of life, as the case might be. How such a thing was originally discovered is not our province to determine, but that the truth of such designations has been proved, and can be proved, will be admitted by any person who will even casually examine hands for himself. Therefore, if proved in one point that certain marks on the line of head mean this or that mental peculiarity, or that certain marks on the line of life have relation to length of life or the reverse, the same course of observation, it is not illogical to assume, can predict illness, health, madness, and death. If persisted in, it may be also accurate in its observation that marriage will occur at this or that point, with this or that result, and also in regard to prosperity or the reverse. It is beyond my power to answer why such a thing should be, but it is surely not beyond my jurisdiction to advance the following theory: That as the hidden laws of nature become more revealed by each century of time, so does man become more cognizant of the fact that things before called mysteries are but produced by the action of certain laws that beforetime he was ignorant of. I also advance the theory that it is not possible for us to lead the isolated lives that at first sight appear probable; that as the laws which affect the entire universe affect us, so do we, as part of a whole, affect again those laws, and thus one another. In examining this question we find that the hand preaches, to a certain extent, the doctrine of fate, in its prediction of things years in advance, and in its relation to the effect of circumstances over which we have little or no control. There is here, however, a strange combination, not only interesting but instructive: man appears responsive to the dual laws of destiny and free will. Man

has free will, I argue, but with limitations, as there are limitations to all other things in life - to one's strength, to one's height, to one's age, and so forth. Free will is the oscillation of the cylinder, which very oscillation drives the eternal machinery of evolution. Looking over the pages of the Bible, we find destiny absolute, the purpose of God appearing in all things. Looking back over the history of the world, the fate of nations stands out in grand relief upon the sombre background of the past. Man becomes the servant of destiny. The rulers of Rome, the Grecians of Athens, the Pharaohs of the Nile, all have served their purpose and are gone. We behold in all the slow but steady stride of evolution bearing us higher, bearing us to perfection. Let us look back - the lessons of the past may be the teachers of the future. We behold an age when freedom of thought lay dying beneath the dogma of a Church; we behold a bondage great as any when a Rama rose in Hindustan, a Moses in Egypt, or a Christ in Jerusalem; a million things lead to the one crisis - again history is repeated, again a man is forced to the front. Was there anything in the appearance of that insignificant monk, Luther, that he should be called upon to take such a responsibility upon his shoulders? Ah! he was not called upon by man, destiny was again absolute - nature was one-sided, the balance had to be restored. God - nature - fate - we will not quarrel about a name - working through the medium of hereditary laws, so fashioned a man that, standing in the niche of necessity, he was the lever upon which the fate of thousands depended. The same in the case of Napoleon, the same again in the boy George Washington, and as in the greater, so in the smaller; from creed to creed, from class to class, from the President to the preacher, from the banker to the gamin, all fulfil their purpose, each star within its sphere, each person, each position, all are chords and discords, notes and harmonies in the song of life, and as in the ultimate millennium of perfection will that perfection be eternal, so shall all share the perfection of that grand harmony of which even now we form the tones, the semi-tones, and the discords.

Is it hard to believe in some unseen law, some mysterious cause or power that thus shapes and controls our lives? If at first sight it seems so, we must consider the hundred and one things we have believed in with less foundation. To be consistent, we must remember the multitudinous variety of religions, creeds, and theories that have not only been accepted by the masses, but have been the solid beliefs of intellectual minds. If, therefore, people can so easily believe in that which is beyond this state of life, of which no actual facts exist, is there anything so very absurd in supporting a doctrine of fate, which it is logical to suppose exists, if we only take it from the standpoint of the repetition of events from natural causes? On this question I would draw

attention to the words of Dugald Stewart in his Outlines of Moral Philosophy, in which he says: "All philosophical inquiry, and all that practical knowledge which guides our conduct in life presupposes such an established order in the succession of events as enables us to form conjectures concerning the future from the observation of the past."

Man therefore becomes both the maker and the servant of destiny, bringing into force, by his existence alone, certain laws that react upon himself, and, through him, upon others. The present is therefore the effect of a heretofore cause; and again, the present is the cause of a hereafter effect. The deeds of the past are the karma of the present, as in "the sins of the fathers," and in the effect of hereditary laws. As we, therefore, work out our own fate, so do we make fate for those to follow, and so on in every degree from stage to stage in the world's progress.

It will thus be seen that instead of this doctrine becoming a dangerous one, it becomes the reverse. It forces men and women to realize the responsibility of life: it teaches them to feel for others, and not to be careful alone for the salvation of self. This creed I hold would suit all classes of the community, would raise men by its unselfishness, would redeem them by its personal claim, would broaden men's views, that where now they see but dogma they would see Truth; would teach that we, the children of humanity, being brothers and sisters, should serve one another, to the ultimate perfection of the race, to the benefit of all life, and to the advancement of those who are yet to come. This doctrine of fate does not retard men from work, it advances them on the plane of work. It does not hold out a reward for work done, which, after all, is but the wage of the hireling; it gives the higher satisfaction of doing one's best, that others may be better - no more. It teaches patience in trial, resignation in affliction, humbleness in success, and virtue in whatever position in life "it has pleased God (or fate) to call us."

Contrast this doctrine with that of free will as usually preached, and what is the result? We find the greatest man reduced to the smallest atom in the immensity of humanity. We look lower in the scale of life, we see millions, of beings crushing one another, living on one another, struggling with all the fierceness of their freedom. There is no contentment in such a scene, no

peace, no beauty; not even in their religion do we find the rest which after death should be the reward of the weary.

On the other hand, the true fatalist will not close his hands and wait, he will open them and work, earnestly and patiently and well, remembering that the burden he bears has been made for him to teach him to make lighter the burdens of others. He will feel that he is a link in life's chain, which is eternal; that no matter how small that link may be, it still has its purpose - to be borne with patience, to be served with honour. 'Tis naught to him the clash of creeds, 'tis naught the success of the moment, or the failure of the year; he will do wrong in his life, as well as right - we all do; evil is as necessary as good - but he will do his best, that is all. And at the end - well, there is no end, for even if there be no life beyond, he lives again in the particles of clay from whence he came; but if there be a spirit, then is his spirit part of the eternal spirit of all things, and so in the success of all is he successful. This is, to my mind, the doctrine of fate as preached by this study of the hand; this is the creed that has been despised by the church and ranked as "an enemy to the teachings of God." What that agency or power is which marks the hands may for ever remain a mystery, but that does not qualify us for obstinately refusing to believe in it - because we do not know. A man might as well say, "I refuse to live, because I do not know all that constitutes life," or "I refuse to think, because I do not know the process of thought." There are hundreds of mysteries, even in the simple things of life, that the finite mind cannot fathom, but we cannot afford to discard them because we do not know their cause. The greatest thinkers, Christian or anti-Christian, have acknowledged their belief in some power beyond our control, that "shapes our ends, rough hew them how we will." What can be stronger than the words of Professor Tyndall: "Life and its conditions set forth the operations of an inscrutable power; we know not its origin, we know not its end; the presumption, if not the degradation, rests with those who place upon the throne of the universe a magnified image of themselves."

Voltaire has said: "There is a power that acts within us without consulting us. And lastly, let me draw attention to the words of Emerson: "A little consideration of what takes place around us every day must show us that a higher law than that of our will regulates events"

We have now seen how this study has survived from age to age. We have seen how even hard-headed materialistic science brings forth facts to support its theories. We have viewed it from a natural light, and we find it natural; we have examined it from a religious standpoint, and it is religious; we of the responsibility of life, but in its warnings, in its cautions, and in the knowledge of self that it gives to all. What, then, is to be done? Discard it, because of opposition? No, we must help it for the sake of the truth that it possesses. We must teach it to others, that its knowledge may be power. We must use it because of its use, we must support it because of its support; and lastly, to the man or woman who, in spite of reason, of proofs, of facts, still doubts - to such a person, using Foster's argument against atheism as a foundation, I would say, that by taking such a position they do not do themselves justice as reasonable or intellectual beings. And why? Because unless they know every law that controls mankind, that law that they do not know may be the one whose existence they deny. Unless they have been in every portion of the universe, that portion they have not seen may contain the secret of the whole; and unless they know every power that constitutes life, that power they do not know may be the very one that marks the hand.

PART I : CHEIROOGNOMY

CHAPTER : 1

OF THE SHAPES OF HANDS AND FINGERS

Palmistry should really mean the study of the hand in its entirety. It is, however, divided into two sections: the twin sciences of cheirognomy and cheiromancy. The first deals with the shape of the hand and fingers, and relates to the hereditary influence of character and disposition; and the second to the lines and markings of the palm, to the events of past, present, and future.

It will therefore be readily understood that the second portion of this study cannot be complete without the first; and as in the study, so in the reading of the hand - the student should first observe the shape and formation, skin, nails, etc., before proceeding to judge the lines and markings of the palm. Some people consider this portion of the subject too uninteresting to merit much attention, and books on palmistry frequently ignore its importance, and commence too quickly with the more interesting details of cheiromancy.

A little thought will, however, convince the student that such a plan is a mistake, and can only result in error; that if the subject is worth any study at all, it is certainly worth going into thoroughly; besides, the shape of the hand can be more readily observed than the lines of the palm, and it is therefore all the more interesting, as by this means one can read the character of strangers while sitting in the railway train, the church, the concert, or the salon.

The characteristics of various nations as shown by the shape of the hand is also a fascinating branch of the study, and one very much neglected. Later, I will endeavour to point out the leading characteristics that I myself have observed in relation to this portion of the subject. The varying shape of hands and their suitability to various kinds of occupation is also worthy of note, and although by the exercise of will we can alter and make up, in a certain degree, for almost any constitutional defect, yet it is undoubtedly the case that certain types are more suited for one

work than another, which it is the more immediate province of cheirognomy to determine. We will therefore at once proceed to consider the different types of hands with their various modifications, in their relation to consider the different types of hands with their various modifications, in their relation to temperament and character.

There are seven types of hands, each of which may again be subdivided into seven varieties.

The seven types are:

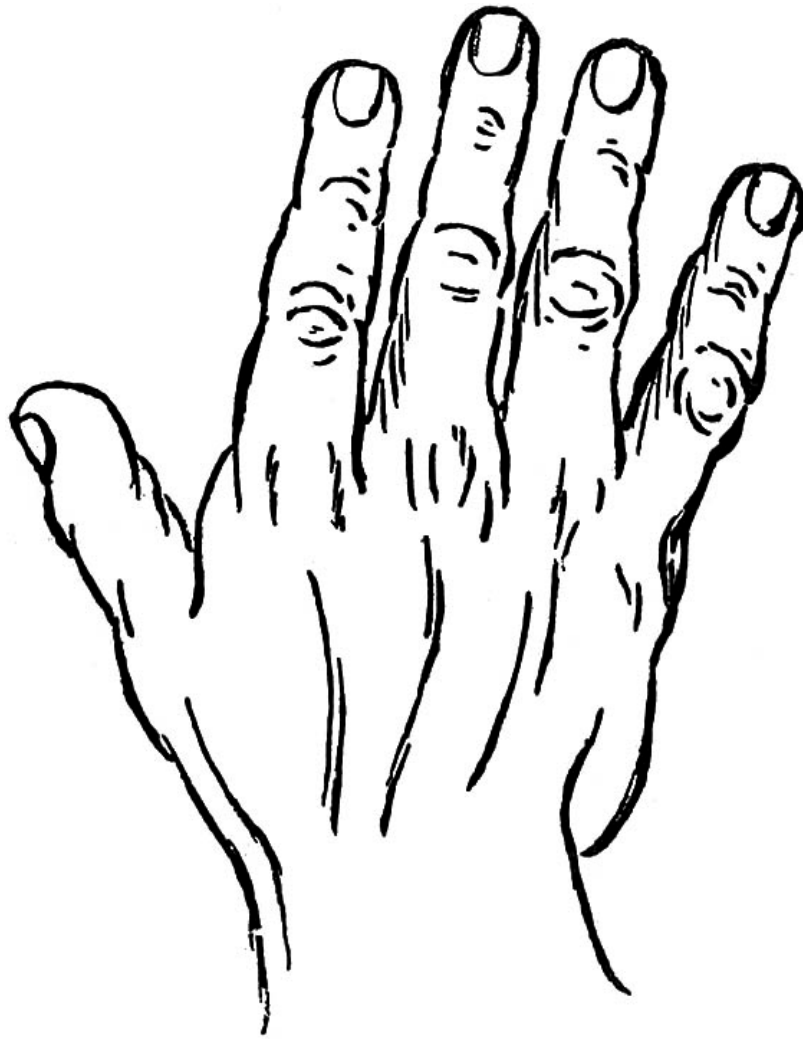
1. The elementary, or the lowest type.
2. The square, or the useful hand.
3. The spatulate, or the nervous active type.
4. The philosophic, or the knotty hand.
5. The conic, or the artistic type.
6. The psychic, or the idealistic hand.
7. The mixed hand.

The seven varieties are formed by the blending of the seven 'pes. Among civilized nations the elementary being rarely found in its purity, we therefore commence with the square, divided into seven heads, as, for example: the square with square fingers, short; the square with square fingers, long; the square with knotty fingers; the square with spatulate fingers; the square with conic fingers; the square with psychic fingers; and the square with mixed fingers.

CHAPTER II

THE ELEMENTARY, OR LOWEST TYPE

This hand naturally belongs to the lowest type of mentality. In appearance it is coarse and clumsy, with large, thick, heavy palm, short fingers, and short nails (Fig. i). It is always important to notice the length of the palm and fingers. Some books on palmistry state that to show intellectuality the fingers should always be longer than the palm; but an examination of this statement will show that it is not correct. It has not been proved that fingers have been found longer than the palm. That they may be nearly as long, or as long, there can be no doubt; but it is a very rare case to find them even of the same length. When, however, in proportion to the size of the palm the fingers are long, it indicates a more intellectual nature than when they are short. In Dr. Cairn's work on the physiognomy of the human body, he states that "the bones of the palm form, among brute animals, almost the whole hand." The deduction, therefore, is that the more the palm dominates the hand, the more does the animal nature rule. This is the important point in the elementary hand: the palm is always thick and coarse, and the fingers short and clumsy. There are also very few lines to be seen on the palm. The people possessing such a type have very little mental capacity, and what they do possess leans more to the order of the brute. They have little or no control over their passions; love of form, colour, and beauty does not appeal to them. The thumb of such hands is short and thick, with the upper part or nail phalange heavy, full, and generally square. Such people are violent in temper, passionate but not courageous. If they commit murder, it is in the fury and in the spirit of destruction. They possess a certain low cunning, but the cunning of instinct, not reason. These are people without aspirations; they but eat, drink, sleep, and die. (See also "The Hands of Nations," Chapter XVI.)



THE ELEMENTARY HAND

Figure 1

CHAPTER III

THE SQUARE HAND AND ITS SUBDIVISIONS

The square hand means the palm square at the wrist, square at the base of the fingers, and the fingers themselves square (Fig. 2). Such a type is also called the useful, because it is found in so many walks of life. With this type the nails as well are generally short and square.

People with such a hand are orderly, punctual, and precise in manner, not, however, from any innate grace of nature, but more from conformity with custom and habit. They respect authority, they love discipline, they have a place for everything and everything is kept in its place, not only in their household, but in their brains. They respect law and order, and are slaves to custom; they are not quarrelsome, but are determined in opposition; they prefer reason to instinct, peace to war, and are methodical in work and in habit. They are endowed with great perseverance, but are tenacious, not resigned; they are not enthusiastic over poetry or art; they ask for the material, they win success in practical things. In religion they will not go to extremes; they prefer substance to show, and dogma to ideas. They are not adaptable to people, or versatile; they have little originality or imagination, but in work they have great application, force of character, strength of will, and often outdistance their more brilliant and talented rivals. They naturally love the exact sciences, and all practical study. They encourage agriculture and commerce; they love home and the duties of home, but are not demonstrative in affection. They are sincere and true in promises, staunch in friendship, strong in principle, and honest in business. Their greatest fault is that they are inclined to reason by a twelve-inch rule, and disbelieve all they cannot understand.

This peculiarity is very often found, and very easily recognized. The subject with such a type is materialistic in every sense of the term. He would be the kind of man who would say: "Except I hear with my ears and see with my eyes, I cannot believe." And even then I very much doubt if such a man would be convinced. It also denotes an obstinate kind of nature, as a rule, narrow-minded. These people make money, but by plodding; they may not be miserly, but they are

.

THE SQUARE HAND WITH LONG SQUARE FINGERS

The next modification is the square hand with very long fingers. This denotes a greater development of mentality than the square hand with short fingers. It denotes logic and method, but in a greater degree than possessed by the purely square type, which, tied down by rule and custom, must follow the beaten track. This hand, on the contrary, though submitting everything to scientific examination, will not be so influenced by prejudice, but will proceed cautiously and thoroughly to logical conclusions, and will find its vocation in a scientific career, or in one involving logic and reason.

THE SQUARE HAND WITH KNOTTY FINGERS

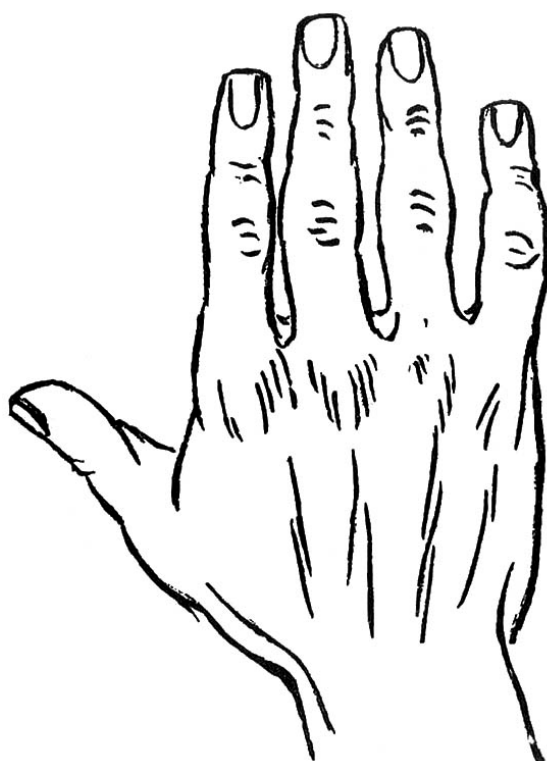
This type is generally found with long fingers, and gives, in the first place, extreme love of detail. It is also fond of construction; it builds plans from any given point to any known possibility; it may not produce great inventors, but it will produce good architects, mathematicians, and calculators, and if it applies itself to medical work, or to science of any kind, it will choose some speciality and use its love of detail in the perfection of its own particular study.

THE SQUARE HAND WITH SPATULATE FINGERS

This is the hand «f invention, but always on practical lines. Men with this formation run the gamut in invention, but on a practical plane. They make useful things, instruments, and household articles, and are, as well, good engineers. They love mechanical work of almost every kind, and the finest useful mechanism has been turned out by men with the square hand and the spatulate fingers.

THE SQUARE HAND WITH CONIC FINGERS

Now, though at first sight it may appear strange to say that musical composition comes under this head, yet a little consideration will show that such not only is the case, but that there is a logical reason that it should be so. In the first place, the square hand is more the hand of the student. It gives more the power of application and continuity of effort, while the conic fingers give the intuitive and inspirational



THE SQUARE, OR USEFUL HAND

Fig. 2

faculties. The musical composer, no matter how imaginative, no matter how inspired in ideas, is certainly not without the student's side to his character. If we consider, for a moment, the quality of brain and the disposition which is absolutely necessary, we will understand more clearly why the hand must be thus wonderfully balanced - why the inspirational, imaginative nature must be linked to that of the thoughtful, the solid, the methodical, and that which also proceeds from the foundation of the known - as, for instance, harmony and counterpoint - to reach the world of the unknown, through the gates of imagination and idealism. I have given great study to the hands of musical people, and I find this rule invariable. I find that the same also applies to literary people, those who from the foundation of study build up the ivy-clad towers of romance. It is here that the

student of palmistry is often discouraged. He imagines that because a man or woman leads an artistic life, be it musical or literary, that the shape of the hand must be what is commonly called the conic or artistic; but the smallest observation of life will show that though the people with the purely conic or artistic hands have the artistic nature and the appreciation of what is artistic, yet they may not have - and I have more often observed that they have not - the power or the ability to bring their ideas before the world in the same masterful way in which the mixed square and conic do. A man of a very artistic spirit, with the conic hand, once said to me: "It is sufficient for the artist to be the artist to his own inner nature; the approbation of the world is, after all, only the vulgar hall-mark on what he knows is gold." "Yes," I reply, "sufficient for your own nature, perhaps, but not sufficient for the world that expects the diamond to shine and the gold to glitter. If the flower made itself, then might it refuse to allow its perfume to scent the earth.". On the contrary, the square type will exert its powers to the greatest advantage of all mankind.

THE SQUARE HAND AND PSYCHIC FINGERS

The square hand with purely psychic fingers is rarely found, but an approach to it is often seen in the form of the square palm combined with long, pointed fingers and long nails. Such a formation causes people to start well, and mean well, but makes them subservient to every mood and caprice. An artist with such a type will have a studio of unfinished pictures, and the business man will have his office filled with unfinished plans. Such a blending of types the extreme opposite of each other makes a nature too contradictory ever to succeed.

THE SQUARE HAND AND MIXED FINGERS

This is a type that is very often seen, and more so among men than among women. It consists of every finger being different in shape, sometimes two or three, sometimes all. It is often found that the thumb of such a hand is supple, or bends back very much in the middle joint; the first finger is generally pointed, the second square, the third spatulate, and the fourth pointed. Such a hand indicates great versatility of ideas; at times such a man will be full of inspiration, again he will be scientific and extremely logical; he will descend from the most imaginative idea to the

purpose, he will rarely, if ever, rise to any great height of power or success. I have not space at my disposal to give the subdivisions of every type, but this is an example for the student of how the seven types may be divided.

CHAPTER IV

THE SPATULATE HAND

The spatulate hand is so called not only because the tip of each finger resembles the spatula which chemists use in mortars, but also because the palm, instead of having the squareness of the preceding type, is either unusually broad at the wrist or at the base of the fingers (Fig. 3).

When the greater breadth of formation is at the wrist, the palm of the hand becomes pointed toward the fingers; when, on the contrary, the greatest breadth is found at the base of the fingers, the shape of the hand slopes back toward the wrist. We will discuss these two points a little later, but we must first consider the significance of the spatulate hand itself.

In the first place, the spatulate hand, when hard and firm, indicates a nature restless and excitable, but full of energy of purpose and enthusiasm. When soft and flabby, which is often the case, it denotes the restless but irritable spirit. Such a person works in fits and starts, but cannot stick to anything long. Now, in the first place, the peculiar attribute that the spatulate hand has is its intense love of action, energy, and independence. It belongs to the great navigators, explorers, discoverers, and also the great engineers and mechanics, but it is by no means confined to such people, and may be found in almost every walk of life. As a rule, it is a large hand, with fairly long, well-developed fingers. The most striking characteristic of all is the singular independence of spirit that characterizes individuals possessing such a development. It is doubtless this spirit that makes them explorers and discoverers, and causes them also to depart from the known rules of engineering and mechanics to seek the unknown, and thus become famous for their inventions. No matter in what grade or position in life these spatulate hands find themselves, they always in some form strike out for themselves, and assert their right to possess a marked individuality of their own. A singer, actress, doctor, or preacher with such a development will break all rules of precedent - not by any means for the sake of eccentricity, but simply because they have an original way of looking at things, and their sense of independence inclines them to resent suiting their brain to other people's ideas. It is from this hand that we get not only our great discoverers and

because they will not follow the rut made by the centuries of sheep that have gone before them. Such men and women with the spatulate hands are the advance agents of thought. They are, it is true, very often before their time; they are often wrong in the way they set about their work; but they are, as a rule, the heralds of some new thought or life that will, years later, give life to their fellow men.

This brings us down to the two divisions I have just mentioned. We will now consider their meaning.



THE SPATULATE, OR ACTIVE HAND

Fig. 3

The spatulate hand with the broad development at the base of the fingers is the more practical of the two, If he be an inventor, he will use his talents for making locomotives, ships, railways, and all the more useful things of life, for the simple reason that he comes nearer the formation of the square type. But if he has the greater angular development at the wrist, his bent will be for action in the domain of ideas. He will invent flying-machines if he has the inventive talent, hunt for new flowers if he be a botanist, be the demigod of some new gospel if he be a priest. These people wonder that God took six days to make the earth - with the little power that they possess they would revolutionize the world in a day. But they all have their purpose in the evolution of life; they are necessary, therefore they are created.

CHAPTER V

THE PHILOSOPHIC HAND

The name of this type explains itself, the word 'philosophic' being derived from the Greek philos, love, and sophia, wisdom. This shape of hand is easily recognized: it is generally long and angular, with bony fingers, developed joints, and long nails (Fig. 4). As far as success in the form of wealth is concerned, it is not a favourable type to have; it gleans wisdom, rarely, if ever, gold. People with such a type are, as a rule, students, but of peculiar subjects. They study mankind; they know every chord and tone in the harp of life; they play upon it, and are gratified with its responsive melody more than with the clink of coin. In this way they have as much ambition as other types of humanity, only theirs is of a different kind, that is all. They like to be distinct from other people, and they will go through all kinds of privations to attain this end; but as knowledge gives power, so does the knowledge of mankind give power over man. Such people love mystery in all tilings. If they preach, they preach over the heads of the people; if they paint, they are mystic; if they are poets, they discard the dramatic clash and colour of life for the visionary similes and vapourish drappings of the spirit. Theirs is the peace of the esthetic; theirs the domain beyond the borderland of matter; theirs the cloudland of thought, where the dreaded grub-worm of materialism dare not follow. Such hands are found very largely among the Oriental nations, particularly in India. The Brahmans, Yogis, and other mystics possess them in great numbers. In England, striking examples are found in the hands of Cardinal Newman, Cardinal Manning, and Tennyson. They are also largely seen among the Jesuits of the Catholic Church, rarely in the English Church, and more rarely still in Baptists, Presbyterians, and Independents. In character they are silent and secretive; they are deep thinkers, careful over little matters, even in the use of little words; they are proud with the pride of being different from others; they rarely forget an injury, but they are patient with the patience of power. They wait for opportunities, and so opportunities serve them. Such hands are generally egotistical, which is in keeping with the life they lead. When in any excess of development they are more or less fanatical in religion or mysticism. Of this the most wonderful examples are found in the East, where from the earnest childhood the Yogi will separate himself from all claims of relationship and kindred, and starve and kill the body that the soul may live. I differ in my definition of this type very largely from other writers on palmistry. I fear it has been too often the case that the writer on this subject has followed too closely what

greatest injury that has been done to palmistry has been done in the nineteenth century, by the "lady and gentleman" writers of the day. Such people read a few books, devote sometimes a few months, sometimes less, to the study as a fad, or as something by which to make a tinsel reputation of being interesting, then they write their names to a book and disappear into the whirl of society from whence they came. I recall reading a pamphlet written by a lady who eight months earlier had not known a line on the hand, but with astonishing temerity she launched out as an exponent of palmistry, and, having mixed up the types in her brain, wrote that the square hand with short fingers was the hand of poetry and idealism. In this work I have endeavoured to keep an unbiased mind toward the difference of opinion on this or that in connection with the study. When I have come in contact with an opinion in opposition to my own, I have carefully considered all points for and against, and before deciding in any direction I have taken time to examine often hundreds of hands before coming to a conclusion on even the smallest point. When one considers the opportunities placed at my disposal, not only in one country, but in almost every country in the world, he will more readily understand that there is some likelihood of my being, not infallible, but fairly accurate. With these hands, therefore, it must be borne in mind that the developed joints are the peculiar characteristic of thoughtful people, while the smooth, pointed fingers are the reverse.

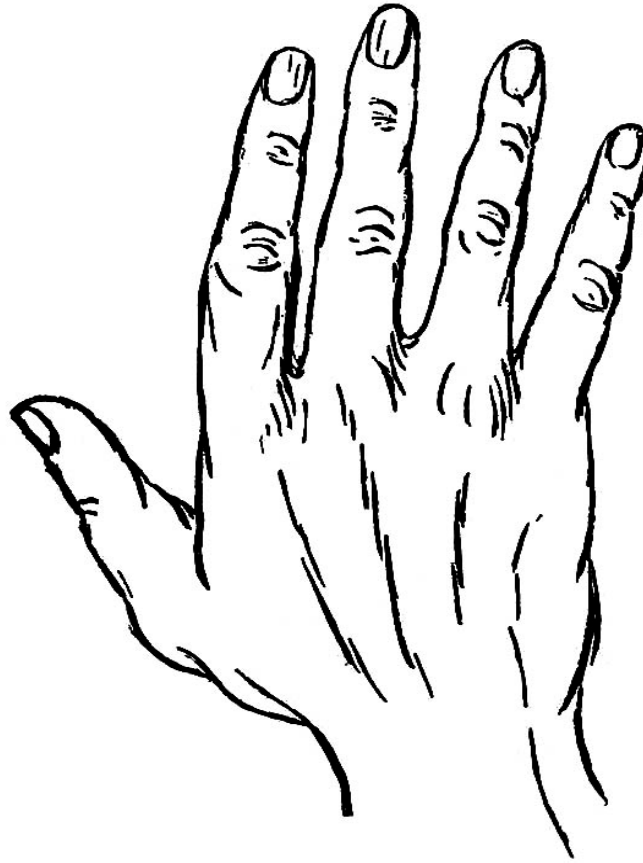


THE KNOTTY, OR PHISOSOPHIC HAND

Fig. 4

Again, such a development gives the love of analysing, but it is the shape or type of hand which determines whether that power of analysis be for chemicals or for mankind. The end of the finger being square and conic combined gives the solemn tone to their inspiration and fits them specially for the religious thought or the mysticism with which, as a rule, they become associated.

Again, these hands, in the pursuit of what they consider truth, will have the patience of the square type, with that love of self-martyrdom which is the characteristic of the conic. It is the blending of these almost opposite characteristics which brings about the peculiar ideas that make men and women with the philosophic type of hands so different from the practical drones in the vast hive of humanity.



THE CONIC, OR ARTISTIC HAND

Fig. 5

CHAPTER VI

THE CONIC HAND

The rules in relation to the lines are, in the first place, that they should be clear and well marked, neither broad nor pale in colour; that they should be free from all breaks, islands, or irregularities of any kind.

Lines very pale in colour indicate, in the first place, want of robust health, and, in the second, lack of energy and decision.

Lines red in colour indicate the sanguine, hopeful disposition; they show an active, robust temperament.

Yellow lines, as well as being indicative of biliousness and liver trouble, are indicators of a nature self-contained, reserved, and proud.

Lines very dark in colour, almost black, tell of a melancholy, grave temperament, and also indicate a haughty, distant nature, one usually very revengeful and unforgiving.

Lines may appear, diminish, or fade, which must always be borne in mind when reading the hand. The province of the palmist, therefore, is to warn the subject of approaching danger by pointing out the evil tendencies of his nature. It is purely a matter of the subject's will whether or not he will overcome these tendencies, and it is by seeing how the nature has modified evils in the past that the palmist can predict whether or not evils will be overcome in the future. In reading the hand, no single evil mark must be accepted as decisive. If the evil is important, almost every principal line will show its effect; and both hands must be consulted before the decision can be final. A single sign in itself only shows the tendency; when, however, the sign is repeated by other lines, the danger is then a certainty. In answer to the question, Can people avert or avoid danger or disaster predicted in the hand? I answer that decidedly I believe that they can; but I say just as

were given accurate not in money matters; they are easily influenced to give money for charity, but, alas I here they have not the power of discrimination, consequently the money is given to anybody or anything which may rouse their sympathies at the moment. These hands never get that credit for charity which falls to the lot of the more practical types. To get credit for charity very often consists in saving what we give to the beggar and giving it to the church, but the conic fingers never think of that. The beggar comes, and if the impulse to give is there- well, they give, and that is all.

This interesting type has been called, and deservedly so, the artistic, but such relates more to temperament than to the carrying out of the artistic ideas. It would really be more correct to say that the owners of such hands are influenced by the artistic, than that they are artistic. They are more easily influenced by colour, music, eloquence, tears, joy, or sorrow, than any other type. Men and women possessing this class of hand respond quickly to sympathetic influences; they are emotional, and rise to the greatest heights of rapture, or descend to the lowest depths of despair, over any trifle.

When the conic hand is hard and elastic, it denotes all the good qualities of the first-mentioned, but accentuated by greater energy and firmness of will. The hard conic hand is artistic in nature, and if encouraged for an artistic life the energy and determination will go far toward making success. It will have all the quickness of the first, with all the brilliancy and sparkle in company and before strangers, and it is for that reason that the conic hand has been chosen to represent those who lead a public life, such as actors, actresses, singers, orators, and all those who follow a purely emotional career. But it must not be forgotten that such people depend more upon the inspirational feeling of the moment than thought, reason, or study. They will do things well, but will not know why or how they do them. The singer will carry away her audience by her own individuality more than by study of the song; the actress, from her own emotional nature, will stir the emotions of others; and the orator will move multitudes by the eloquence of his tongue – not by the logic of his words. It must, therefore, be remembered that the type of hand but relates to the natural temperament and disposition of the individual; it is the foundation upon which the talent rises or falls. For instance, a woman with square fingers can be as great a singer, and may often be capable of rising to greater things than the woman with the pointed formation; but she

work, and by the greater power of endurance and patience that she possesses. Study and development are one half the ladder of fame. Genius sits on the rungs to dream, Study works and rises rung by rung; it is the earthworms alone who, dazzled by the heights above them, confound the two, and oft crown Study and call it Genius. The artistic type as a type but relates to temperament; the variety of fingers indicates only where that temperament is strongest: as, for instance, the artistic hand with square fingers indicates more the student, and, consequently, more exactness in foundation, method, and correctness; such persons will try and try again until they are successful.

The spatulate fingers on the artistic hand will give, say, to a painter the greater breadth of design and colour, the more daring ideas that will make the man famous for his originality. The philosophic will give the mystical treatment of the idea - the tones and semitones that subdue the already subdued colours. The lights and shades that creep across the canvas, the poem in the petals of the asphodel, the Benedictus in the hands that soothe the dying - all will be detail, but detail leading to the regions of the spirit; all will be calm, but with that calmness that awes one with the sense of the mysterious.

CHAPTER VII

THE PSYCHIC HAND

The most beautiful but the most unfortunate of the seven is what is known as the psychic (Fig. 6). This in its purity of type is a very rare hand to find. The name explains itself - that which appertains to the soul. The very word seems to suggest to one's mind the old fable of the envy of Venus toward the maiden Psyche - the war of the goddess of passion against the more spiritual charm of the daughter of the soul. In its pureness of type it is a hard hand to find: our contemporary civilization does not encourage such rare flowers of lily whiteness and icy purity; the calmness, coldness, and dreamy chastity of such a type are not sought after by the present-day sons of the soil, whose heads are bowed in the quest for gold, and whose blood is heated by the closeness of the cattle. But although the exact type may be hard to find, yet there are hundreds of men and women who so approach the psychic that they must be considered part of it, particularly when the customs that control our present-day life are taken into consideration. The psychic is the most beautiful hand of all. It is in formation long, narrow, and fragile-looking, with slender, tapering fingers and long, almond-shaped nails. Its very fineness and beauty, however, indicate its want of energy and strength, and one instinctively pities such hands if they have to try to hold their own in the battle of life.

Individuals with the psychic hand have the purely visionary, idealistic nature. They appreciate the beautiful in every shape and form; they are gentle in manner, quiet in temper; they are confiding, and they instinctively trust every one who is kind to them. They have no idea of how to be practical, businesslike, or logical; they have no conception of order, punctuality, or discipline; they are easily influenced by others; against their will, they are carried away by the strong rush of humanity. Colour appeals to this nature in the highest possible way; to some, every tone of music, every joy, every sorrow, every emotion is reflected in a colour. This type is unconsciously a religious one; it feels what is true, but has not the power to seek truth. In religion such people will be more impressed with the service, the music, and the ceremony than with the logic or truth of the sermon. They are innately devotional, they seem to dwell on the confines of the spiritual, they feel the awe and the mystery of life, without knowing why. All forms of magic and mystery attract

them; they are easily imposed upon, and yet bitterly resent being deceived. These individuals have the intuitive faculties highly developed; they are good as sensitives, mediums, clairvoyants, because they are more alive to feelings, instincts, and impressions than are their more matter-of-fact brothers and sisters.

Parents having such children generally do not at all understand how to treat them. The strange thing is that they are often the offspring of matter-of-fact, practical people. The only way in which I would account for such a fact is by the theory of balance: nature, working through hereditary laws, finds a point of balance by producing the direct opposite of the parent; thus the law of reaction produces the type under examination. Alas! too often a temperament of this kind, by the ignorance and stupidity of the parents, is forced into some business life, simply because the father is in business. The utter wrongness of the life so crushes and dwarfs the nature that very often the result of such environment is insanity or an early grave. There is no question but that the asylums of the world are largely filled by the utter inability of parents for such a position of responsibility; and the sooner this fact is recognized, the better.

Possessors of these beautiful, delicate hands, the indicators of the purely sensitive nature, usually feel their position in life so keenly that they too often consider themselves useless, and become morbid and melancholy in consequence. Such, however, is not the case; there is nothing useless that nature calls into creation; the beauty and sweetness of such temperaments are often of more use and do more good than those who, by the accumulation of this world's goods, build a convent or endow a church. They may be placed here to establish a balance in the laws of humanity; they may be here to increase our love and appreciation of the beautiful; but they are not useless - of that we may be assured; therefore let us encourage and help them, instead of crushing and destroying them as we too often do. Alas! in the worldly sense they are generally left far behind in the race for fame and fortune. I cannot refrain from drawing the following picture, as illustrative of such types:

They are as lilies thrown, by some ruthless hand, upon the tempest-tossed river of life - they seem so helpless in the onward sweep of that terrible current. One sees them at times clinging to the banks for pity. Ah! these beautiful hands have no strength; they are swept on again by the

rising tide of bubbling, babbling, frothy humanity. A little lower, one sees them, soiled and stained, crouching beneath the shadow of some rock, trying, as it were, to look happy amid the weeds that for a



THE PSYCHIC, OR IDEALISTIC HAND

Fig. 6

moment mock the stream. Again, it is the rush of the onward tide or the wash of some passing barge that drags them from the shelter of the stone and hurries them nearer and nearer to the sea. The river is broader now, quieter, calmer, wider; we expand in our views as we leave the narrow banks of youth. See, now, as the night is nearing, how those lilies rest and dream upon the tide. The river is silent now, the rush is past, the day of life is done. See how it bears the broken flowers tenderly, as if sorry for the roughness of its early tide. All is quiet now, all is calm. Wider and wider yet it grows, calmer and yet still calmer. The end has come. The mists fall now, thicker and closer and whiter. How still it is! The silence hangs like a coldness on the heart. The river widens out into the sea, and lilies and flowers and weeds drift - it may be to the garden of God.

CHAPTER VIII

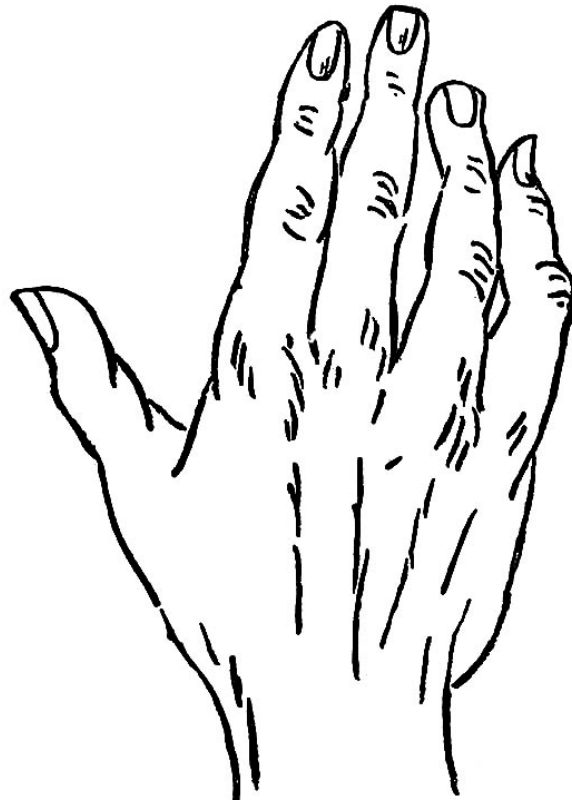
THE MIXED HAND

The mixed hand is the most difficult of all to describe. In the chapter on the square hand I gave an illustration of that type with mixed fingers. In that case, however, the mixed fingers have the foundation of the square hand, whereas with the true mixed type no such foundation can be cited for the student's guidance.

The mixed type is so called because the hand cannot possibly be classed as square, spatulate, conic, philosophic, or psychic; the fingers also belong to different types - often one pointed, one square, one spatulate, one philosophic, etc.

The mixed hand is the hand of ideas, of versatility, and generally of changeability of purpose. A man with such a hand is adaptable to both people and circumstances, clever, but erratic in the application of his talents. He will be brilliant in conversation, be the subject science, art, or gossip. He may play some instrument fairly well, may paint a little, and so on; but rarely will he be great. When, however, a strong line of head rules the hand, he will, of all his talents, choose the best, and add to it the brilliancy and versatility of the others. Such hands find their greatest scope in work requiring diplomacy and tact. They are so versatile that they have no difficulty in getting on with the different dispositions with which they come into contact. Their most striking peculiarity is their adaptability to circumstances: they never feel the ups and downs of fortune like others; almost all classes of work are easy to them. They are generally inventive, particularly if they can thereby relieve themselves of labour. They are restless and do not remain long in any town or place. They are fond of new ideas: one moment they determine to write a drama, the next, perhaps, they invent a gas-stove or go into politics; but as they are always changing, and unstable as water, they rarely succeed. It must be remembered that when the palm belongs to a certain type these characteristics are much modified; as, for instance, mixed fingers on the square, the spatulate, the philosophic, or the conic will often succeed where the pure development of the type would fail. When the entire hand is mixed it is then that, through versatility of talent and purpose,

the subject is inclined to become the "Jack of all trades," to which class of unfortunates the individual possessing this type of hand is so commonly relegated in works on palmistry.



THE MIXED HAND

Fig. 7

CHAPTER IX

THE THUMB

The thumb is in every sense so important that it calls for special attention, not only in the domain of cheirognomy, but also in its relation to cheiromancy. The truth of palmistry could rest upon the solid foundation given by the study of the thumb alone, in its relation to the most important characteristics of the subject.

In every age the thumb has played a conspicuous part, not only in the hand, but also in the world itself. It is a well-known fact that among many of the tribes of Oriental nations, if the prisoner, when brought before his captors, cover his thumb by his fingers, he is in this dumb but eloquent fashion giving up his will and independence, and begging for mercy. We find in the war annals of the children of Israel instances of their cutting off the thumbs of their enemies. Gipsies, in their judgment of character, make the thumb the great foundation for all their remarks. Being interested with gipsies in my early life, I know this for a fact, for I have seen and watched them from the position, angle, and general appearance of the thumb make their calculations accordingly. In India they have a variety of systems by which they read the hand, but here, again, they make the thumb the centre and foundation, no matter what system they work out. The Chinese also believe in palmistry, and they, too, base their remarks on the position of the thumb itself. Again, it is an interesting fact to notice that even in Christianity the thumb has played an important role, the thumb representing God; the first finger Christ, the indicator of the will of God, and the only finger on the hand that has by virtue of its position, the power to point, or to stand upright independent of the rest; the second representing the Holy Ghost, as the attendant to the first. In the Greek Church the bishop alone gives the blessing by the thumb and first and second fingers, representing the Trinity; the ordinary priest has to use the whole hand. And, again, in the old ritual of the English Church, we find that in baptism the cross must be made by the thumb.

I do not wish to tire my readers by going into a lengthy dissertation upon the medical points which could be given by the hundred in proof of the importance of this member; but the most

the brain. It is a well-known fact among the specialists of nerve diseases that by an examination of the thumb they can tell if the patient is affected or is likely to be affected by paralysis or not, as the thumb will indicate such a likelihood a long time before there has appeared the slightest trace of such a disease in any other part of the system. If it indicate such an affection, an operation is at once performed on the thumb centre of the brain, and if that operation is successful (which is again shown by the thumb) they have baffled the disease and the patient is saved. And yet, in face of this, which is a well-known fact, there still are people who do not believe in the study of the hand. Dr. Francis Galton once demonstrated in London the marvellous accuracy by which criminals can be traced by the study of the corrugations of the skin of the thumb. En passant, the English government thought well of the idea, and even proposed to put it into practice - and yet that very government arrested and prosecuted palmists during the same year in almost every part of the country. Justice is indeed blind. Another very interesting point is the old idea of the midwives - an idea, by the way, that can easily be seen to contain a good deal of truth. They believed that if the child, some days after birth, was inclined to keep the thumb inside the fingers, it foreshadowed great physical delicacy, but if, seven days after birth, the thumb was still covered, then there was good reason to suspect that the child would be delicate mentally. If one will visit the asylums of the country, he cannot fail to notice that all congenital idiots have very weak, poor thumbs; in fact, some are so weak as not to be properly developed, even in shape. All weak-minded individuals have weak thumbs, and the man or woman who will stand talking with the fingers covering and concealing the thumb has little self-confidence or self-reliance. It is an interesting thing to watch the hands of people when dying. One will see that, as death approaches and the reason goes, the thumb loses all power and drops in on the hand, but that if the reason has only faded temporarily the thumb still retains its power and there is every hope of life. It is D'Arpentigny who has said, "The thumb individualizes the man." This is remarkably true, particularly when one follows out Sir Charles Bell's discovery that in the hand of the chimpanzee, which is the nearest approach to the human, though well formed in every way, yet the thumb, if measured, does not reach the base of the first finger. The deduction to be made is, therefore, that the higher and better-proportioned t*he thumb, the more the intellectual faculties rule, and vice versa. This point the student will prove by the most casual observation. The man with the short, clumpy, thick-set thumb is coarse and brutish in his ideas and animal in his instincts, while the man or woman with the long, well-shaped thumb is intellectual and refined, and in the attainment of a desire, or the carrying out of an object, such a person will use the strength of intellectual will, as opposed to that of brute force,

long and firm upon the hand. It should not stand at right angles to the palm, nor yet should it lie too close to the side. It should have a slope toward the fingers, and yet not lie down on them.' When it stands off the hand, at right angles to it, the nature will fly to extremes, from sheer independence of spirit. It will be impossible to manage or control such natures; they will brook no opposition, and they will be inclined to the aggressive in their manner and bearing. When the thumb is well formed, but lying down, cramped toward the fingers, it indicates the utter want of independence of spirit. It denotes a nervous, timorous, but cautious nature; it will be impossible to find out what such a person is thinking about or what he intends to do; he cannot be outspoken, because his nature is the reverse. If the thumb, however, is a long one, he will use his intellectual faculties to outwit his opponent, but if it be short and thick he will cautiously await his opportunity for any deed of violence that he may meditate. When a well-formed thumb, therefore, strikes the happy medium of these two extremes, the subject will have sufficient independence of spirit to give him dignity and force of character; he will also be properly cautious over his own affairs, and have strength of will and decision. It therefore stands: the long, well-formed thumb denotes strength of intellectual will; the short, thick thumb, brute force and obstinacy; the small, weak thumb, weakness of will and want of energy.

From time immemorial the thumb has been divided into three parts, which are significant of the three great powers that rule the world - love, logic, and will.

The first or nail phalange denotes will. The second phalange, logic. The third, which is the boundary of the Mount of Venus, love.

When the thumb is unequally developed, as, for instance, the first phalange extremely long, we find that the subject depends upon neither logic nor reason, but simply upon will.

When the second phalange is much longer than the first, the subject, though having all the calmness and exactitude of reason, yet has not sufficient will and determination to carry out his ideas.

When the third phalange is long and the thumb small, the man or woman is a prey to the more passionate or sensual side of the nature.

One of the most interesting things in the study of the thumb is to notice whether the first joint is supple or stiff. When supple, the first phalange is allowed to bend back, and forms the thumb into an arch; when, on the contrary, the thumb is stiff, the first phalange cannot be bent back, even by pressure; and these two opposite peculiarities bear the greatest possible relation to character.

The supple thumb (Fig. 8) is the distinctive peculiarity of the Latin races; the stiff joint is more the property of the Northern. The supple joint, for instance, is very rare among the Danes, Norwegians, Germans, English, and Scotch, whereas it is found in large numbers among the Irish, French, Spanish, Italians, and wherever these races have congregated. I hardly think that the theory of climatic influence bears out this point. I am more inclined to consider that the unconscious influence of the surroundings, prenatal or otherwise, has more to do with this peculiarity, for the characteristics that it shows in the individual are also the characteristics of the nation to which that individual belongs.

THE SUPPLE-JOINTED THUMB

For example, the supple-jointed thumb, bending from the hand, is the indication of the extravagant person, not only in matters of money, but in thought; these are life's natural spendthrifts - improvident of time, improvident of wealth. They have adaptability of temperament for both people and circumstances; they are quickly at home in whatever society they are thrown; they have the sentimental love of kindred and country, as opposed to the practical; they settle down easily to new work and new surroundings, and consequently they quickly make a home in whatever country they are placed.

THE FIRM-JOINTED THUMB

Again, in a general way, the exact opposite of all this is found among the people with the stiff, firm joint (Fig. 8). In the first place, they are more practical; they have a strong will and a kind of stubborn determination which makes them rather stronger in character, and which is a large element in their success. They are more cautious and secretive; they advance by slow steps where the other nature will act by leaps and bounds. Again, they are not erratic like the first-mentioned; they stick to one thing; they carry out their purpose with a kind of resistless stubbornness; they have the practical idea of making the most out of their own home and their own country; they rule with strength; they have a keen sense of justice; they control self as they would control machinery; in war they are solid, strong, and resistless; in love they are undemonstrative, but firm and staunch; in religion their churches are plain, but solid; in art they have the strength of their own individuality.

THE SECOND PHALANGE

The next important characteristic of the thumb is the shape and make of the second or middle phalange. It will be found that this varies greatly and is a decided indicator of temperament. It has two noticeable formations, namely, the narrow moulded centre or waist-like appearance (Fig. 8, d), and its opposite, which is full and more clumsy (Fig. 8f).

When I published my Book on the Hand, which was to be followed later by this larger and fuller work, I called attention to the great difference, as far as character is concerned, shown by these two formations. My statement that the waist-like appearance indicated tact aroused a good deal of interest, and as it was taken exception to by some of my critics, I will here endeavour to show in a logical way why such should be the case. In the first place, the student has by this time seen the truth of my remarks about the finer formation of the thumb being the indication of the greater development of the intellectual will, and the coarse formation that of the nature that will use more brute force in the accomplishment of an object. It therefore follows that the waist-like appearance, which is a portion of the finer development, indicates the tact born of mental power, whereas the fuller, coarser development indicates force in the carrying out of a purpose, in keeping with the characteristics, of each nature

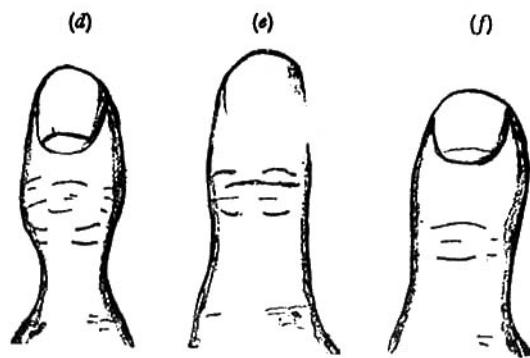


(a) The Clubbed Thumb



(b) Supple-jointed Thumb.

(c) Firm-jointed Thumb



THE THUMBS

Fig. 8

When the first or nail phalange is thick and heavy, with a short, flat nail, it is a sure indication of the ungovernable passion of the subject. All brutal animal natures have such clubbed formations, the force of blind passion completely dominating whatever reason they possess. Such people, as a rule, also have the first joint stiff, and the two points together give that terrible obstinacy of purpose that drives the subject, once out of temper, into deeds of violence and crime. The flat first phalange, consequently, whether short or long, is more calm in matters of temper and more controlled by reason.

When the hand is hard the natural tendency toward energy and firmness indicated by the thumb is increased; consequently the subject with the hard, firm hand and the first phalange of the thumb well developed will be more resolute of purpose and more determined in the execution of his ideas than is the subject with the soft hand

When the hand is soft the subject will be more inclined to use his will by fits and starts, but cannot be so much depended upon in the execution of his plans.

One very striking peculiarity to be found in this study of human nature through the medium of the hand is shown in the case of people with the supple or bending-back thumb. They rarely have the same keenness of moral consciousness that is found with those of the straight, firm development. They are generally more those impulsive children of nature in whom conscience in morals does not play so important a part.

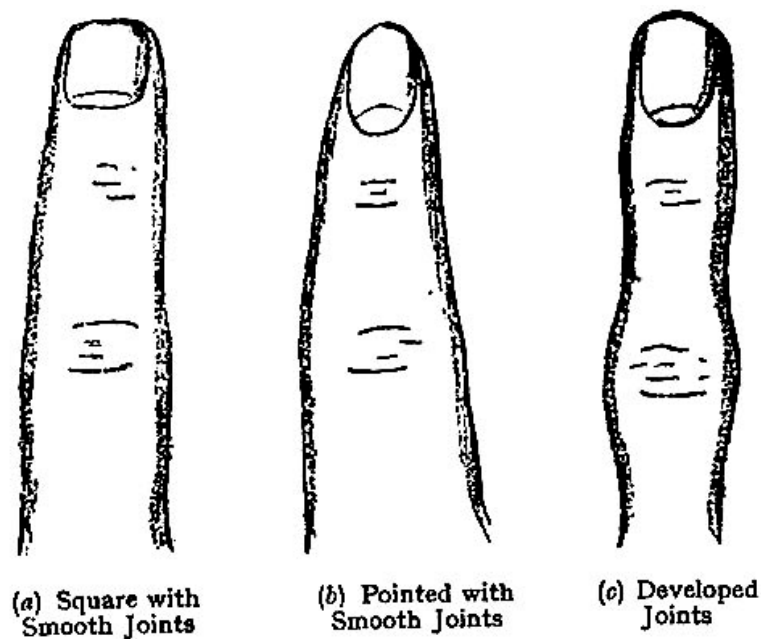
CHAPTER X

THE JOINTS OF THE FINGERS

The development or non-development of the joints of the fingers is a very important consideration in the reading of the hand. The joints are, figuratively speaking, walls between the phalanges, and are important indications of the peculiarities as well as of the temperament of the subject.

When the subject has what are known as smooth joints he is more inclined to be impulsive in thought and to arrive at conclusions without using the reasoning faculties. With square hands this is very much modified, but not by any means eradicated. Consequently a scientific man with square fingers, but with smooth joints (Fig. g, a) will jump at conclusions without being always able to account for them. Such a doctor will diagnose a patient in the same way; if the man be really talented he may be very accurate in his conclusions, but such a man is more apt to make mistakes than the man with the square type with developed joints. With the pointed hands the smooth joints are purely intuitive (Fig. 9, b); they cannot be troubled with details of any kind; they are also careless in dress, appearance, and in little matters. Such a person in business affairs could not keep papers and little things in their places, although he would be very particular in insisting upon order in other people.

The opposite is found in the case of people with the developed joints (Fig. 9, c). Work has nothing to do with the increase or diminution of such formations; the smooth joints are as often found among men who do the hardest kind of manual labour as the knotty or developed joints among men who do nothing but mental work. They are sometimes found running in families for generations, or appearing in one child and but slightly found in all the others. In the breeding of animals it may be observed, en passant, how often little peculiarities of this kind occur, and also how significant they are. Thus, when one considers how wonderful are the laws of heredity, he will study these "little things" with greater interest. For instance, there is that well-known fact that if a woman gives birth to a child by her first husband, children who follow by the second, third, or even fourth husband, as the case may be, all in some slight way exhibit the peculiarities of the first



THE JOINTS OF THE FINGERS

Fig. 9

The developed joints being the opposite of the smooth, it follows that they show more exactness in method and work. In this case, a man with the square hand and developed joints, engaged in some scientific pursuit, does not care how much time he spends in working out details in connection with any science in which he is engaged. It is the same reason that makes the philosophic hands so exact about detail in connection with their work. The owners of these joints notice the slightest thing out of place in even the arrangement of a room. They worry over little things, though in important matters they will be cool and calm. Men with these developed joints have an almost feminine instinct in matters of dress - they class and blend colour well, and nothing will irritate them more than to accompany a woman the colours of whose costume do not harmonize. In dramatic work, people with such joints are careful and accurate in the delineation of character, but lack dramatic breadth and force. Outside of science, they perhaps make their best mark in literature, because of their extraordinary power of analysing human nature, and because of the true instinct and knowledge of humanity which seems to come to them without effort. We must therefore draw the deduction that these developed walls or joints between the phalanges, figuratively speaking, stop the tide of impulse, and make the nature more observant, thoughtful and analysing.

CHAPTER XI

THE FINGERS

Fingers are either long or short, irrespective of the length of the palm to which they belong.

Long fingers give love of detail in everything - in the decoration of a room, in the treatment of servants, in the management of nations, or in the painting of a picture. Long-fingered people are exact in matters of dress, quick to notice small attentions; they worry themselves over little things, and have . occasionally a leaning toward affectation.

Short fingers are quick and impulsive. They cannot be troubled about little things; they take everything en masse) they generally jump to conclusions too hastily. They do not care so much about appearances, or for the conventionalities of society; they are quick in thought, and hasty and outspoken in speech.

Fingers thick and clumsy, as well as short, are more or less cruel and selfish.

When the fingers are stiff and curved inward, or naturally contracted, they denote an excess of caution and reserve, and very often indicate a cowardly spirit.

When they are very supple and bend back like an arch, they tell of a nature charming in company, affable and clever, but curious and inquisitive.

Naturally crooked, distorted, twisted fingers on a bad hand indicate a crooked, distorted, evil nature; on a good hand they are rarely found, but if found they denote a quizzical, irritating person.

When a small fleshy ball or pad is found on the inside of the nail phalange, it denotes extreme sensitiveness and tact through the dread of causing pain to others.

When the fingers are thick and puffy at the base, the subject considers his own comfort before that of others; he will desire luxury in eating, drinking, and living. When, on the contrary, the fingers at the base are shaped like a waist, it shows an unselfish disposition in every way, and fastidiousness in matters of food.

When, with the fingers open, a wide space is seen between the first and second, it indicates great independence of thought. When the space is wide between the third and fourth, it indicates independence of action.

THE LENGTH OF THE FINGERS IN RELATION TO ONE ANOTHER

The first finger on some hands is very short; again, on others, it is as long as the second, and so on. When the first, or index finger, is excessively long, it denotes great pride, and a tendency to rule and domineer. It is to be found in the hands of priests as well as politicians. Such a man, literally speaking, will "lay down the law."

When this finger is abnormal, namely, as long as the second, it indicates great pride of disposition, a desire for power, the "one man, one world" creed. Napoleon was a striking example of this rule; on his hand the first finger was abnormal, it being fully equal to the second. When the second finger (the finger of Saturn) is square and heavy, it shows a deeply thoughtful, almost morbid nature.

When pointed, the reverse - callousness and frivolity.

When the third finger (the finger of the Sun) is nearly of the same length as the first, it denotes ambition for wealth and honour through its artistic leanings, and a great desire for glory. If excessively long, almost equal to the second, it denotes the nature that looks at life in the light

of a lottery, one that gambles with all things - money, life, and danger - but one endowed withal with strong artistic instincts and talents.

The spatulate termination for this third finger is an excellent sign for the actor, orator, or preacher. It indicates that his artistic gifts are strengthened by the dramatic or sensational power, the breadth, the colour necessary to appeal to audiences.

When the fourth, or little finger, is well shaped and long, it acts as a kind of balance in the hand to the thumb, and indicates the power of the subject to influence others. When very long - almost reaching to the nail of the third - it shows great power of expression in both writing and speaking, and the owner is more or less the savant and philosopher: one who can converse with ease on any subject; one who interests and commands people by the manner in which he will apply facts and knowledge to the treatment of anything brought under his notice.

CHAPTER XII

THE PALM, AND LARGE AND SMALL HANDS

A thin, hard, dry palm indicates timidity, and a nervous, worrying, troubled nature. A very thick palm, full and soft, shows sensuality of disposition.

When the palm is firm and elastic, and in proportion to the fingers, it indicates evenness of mind, energy, and quickness of intellect. When not very thick, but soft and flabby, it denotes indolence, love of luxury, and a tendency toward sensuality.

A hollow palm has been proved to be an unfortunate sign; such people usually have even more disappointments than fall, as a rule, to the lot of mortals. I have also noticed a peculiarity which has not been mentioned in other works on the subject, namely, that the hollow inclines more to one line or portion of the hand than to another.

If it inclines to the fine of life, it promises disappointment and trouble in domestic affairs, and if the rest of the hand denotes ill-health, it is an added sign of delicacy and trouble.

When the hollow comes under the line of fate, it indicates misfortune in business, money, and worldly affairs

When under the line of heart it tells of disappointment in the closest affections.

I do not hold with other works on the subject, that the fingers must be longer than the palm to show the intellectual nature. The palm of the hand is never, properly speaking, exceeded in length by the fingers. How can we expect this to be the case with the square, spatulate, and

philosophic types? The statement that in every case the fingers must be longer than the palm is erroneous and misleading.

It is a thing well worth remarking, that, generally speaking, people with large hands do very fine work and love great detail in work, while those with very small hands go in for large things, and cannot bear detail in employment. I once examined the hands of the diamond setters and engravers engaged in some of the largest goldsmiths' establishments in Bond Street, London, and out of nearly a hundred, I did not find a single exception to this rule. One man - and I have the cast before me now - had extraordinarily large hands, yet he was famed for the fineness and minutise of the work which those great hands turned out.

Small hands, on the contrary, prefer to carry out large ideas, and, as a rule, make plans far too large for their power of execution. They love to manage large concerns and govern communities, and, speaking generally, even the writing of small hands is large and bold.

CHAPTER XIII

THE NAILS

Particularly as regards health, and the diseases likely to affect the subject, the nails will be found to be remarkably sure guides. Medical men in both London and Paris have taken up this study of the nails with great interest. Often a patient does not know, or for the moment forgets, what his parents have suffered or died from; but an examination of the nails will in a few seconds disclose important hereditary traits. I will first treat of the health side of the question, then of the disposition, as shown by this study.

In the first place, the care of the nails does not alter or affect their type in the slightest degree: whether they are broken by work or polished by care, the type remains unchanged. For instance, a mechanic may have long nails, and the gentleman at ease may have very short, broad ones, though he manicure them every morning.

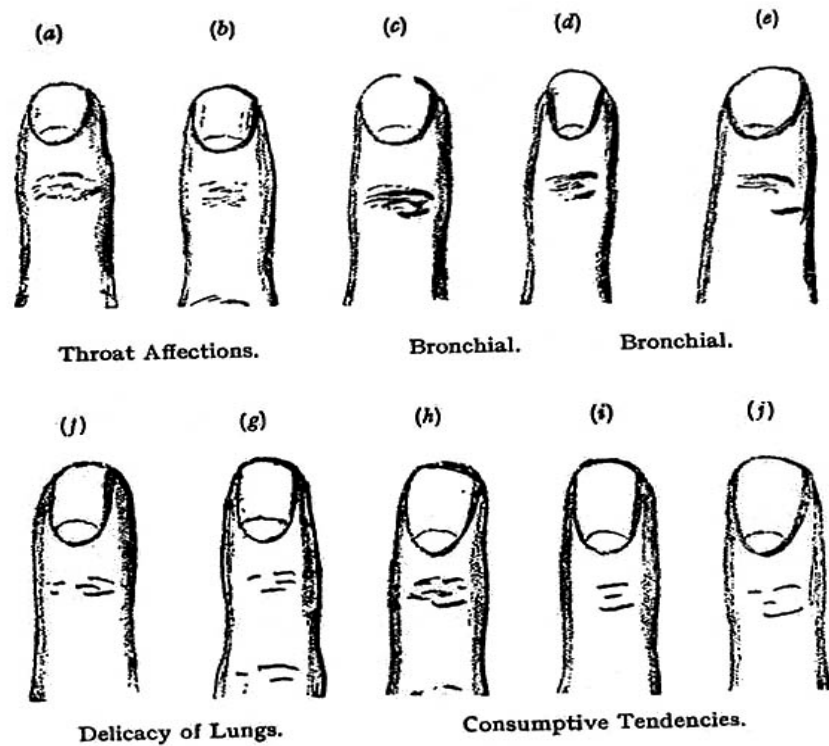
Nails are divided into four distinct classes: long, short, broad, and narrow.

LONG NAILS

Long nails never indicate such great physical strength as the short, broad type. Very long-nailed persons are more liable to suffer from chest and lung trouble, and this is more accentuated if the nails are much curved, both from the top back toward the finger and across the finger (Fig. 10, g). This tendency is even more aggravated if the nail is fluted or ribbed (Fig. 10, j).

This type of nail, when shorter, indicates throat trouble, such as laryngitis, asthma, and bronchial affections (Fig. 10). Long nails, very wide at the top and bluish in appearance, denote

bad circulation proceeding from ill-health, or nervous prostration. This is very often the case with the hands of women between the ages of fourteen and twenty-one and forty-two and forty-seven.



NAILS

Fig. 10

SHORT NAILS

Short, small nails run in whole families in which there is a tendency toward heart disease (Fig. n).

Short nails, thin and flat at the base, with little or no moons, are sure signs of weak action of the heart, and, generally speaking, heart disease.

Large moons indicate good circulation.

Short nails, very flat and sunken, as it were, into the flesh at the base, show nerve diseases (Fig. II).

Short nails, very flat and inclined to curve out or lift up at the edges, are the forerunners of paralysis, particularly if they are white and brittle as well as flat. If the latter is the case the disease is more advanced (Fig. II, i).

Short-nailed people have a greater tendency to suffer from heart trouble and from diseases affecting the trunk and lower limbs than those with long nails.

Long-nailed persons are more liable to trouble in the upper half of the system - in the lungs, chest, and head.

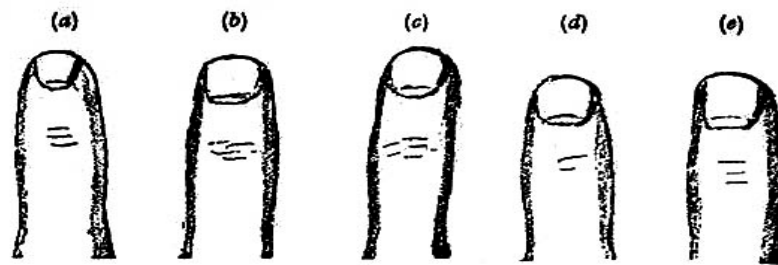
Natural spots on the nails are signs of a highly-strung nervous temperament; when the nails are flecked with spots the whole nervous system requires a thorough overhauling.

Thin nails, if small, denote delicate health and want of energy. Nails very narrow and long, if high and much curved, threaten spinal trouble, and never promise very great strength.

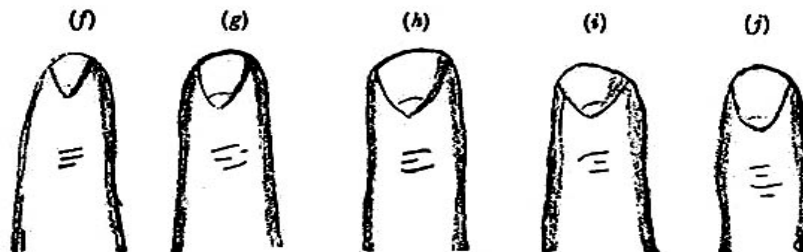
DISPOSITION AS SHOWN BY THE NAILS

In disposition, long-nailed individuals are less critical and more impressionable than those with short nails. They are also calmer in temper and more gentle.

Long nails show more resignation and calmness in every way. As a rule their owners take things easily. Such nails indicate great ideality; they also show an artistic nature, and their owners, as a rule, are fond of poetry, painting, and all the fine arts. Long-nailed persons, however, are rather inclined to be visionary, and shrink from looking facts in the face, particularly if those facts are distasteful.



Showing Bad Circulation and Tendency Towards Heart Disease



NAILS

Fig. 11

Short-nailed individuals, on the contrary, are extremely critical, even of things relating to self; they analyse everything with which they come into contact; they incline to logic, reason, and facts, in opposition to the visionary qualities of the long-nailed. Short-nailed individuals make the best critics; they are quicker, sharper and keener in their judgment; they are, as well, fond of debate, and in an argument they will hold out till the very last; they have a keener sense of humour and of the ridiculous than the long-nailed; they are quick and sharp in temper, and are more or less sceptical of things they do not understand.

When the nails are broader than they are long, they indicate a pugnacious disposition, also a tendency to worry and meddle and to interfere with other people's business.

Nails short by the habit of biting indicate the nervous, worrying temperament.

I do not pay any attention to the spots on the nails, except as a sign of illness through nervous strain.

CHAPTER XIV

THE HAIR ON THE HANDS

A suggested theory

If the exponent of palmistry has to read hands through a curtain, without seeing his subject, the hair growing on the hand, although seemingly unimportant, to a thorough student becomes a study of very great note and magnitude. A slight knowledge of the laws that govern the growth of hair will not, therefore, be out of place. The hair is used by nature to fulfil a great many useful purposes in connection with the body. I will give those only that are necessary to the student of this particular study, namely, the cause of the colour of the hair, of its coarseness and fineness, as illustrative of disposition.

In the first place, each hair is in itself a fine tube; these tubes are in connection with the skin and the skin nerves. These hairs or tubes are, literally speaking, escape-valves for the electricity of the body, and by the colour they take in the passage of that electricity, so should the student be able to determine certain qualities of temperament of which he would otherwise be ignorant. For example: If there is a large amount of iron or pigment in the system, the flow of this electricity through the hair forces it into these tubes and makes the hair black, brown, blond, grey, or white, as the case may be. Individuals with blond or fair hair, therefore, have less iron and dark pigment in the system. As a rule they are more languid, listless, gentle, and more influenced by people and surroundings than those of the darker type.

People with very dark hair, although often less energetic in work, will have more passion in temper, will be more irritable and more energetic in affection than those of the fairer type, and so in every degree of shade until we come to the extreme opposite of the dark type, namely, those with red hair. If we will examine hair, we will find that red hair is coarser in quality as a rule than either black, brown, or blond. Now, being coarser or larger, the tube itself is, consequently, wider, and therefore shows the greater quantity of electricity that escapes, and of which- these natures have the greatest amount. It is not that they have as much pigment as the dark people, but having

the greater supply and force of electricity, they are consequently the more excitable and quicker to rouse to action than either the black, brown, or blond.

When the system gets old, or becomes enfeebled by excess or dissipation, the electricity, not being generated in such large quantities, is nearly or entirely consumed by the system itself; the pigment is no longer forced into these hair tubes, and consequently they commence to grow white at the outer ends, and so on, till the entire hair or tube becomes white. It is the same in the case of a sudden shock or grief - the hair often stands on end from the force of the nervous electric fluid rushing through these tubes; reaction naturally sets in immediately, and the hair often becomes white in a few hours. Very rarely can the system recover from such a strain, and consequently very rarely will the hair resume its colour.

In America more people are to be found with white hair than, I think, in any other country in the world. It has been suggested that this fact may be due to the high pressure at which many Americans live. The climate of the country has, I consider, a great deal to do with their temperament; the brightness and brilliance of the atmosphere, even in winter, the peculiar nerve-stimulating quality of the air, all combine to cause its men and women to press forward, with a keen spirit of competition, both in work and in amusement. This theory of the colour of the hair has never, to my knowledge, been put forward in this way before. I commend it to the attention of those who do not lose sight of the fact that in the Book of Nature nothing is so small that it may not give us knowledge, and as knowledge is power, let us therefore not be ashamed to seek it, even in little things.

CHAPTER XV

THE MOUNTS, THEIR POSITION AND THEIR MEANINGS

In my work I always class the mounts of the hand (Fig. 12) with the hand itself, and therefore I treat of them in the section of this work devoted to cheirognomy. Again, in the consideration of this point, I must state that, although manual labour will have the effect of coating the hand with a rougher and thicker development of skin, yet it does not depress or decrease what are known as the mounts, and which, again, in their turn, show constitutional characteristics, which are doubtless caused by the hereditary laws which govern and control the intermingling of races. As regards the use by cheiromants of the old-time names, such as the Mount of Venus, Mars, etc., I must here state that I do not use these names in any sense in relation to what is known as Astrological Palmistry. I do not for one moment deny that there may be a connection - and a very great one - between the two; but I do not think it necessary to consider it in conjunction with this study of the hand, which study I hold to be in every way complete in itself. Consequently, I use such names as Venus, Mars, Saturn, etc., simply as a quicker way of giving the student an idea of the qualities I wish to describe. These qualities have been associated so long with such names in our minds as Mars, the martial nature, and so on, that their mere mention recalls them, and the employment of these terms will, therefore, simplify matters much more than if I were to call the mounts by numbers, as first, second, third, and so forth.

THE MOUNT OF VENUS

The Mount of Venus is the development found at the base of the thumb (Fig. 12). When not abnormally large it is a favourable sign on the hand of man or woman. This mount covers one of the largest and most important blood-vessels in the hand, the great palmar arch. Hence, if the Mount of Venus be well developed, it indicates strong and robust health. A small Mount of Venus betrays poor health, and consequently, less passion.

The Mount of Venus, abnormally large, indicates a violent passion for the opposite sex.

This mount denotes affection, sympathy toward others, benevolence, a desire to please, love and worship of beauty, love of colour, and melody in music, and the attraction of the one sex,, to the other

THE MOUNT OF JUPITER

This mount is the raised formation at the base of the first finger (Fig. 12). When developed it shows ambition, pride, enthusiasm in anything attempted, and desire for power.

THE MOUNT OF SATURN

This is found at the base of the second finger (Fig. 12), and denotes love of solitude, quietness, prudence, earnestness in work, proneness to the study of sombre things, and appreciation of music of a sacred or classical order.

THE MOUNT OF THE SUN

This mount is found at the base of the third finger, and is also called the Mount of Apollo (Fig. 12). When well developed it indicates an enthusiastic appreciation of all things beautiful, whether or not one follows a purely artistic calling. It denotes love of painting, poetry, literature, and all imaginative work, also grace of mind and thought.

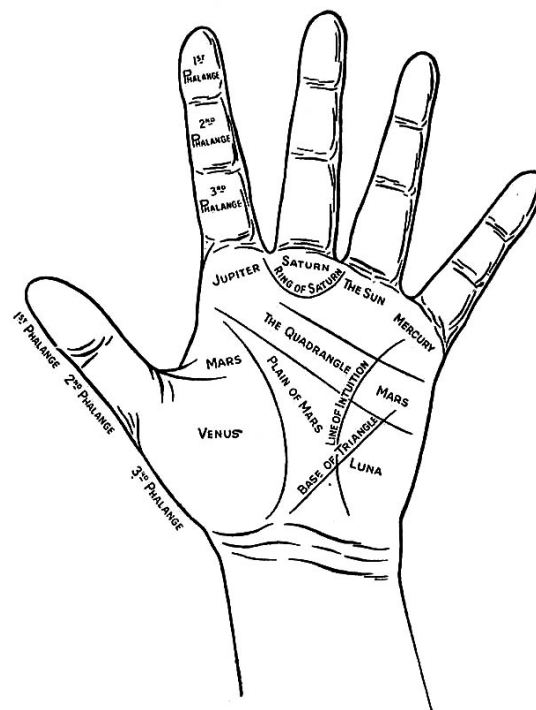
THE MOUNT OF MERCURY

The mount of this name is found at the base of the fourth finger (Fig. 12). It denotes all the mercurial qualities of life - love of change, travel, excitement, wit, quickness of thought and expression. If the rest of the hand is favourable, the qualities indicated by this mount will redound to the good of the subject, if unfavourable, to his misfortune.

THE MOUNT OF MARS

There are two mounts of this name; the first beneath the Mount of Jupiter, but inside the line of life, lying next to the Mount of Venus (Fig. 12). This, the first, gives active courage, the martial spirit, but when large, shows a very quarrelsome, fighting disposition.

The second lies between the Mount of Mercury and the Mount of Luna (Fig. 12). It denotes passive courage, self-control, resignation, and strength of resistance against wrong.



THE MOUNTS OF THE HAND

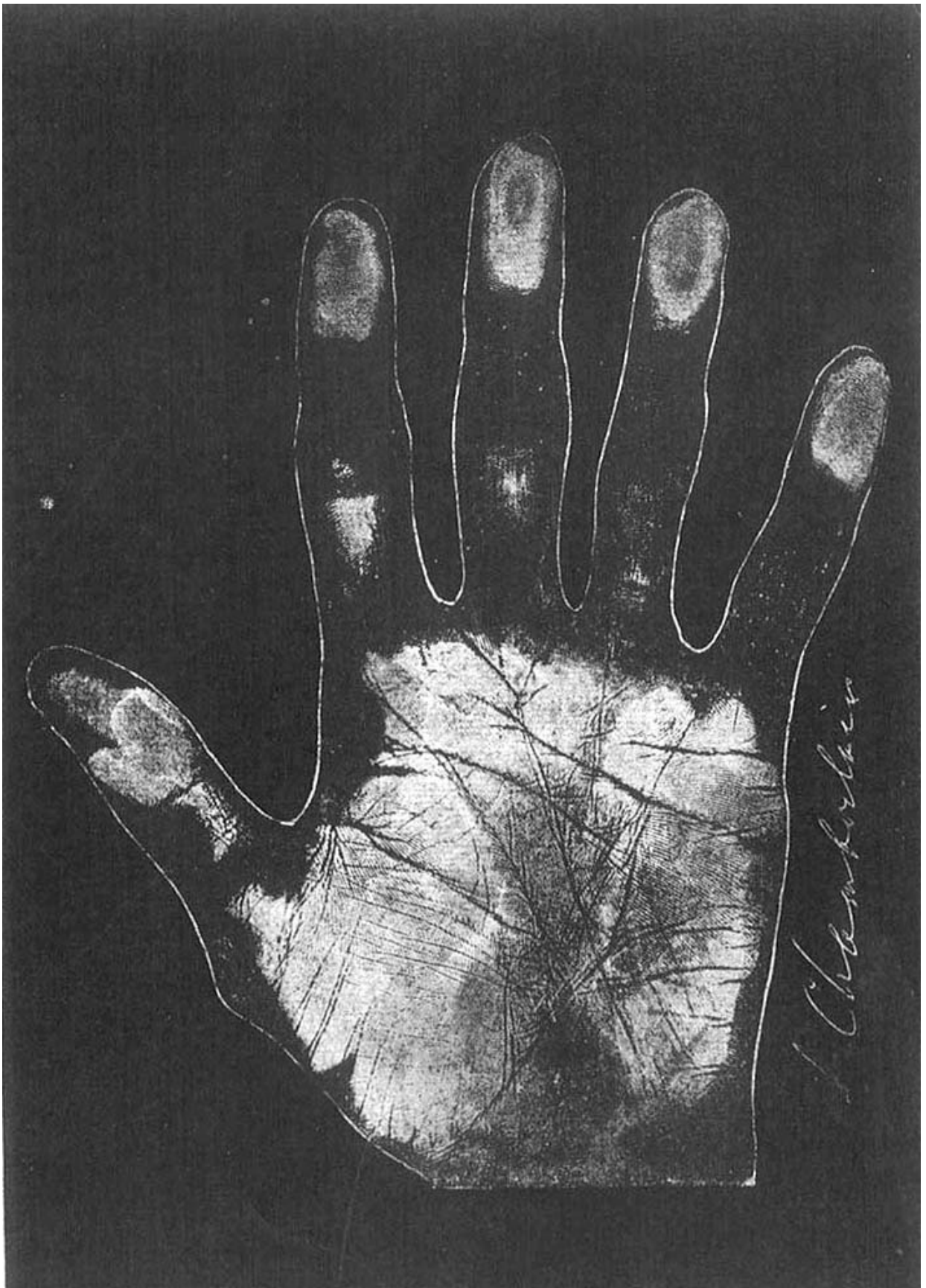
Fig. 12

THE MOUNT OF LUNA

The Mount of Luna lies on the side of the hand beneath the Mount of Mars and directly opposite the Mount of Venus (Fig. 12). It indicates refinement, imagination, love of beautiful scenery, a taste for the romantic, great ideality, and a fondness for poetry and imaginative literature.

When the mounts lean toward one another, the qualities of each are blended and developed in unison. For example, if Saturn lean toward Jupiter, it gives the latter some of its love of solemn things - its prudence, sadness, and its religious tendency.

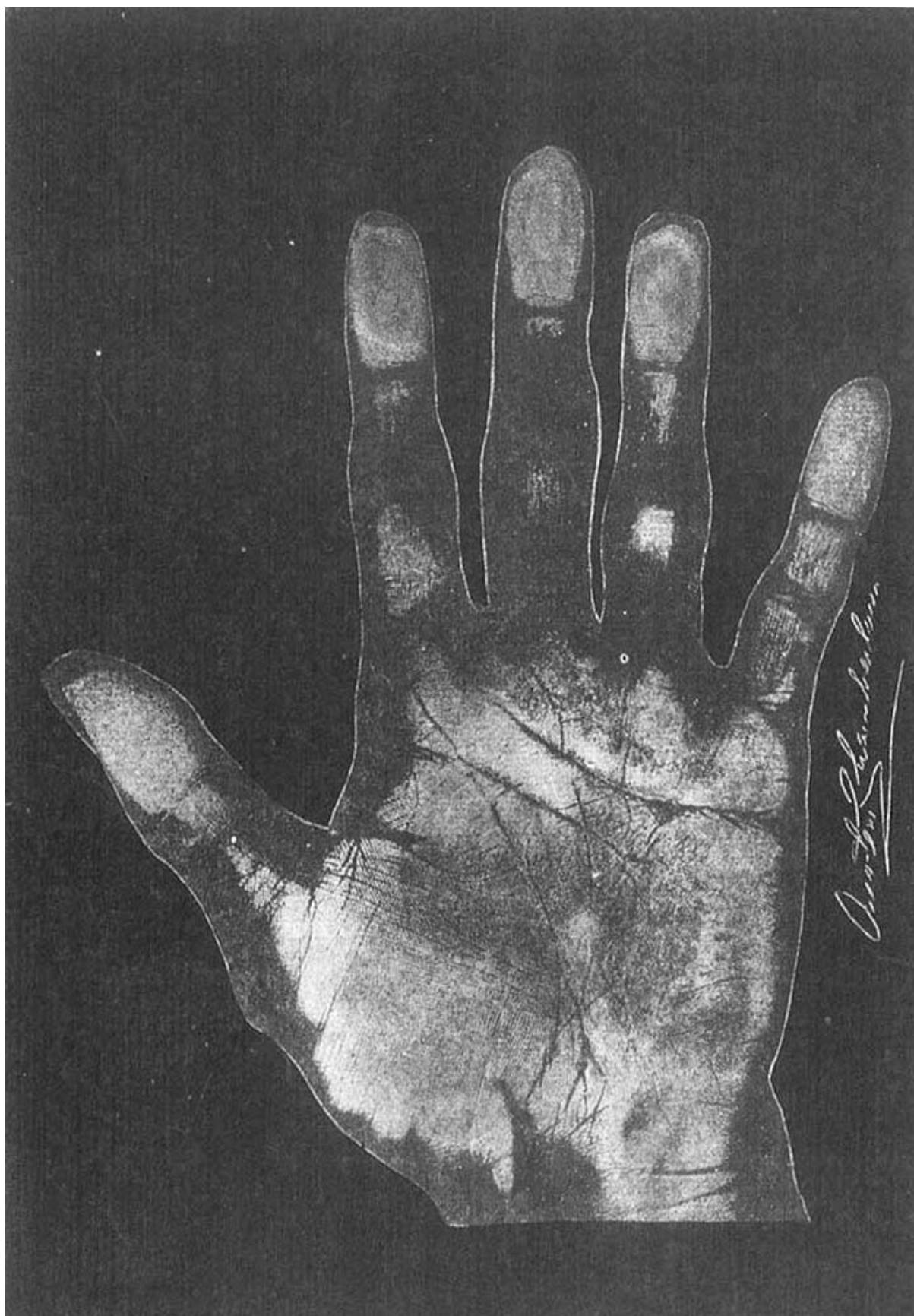
If Saturn incline toward the Mount of the Sun, Saturn's solemn thoughts and ideas will blend with the artistic taste of the subject, and if the Mount of the Sun lean to Mercury, art will influence the business or scientific nature of the individual.



THE HAND OF THE RIGHT HON. JOSEPH CHAMBERLAIN. P.C

Plate VI

For details see page 206



THE HAND OF THE RIGHT HON. JOSEPH CHAMBERLAIN. P.C

Plate VI

For details see page 206

CHAPTER XVI

THE HANDS OF NATIONS

That different types of faces and bodies are characteristic of different nations is a well-known fact. There is a familiar statement which I would quote here: "The law which rounds a dewdrop shapes a world." Therefore, if certain laws produce different types in different races they also produce different shapes of hands and bodies as illustrative of the different characteristics. The intermingling and intermixing by marriage, etc., must naturally modify the pureness of the different types; but that it does not destroy the entire individuality cannot for a moment be doubted.

THE ELEMENTARY HAND

Starting with the elementary hand, it is rarely if ever found in its purity among civilized nations. We find this type among the primitive races in extremely cold latitudes, as, for instance, among the Esquimaux and the inhabitants of Iceland, Lapland, and the northern portion of Russia and Siberia.

Such people are phlegmatic and emotionless; even the nerve centres of the body are not in a high state of development, therefore they do not feel pain as keenly as the other types. They are more animal in their instincts and brutal in their desires; they are devoid of aspirations, and have only sufficient mentality to make them distinct from the brute creation. In a slightly more developed form the elementary hand is found in more southern and civilized nations.

THE SQUARE HAND AND THE NATIONS REPRESENTED BY IT

The square hand, generally speaking, is found among the Swedes, Danes, Germans, Dutch, English, and Scotch. The chief characteristics which it denotes are love of method, logic, reason,

respect for authority and law, and conformity to conventionality and custom. It shows an undemonstrative and more or less unemotional nature; it will follow life's beaten track with dogged stubbornness and tenacity of purpose, will build solid houses, railways, and churches; will kneel at the shrine of the useful and will pay homage to the practical side of life.

THE PHILOSOPHIC

This is essentially the hand of the Oriental nations. In European countries, it is to this type or to the possessors of its modifications that we are indebted for the modernized principles of Buddhism, Theosophy, and all doctrines and ideas that tend in that direction. It is essentially the hand of the mystic or of the religious devotee. Individuals with these hands will endure any privation or self-denial in defence of the religion they follow. The world may call such people cranks; but the world crucified its Christ, and mocked and persecuted its greatest teachers. Its opinion, therefore, should only affect the scales of dross, not the balance of thought.

THE CONIC

This type, properly speaking, is peculiar to the south of Europe, but by the intermingling of races it has been carried far and wide over the world. It is largely found among Greek, Italian, Spanish, French, and Irish races. The distinctive characteristics which it denotes are a purely emotional nature, impulse in thought and action, artistic feeling, impressionability and excitability. It has been designated "The Hand of Impulse." Such hands are not the hands of money-makers, like the square or the spatulate. They show a lack of practical business sense, but nature compensates their owners with the poetic, the visionary, and the romantic.

THE SPATULATE

With all the varieties of national types that have found their way at some time or another to America; with all the admixture of races found in that enormous continent, the spatulate hand is the type which has to a great extent swallowed up all the others. This hand, and, consequently, the characteristics that it represents, has to my mind played the important role in the history of that

great country. As I may claim to be a cosmopolitan in every sense of the word, I can therefore take an unbiased standpoint in reading the character of nations as I would that of the individual. The spatulate hand, as I stated before, is the hand of energy, originality, and restlessness. It is the hand of the explorer and the discoverer, which terms can also be applied to discoveries in science, art, or mechanics. Spatulate hands are never conventional; they have little respect for law, less for authority. They are inventors, more from the quickness of their ideas than from the solidity of earnest work as exemplified by the square; they may utilize other men's ideas, but they will try to improve upon them; they love risk and speculation; they are versatile, and their chief fault is their changeability - they shift from one thing to another with the mood of the moment; they are fanatics in their fads, enigmas in their earnestness; but, even with such faults, it is to a people many-sided and many-talented like this that the world must look for her new ideas, for the inventions and discoveries in science, religion, or materialism which must in years to come work out the evolution of humanity.

THE PSYCHIC

This peculiar type is not confined to any particular country or kindred; it is evolved sometimes among the most practical, sometimes among the most enthusiastic. Yet is it neither practical nor enthusiastic in itself; it may be an evolution of all the types, reaching into that plane in which there may be seven senses instead of five. Certain it is that its owners are not of the earth, earthy, nor yet of heaven - for they are human; they make up no distinct community, but are found in all and of all. It may be that, as their beautiful hands are not formed for the rough usage of this world, so their thoughts are not suited to the material things of life. Their place may be in giving to mankind that which is but the reflection of mankind. Thus in the shadow may we find the substance and, in the speculation that this type gives rise to, may we find that wisdom which sees the fitness and the use of all things.

PART II : CHEIROMANCY

CHAPTER I

A FEW REMARKS IN REFERENCE TO THE READING OF THE HAND

Before I proceed to explain the more intricate details of cheiromancy, I wish to address a few words to the student, as well as to the casual reader who may take sufficient interest in this study to glance through this book.

In the first place, in my earnest desire to make this work a thoroughly reliable guide in all matters connected with palmistry, I have been compelled to bring the details of the study prominently before the reader and to enlarge on certain points that may be considered dry and uninteresting. This the student may resent during the commencement of his enthusiasm, but later he will, I think, see its advantages, as I have endeavoured to make even the details as graphic as possible. I have not confined myself to the set theories of any particular school; I have gathered whatever information this book contains from, I may say, the four corners of the earth, and in presenting this information to those who desire to learn, I do so with the knowledge that I have proved whatever statements I make to be correct. The one point I would, however, earnestly desire to impress upon the student is the necessity for conscientious study and patience. As there are no two natures alike, so there are no two hands alike. To be able to read the hand is to be able to read the book of nature - there is no study more arduous, there is none more fascinating or that will repay the time and labour spent upon it with more interest.

To do this study justice, I cannot, and will not pretend, as do the generality of writers on this subject, that it is an easy matter, by following this, that, or the other map of the hand, or by taking some set rules as a guide, to be able to "read the hand " without any exercise of the student's mentality. On the contrary, I shall show that every line, without exception, is modified by the

completely different meaning from the same sloping line on a conic, or philosophic type and so on. I have written this book with the object of making it not only interesting to the reader, but useful to the student. I have endeavoured to make every point as clear and concise as possible, but the student must bear in mind the enormous difficulties that lie in the way of making a clear explanation of every point in connection with such an intricate study.

The next point to be borne in mind is the difference of opinion which will be met with, and which is often used as an argument against palmistry. Now we must remember that it is only through the concentration of different minds, and the consensus of different opinions, that we can ever hope to reach the truth on any subject. No better illustration of this can be found than in the divergency of opinion that has existed and always will exist in religion, as well as in scientific study. What body of students have, or can have, more divergency of opinion, for instance, than medical men? I must, therefore, say, in the words which a celebrated physician once used to his pupils, that we should, in the pursuit of any particular branch of study, take the teachings which we have the most reason to believe are correct, and that by building upon such a foundation we will attain greater heights of knowledge than the individual who follows every new teacher who for a moment, like the will-o'-the-wisp, flits across the shifting sands of human fancy. Particularly in palmistry, I would say, take some work which you have good reason to believe is at least near the truth, and by following that out with the light of your own mentality and reason you will be more likely to succeed than those who, shifting their ground according to every fancy, find themselves at last without faith, without hope, and, worse still, without knowledge.

The chief point of difference between my teachings and those of other writers lies in the fact that I class the various lines under different heads, treating of each particular point.

This will be found not only more easy and less puzzling for the student, but also more in accordance with reason. For instance, I hold that the line of life relates to all that affects life, to the influences which govern it, to its class as regards strength; to the natural length of life, and to the important changes of country and climate. I regard the line of head as related to all that affects mentality, and so on with every other line, as will be seen later. This plan I have found to be the

most accurate, as well as the simplest, and more in accordance with those teachers whose ideas we have every reason to respect.

As regards dates, I depart from the usual formula, and instead advance a theory which has been considered "at least interesting and reasonable," in the dividing of the life into sevens, in accordance with the teachings of nature. I will illustrate this when I come to that portion of this work dealing with time and dates.

CHAPTER II

THE LINES OF THE HAND

There are seven important lines on the hand, and seven lesser lines (Fig. 13). The important lines are as follows:

The line of life, which embraces the Mount of Venus.

The Line of Head, which crosses the centre of the hand.

The line of Heart, which runs parallel to that of the head, at the base of the fingers.

The Girdle of Venus, found above the line of heart and generally encircling the Mounts of Saturn and the Sun.

The line of Health, which runs from the Mount of Mercury down the hand.

The Line of Sun, which rises generally on the Plain of Mars and ascends the hand to the Mount of the Sun.

The line of Fate, which occupies the centre of the hand, from the wrist to the Mount of Saturn.

The seven lesser lines on the hand are as follows:

The line of Mars, which rises on the Mount of Mars and lies within the line of Life (Fig. 13),

The Via Lasciva, which lies parallel to the line of health (Fig; 13)

The line of Intuition, which extends like a semi-circle from Mercury to Luna (Fig. 12).

The line of Marriage, the horizontal line on the Mount of Mercury (Fig. 13), and The three bracelets found on the wrist (Fig. 13).

The main lines are known by other names, as follows:

The Line of Life is also called the Vital

The line of Head, the Natural or Cerebral.

The line of Heart, the Mensal

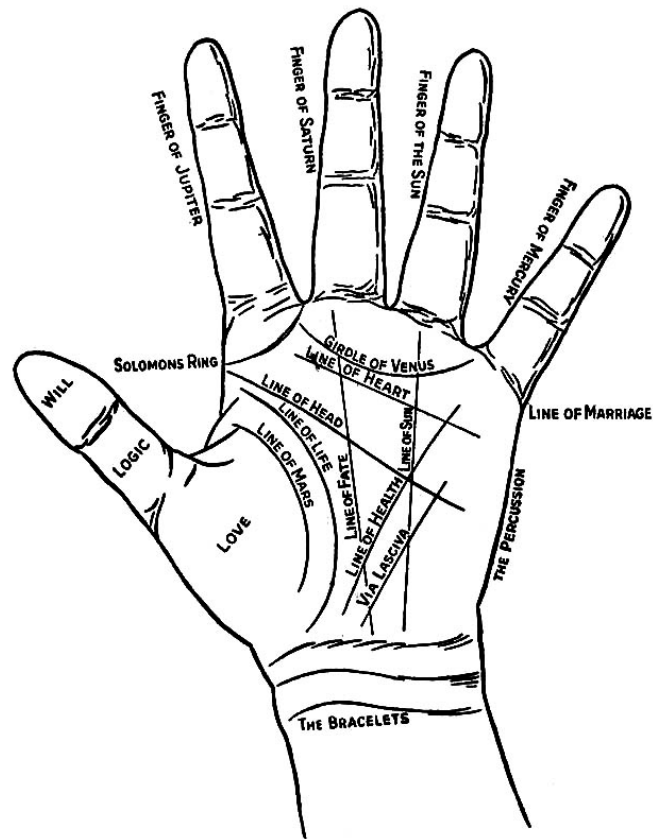
The Line of Fate, the Line of Destiny, or the Saturnian.

The Line of Sun, the Line of Brilliancy, or Apollo.

The Line of Health, the Hepatica, or the liver Line.

The hand is divided into two parts or hemispheres by the line of head.

The upper hemisphere, containing the fingers and Mounts of Jupiter, Saturn, the Sun, Mercury, and Mars, represents mind, and the lower, containing the base of the hand, represents the material. It will thus be seen that with this clear point as a guide the student will gain an insight at once into the character of the subject under examination. This division has hitherto been ignored, but it is almost infallible in its accuracy; as, for example, when the predisposition is toward crime the line of head rises into the abnormal position shown by Plate XIV, which, taken from life, is one instance in the thousands that can be had of the accuracy of this statement.



THE MAP OF THE HAND

Fig. 13

CHAPTER III

IN RELATION TO THE LINES

The rules in relation to the lines are, in the first place, that they should be clear and well marked, neither broad nor pale in colour; that they should be free from all breaks, islands, or irregularities of any kind.

Lines very pale in colour indicate, in the first place, want of robust health, and, in the second, lack of energy and decision.

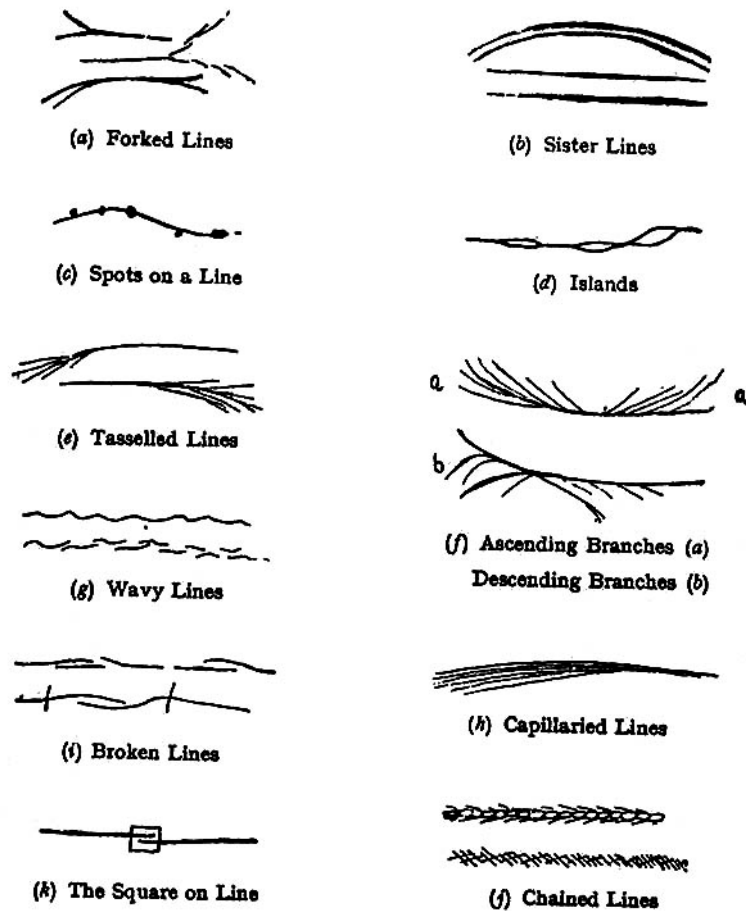
Lines red in colour indicate the sanguine, hopeful disposition; they show an active, robust temperament.

Yellow lines, as well as being indicative of biliousness and liver trouble, are indicators of a nature self-contained, reserved, and proud.

Lines very dark in colour, almost black, tell of a melancholy, grave temperament, and also indicate a haughty, distant nature, one usually very revengeful and unforgiving.

Lines may appear, diminish, or fade, which must always be borne in mind when reading the hand. The province of the palmist, therefore, is to warn the subject of approaching danger by pointing out the evil tendencies of his nature. It is purely a matter of the subject's will whether or not he will overcome these tendencies, and it is by seeing how the nature has modified evils in the past that the palmist can predict whether or not evils will be overcome in the future. In reading the hand, no single evil mark must be accepted as decisive. If the evil is important, almost every principal line will show its effect; and both hands must be consulted before the decision can be final. A single sign in itself only shows the tendency; when, however, the sign is repeated by other lines, the danger is then a certainty. In answer to the question, Can people avert or avoid danger

or disaster predicted in the hand? I answer that decidedly I believe that they can; but I say just as decidedly that they rarely if ever do. I know hundreds of cases in my own experience where people were given accurate warnings which they did not realize till too late.



LINE FORMATIONS

Fig. 14

The most remarkable example of this which I can recall, occurred early in my career in the days of horse-drawn vehicles. It was the case of a woman well known in London society. I warned her of an accident caused by animals which would make her infirm for the rest of her life, and which would happen at the very point of age that she had then reached. She promised that she would be careful, and departed. A week later, one dull foggy night, she ordered her horses; again she got a warning, this time through her husband, who begged her not to go out, as the horses were restive and the night bad. The horses were brought round, and with them the last warning: her coachman had been taken seriously ill, and a substitute had to take his place. Even this did not deter her, and she started. The coachman could have gone any one of four different ways to reach his destination, but, strange to say, he took the most unlikely, and drove through Bond Street. It was in doing this that the most remarkable point in this example was reached. The man lost control of the horses: they took fright, and dashed on to the pavement: the carriage was smashed

against a lamp-post, and, by an extraordinary coincidence, its occupant was carried, unconscious, into my own hall. I am sorry to say that the prediction proved only too true: she never recovered from her injuries.

I make no comment on this strange story; I simply relate the facts as they occurred.

The above is only one example in many that could be cited to show that we rarely if ever will go by warnings, no matter in what way they may be given.

When an important line, such as the line of head or of life, is found with what is called a sister line (Fig. 16, a-a) namely, a fine line running by its side, it is a sign that the main line is thus strengthened; consequently any break in the main line will be, as it were, bridged over by this mark, and the danger lessened or prevented. This is more often found in connection with the line of life than with any other.

If there is a fork at the end of any line, except that of life (Fig. 16), it gives greater power to that line; as, for instance, on the line of head it increases the mentality, but makes more or less of a double nature.

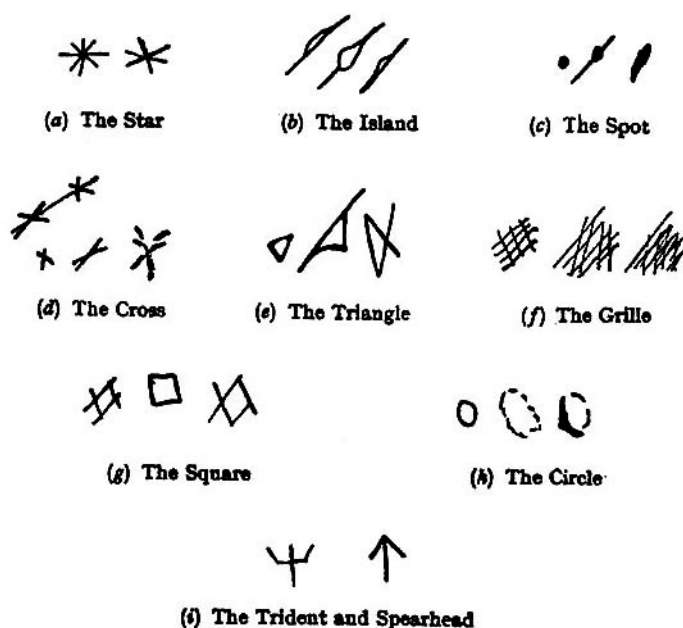


Fig. 15

When, however, the line ends in a tassel (Fig. 16, b-b), it is a sign of weakness and destruction to any line of which it forms part, particularly at the end of the line of life, where it denotes weakness and the dissipation of all the nerve qualities.

Branches rising from any line (Fig. 14, a-a) accentuate its power and strength, but all branches descending denote the reverse.

At the commencement of the line of heart, these lines are most important when considering the success of marriage for the subject: the ascending lines at this point indicate vigour and warmth of the affections (Fig. 17, a-a); the descending, the opposite.

On the line of head ascending branches denote cleverness and ambitious talent (Fig. 16, c-c), and on the line of fate they show success in all undertakings made at that particular point

A chained formation in any line is a weak sign (Fig. 14): if on the line of heart it denotes weakness and changeability of affection; if on the line of head, want of fixity of ideas, and weakness of intellect

Breaks in any line denote its failure (Fig. 17, c-c)

A wavy formation weakens the power of the line (Fig. 17, b-b).

Capillary lines are those little hair-lines running by the side of the main line, sometimes joining it, sometimes falling from it; they denote weakness, like the chained formation (Fig. 14, A).

When the entire hand is covered with a network or multitude of little lines running aimlessly in all directions, it betrays mental worry, a highly nervous temperament, and a troubled nature.

As the little grains make mountains, so do these little points make this study great. I therefore recommend their close consideration.

CHAPTER IV

THE RIGHT AND LEFT HANDS

The difference between the right and left hands is another important point to be considered. The most casual observer, looking at even a limited number of hands, is generally struck by the marked difference which as a rule exists in the shape and position of the lines in the right and left hands of the same person.

This is an important point to be observed by the student. In practice, my rule is to examine both hands, but to depend more upon the information given by the right than that given by the left. There is a well-known old saying on this point: "The left is the hand we are born with; the right is the hand we make." This is the correct principle to follow, the left hand indicating the natural character, and the right showing the training, experience, and the surroundings brought to bear on the life of the subject. The old idea of reading the left hand simply because it is nearest to the heart belongs to the many superstitions which degraded the science in the Middle Ages. The heart at that time was regarded as the supreme organ - hence this medieval superstition. If, however, we examine this study from a logical and scientific standpoint, we find that the greater use of the right hand for long generations has placed it, as regards both nerves and muscles, in a more perfect state of development than the left. It is usually exercised in carrying out the thoughts of the brain, being, as it were, the more active servant of the mind. If, therefore, as has been demonstrated, the human body passes through a process of slow and steady development, and every change it undergoes affects and marks its effect upon the entire system, it follows that it is more logical and reasonable to examine the right hand for those changes which even at that moment are taking place, and upon which the development of the future depends.

My advice, therefore, is: place both hands side by side; examine them, and see what the nature has been, see what it is; find the reason by your examination for this or that change; and, in forecasting what will be, depend upon the development of the lines in the right hand.

It is very interesting to note that left-handed people have the lines more clearly marked on the left hand, and vice versa. Some people change so completely that hardly two lines are alike on both hands; again, some change so slightly that the difference in the lines is barely perceptible. The general rule to follow is, that when a marked difference is shown by both hands the subject has had a more interesting, eventful life than the person with both alike. The more interesting details as to a subject's past life, and even the very changes in his method of work and ideas, can be brought to light by a careful examination conducted in this way.

CHAPTER V

THE LINE OF LIFE

What we know as life is but existence,

A waiting-place, a haven by the sea,

A little space amid immeasured distance,

A glimpse, a vista, of that life to be.

CHEIRO

As I remarked earlier, as there came to be recognized a natural position on the face for the nose, eyes, etc., so also on the hand there came to be recognized a natural position for the line of life, the line of head, and every other mark that the hand possesses. Thus, if the lines take abnormal courses it is only reasonable that abnormal characteristics are to be expected; and if so as regards temperament, why not in relation to health ? People who consider this subject lightly object to the power given to the palmist in his ability to predict disease or death; but a little thought will show that nothing, after all, is more reasonable than one's ability to do this by careful study. It is admitted that in the body of every person there lurks a germ or tendency that will some day prove fatal. Who, therefore, can have the presumption to deny that this germ by its presence affects the life-fluid, which in its turn affects the nerves, and thereby the hand? Again, without touching on the presence in the body of the all-knowing, omnipotent soul or spirit life, if we acknowledge - as we do - the unexplained mysteries of the passive and active brain, we must also acknowledge that the slightest germ of disease or weak point in the system must be known to the brain in all its stages of advance and attack, and will, therefore be registered by the brain on the hand through the nerve-connection between the two, as has already been demonstrated. Thus, by the development or non-development of this line or that mark the palmist is able to say that a certain disease at a certain time will cause illness with such and such a result. Bearing these arguments in mind, we will now proceed to an examination of what has become known as the line of life.

The line of life (Fig. 13), is the line which, rising under the Mount of Jupiter, goes down the hand and embraces the Mount of Venus. On it is marked time* also illness and death, and events foreshadowed by the other important lines are verified

The line of life should be long, narrow, and deep, without irregularities, breaks, or crosses of any kind. Such a formation promises long life, good health, and vitality.

When the line is linked (Fig. 14, j) or made up of little pieces like a chain, it is a sure sign of bad health, and particularly so on a soft hand. When the line recovers its evenness and continuity, health also is regained.

When broken in the left hand and joined in the right, it threatens some dangerous illness; but if broken in both hands it generally signifies death. This is more decidedly confirmed when one branch turns back on the Mount of Venus (Fig. 37, c-c). When the line starts from the base of the Mount of Jupiter, instead of the side of the hand, it denotes that from the earliest the life has been one of ambition.

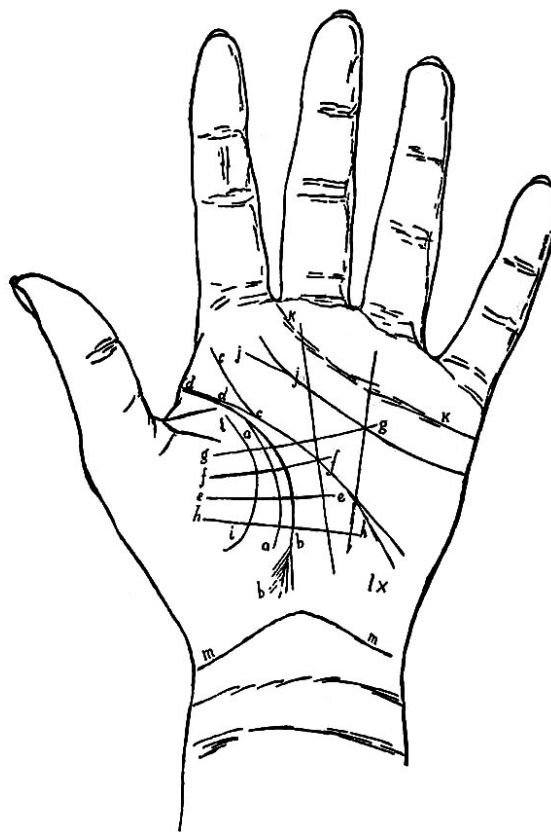
When the line is chained at the commencement under Jupiter, bad health in early life is foreshadowed.

When the line is closely connected with that of the head, life is guided by reason and intelligence, but the subject is extremely sensitive about everything which affects self, and more or less cautious in enterprises for self (Fig. 16, d-d).

When there is a medium space between the line of life and that of head, the subject is more free to carry out his plans and ideas; it also denotes energy and a very godhead spirit (Fig. 17).

When, however, the space is very wide, it is a sign of too much self-confidence and dash; it indicates that the subject is foolhardy, impulsive, hasty, and not guided by reason.

When the lines of life, head, and heart are all pinned together at the commencement (Fig. 18, a-a), it is a very unfortunate sign, denoting that the subject, through a defect in temperament, rushes blindly into danger and catastrophe. This mark, as far as temperament is concerned, indicate the subject's want of perception, both in personal dangers and in those arising from dealings with other people.



MODIFICATIONS OF THE PRINCIPAL LINES

Fig. 16

When the line of life divides at about the centre of the hand, and one branch shoots across to the base of the Mount of Luna (Fig. 18, e-e), it indicates on a firm, well-made hand a restless life, a great desire for travel, and the ultimate satisfaction of that desire. When such a mark is found on a flabby, soft, hand, with a sloping line of head, it again denotes the restless nature, craving for excitement, but in this case the craving will be gratified in vice or intemperance of

crossing to the Mount of Luna denotes the restless nature craving for change, but, the hand being soft and flabby, the subject will be too lazy and indolent to satisfy this craving by travel, and the sloping line of head in this case showing a weak nature, the reason for this statement is apparent.

When little hair-lines are found dropping from or clinging to the line of life, they tell of weakness and loss of vitality at the date when they appear. They are very often found at the end of the line itself, thus denoting the breaking up of the life and the dissipation of vital power (Fig. i6, b-b)

All lines that rise from the line of life are marks of increased power, gains, and successes.

If such a line ascend toward or run into the Mount of Jupiter (Fig. 18, c-c) it will denote a rise in position or step higher at the date it leaves the line of life. Such a mark relates more to successful ambition in the sense of power than anything else. If the line, on the contrary, rise to Saturn and follow by the side of the line of fate, it denotes the increase of wealth and worldly things, but resulting from the subject's own energy and determination (Fig. 18, d-d).

If the line leave the line of life and ascend to the Mount of the Sun, it denotes distinction according to the class of hand.

If it leave the line of life and cross to Mercury, it promises great success in business or science, again in accordance with the class of hand - whether square, spatulate, or conic. For instance, such a line on the square would indicate success in business or science; on the spatulate, in invention or discovery; and on the conic it would foretell success in money matters, reached by the impulsive action of such a nature, as in sudden speculation or enterprise

When the line of life divides toward the end and a wide e is shown between the lines, it is an indication that the subject will most probably end his life in a country different from that of his birth, or at least that there will be some great change from the place of birth to the place of death (Fig. 19, area)

An island on the line of life means an illness or loss of health while the island lasts (Fig. 19, b), but a clearly formed island at the commencement of the line of-life denotes some mystery connected with the subject's birth.

The line running through a square (Fig. 19, c), indicates preservation from death, from bad health when it surrounds an island, from sudden death when the life-line running through is broken, and from accident when a little line cutting the lifeline rises from the Plain of Mars (Fig. 19, d).

A square, whenever found on the line of life, is a mark of preservation.

Of the great attendant line (Fig. 13) found parallel to and within the line of life, otherwise called the line of Mars, I shall speak later. This attendant line, the line of Mars, which rises on the Mount of Mars, must not be confounded with those springing from the line of life itself, nor with those that rise upon the Mount of Venus. The simplest rule to bear in mind is, that all even, well-formed lines following the line of life indicate favourable influences over the life (Fig. 17,,), but that all those rising in the opposite direction and cutting the lifeline show worries and obstacles caused by the opposition and interference of others (Fig. 17, g-g). Where these lines end and how they terminate is, therefore, an important point in this study.

When they cut the line of life only (Fig. 17, g-g), they denote the interference of relatives - generally in the home life.

When they cross the life-line and attack the line of fate (Fig. 16, g-g), they denote people who will oppose us in business or worldly interests, and where they cut the fate-line the point of junction gives the date.

When they reach the line of head (Fig. 16,,), they indicate persons who will influence our thoughts and interfere with our ideas.

When they reach and cut the line of heart (Fig. 16, g-g), they denote interference in our closest affections, and here the date of such interference is given where the line cuts the lifeline, and not where it touches the line of heart. When they cut and break the line of sun (Fig. 16, h-h), they denote that others will interfere and spoil our position in life, and that the mischief will be caused by scandal or disgrace at the point of junction.

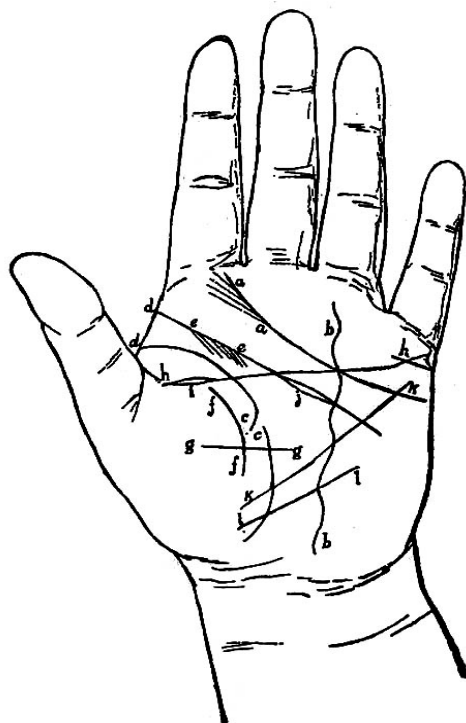
When the line crosses the hand and touches the line of marriage (Fig. 17, h-h), it signifies divorce, and will occur to the person on whose hand it appears.

When this crossing-line has in itself a mark like an island or any approach to it, it denotes that the person who will cause the trouble has had either scandal or some such trouble in connection with his or her own life (Fig. 17, i). When, on the contrary, the ray-lines run parallel as it were to attend the life-line, they denote the most important influences of our lives (Fig. 17,).

I draw special attention to this system, as it prevails among the Hindus, and dating back to time immemorial. The following points have been obtained by close study of the precepts and their practical application by the Hindus themselves, and not a few of them have been translated almost verbatim from the quaint leaves of that ancient work before mentioned. When minuteness of detail is required, the remarkable accuracy of this system makes it especially valuable. I will give the leading points only, as the subject is well-nigh inexhaustible.

In the first place, if the ray-line rise on the Mount of Mars (Fig. 18, e-e), and lower down touch or attack the life-line in any way, it denotes on a woman's hand some unfavourable attachment in her early life which will cause her much trouble and annoyance. If the same line, however, send only offshoots or rays to the line of life (Fig. 18,), it denotes a similar influence, but one that will continue to persecute her at different intervals. Again, such a line on a woman's hand is illustrative of the nature of the man who influences her, as denoting a fiery, passionate, animal temperament.

If, however, the ray-line should rise by the side of the line of life and travel by the side of it (Fig. 17,), it shows, on the woman's hand, that the man who enters into her life has the gentler nature, and that she will strongly influence him.



MODIFICATIONS OF THE PRINCIPAL LINES

Fig. 17

If the ray-line, rising at any point, in travelling with the life-line, retreats farther in on the Mount of Venus, thus away from the life, it indicates that the person with whom the woman is connected will more and more lose sympathy with her, and will eventually drift out of her life altogether (Fig. 16,).

When the ray-line, however, runs into an island or becomes one itself, it foretells that the influence over her life will run into disgrace, and that something scandalous will result.

When the attendant line fades out by the side of the lifeline, but renews itself later, it tells that the person influencing the life will cease his influence at that particular point, but that it will be renewed again.

When the line of influence fades altogether, total separation - generally death - will be the result of such companionship.

When one of these attendant lines joins a cross-line and runs over the hand with it, it foretells that through the instrumentality of another the affection of the person influencing the life will change to hate, and that this will cause injury at whatever point it touch the life, the fate, the head, or the line of heart (Fig. 19, e-t).

The farther the ray-lines lie from the line of life, the farther removed from our lives will those influences be. But, as before remarked, one could easily fill a volume on these lines and cross-lines, which with the Hindus are the foundation for all systems connected with palmistry.

By this system alone, then, it is reasonable to assume that the student can predict marriages by considering the relation which these lines bear to the life-line. We will again refer to this point when we consider the question of marriage.

Another interesting phase of this subject is the consideration of the number of these lines of influence (it being remembered that only those near the line of life are important). Numerous lines indicate a nature dependent upon affection. Such people are what is called passionate in their disposition; they may have many liaisons, but in their eyes love redeems all. On the other hand, the full, smooth Mount of Venus indicates that the individual is less affected by those with whom he is associated.

When the line of life sweeps far out into the hand, thus allowing the Mount of Venus a greater scope, it is in itself a sign of good physical strength and long life.

When, on the contrary, it lies very close to the Mount of Venus, health is not so robust or the body physically so well built. The shorter the line the shorter the life.

That the line of life does not always show the exact age at which death takes place I am quite convinced. This line merely denotes the natural term of the subject's life apart from accidental influences. Catastrophes indicated by other lines of the hand may cut short a life that would otherwise be long. For instance, a break in the head-line at certain points, as explained in Chapter VII, will foretell death just as surely as would the broken life-line. Again, and most important of all, the slope and position of the line of health in relation to the lifeline is a point which hitherto has not received the attention it deserves. When we consider the line of health, the relation that these lines bear to one another will be treated in detail. I may, however, here remark that, when it is of equal strength with that of life, where these lines meet will be the point of death, even though it be years in advance of when the life-line ends. Such a death will be caused by whatever disease is indicated by the health-line, and the province and one of the many uses of this study is to find out and warn the subject of that germ of disease which is even then the enemy of the system.

In addition to the information I have given here concerning islands, squares, etc., I refer the student back to Chapter III, which treats of them more fully. As regards time and the calculation of events, a special chapter will be devoted to these subjects.

CHAPTER VI

THE LINE OF MARS

The line of Mars (Fig. 13) is otherwise known as the inner vital or inner life-line. It rises on the Mount of Mars, and sweeps down by the side of the line of life, but is distinct in every way from those faint lines known as the attendant lines, of which I spoke a little earlier.

The general characteristic of the line of Mars is that it denotes excess of health on all square or broad hands; to a man of this type it gives a martial nature, rather a fighting disposition, and robust strength. It also denotes that while it runs close to the life-line the individual will be engaged in many quarrels, and will be subject to a great deal of annoyance which will bring all his martial or fighting qualities into play. It is always an excellent sign on the hand of a soldier.

When a branch shoots from this line out to the Mount of Luna (Fig. 20, b-b) it tells that there is a terrible tendency toward intemperance of every kind, through the very robustness of the nature, and the craving for excitement that it gives.

The other type of the line of Mars is found on the long, narrow hand, and here it is generally by the side of a delicate, fragile line of life. Its characteristics in such a hand are that it supports the life line, carrying it past any dangerous breaks, and giving vitality to the nature.

A broken line of life with such a line beside it will, at the point of the break, indicate closeness to death, but helped by this mark the subject will recover, through the great vitality given by the line of Mars.

CHAPTER VII

THE LINE OF HEAD

*“To know is power” – let us then be wise,
And use our brains with every good intent,
That at the end we come with tired eyes
And give to Nature more than what she lent.*

CHEIRO

The line of head (Fig. 13) relates principally to the mentality of the subject - to the intellectual strength or weakness, to the temperament in its relation to talent, and to the direction and quality of the talent itself.

It is of extreme importance in connection with this line that the peculiarities of the various types be borne in mind; as, for instance, a sloping line of head on a psychic or conic hand is not of half the importance of a sloping line on a square hand. We will, however, take general characteristics first, and proceed to consider variations afterward.

The line of head can rise from three different points - from the centre of the Mount of Jupiter, from the commencement of the line of life, or from the Mount of Mars, within the life-line.

Rising from Jupiter (Fig. 20, c-c) and yet touching the line of life, it is, if a long line of head, the most powerful of all. Such a subject will have talent, energy, and daring determination of purpose, with boundless ambition combined with reason. Such a man will control others, yet not seem to control them; he will have caution even in his most daring designs; he takes pride in his management of people or things, and is strong in rule, but just in the administration of power.

There is a variation of this which is almost equally strong. This again rises on Jupiter, but is slightly separated from the line of life. Such a type will have the characteristics of the first, but with less control and diplomacy. He will be hasty in decision, impetuous in action. As a leader in a crisis such a man would find his greatest opportunity. When, however, the space is very wide, the subject will be foolhardy, egotistical, and will rush blindly into danger.

The line of head from the commencement of the line of life, and connected with it (Fig. 16, d-d), indicates a sensitive and more nervous temperament; it denotes excess of caution; even clever people with this mark rein themselves down too tightly.

The line of head rising from the Mount of Mars, within the life-line (Fig. 19,), is not such a favourable sign, it being the extreme on the inside of the life-line, as the wide-spaced head-line is the extreme on the outside. This indicates a fretful, worrying temperament, inconstant in thought, inconstant in action; the shifting sands of the sea are more steadfast than are the ideas of such an individual, and the connection with Mars gives his nature this one disagreeable trait - he is always in conflict with his neighbours; he is also highly sensitive, nervous, and more or less irritable.

The generalities indicated by the line of head are as follows:

When straight, clear, and even, it denotes practical common sense and a love of material things more than those of the imagination.

When straight in the first half, then slightly sloping, it shows a balance between the purely imaginative and the purely practical; such a subject will have a level-headed, common-sense way of going to work, even when dealing with imaginative things.

When the entire line has a slight slope, there is a leaning toward imaginative work, the quality of such imagination denoting, in accordance with the type of hand, either music, painting, literature, or mechanical invention. When very sloping, romance, idealism, imaginative work, and

Bohemian-ism. When sloping, and terminating with a fine fork on the Mount of Lima, it promises literary talent of the imaginative order.

When extremely long and straight, and going directly to the side of the hand (the percussion), it usually denotes that the subject has more than ordinary intellectual power, but is inclined to be selfish in the use of that power.

When this line lies straight across the hand and slightly curves upward on Mars (Fig. 19, g-g), the subject will win usual success in a business life; such a man will have a keen sense of the value of money - it will accumulate rapidly in his hands. Such a sign, however, denotes the taskmaster of life - the Pharaoh who expects his work-people to make bricks without straw.

When the line is short, barely reaching the middle of the hand, it tells of a nature that is thoroughly material. Such a man will utterly lack all the imaginative faculties, although in things practical he will be quite at home.

When abnormally short, it foreshadows some early death from some mental affection. When broken in two under the Mount of Saturn, it tells of an early sudden death by fatality.

When linked, or made up of little pieces like a chain, it denotes want of fixity of ideas, and indecision.

When full of little islands and hair-lines, it tells of great pain to the head and danger of brain disease.

When the line of head is so high on the hand that the space is extremely narrow between it and the line of heart, the head will completely rule the heart, if that line be the strongest, and vice versa.

If the line should turn at the end, or if, in its course down the hand, it sends an offshoot or branch to any particular mount, by so doing it partakes of the qualities of that mount: Toward the Mount of Lima, imagination, mysticism, and leaning toward occult things. Toward Mercury, commerce or science. Toward the Sun, the desire for notoriety. Toward Saturn, music, religion, and depth of thought. With a branch to Jupiter, pride and ambition for power, If a branch from the line of head rises up and joins the line of heart, it foreshadows some great fascination, or affection, at which moment the subject will be blind to reason and danger. A double line of head is very rarely found, but when found it is a sure sign of brain power and mentality. Such people have a perfectly double nature - one side sensitive and gentle, the other confident, cold, and cruel. They have enormous versatility, great command of language, a peculiar power for playing and toying with human nature, and generally great will and determination,

When the line of head is broken in two on both hands, it foretells some fatal accident or violence to the head.

An island is a sign of weakness (Fig. 17, j). When clearly denned, if the line does not extend farther, the person will never recover. If the line of head sends an offshoot to or runs into a star on the Mount of Jupiter, it is a sign of wonderful success in all things attempted. When a number of little hair-lines branch upward from the line of head to that of heart, the affections will be a matter of fascination, not of love.

When the line of head runs into or through a square, it indicates preservation from accident or violence by the subject's own courage and presence of mind.

When there is a space found between the line of head and that of life, it is beneficial when not too wide; when medium, it denotes splendid energy and self-confidence, promptness of action and readiness of thought (Fig. 21). This is a useful sign for barristers, actors, preachers, etc., but people with such a mark would do well to sleep on their decisions - they are inclined to be too hasty, self-confident, and impatient. When this space is extremely wide, it denotes foolhardiness, assurance, excessive effrontery, and self-confidence.

When the line of head, on the contrary, is very tightly connected with that of life, and low down in the hand, there is utter want of self-confidence. Such individuals suffer greatly from extreme sensitiveness, and the slightest thing will wound and grieve them.

CHAPTER VIII

THE LINE OF HEAD IN RELATION TO THE SEVEN TYPES

The general rules to be observed in connection with this most remarkable point are as follows:

The line of head is usually in accordance with the type of hand on which it is found - namely, practical on a practical type, imaginative on an artistic, and so on. It therefore follows that signs contrary to the nature are more important than characteristics indicated in accordance with it.

These peculiarities, it is therefore more reasonable to assume, relate to the development of the brain outside and beyond its natural characteristics. Such a divergence might be accounted for by the theory that the various tendencies of the brain reach their working point through a process of slow growth and development, similar to the evolutions of life itself. It therefore follows that at the age of twenty there may be the commencement of a development which may alter the entire life at thirty; but as that change has already commenced in the brain, so must it affect the nerves and thus the hand. Thus a tendency toward a change of thought or action is indicated years before it takes place.

Starting with the elementary hand, or the nearest approach to it found in our country, the natural head-line on such a type would be short, straight, and heavy; consequently the development of it to any unusual extent will show unusual characteristics in such a subject. For instance, such a line of head dropping downward toward Luna will show an imaginative but superstitious tendency, completely at variance with the brutal and animal nature it influences. This accounts for the fear of the unknown, the superstitious dread that is so often found among the lower class of humanity, particularly among savage tribes.

The square hand, as I have stated (Part I, Chapter III), is the useful or practical hand; it deals with logic, method, reason, science, and all things appertaining to such matters.

The line of head on such a type is straight and long, in keeping with the characteristics of the hand itself. It therefore follows that the slightest appearance of this line sloping, being the direct opposite to the nature, shows even a greater development of the imaginative faculties than a far greater slope of the same line on a conic or psychic, but the difference in the class of work would be the difference of temperament. The square hand with the sloping head-line would start with a practical foundation for imaginative work, whereas the other would be purely inspirational and imaginative. This difference is extremely noticeable in the hands of writers, painters, musicians, etc.

THE LINE OF HEAD IN RELATION TO THE SPATULATE HAND

The spatulate hand (Part I, Chapter IV) is the hand of action, invention, independence, and originality. The natural position for the line of head on this type is long, clear, and slightly sloping. When, therefore, on such a hand this sloping is accentuated, the result is that all these characteristics are doubled or strengthened; but when lying straight, the opposite of the type, the subject's practical ideas will keep the others so much in check that the plans of the imagination will not get scope for fulfilment, and, as far as the temperament is concerned, the nature will be restless, irritable, and dissatisfied.

THE LINE OF HEAD IN RELATION TO THE PHILOSOPHIC HAND

The philosophic hand (Part I, Chapter V), is thoughtful, earnest in the pursuit of wisdom, but imaginative and rather eccentric in the application of ideas to everyday life. The natural position for the line of head on this type is long, closely connected with the line of life, set low down on the hand, and sloping. The unnatural type, or the man with the straight line of head on the philosophic hand.

CHAPTER IX

INSANITY AS SHOWN BY THE LINE OF HEAD

There is really no tendency which the hand denotes more plainly than insanity, whether hereditary or brought on by circumstances. The multitude of forms which could be gathered under this heading cannot be entered into in this work, but I will endeavour to show the most general.

It must be borne in mind that any point that is beyond the normal is abnormal. When, therefore, the line of head sinks to an abnormal point on the Mount of Luna, the imagination of the subject is abnormal and unnatural. This will be more important in the elementary, square, spatulate, and philosophic, than in relation to the conic or psychic types. When the line of head, even on a child's hand, reaches this unnatural point, it may grow up to manhood or womanhood with perfect clearness and sanity of ideas, but as surely as a mental shock or strain comes, so surely will that brain be thrown off its balance, and insanity will be the result.

The same development of the line of head, with an unusually high Mount of Saturn, will denote a morbidly imaginative nature from the very start (Plate XV). Such a subject is gloomy, morose, and melancholy, and this tendency, even without cause, generally increases until the subject completely loses his or her mental balance.

Temporary insanity is shown by a narrow island in the centre of a sloping line of head, but this mark generally indicates some brain-illness or temporary insanity consequent upon brain-fever.

The hand of the congenital idiot is remarkable for its very small, badly-developed thumb, and for a line of head sloping and made up of broad lines filled with a series of islands, like a chain.

I have further illustrated these remarks in Part III, Chapter V, on various phases of insanity as shown by the hand.

The mere act of murder, such as one man killing another in the heat of passion, or in self-defence, is not shown by the hand except as a past event, and then only when it has deeply affected a very sensitive nature; but if propensities for crime exist, the age at which they will reach their active or working point in the nature is decidedly shown, as I will proceed to demonstrate.

I have explained in the foregoing remarks that, when the line of head is abnormal in one direction, abnormal characteristics are the result, such as insanity, morbidness, and extreme melancholy, which under certain conditions lead to self-murder. These, however, are abnormal characteristics denoted by the falling line. We will now consider the abnormalities indicated by the rising line of head.

It will be remembered that I have previously stated that the line of head divides the hand into two hemispheres - that of mind and that of matter; and that if it be high on the hand, then the world of matter has greater scope, and the subject is more brutal and animal in his desires. This has been amply proved by the hands of those who have lived a life of crime, particularly if they have been murderous in their propensities (Plate XIV).

In such cases the line of head leaves its proper place on the hand and rises and takes possession of the line of heart, and sometimes even passes beyond it. Whether such people murder one or twenty is not the question. The point is that they have abnormal tendencies for crime; they stop at nothing in the accomplishment of their purpose, and under the slightest provocation or temptation they must and will gratify these strange and terrible propensities. The extraordinary thing in connection with this point is that the same line also predicts years in advance when these propensities will cause the destruction of the subject. If the head and heart meet under Saturn, it will occur before he is twenty-five; between Saturn and the Sun, before thirty-five; under the Mount of the Sun, before forty-five; and so on. This is one of the most interesting points in the study of the hand, and goes far to prove that, once the line of head goes

the character and the nature of the subject. In this way it will be seen that this study could be used to the greatest advantage in the training of children and young persons, as the line of head from the earliest indicates the mental bent of the subject whether for good or evil. There can be no doubt but that nature points in some way, even years in advance, to the harvest of those seeds that we are continually sowing; let us then look facts in the face whether they speak against ourselves or our children. Humanity has little pity for the reaper when binding the sheaves of regret: he cries, I did not know the seeds that I had sown.

(Note. - I do not use or pay attention to such signs as the red cross on Mars or the black spot on Saturn as indications of murder. I consider that they belong to the more superstitious side of this work, and are relics of that black age which once claimed palmistry as its own.)

CHAPTER X

THE LINE OF HEART

.....Keep still, my heart,

Nor ask for peace, when care may suit these best,

Nor ask for love, nor joy, nor even rest,

But be content to love, whate'er betide,

And may be love will bring these to Love's side

CHEIRO

The line of heart is naturally an important line in the study of the hand. Love, or the attraction of the sexes from natural causes, plays one of the most prominent parts in the drama of life, and as in the nature so in the hand. The line of heart, otherwise called the mensal (Fig. 13), is that line which runs cross the upper portion of the hand at the base of the Mounts of Jupiter, Saturn, the Sun, and Mercury.

The line of heart should be deep, clear, and well coloured, it may rise from three important positions, as follows: the middle of the Mount of Jupiter, between the first and second fingers, and from the centre of the Mount of Saturn

When it rises from the centre of Jupiter (Fig. 20, d-d) it gives the highest type of love - the pride and the worship of the heart's ideal. A man with such a formation is firm, strong, and reliable in his affections; he is as well ambitious that the woman of his choice shall be great, noble, and famous - such a man would never marry beneath his station, and will have far less love-affairs than the man with the line from Saturn

Next we will consider the line rising from the Mount of Jupiter, even from the finger itself (Fig. 20, t-e). This denotes the excess of all the foregoing qualities; it gives the blind enthusiast, the man so carried away by his pride that he can see no faults, no failings in that being whom he so devotedly worships. Alas! such people are the sufferers in the world of affection: when their idols fall, as idols will sometimes, the shock to their pride is so great that they rarely if ever recover from its effects; but the shock, it must be remarked, is more to their own pride than to the mere fact that the idol they worshipped had feet of clay. Poor worshipper I when wilt thou see that, though women be pure, they be not perfect; they are but human, and being human they are more fitting than if they were divine. Why, then, place them so high that they are the more likely to fall? Their place is by thy side, the companion of thy humanity, the sister part of all thy faults.

The line rising between the first and second fingers gives a calm but deeper nature in matters of love (Fig. 20,). Such individuals seem to rest between the ideality given by Jupiter and the passionate ardour given by Saturn. They are quieter and more subdued in their passions.

With the line of heart rising from Saturn, the subject will have more passion in his attachments, and will be more or less selfish in satisfying his affections; in home life he is never so expressive or demonstrative as are those with the line from Jupiter. The excess of this is the same kind of line rising very high on the mount, often from the very finger of Saturn. Such a subject is far more passionate and sensual than any of the others. It is generally admitted that very sensual people are very selfish - in this case they are extremely so.

When the line of heart is itself in excess, namely, lying right across the hand from side to side, an excess of affection is the result, and a terrible tendency toward jealousy; this is still more accentuated by a very long line of heart rising to the outside of the hand and reaching the base of the first finger.

When the line of heart is much fretted by a crowd of little lines rising into it, it tells of inconstancy, flirtations, a series of amourettes, but no lasting affection (Fig. 20).

A line of heart from Saturn, chained and broad, gives an utter contempt for the subject's opposite sex.

When the line of heart is bright red, it denotes great violence of passion.

When pale and broad, the subject is blase and indifferent.

When low down on the hand and thus close to the line of head, the heart will always interfere with the affairs of the head.

When, however, it lies high on the hand, and the space is narrowed by the line of head being too close, the reverse is the case, and the head will so completely rule the affections that it gives a hard, cold nature, envious and uncharitable.

Breaks in the line tell of disappointment in affection - under Saturn, brought about by fatality; under the Sun, through pride; and under Mercury, through folly and caprice.

When the line of heart commences with a small fork on the Mount of Jupiter (Fig. 16, j-j), it is an unfailing sign of a true, honest nature and enthusiasm in love.

A very remarkable point is to notice whether the line of heart commences high or low on the hand. The first is the best, because it shows the happiest nature.

The line lying so low that it droops down toward the line of head is a sure sign of unhappiness in affections during the early portion of the life.

When the line of heart forks, with one branch resting on Jupiter, the other between the first and second fingers, it is a sign of a happy, tranquil nature, good fortune, and happiness in affection; but when the fork is so wide that one branch rests on Jupiter, the other on Saturn, it

then denotes a very uncertain disposition, and one that is not inclined to make the marital relations happy, through its erratic temperament in affection.

When the Line is quite bare of branches and thin, it tells of coldness of heart and want of affection.

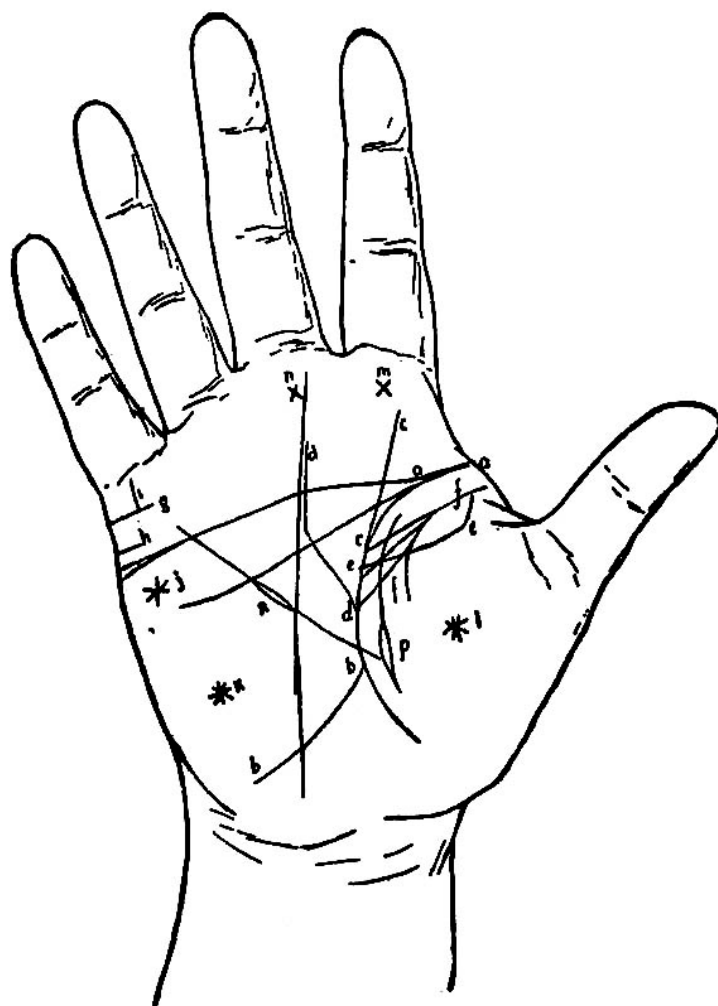
When bare and thin toward the percussion or side of the hand, it denotes sterility.

Fine lines rising up to the line of heart from the line of head denote those who influence our thoughts in affairs of the heart, and by being crossed or uncrossed denote if the affection has brought trouble or has been smooth and fortunate.

When the lines of heart, head and life are very much joined together, it is an evil sign; in all matters of affection such a subject would stick at nothing to obtain his or her desires.

A subject with no line of heart, or with very little, has not the power of feeling very deep affection. Such a person can, however, be very sensual, particularly if the hand is soft. On a hard hand such a mark will affect the subject less - he may not be sensual, but he will never feel very deep affection.

When, however, the line has been there, but has faded out, it is a sign that the subject has had such terrible disappointments in affection that he has become cold, heartless, and indifferent.



MODIFICATIONS OF THE PRINCIPAL LINES

Fig. 18

CHAPTER XI

THE LINE OF FATE

..... And what is fate?

A perfect law that shapes all things for good;

And thus, that men may have a just reward

For doing what is right, not caring should

No earthly crown be theirs, but in accord

With what is true, and high, and great.

And in the end - the part as to the whole –

So shall all be; in the success of all

So shall all share; for the All-conscious Soul

Notes e'en sparrow's feeble fall

..... And such is fate.

CHEIRO

The line of fate (Fig. 13), otherwise called the line of destiny, or the Saturnian, is the centre upright line on the palm of the hand.

In the consideration of this line the type of hand plays an important part; for instance, the line of fate, even in the most successful hands, is less marked on the elementary, the square, and the spatulate, than on the philosophic, the conic, or the psychic. These upright lines are more in keeping with the latter hands, and are therefore less important on them; consequently if one sees, as one often will, an apparently very strong line of fate on a conic hand, one must remember that it has not half the importance of a similar line on a square type as far as worldly success is

concerned. This point, I am sorry to say, has been completely overlooked by other writers, though it is one of the most significant in this study. It is useless simply to give a map of the hand without clearly explaining this point. The bewildered student sees this long line of fate marked as a sign of great fortune and success, and naturally concludes that a small line on the square hand means nothing, and that a long one on the conic or psychic means success, fame, and fortune, whereas it has not one quarter the importance of the small line shown on the square. I wish to emphasize this as so many students throw up palmistry in despair through not having this point explained at the start.

The strange and mysterious thing to note is that the possessors of the philosophic, conic, and psychic hands which bear these heavily marked lines are more or less believers in fate, whereas the possessors of the square and spatulate rarely, if ever, believe in fate at all.

Before the student goes farther I would recommend him, once and for all, to settle this doctrine of fate, either for or against.

The line of fate, properly speaking, relates to all worldly affairs, to our success or failure, to the people who influence our career, whether such influences be beneficial or otherwise, to the barriers and obstacles in our way, and to the ultimate result of our career.

The line of fate may rise from the line of life, the wrist, the Mount of Luna, the line of head, or even the line of heart.

If the fate-line rise from the line of life and from that point on is strong, success and riches will be won by personal merit; but if the line be marked low down near the wrist and tied down, as it were, by the side of the life-line, it tells that the early portion of the subject's life will be sacrificed to the wishes of parents or relatives (Fig. 20, g-g)

When the line of fate rises from the wrist and proceeds straight up the hand to its destination on the Mount of Saturn, it is a sign of extreme good fortune and success.

Rising from the Mount of Luna, fate and success will be more or less dependent on the fancy and caprice of other people. This is very often found in the case of public favourites.

If the line of fate be straight and a branch run in and join it from the Mount of Luna, it is somewhat similar in its meaning - it signifies that the strong influence of some other person, out of fancy, or caprice, will assist the subject in his or her career. On a woman's hand, if this ray-line from Luna travel on afterward by the side of the line of fate, it denotes a wealthy marriage or influence which accompanies and assists her (Fig. 20, h-h).

If the line of fate in its course to the Mount of Saturn send offshoots to any other mount, it denotes that the qualities of that particular mount will dominate the life.

If the line of fate itself should go to any mount or portion of the hand other than the Mount of Saturn, it foretells great success in that particular direction, according to the characteristics of the mount.

If the line of fate ascend to the centre of the Mount of Jupiter, unusual distinction and power will come into the subject's life. It also relates to character. Such people are born to climb up higher than their fellows through their enormous energy, ambition, and determination.

If the line of fate should at any point throw a branch in that direction, namely, toward Jupiter, it shows more than usual success at that particular stage of life.

If the line of fate terminate by crossing its own mount and reaching Jupiter, success will be so great in the end that it will go far toward satisfying even the ambition of such a subject.

When the line runs beyond the palm, cutting into the finger of Saturn, it is not a good sign, as everything will go too far. For instance, if such an individual be a leader, his subjects will some day go beyond his wishes and power, and will most probably turn and attack their commander.

When the line of fate is abruptly stopped by the line of heart, success will be ruined through the affections; when, however, it joins the line of heart and they together ascend Jupiter, the subject will have his or her highest ambition gratified through the affections (Fig. 19, h-h).

When stopped by the line of head, it foretells that success will be thwarted by some stupidity, or blunder of the head.

If the line of fate does not rise until late in the Plain of Mars, it denotes a very difficult, hard, and troubled life; but if it goes on well up the hand, all difficulties will be surmounted, and once over the first half of the life all the rest will be smooth. Such success comes from the subject's own energy, perseverance and determination.

If the line of fate rise from the line of head, and that line be well marked, then success will be won late in life, after a hard struggle and through the subject's talents.

When it rises from the line of heart extremely late in life, after a difficult struggle success will be won.

When the line rises with one branch from the base of Luna, the other from Venus, the subject's destiny will sway between imagination on the one hand and love and passion on the other (Fig. 21, m-*n).

When broken and irregular, the career will be uncertain; the ups and downs of success and failure full of light and shadow.

When there is a break in the line, it is a sure sign of misfortune and loss; but if the second portion of the line begin before the other leaves off, it denotes a complete change in life, and if very decided it will mean a change more in accordance with the subject's own wishes in the way of position and success (Fig. 22, a-a).

A double or sister fate-line is an excellent sign. It denotes two distinct careers which the subject will follow. This is much more important if they go to different mounts.

A square on the line of fate protects the subject from loss through money, business, or financial matters. A square touching the line in the Plain of Mars (Fig. 21, b), foretells danger from accident in relation to home life if on the side of the fate-line next the line of life; from accident, in travel if on the side of the fate-line next the Mount of Luna.

A cross is a sign of trouble and follows the same rules as the square, but an island in the line of fate is a mark of misfortune, loss, and adversity (Fig. 21, d). It is sometimes marked with the line of influence from Luna, and in such a case means loss and misfortune, caused by the influence, be it marriage or otherwise, which affects the life at that date (Fig. 21, c).

People without any sign of a line of fate are often very successful, but they lead more a vegetable kind of existence. They eat, drink, and sleep, but I do not think we can really call them happy, for they cannot feel acutely, and to feel happiness we must also feel the reverse. Sunshine and shadow, smiles and tears comprise the sum total of our lives.

CHAPTER XII

THE LINE OF SUN

*And there are some who have success in wealth,
And some in war, and some again in peace,
And some who, gaining their success in health,
See other things decrease.
Man cant have all-the sun consumes itself
Buy burning in its lap more feeble stars,
And those who crave the Hindu idol's part
Oft crush their children neath their gilded cars.*

CHEIRO

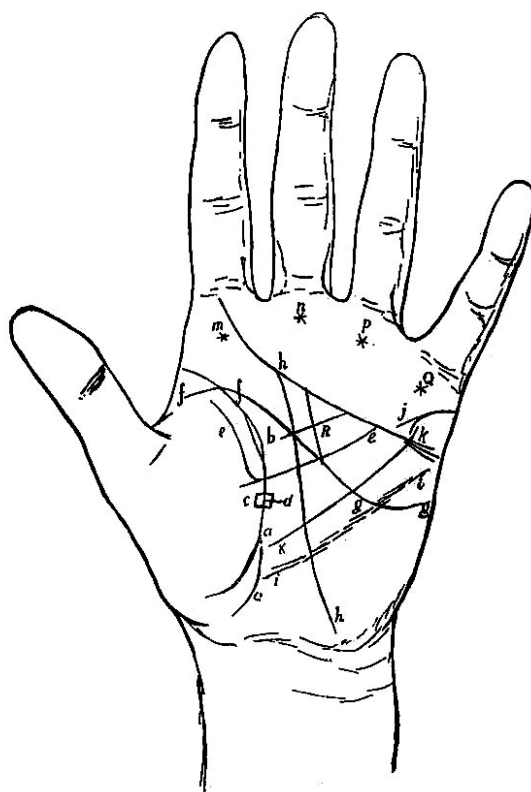
The line of sun (Fig. 13), otherwise called the line of Apollo, the line of brilliancy, or the line of success, must, like the line of fate, be considered with the type of hand on which it lies; for instance, it will be more heavily marked on the philosophic, conic, and psychic, and not mean as much as a similar line on the square or spatulate. The same rule given in reference to the line of fate therefore applies to this.

I prefer in my work to call this the line of sun, as this name is more expressive and more clear in meaning. It increases the success given by a good line of fate, and gives fame and distinction to the life when it is in accordance with the work and career given by the other lines of the hand; otherwise it merely relates to a temperament that is keenly alive to the artistic, but unless the rest of the hand bears this out, the subject will have the appreciation of art without the power of expression.

The line of sun may rise from the line of life, the Mount of Luna, the Plain of Mars, the line of head, or the line of heart.

Rising from the line of life, with the rest of the hand artistic, it denotes that the life will be devoted to the worship of the beautiful. With the other lines good, it promises success in artistic pursuits.

Rising from the line of fate, it increases the success promised by the line of fate, and gives more distinction from whatever date it is marked - from that time on things will greatly improve.



MODIFICATIONS OF THE PRINCIPAL LINES

Fig. 19

It is far more accurate and less misleading to class this line as relating to brilliancy or success - as its name implies - than to call it the line of Apollo or of art. It depends upon the talent shown by the line of head, and the class of hand itself, to determine in what way the success is shewn,

From the Mount of Luna it promises success and distinction largely dependent upon the fancies and the help of others. In this case it is never a certain sign of success, being so influenced by the fortunes of those with whom we come in contact (Fig. 21, e-e).

With a sloping line of head, however, it is more inclined to denote success in poetry, literature, and things of the purely imaginative order. Rising upon the Plain of Mars, it promises sunshine after tears, success after difficulty.

Rising from the line of head, there is no caprice of other people in connection with success, the talents of the subject alone being its factor, but not until the second half of life is reached.

Rising from the line of heart it merely denotes a great taste for art and artistic things, and looking at it from the purely practical standpoint it denotes more distinction and influence in the world at that late date in life.

If the third finger be nearly equal in length to the second, .e finger of Saturn, a very long line of sun with such a formation makes the subject inclined to gamble with everything - the talents, the riches, and even the chances of life.

The chief peculiarity of this line is that it generally gives, when well marked, a great tendency toward sensitiveness, but when combined with an exceptionally straight line of head it denotes the love of attaining riches, social position, and power.

Many lines on the Mount of Sun show an extremely artistic nature, but multiplicity of ideas will interfere with all success. Such subjects never have sufficient patience to win either fame or renown (Fig. 21).

A star on this line is perhaps the very finest sign that can be found. Brilliant and lasting success is in such cases a certainty.

A square on the line of sun is a sign of preservation against the attacks of enemies in reference to one's name and position (Fig. 21, g).

An island on this line means loss of position and name for the length of time that the island lasts, and generally such will occur through scandal (Fig. 21, A).

On a hollow hand the line of sun loses all power.

The complete absence of the line of sun on an otherwise talented and artistic hand indicates that such people, though they may work hard, will find the recognition of the world difficult to gain. Such individuals, no matter how they may deserve honour and fame, will rarely achieve it. Perhaps on their graves will be laid the wreaths that should have crowned their heads.

CHAPTER XIII

THE LINE OF HEALTH, OR THE HEPATICA

Some flowers are bruised that they may be more sweet,

And some lie broken neath the rush of feet;

And some are worn awhile, then tossed aside;

Some grace the dead, while others deck the bride.

And so in life I've seen the saddest face,

The broken flower, give forth the sweetest grace.

There has been considerable discussion among writers as to the point where this line rises. My theory, and one which I have proved by watching the growth of this line on the hands of children and young people, is that it rises at the base, or on the face of the Mount of Mercury, and as it grows down the hand and into the line of life, so does it foreshadow the growth of the illness or germ of disease which at the time of its coming in contact with the line of life will reach its climax. I wish to call special attention to this point; also to another, namely, that the line of life merely relates to the length of life from natural causes, but if the hepatica is as strongly marked as the line of life itself, their meeting at any point will be the point of death. Also, no matter how long the life-line may seem to be, any abnormal development of the line of health will cause the death of the subject.

The hepatica (Fig. 13) should be straight down the hand - the straighter the better. It is an excellent sign to be without this line. Such absence denotes an extremely robust, healthy constitution. Its presence on the hand in any form indicates some delicate point to be guarded against.

When crossing the hand and touching the line of life at any point, it tells that there is some delicacy at work, undermining the health and constitution (Fig. 17, k, k).

When rising from the line of heart at the Mount of Mercury and running into or through the line of life, it foretells some weakness and disease of the heart. If very pale in colour, and broad, it will be weak action of the heart and bad circulation.

If red in colour, particularly when it leaves the line of heart, with small, flat nails, the trouble will be active heart-disease.

When very red in small spots, it denotes a tendency in the system toward fever.

When twisted and irregular, biliousness and liver complaints.

When formed in little straight pieces, bad digestion (Fig

In little islands, with long, filbert nails, danger to lungs and chest (Fig. 20, t'-t).

The same mark, with the same kind of nail, but broad, throat trouble. (See "Nails," Part I, Chapter XIII.)

When heavily marked, joining the line of heart and head, and not found elsewhere, it threatens brain-fever.

A straight line of hepatica lying down the hand may not give robust health, but it is a good mark because it gives a more wiry kind of health than one crossing the hand.

It will thus be seen that though the student can depend very largely upon the indications afforded him by the hepatica, yet he must look for other illnesses, and for confirmation of illnesses, to other portions of the hand, as, for instance, to the chained life-line for naturally delicate health, to the line of head for brain troubles, and to the nails, which must always be noted in conjunction with the study of the hepatica.

CHAPTER XIV

THE VIA LASCIVA AND THE LINE OF INTUITION

The Via Lasciva, otherwise called the sister health-line (Fig. 13), is not often found, and is generally confounded with the hepatica. It should run off the palm into the wrist. In such a position it gives action and force to the passions, but if running across the hand into the Mount of Venus it shortens the natural length of life by its excesses (Fig. 17, W).

THE LINE OF INTUITION

The line of intuition (Fig. 12) is more often found on the philosophic, the conic, and the psychic, than on any other of the seven types. Its position on the hand is almost that of a semicircle from the face of the Mount of Mercury to that of the Mount of Luna. It sometimes runs through or with the hepatica, but can be found clear and distinct even when the hepatica is marked. It denotes a purely impressionable nature, a person keenly sensitive to all surroundings and influences, an intuitional feeling of presentiment for others, strange vivid dreams and warnings which science has never been able to account for by that much-used word, "coincidence." It is found more on psychic hands than on any others.

CHAPTER XV

THE GIRDLE OF VENUS, THE RING OF SATURN, AND THE THREE BRACELETS

The Girdle of Venus (Fig. 13) is that broken or unbroken kind of semicircle rising between the first and second fingers and finishing between the third and fourth.

I must here state that I have never found this sign to indicate the sensuality so generally ascribed to it, except when found on a broad, thick hand. Its real domain is usually on such hands as the conic and psychic. A little study will prove that this mark is as a rule associated with highly sensitive intellectual natures, but natures changeable in moods, easily offended, and touchy over little things. It denotes a highly strung, nervous temperament, and when unbroken it certainly gives a most unhappy tendency toward hysteria and despondency.

People possessing this mark are capable of rising to the highest pitch of enthusiasm over anything that engages their fancy, but they are rarely twice in the same mood - one moment in the height of spirits, the next miserable and despondent.

When the girdle goes over the side of the hand and by so doing comes in contact with the line of marriage (Fig. 16, k-K) the happiness of the marriage will be marred through the peculiarities of the temperament. Such subjects are peculiarly exacting, and hard to live with. If on a man's hand, that man would want as many virtues in a wife as there are stars in the universe.

THE RING OF SATURN

The Ring of Saturn (Fig. 12) is a mark very seldom found, and is not a good sign to have on the hand. I have closely watched people possessing it, and I have never yet observed that they

were in any way successful. It seems to cut off the Mount of Fate in such a peculiar way that such people never gain any point that they may work for or desire. Their temperament has a great deal - it may have everything - to do with this, as I always find these people full of big ideas and plans, but with such want of continuity of purpose that they always give up half-way. (See also Plate XV.)

THE THREE BRACELETS

The bracelets (Fig. 13) I do not consider of much importance in reading the lines, or in the study of the hand itself. There is, however, one strange and peculiar point with regard to them, and one that I have noticed contains a great deal of truth. I had been taught in my early life, always to observe principally the position of the first bracelet, the one nearest the hand, and that when I saw it high on the wrist, almost rising into the palm, particularly when it rose in the shape of an arch (Fig. 16, m-m) I was always to warn my consultant of weakness in relation to the internal organs of the body - as, for instance, in the bearing of children. Afterwards in my life, when I took up this study in a more practical way, I found there was a great deal of truth in what I at first thought a superstition. In later years, by watching case after case, by going through hospitals, and from what my many consultants have told me in reference to their ailments, I have become convinced that this point deserves being recorded, and consequently I now give it for what it may be worth.

Another significance attached to the bracelets is that, if well and clearly defined, they mean strong health and a robust constitution, and this again, it is interesting to notice, bears out in a manner the point I have called attention to.

CHAPTER XVI

THE LINE OF MARRIAGE

What matter if the words be said,

The licence paid-they are not wed;

Unless love link each heart to heart,

'Twere better keep those lives apart.

CHEIRO

Of the many books that have been written on cheiromancy, I am sorry to say that almost all have ignored or have barely noticed this naturally interesting and important point. I will therefore endeavour to give as many details as possible in connection with this side of the study.

What is known as the line or lines of marriage, as the case may be, is that mark or marks on the Mount of Mercury as shown by Fig. 13. It must be first stated, and stated clearly, that the hand does not recognize the mere fact of a ceremony, be it civil or religious - it merely registers the influence of different people over our lives, what kind of influence they have had, the effect produced, and all that is in accordance with such influence. Now, marriage being so important an event in one's life, it follows that, if events can be foretold by the hand, marriage should certainly be marked, even years in advance, and I have always found that such is the case in respect to all important influences; and it is also natural that affaires de cosur, liaisons, and so on, can thus be singled out and divided from what is known as marriage, except when the liaison is just as important and the influence on the life just as strong. Why there should be a time set apart in one's life to marry, or not to marry, as the case may be, can only be answered by referring to the other mysteries that surround us. If anyone can explain why a permanent magnet brought into an ordinary room has the power to magnetize every other bit of iron in the room, what that power is, and what the connection is, then he may be able to answer the question; but until all the secret laws and forces of nature are known, we can take no other standpoint than to accept these strange anomalies without having the power to answer the cry of the curious, the perpetual

parrot-like "Why?" of the doubting. The only theory I advance is that, as the press of the finger on the telegraph keyboard in New York at the same moment affects the keyboard in London, so by the medium of the ether, which is more subtle than electricity, are all persons unconsciously in touch with and in communion with one another.

In studying this point of the subject, I wish to impress upon the student that what are known as the lines of marriage must be balanced by marks on other portions of the hand, as I have shown by the influences by the side of the line of fate (Part II, Chapter XI), and by the lines of influence by the side of the line of life (Part II, Chapter V).

We will now proceed with the marks in connection with these lines of marriage on the Mount of Mercury.

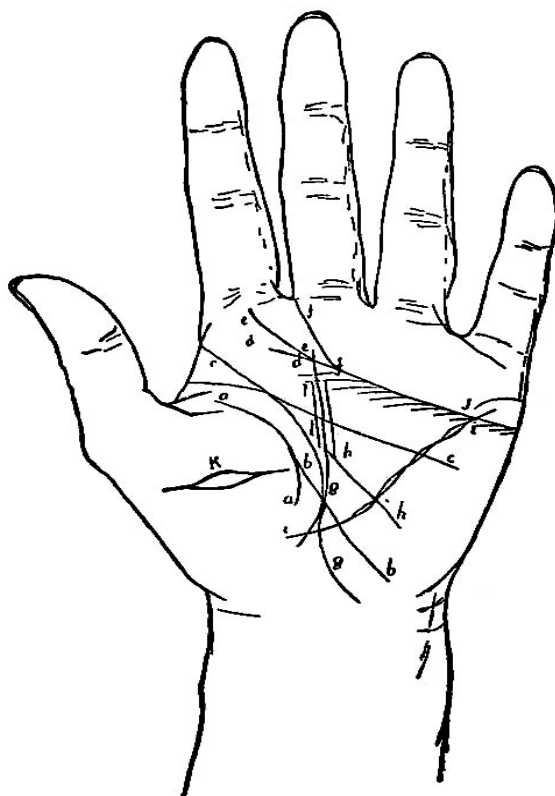
The line or lines of marriage may rise on the side of the hand or be only marked across the front of the Mount of Mercury.

Only the long lines relate to marriages (Fig. 18, g); the short ones to deep affection or marriage contemplated (Fig. 18, h). On the line of life or fate, if it be marriage, we will find it corroborated and information given as to the change in life, position, and so on. From the position of the marriage-line on the Mount of Mercury a very fair idea of the age at the time of marriage may also be obtained.

When the important line is found lying close to the line of heart, the union will be early, about fourteen to twenty-one; near the centre of the mount, about twenty-one to twenty-eight; three-quarters up the mount, twenty-eight to thirty-five; and so on. But the line of fate or the line of life will be more accurate, by giving almost the exact date of the change or influence

A wealthy union is shown by a strong, well-marked line from the side of the line of fate next Luna (Fig. 20, A-A), running up and joining the line of fate, when the marriage-line on Mercury is also well marked.

When, however, the line of influence rises first straight on the Mount of Luna and then runs up and into the fate-line, the marriage will be more the capricious fancy than real affection.



MODIFICATIONS OF THE PRINCIPAL LINES

Fig. 20

When the line of influence is stronger than the subject's line of fate, then the person the subject marries will have greater power and more individuality than the subject.

The happiest mark of marriage on the line of fate is when the influence-line lies close to the fate-line and runs evenly with it (Fig. 20).

The line of marriage on the Mount of Mercury should be straight, without breaks, crosses, or irregularities of any kind.

When it curves or drops downward toward the line of heart, it foretells that the person with whom the subject is married will die first (Fig. 20, j).

When the line curves upward, the possessor is not likely to marry at any time.

When the line of marriage is distinct, but with fine hair-^lines dropping from it toward the line of heart, it foretells trouble brought on by the illness and bad health of the person the subject marries.

When the line droops with a small cross over the curve, the person the subject is married to will die by accident or sudden death; but when there is a long, gradual curve, gradual ill-health will cause the end.

When the line has an island in the centre or at any portion, it denotes some very great trouble in married life, and a separation while the island lasts.

When the line divides at the end into a drooping fork sloping toward the centre of the hand, it tells of divorce or a judicial separation (Fig. 19, j). This is all the more certain if a fine line cross from it to the Plain of Mars (Fig. 19, k-k).

When the line is full of little islands and drooping lines, the subject should be warned not to marry. Such a mark is a sign of the greatest unhappiness.

When full of little islands and forked, it is again a sign of unhappiness in marriage. When the line breaks in two, it denotes a sudden break in the married life.

When the line of marriage sends an offshoot on to the Mount of Sun and into the line of sun, it tells that its possessor will marry someone of distinction, and generally a person in some way famous.

When, on the contrary, it goes down toward and cuts the line of sun, the person on whose hand it appears will lose position through marriage (Fig. 21) When a deep line from the top of the mount grows downward and cuts the line of marriage, there will be a great obstacle and opposition to such marriage (Fig. 18, t).

When there is a fine line running parallel with and almost touching the marriage-line, it tells of some deep affection after marriage on the side of the person on whose hand it appears.

It is not within my province in this work on palmistry to go deeply into my opinions as to the laws relating to marriage, or to marriages as entered into by men and women of the present day. It is almost incredible what men and women have told me during the pursuit of this study. They generally say, " You have read so much, you may as well now know all," and so they unravel the greatest secrets of their hearts. The palmist's lips are sealed, as are those of the father confessor, but if he did speak he would tell that half the smiling faces are but masks of gaiety to hide hearts of woe, that half the so-called truths are falsehoods cloaked, that half the vows are mockeries, and that the greatest mockery of all is, alas! too often, that so-called ceremony of marriage. The Protestant Church allows its children to be divorced if the marriage has turned out unsuitable, and yet the last words dinned into the ears of the bride and bridegroom are, "Those Whom God hath joined together, let no man put asunder." The Catholic Church, equally inconsistent, will not even allow the wretched pair to divorce and marry again unless on certain special occasions through the "mediation of the Pope," and on the other hand the divorce courts pour back into the coffers of the State that which is in reality the blood-money of its citizens. How long, how long will this lip-service dethrone and crush the service of the heart? How long will this slavery of custom degrade and destroy the better nature, making men brutes and women beasts of burden? How long must men and women exist and live together because they have not the money to buy their freedom, or because of their dread of that torture-chamber of divorce ? Men who were noble once, women who were queens of truth and souls of honour - how often do we see them - the husband hating

the wife, the wife fearing the husband, and outside of all and seeing all, like the spectators in the arena, are the pale faces of the children, the reincarnated ghosts of buried faith, edging closer and closer to the scene, fearing too much, loving too little, wrapping around them, closer than their very garments, the cloak of parents' shame, going out into the world to deceive as mother did, to drink as father did - going out into the world to do likewise.

Let men and women, once and for all, read nature more and fiction less; let them study one another as they do the art of flattery or of costume. Let them marry, but if they make mistakes, give them a chance of redeeming those mistakes; give them children, but teach them to be responsible to those children; preach not goodness for the sake of gain, but goodness for the sake of good; honour for honour's sake, truth for truth's. And lastly, give them pride, not in self - for they are servants - but in that part of life in which they serve, that as they be sons of humanity and daughters of the world, so may they live as helpers of the world. And so may they be till the end draws nigh, till the task is done, till the universe is finished, till the destiny is spun.

CHAPTER XVII

CHILDREN

..... So oft to bear,

Thro' early hours, thro' later years,

The story of a mother's tears

Or of a father's drunken care.

Ah me! How hard

To bear that load, that heavy cross,

To stagger on, and stumbling, find

All life but death, all death but loss,

With eyes alone to virtue blind!!

CHEIRO

To tell accurately the number of children one has had, or is likely to have, seems a very wonderful thing to do, but it is not one bit more wonderful than the details given by the main lines. To do this, however, requires more careful study than is usually given to the pursuit of cheiromancy.

Owing to the accuracy with which I have been credited on this point, I have been largely requested, in writing this book, to give as many details as permissible. I shall endeavour to do so in as clear a way as possible, knowing well the difficulties that lie in the way of a lucid explanation of such a point.

In the first place, a thorough knowledge of all portions of the hand that can touch on this must be acquired. For instance, a person with a very poor development of the Mount of Venus is not so likely at any time to have children as the person with the mount full and large.

The lines relating to children are the fine upright lines from the end of the line of marriage. Sometimes these are so fine that it requires a microscope to make them out clearly, but in such a case it will be found that all the lines of the hand are also faint. By the position of these lines, by the portion of the mount they touch, by their appearance, and so on, one can accurately make out whether such children will play an important part in the life of the subject or otherwise; if they will be delicate or strong; if they will be male or female.

The leading points with regard to these lines are as follows:

Broad lines denote males; fine, narrow lines, females.

When they are clearly marked they denote strong, healthy children; when very faint, if they are wavy lines, they are the reverse.

When the first part of the line is a little island, the child will be very delicate in its early life, but if the line is well marked farther, it will eventually have good health.

When ending at the island, death will be the result.

When one line is longer and superior to the rest, one child will be more important to the parent than all the others.

The numbers run from the outside of the marriage-line in toward the hand.

On a man's hand they are often just as clear as on a woman's, but in such case the man will be exceptionally fond of children and will have an extremely affectionate nature; as a rule, however, the woman's hand shows the marks in a superior way. From these observations I think the student will be able to proceed in his or her pursuit of other minute details which I cannot go into here.

CHAPTER XVIII

THE STAR

The star is a sign of very great importance, wherever it makes its appearance on the hand- I do not at all hold that it is generally a danger, and one from which there is no escape; rather, on the contrary, I consider it, with one or two exceptions, a fortunate sign, and one which naturally should depend upon the portion of the hand, or the line, with which it is connected.

When a star appears on the Mount of Jupiter, it has two distinct meanings, according to its position.

When on the highest point of the mount, on the face of the hand, it promises great honour, power, and position; ambition gratified, and the ultimate success and triumph of the individual (Fig. 19, m).

With a strong fate-, head-, and sun-line, there is almost no step in the ladder of human greatness that the subject will not reach. It is usually found on the hand of a very ambitious man or woman, and in the pursuit of power and position there is probably no mark to equal it.

Its second position on the Mount of Jupiter is when it lies almost off the mount, very low at its base, cutting the base of the first finger, or resting on the side toward the back of the hand. In this case it is also the sign of a most ambitious person, but with this difference, that he will be brought in contact with extremely distinguished people; but unless the rest of the hand be exceptionally fine, it does not promise distinction or power to the individual himself.

THE STAR ON THE MOUNT OF SATURN

On the centre of the Mount of Saturn it is a sign of some terrible fatality (Fig. 19, w). It again gives distinction, but a distinction to be dreaded. It is decidedly wrong to class this sign with the old idea of the mark of murder. It really means that the subject will have some terribly fatalistic life, but that of a man in every way a child of fate, a plaything of destiny; a man cast for some terrible part in the drama of life - he may be a Judas, or he may be a Saviour, but all his work and life and career will have some dramatic and terrible climax, some unrivalled brilliancy, some position resplendent with the majesty of death - a king for the moment, but crowned with doom.

The second position for the star on Saturn is that almost off the mount, either at the side or cutting into the fingers. This, like the star on Jupiter, denotes that the subject will be brought into contact with one of those who make history, but in this case with one who gains distinction through some terrible fate.

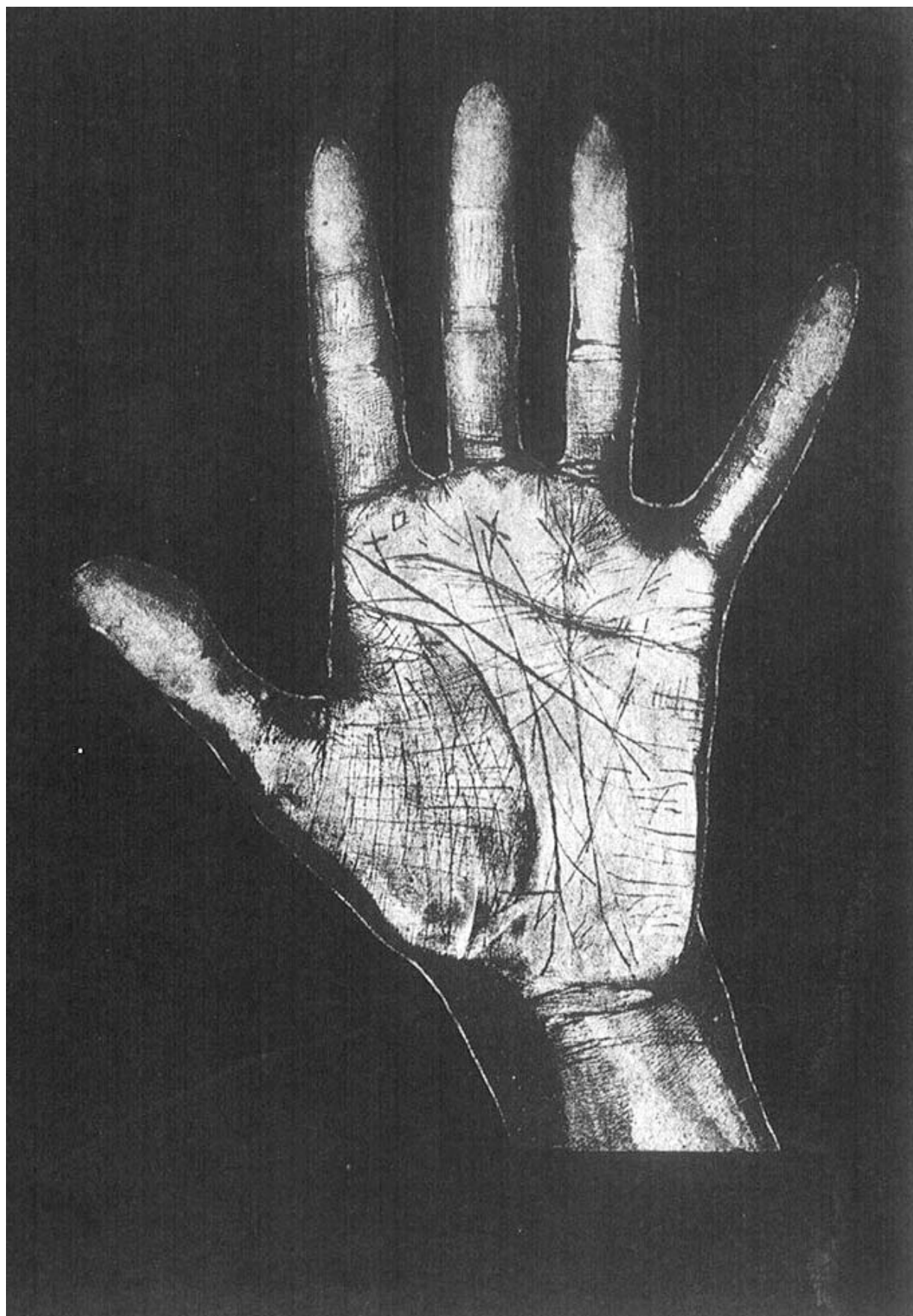
THE STAR ON THE MOUNT OF THE SUN

The star on the Mount of the Sun (Fig. 19, p) gives the brilliancy of wealth and position, but, as a rule, without happiness. Such wealth has come too late; the price has probably been too dearly paid in the way of health, or perhaps in peace of mind. Certain it is, however, that, though it gives great riches, it never gives contentment or happiness. When in this case by the side of the mount, it denotes, like the others, that the subject will be brought in contact with rich and wealthy people, without himself being rich in the world's goods.

When, however, it is connected or formed by the line of sun, it denotes great fame and celebrity, but through talent and work in art. It should not be too high on the hand; a little above the middle of the line is its best position, as in the case of Madame Sarah Bernhardt, an impression of whose hand will be found on Plate X.

THE STAR ON THE MOUNT OF MERCURY

The star in the centre of the Mount of Mercury (Fig. 19, q) denotes brilliancy and success in science, business, or the power of eloquence, according to the type of hand, and, as in bregging examples, by the side of the mount it denotes association with people distinguished in those walks of life.



THE HAND OF MADAME SARAH BERNHARDT

Plate X

For details see page 208



THE RIGHT HAND OF DAME NELLIE MELBA, G.B.E

Plate XI

For details see page 209

The star on the Mount of Mars under Mercury (Fig. 18, j), denotes that through patience, resignation, and fortitude the greatest honours will be gained.

On the opposite side of the hand, the Mount of Mars under Jupiter, great distinction and celebrity will arise from a martial life, or a signal battle or warfare in which the subject will be engaged.

THE STAR ON THE MOUNT OF LUNA

The star on the Mount of Luna (Fig. 18, k) is, according to my system, a sign of great celebrity arising from the qualities of the mount, namely, through the imaginative faculties. I do not hold that it relates to drowning, in accordance with other cheiromants. There is another meaning, however, to this sign, which may have given rise to this idea, and that is that when the line of head ends in a star on this mount the dreamy imaginative faculties will ruin the balance of the line of head, and the result will be insanity. Because this star has been found so often on the hands of suicides, it may have given rise to the former belief, but people lose sight of the fact that water for suicides is going out of fashion. In these days the gas oven or an overdose of drug is much more in vogue.

THE STAR ON THE MOUNT OF VENUS

In the centre or highest point of the Mount of Venus (Fig. 18, l) the star is once more successful and favourable, but this time in relation to the affections and passions. On a man's hand such a sign indicates extraordinary success in all affairs of love - the same on a woman's hand. No jealousies or opposition will rob them of the spoils of conquest.

When lying by the side of the mount, the amours of such a subject will be with people distinguished for their success in the arena of love.

THE STAR ON THE FINGERS

The star on the tips or outer phalanges of the fingers gives great good fortune in anything touched or attempted, and on the first phalange of the thumb success through the subject's strength of will.

The star is one of the most important of the lesser signs to seek for.

In the foregoing remarks it should be borne in mind that the indications denoted by this important lesser sign must naturally be in keeping with the tendencies shown by the general character of the hand. It stands to reason, for instance, that the star could have little power or meaning on a hand containing a weak, undeveloped line of head. In dealing with this, as indeed with every other portion of the study, it must be understood that however clear the directions may be, it is impossible to dispense with the exercise of a certain amount of mentality and discretion on the part of the student.

CHAPTER XIX

THE CROSS

The cross is the opposite to the star, and is seldom found as a favourable sign. It indicates trouble, disappointment, danger, and sometimes a change in the position or life, but one brought about by trouble. There is, however, one position in which it is a good sign to have it, namely, on the Mount of Jupiter (Fig. 18, m). In this position it indicates that at least one great affection will come into the life. This is especially the case when the line of fate rises from the Mount of Luna. A strange feature with this cross on Jupiter is that it denotes roughly about the time in life when the affection will influence the individual. When close to the commencement of the line of life and toward the side of the hand, it will be early; on the summit of the mount, in middle life; and down at the base, late in life.

On the Mount of Saturn (Fig. 18, n), when touching the line of fate, it denotes danger of violent death by accident; but when by itself in the centre of this mount, it increases the evil, fatalistic tendencies of the life.

On the Mount of the Sun it is a terrible sign of disappointment in the pursuit of fame, art, or riches.

The cross on the Mount of Mercury, as a rule, indicates a . dishonest nature, and one inclined to duplicity.

On the Mount of Mars under Mercury it denotes the dangerous opposition of enemies; and on the Mount of Mars under Jupiter force, violence, and even death from quarrels.

A cross on the Mount of the Moon under the line of head denotes a fatal influence of the imagination. The man with such a sign will deceive even himself (Fig. 16).

On the Mount of Venus, when heavily marked, it indicates some great trial or fatal influence of affection; but when very small and lying close to the line of life, it tells of troubles and quarrels with near relatives.

A cross by the side of the line of fate, and between it and the life-line in the Plain of Mars, denotes opposition in one's career by relatives, and means a change in the destiny; but lying on the other side of the hand next to Luna it relates to a disappointment in a journey.

Above and touching the line of head, it fortells some wound or accident to the head.

By the side of the line of sun, disappointment in position.

Running into the line of fate, disappointment in money; and over the line of heart, the death of some loved one.

CHAPTER XX

THE SQUARE

The square (Fig. 15) is one of the most interesting of the lesser signs. It is usually called "the mark of preservation," because it shows that the subject is protected at that particular point from whatever danger menaced.

When the line of fate runs through a well-formed square, it denotes one of the greatest crises in the subject's life in a worldly sense, connected with financial disaster or loss, but if the line goes right on through the square all danger will be averted. Even when the line of fate breaks in the centre, the square is still a sign of protection from very serious loss.

When outside the line, but only touching it, and directly under the Mount of Saturn, it denotes preservation from accident.

When the line of head runs through a well-formed square, it is a sign of strength and preservation to the brain itself, and tells of some terrible strain of work or of anxiety at that particular moment.

When rising above the line of head under Saturn, it foretells a preservation from some danger to the head.

When the line of heart runs through a square, it denotes some heavy trouble brought on by the affections. When under Saturn, some fatality to the object of one's affection (Fig. 21,;").

When the life-line passes through a square, it denotes a protection from death, even if the line be broken at that point (Fig. 21, ft).

A square on the Mount of Venus inside the line of life denotes preservation from trouble brought on by the passions (Fig. 21, Q. When resting in the centre of the Mount of Venus, it tells that the subject will fall into all kinds of danger through passion, but will always manage to escape.

When, however, lying outside the line of life and touching it from the Plain of Mars, a square in such a place means imprisonment or seclusion from the world.

When on the mounts the square denotes a protection from any excess arising through the qualities of the mount:

On Jupiter, from the ambition of the subject.

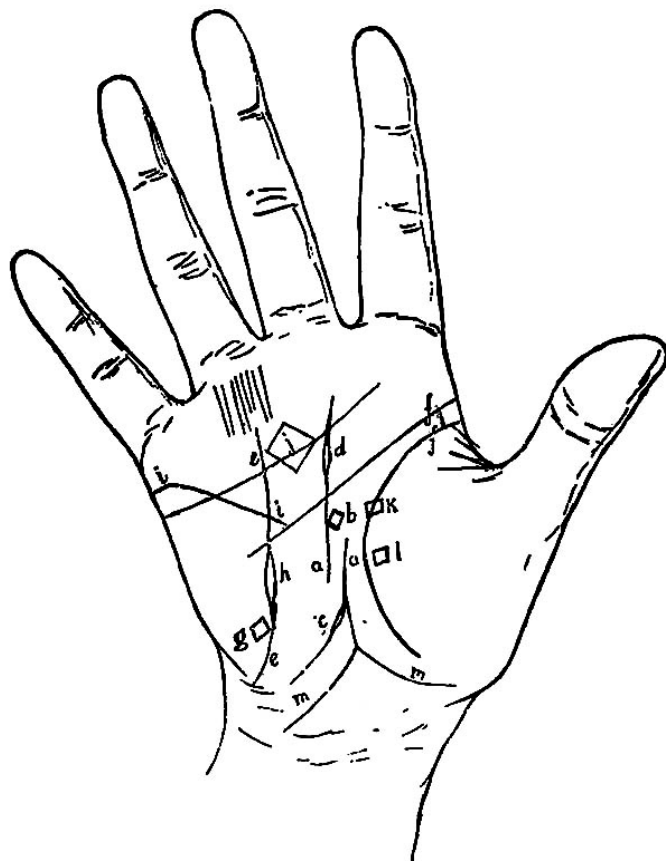
On Saturn, from the fatality that shadows the life.

On the Sun, from the desire for fame.

On Mercury, from the restless, mercurial temperament.

On Mars, from danger through enemies.

On Luna, from an excess of imagination, or from the evil effects of some other line as, for instance, a line of travel.



MODIFICATIONS OF THE PRINCIPAL LINES

Fig. 21

CHAPTER XXI

THE ISLAND, THE CIRCLE, THE SPOT

The island is not a fortunate sign, but it only relates to the line or portion of the hand on which it is found. It is interesting to notice that it frequently relates to hereditary evils; as, for instance, heavily marked on the line of heart it denotes heart-disease inherited.

When as one distinct mark in the centre of the line of head, it denotes an hereditary weakness in relation to mentality,

When on the line of life, it denotes illness and delicacy at that particular point.

When on the line of fate, some heavy loss in worldly matters.

When on the line of sun, it foretells loss of position and name, generally through scandal (Fig. 21, h).

When on the line of health, it foreshadows a serious illness.

Any line running into or forming an island is a bad indication in relation to the part of the hand on which it is found.

An attendant line on the Mount of Venus running into an island foretells disgrace and trouble from passion to the man or woman who influences the life (Fig. 18, p).

A line forming an island and crossing the hand from the Mount of Venus to the line of marriage foretells that an evil influence at that particular point will cross the life and bring disgrace

to the marriage (Fig. 18, r). If the same kind of line run to the line of heart, some bad influence will bring trouble and disgrace to the affections; when it runs to the line of head, some influence will direct the talents and intentions into some disgraceful channel; and when it runs into and bars the line of fate, some evil influence will be a barrier to the success of the subject at the date at which the lines join each other.

An island on any of the mounts injures the qualities of the mount on which it is found.

On the Mount of Jupiter it weakens the pride and ambition.

On Saturn it brings misfortune to the subject.

On the Mount of the Sun it weakens the talent for art.

On Mercury it makes a person too changeable to succeed, particularly in anything in relation to business or science.

On Mars it shows a weak spirit and cowardice.

On Luna, weakness in working out the power of the imagination.

On Venus, a person easily led and influenced by the sport of fancy and passion (Fig. 20, k).

THE CIRCLE

If found on the Mount of the Sun, the circle is a favourable mark. This is the only position in which it is fortunate. On any other mount it tells against the success of the subject.

On the Mount of Luna it denotes danger from drowning.

When touching any important line, it indicates that at that particular point the subject will not be able to clear himself from misfortune - in other words, he will, as it were, go round and round in a circle without being able to break through and get free.

THE SPOT

A Spot is generally the sign of temporary illness.

A bright-red spot on the line of head indicates a shock or jury from some blow or fall. A black or blue spot denotes a nervous illness.

A bright-red spot on the line of health is usually taken to mean fever, and on the line of life some illness of the nature of fever.

CHAPTER XXII

THE GRILLE, THE TRIANGLE, "LA CROIX MYSTIQUE", THE RING OF SOLOMON

The grille (Fig. 15) is very often seen, and generally upon the mounts of the hand. It indicates obstacles against the success of that particular mount, and especially means that those obstacles are brought on by the tendencies of the subject in accordance with that portion of the hand in which it is found.

On the Mount of Jupiter it denotes egotism, pride, and the dominative spirit.

On the Mount of Saturn it foretells misfortune, a melancholy nature, and a morbid tendency.

On the Mount of the Sun it tells of vanity, folly, and a desire for celebrity.

On the Mount of Mercury it denotes an unstable and rather unprincipled person.

On the Mount of Luna it foretells restlessness, discontent, and disquietude.

On the Mount of Venus, caprice in passion.

THE TRIANGLE

The triangle (Fig. 15) is a curious sign, and is often found clear and distinct, and not formed by the chance crossing of lines.

When distinct in shape on the Mount of Jupiter, it promises more than usual success in the management of people, in the handling of men, and even in the organization of everyday affairs.

On the Mount of Saturn it gives a talent and inclination for mystical work, for the delving into the occult, for the study of human magnetism, and so forth.

On the Mount of the Sun it denotes a practical application of art and a calm demeanour toward success and fame. Success will never spoil such people.

On the Mount of Mercury it checks its restless qualities, and promises success in relation to business or money.

On the Mount of Mars, it gives science in warfare, great calmness in any crisis, and presence of mind in danger.

On the Mount of Luna it tells of a scientific method in following out the ideas of the imagination.

On the Mount of Venus, calmness and calculation in love, the power of restraint and control over self.

The tripod or spear-head (Fig. 15) is an excellent sign of success on any mount on which it is found. "la croix mystique"

This strange mark has usually for its domain the centre of the quadrangle (Fig. 19, r), but it may be found at either its upper or lower extremities. It may be formed by the line of fate and a line from the head to the heart, or it may lie as a distinct mark without connection with any other

It denotes mysticism, occultism, and superstition.

These three qualities are widely apart in themselves, although often confounded, and the position this mark takes on the hand is therefore very important.

When high up on the hand toward Jupiter, it will give the belief in mysticism for one's own life, but not the desire to follow it farther than where it relates to self. Such people want their fortunes told, actuated more by curiosity to know how their own ambitions will turn out than by the deeper interest that the study involves for its own sake.

When the "Croix Mystique" is more closely connected with the line of heart than with that of head, it gives a superstitious nature, and this even more so when it is marked over the centre of the head-line, when that line takes a sharp curve downward. It must be remembered that the length of the line of head has much to do with this. The very short line with the cross over it will be a thousand times more superstitious than the long one. The long one will be the greatest for occultism, and particularly so if the "Croix Mystique" is an independent formation on the line of head.

When it touches the fate-line, or is formed by it, the love of the mystic will influence the entire career.

THE RING OF SOLOMON

The Ring of Solomon (Fig. 12) is a sign that also denotes the love of the occult, but in this case it shows more the power of the master, the adept, than the mere love of the mystic denoted by "La Croix Mystique."

CHAPTER XXIII

HANDS COVERED WITH LINES –

THE COLOUR OF THE PALM

When the entire hand is covered with a multitude of fine lines like a net spreading over its surface, it tells that the nature is intensely nervous and sensitive, but one that will be continually disturbed and worried by little thoughts and troubles that would be of no importance whatever to others.

This is particularly so if the palm be soft - such people imagine all sorts of things in the way of ailments and troubles; but if the palm of the hand be hard and firm, it denotes an energetic, excitable nature, but one that is far more successful for other people than for self.

SMOOTH HANDS

Very smooth hands with few lines belong to people calm in temperament and even in disposition. They seldom if ever worry; they rarely lose temper, but when they do they know the reason why. This is again modified by the palm being hard or soft. When firm, it is a greater sign of control and calmness than when soft. In the latter case it is not so much a matter of control as of indifference; the subject will not take sufficient interest to lose temper - that would be too much of an exertion.

THE SKIN

When the palm of the hand is covered naturally with a very fine light skin, the subject will retain the buoyancy and temperament of youth much longer than the person with a coarse skin.

This is, of course, much affected by work, but I am speaking of cases where little labour or manual work is done; yet even where there is manual work this can still be observed by the ridges of the skin. It has been proved that even as regards this point no two hands are ever alike; consequently, while work may thicken the cuticle, its individuality remains the same.

THE COLOUR OF THE PALM

The colour of the palm is far more important than the colour of the outside of the hands. This at first sight appears strange, but a little observation will prove its truth.

The palm of the hand is under the immediate control and action of the nerves and of the nerve-fluid. According to scientists, there are more nerves in the hand than in any other portion of the body, and, again, more in the palm than in any other portion of the hand. As regards the nerve-fluid, Abercrombie, in his work published in London in 1838, states that "the communication of preception from the senses to the mind has been accounted for by the motions of the nervous fluids, a subtle essence resembling electricity or galvanism." It therefore follows that this subtle essence must affect the palm more than any other portion of the body. There is every reason, therefore, why the colour of the palm should be of more importance than that of the back of the hand.

It will be found that almost every palm has a distinct colour and can be classed as follows: When pale or almost white in colour, the subject will take very little interest in anything outside of himself - in other words, he will be selfish, egotistical, and unsympathetic.

When the palm is yellowish in colour, the subject will be morbid, melancholy, and morose.

When a delicate pink, the nature is sanguine, hopeful, and bright; and when very red, robust in health and spirits, passion ate, and quick-tempered.

CHAPTER XXIV

THE GREAST TRIANGLE AND THE QUADRANGLE

What is called the great triangle, or the Triangle of Mars, is formed by the lines of life, head, and the hepatica (Fig. 22).

When, as is very frequently the case, the line of health is altogether absent, its place must be filled by an imaginary line to form the base of the triangle, or (as is often found) the line of sun forms the base (Fig. 22, a-a). This latter is by far the greatest sign of power and success, although the subject will not be so broad-minded and liberal as when the base of the triangle is formed by the line of health.

The shape and positions of the great triangle must be considered by themselves, although it contains the upper, the middle, and the lower angle, which three points will be dealt with later.

When the triangle is well formed by the lines of head, life, and health, it should be broad and enclose the entire Plain of Mars. In such case it denotes breadth of views, liberality and generosity of spirit; such a person will be inclined to sacrifice himself to further the interests of the whole, not the unit.

If, on the contrary, it is formed by three small, wavy, uncertain lines, it denotes timidity of spirit, meanness, and cowardice. Such a man would always go with the majority, even against his principles.

When in the second formation of the triangle it has for its base the line of sun, the subject will then have narrow ideas but great individuality and strong resolution. Such a sign, from the very qualities it exhibits, contains within itself the seeds of worldly success.

THE UPPER ANGLE

The upper angle (Fig. 22, b) is formed by the lines of head and life. This angle should be clear, well pointed, and even.

Such will indicate refinement of thought and mind, and delicacy toward others.

When very obtuse, it denotes a dull matter-of-fact intellect with little delicacy and feeling and a very small appreciation of art or of artistic things or people.

When extremely wide and obtuse, it gives a blunt, hasty temper, a person who will continually offend people. It also denotes impatience and want of application in study.

THE MIDDLE ANGLE

The middle angle is formed by the line of head and that of health (Fig. 22, c). If clear and well defined, it denotes quickness of intellect, vivacity, and good health.

When very acute, it denotes a painfully nervous temperament and bad health.

When very obtuse, dullness of intelligence and a matter-of-fact method of working.

THE LOWER ANGLE

The lower angle (Fig. 22, d) when very acute and made by the hepatica, denotes feebleness, and littleness of spirit; when obtuse, it denotes a strong nature.

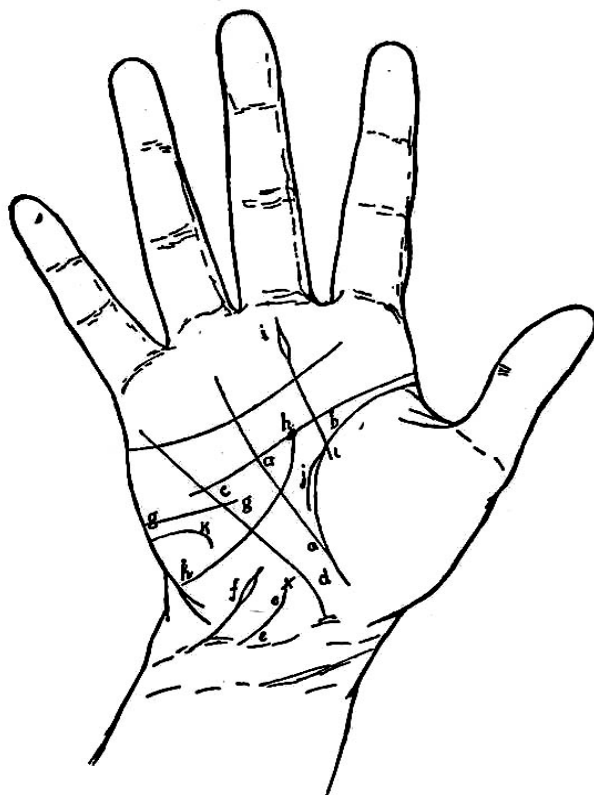
When made by the line of sun and very acute, it gives individuality, but a narrow view of things; when obtuse, it gives a broader and more generous mind.

THE QUADRANGLE

The quadrangle, as its name implies, is that quadrangular space between the lines of head and heart (Fig. 22).

It should be even in shape, wide at both ends, but not narrow at the centre. Its interior should be smooth and not crossed with many lines, whether from the head or from the heart. When marked in this way, it indicates evenness of mind, power of intellect and loyalty in friendship or affection.

This space represents within itself the man's disposition toward his fellows. When excessively narrow, it shows narrow ideas, smallness of thought, and bigotry, but more in regard to religion and morals, whereas the triangle denotes conservatism as regards work and occupation. With religious people this is a remarkable sign, the hand of the bigot always having this space extremely narrow.



MODIFICATIONASTIONS OF THE PRINCIPAL LINES

Fig. 22

On the other hand, the space must not be too wide. When it is, the subject's views of religion and morals will be too broad for his own good.

When this space narrows so much in the centre that it has the appearance of a waist, it denotes prejudice and injustice. Again, the two ends should be fairly equally balanced. When much wider under the Mount of the Sun than Saturn, the person is careless about his name, position, or reputation. The opposite of this is shewn when the space is narrow. It is in such a case a sign of intense anxiety as to the opinion of other people - what the world thinks, and what one must do to keep up one's reputation.

When excessively wide under Saturn or Jupiter and narrower at the other end, it denotes that the subject will change from the generosity of his views and broadness of mind to become narrow and prejudiced.

When the quadrangle is abnormally wide in its entire length, it denotes want of order in the brain, carelessness of thought and ideas, an unconventional nature, and one imprudent in every way.

When the quadrangle is smooth and free from little lines, it denotes a calm temperament.

When very full of little lines and crosses, the nature is restless and irritable.

A star in any portion of the quadrangle is an excellent sign, particularly if it be under some favourable mount.

Under Jupiter it promises pride and power.

Under Saturn, success in worldly matters.

Under the Mount of the Sun, success in fame and position through art; and between the Sun and Mercury, success in science and research.

CHAPTER XXV

TRAVEL, VOYAGES, AND ACCIDENTS

There are two distinct ways of telling travels and voyages. One is from the heavy lines on the face of the Mount of Luna; the other, from the little hair-lines that leave the line of life but travel on with it (Fig. 22, j). This indication is similar to that of the line of life dividing in the hand: if one branch goes around Venus, the other proceeding to the base of the Mount of Luna, it foretells that the subject will make some great change from his native land to another. It therefore follows that the journeys told by the change in the line of life are far more important than the lines on Luna, which relate more to the minor changes or travels of the subject. It is sometimes found that long lines extend from the rascette, or first bracelet (Fig. 22), and rise into the Mount of Luna. These are similar to the travel-lines on Luna, but much more important. When the line of fate shows a considerable and beneficial change at the same point, then these lines are prosperous and fortunate. When, however, the line of fate does not show any advantage gained at the same point, the subject will not improve, to any great extent, in worldly matters by the change.

When such a journey-line ends with a small cross, the journey will end in disappointment (Fig. 22, e-e).

When the travel-line ends in a square, it denotes danger from the journey, but the subject will be protected.

When the line ends with an island, no matter how small, the journey will result in loss (Fig. 22, .).

On the Mount of Luna the ascendant lines from the rascette are the most beneficial.

When the line crosses the hand and enters the Mount of Jupiter, great position and power will be gained by it, and the journey will also be extremely long.

When the travel-line runs to the Mount of Saturn, some fatality will govern the entire journey.

When it runs to the Mount of the Sun, it is most favourable, and promises riches and fame.

When it reaches the Mount of Mercury, sudden and unexpected wealth will arise from it.

When the horizontal lines on Luna cross the face of the mount and reach the line of fate, the journeys will be longer and more important than those indicated by the short, heavy lines also on that mount, though they may not relate to a change of country (Fig. 22, g-g).

When they enter the line of fate and ascend with it, they denote travels that will materially benefit the subject.

When the end of any of these horizontal lines droop or curve downward toward the wrist, the journey will be unfortunate (Fig. 22, k). When they rise upward, no matter how short, it will be successful.

When one of these lines crosses another, such a journey will be repeated, but for some important reason.

Any square on such a line will show danger, but protection from accident or misfortune.

If the travel-line runs into the line of head and causes a spot, island, or break, it foretells some danger to the head, or some malady arising from such a journey (Fig. 22, h-h).

ACCIDENTS

I have alluded to accidents considerably in my treatment of the line of travel and in relation to travel, but disasters are more marked on the line of life and line of head than at any other point.

In the first place, the accident marked to the line of life denotes a more immediate danger of death, as follows:

When, from an island on Saturn, a line falls downward and enters the life-line, serious, if not fatal, danger is indicated (Fig. 22).

When such a line ends by a small cross, either on the line of life or without it, it tells that the subject will have some narrow escape from serious accident.

When the same mark occurs lower down, at the base of the Mount of Saturn, the accident will result more from animals than from other causes.

Any straight line from Saturn to the life-line means danger of some kind, but not so serious as from a line possessing the island either on Saturn or lower down.

To the line of head exactly the same rules apply, with this difference, that the danger will be direct to the head itself, but unless the accident-line cut or break the head-line the danger does not signify death as much as when marked on the line of life: it denotes, as it were, that the person has time to* foresee the dangers that approach, and such a mark indicates a fright and shock to the brain, but no serious results unless the line is injured or broken.

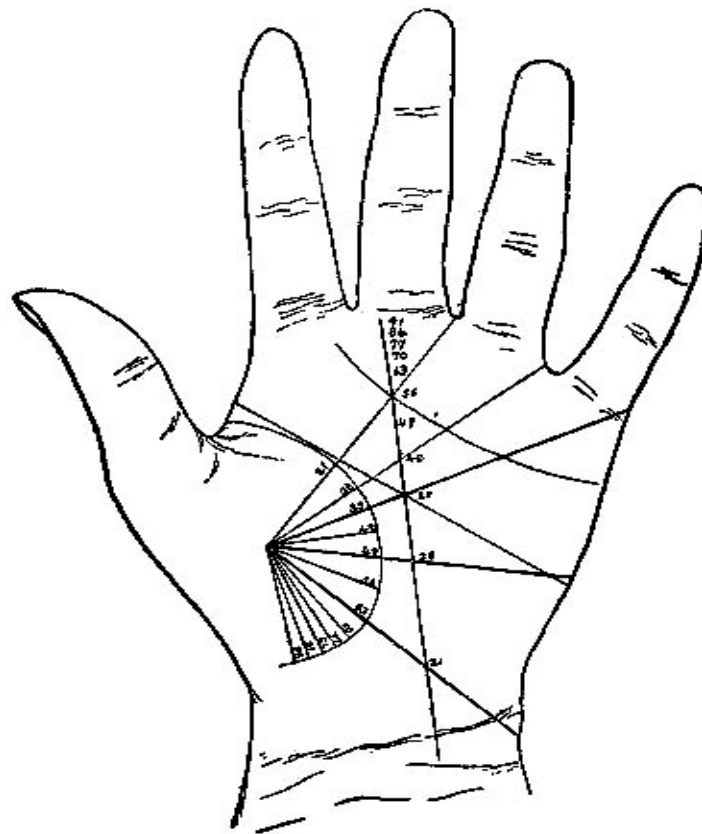
CHAPTER XXVI

TIME-THE SYSTEM OF SEVEN

In my own work I use a system as regards time and dates which I have never found mentioned elsewhere. It is one which I consider exceptionally accurate, and I therefore recommend it to the student for his or her consideration. It is the system -of seven, and I advance it as being taught by nature in all her mysterious dealings with life.

In the first place, we find from a medical and scientific standpoint the seven a most important point of calculation. We find that the entire system undergoes a complete change every seven years; that there are seven stages of the prenatal existence; that the brain takes seven forms before it takes upon itself "the unique character of the human brain"; and so forth. Again, we find that in all ages the number seven has played a most important part in the history of the world; as, for instance, the seven races of humanity, the seven wonders of the world, the seven altars to the seven gods of the seven planets, the seven days of the week, the seven colours, the seven minerals, the supposition of the seven senses, the three parts of the body each containing seven sections, and the seven divisions of the world. Again, in the Bible seven is the most important number; but it is superfluous to give further details. The point that bears most largely on this subject is that of the entire system undergoing a change every seven years. My own observation leads me also to advance (simply for the consideration of the student) the theory that the alternate sevens are somewhat alike in their relation to the functional changes of the body. For example, a child very delicate on passing the age of seven is also likely to be delicate on passing the age of twenty-one, whereas a child healthy and strong at the age of seven will again be healthy and strong at twenty-one, no matter how delicate he or she may be through the intermediate years. This is an interesting point in predictions relating to health, and one which I have found not only interesting but extremely reliable. Every line on the hand can be divided into sections giving dates with more or less accuracy. The most important lines, however, and those usually consulted in reference to dates, are those of life and fate. In Fig. 23 it will be noticed that I have divided the line of fate into three great divisions, namely, twenty-one, thirty-five, and forty-nine, and if the student will keep this in mind he will more easily fill in the subdivisions on the human hand itself.

The point, however, which I cannot impress too strongly, is that the student must notice the class or type of hand before proceeding or attempting to make the smallest calculation. It stands to reason that there must be the greatest difference between the dates given by the palm of the square or spatulate hand and that of the psychic." If the student will bear this in mind, he will reduce or increase his scale in accordance with the length of the palm. Mentally to divide the lines into sections as illustrated will be found the simplest and the most accurate plan that the student can pursue.



TIME – THE SYSTEM OF SEVEN

Fig. 23

When, in the calculation of dates, the line of life and the line of fate are used together, it will be found that they corroborate one another and give accuracy as to the events. It is therefore not difficult, after a little practice, to give a date as to when an illness or an event took place, or when such and such a thing will happen. Practice gives perfection in all things; let not the student

be discouraged, therefore, if at first he finds difficulty in dividing the lines into divisions and subdivisions.

PART III : ILLUSTRATIVE TYPES

CHAPTER 1

A FEW WORDS ON SUICIDE

I will now deal with a few illustrative types to help the student in the congregation of lines, signs, and formations that go to form each individual character. It is seldom, if ever, that one distinct mark or peculiarity has the power to ruin or blight any one nature. An evil or dangerous sign as regards character merely shows the particular tendency in this or that direction. It takes a variety of wheels to make a watch: so does it take a variety of characteristics to make a criminal or a saint. The type bearing the disposition toward suicide is a very striking example of this. But before I go farther I would like to make a few remarks as to the subject of suicide itself. In every town in which I may reside, an establishment which has considerable interest for me is that strange temple of death, the morgue. Why not? If one in any sense studies life, he should study it to the borders of that "undiscovered country, from whose bourn no traveller returns." The semi-barbarous, semi-human idea that by such an act the suicide has made him or herself an outcast, not only to this world, but to the next, cannot be too highly condemned. Even in this so-called enlightened age I have seen clergymen refuse to attend the grave. In some countries I have seen the body of the suicide dug up in the dead of night and buried in the sand of the sea-shore, or, worse still, thrown over the cliffs into the sea. It is not the treatment of the corpse against which I raise my voice - the dead feel nothing, the corpse is clay - it is the brutality of the living that makes me speak.

I must lay considerable stress on this point of suicide, even if I am severely criticized for my remarks - for what would be the good of attempting to analyse life if one did not state his opinions freely and without reserve? I know I shall be criticized for saying that I have not found that it is weak-minded people who generally commit suicide. On the contrary, I have merely found that they belong to a different class of mentality from those who prefer to hang on to the skirts of life

through misery and misfortune. It is preposterous that we should set up any narrow lines of what is right or what is wrong, knowing as we do that we are, and always have been, in complete ignorance of the laws governing life, from the birth of the child to the development of the individual. What seems right to one may be utterly wrong to another, according to the mental vision which decides our conduct. There is a well-known disease which affects the senses in such a way that the scratching of a pencil in the same room sounds to the sufferer like the rumble of a mail-cart, while the striking of a match seems more dazzling than a flash of lightning. In the same way the mind, under pressure of desire, of sorrow, or of anxiety, may become more keenly sensitive to "the slings and arrows of outrageous fortune." Why, then, should we judge and measure and condemn such people, simply because we do not all see with their eyes, hear with their ears, and understand with their understanding ?

I must also take exception to the everyday phrase of the jury - "Committed suicide while the balance of his mind was disturbed," as used in reference to all people, whether evidence is given to prove insanity or not. The idea that because an individual commits suicide he must necessarily be insane, is on the face of it absurd, as it has often been demonstrated that the most marvellous reason and logic have been used to balance every side of the question before the individual has come to the conclusion that in his particular case the search for death was the noblest thing in life. I have known suicides to show the greatest possible courage, the strongest fortitude, and the greatest will in facing that mighty angel of mystery whom, all their life long, they have been taught to avoid and dread. I have known the most noble deeds of silent martyrdom performed by those who afterward would scarce receive Christian burial. I have known not a few cases of persons suffering from an incurable disease ending life a few months sooner - and why? Not because of the agony they suffered, but because they were causing their children to suffer, and burdening them with expenditure which they could not afford; and yet I have been told that such a person could have no part or lot in that kingdom of peace, be it rest or be it life, which lies beyond the silence of the tomb. Is it man, or ghoul, or devil, I ask, who has thus the presumption to dictate to man the wishes or the judgments of that which is Almighty? What man among the mortals of the earth has the right to elect himself the mouthpiece of the Omnipotent and the Unknown? How many poor suicides has this relic of barbarianism condemned to the everlasting torment of the spirit?

How many mothers has this fetishism broken beneath the wheels of its Juggernaut? How many sisters have cried and sobbed beneath the darkness of the night? How many brothers have raised defiant eyes to heaven that such a thing could be?

Alas! thou great Spirit of life, of death, of all that is, of all that will be, we know not thy name, thy being, thy creation, or the ultimate purpose for which thou hast endowed man and shaped man in the carrying out of thy design. As we are nothing, forgive us all things; as we ask for nothing, give us but what we need; and as we be nothing, be thou to us the all-sufficient, the life, the death, the eternal of the soul.

CHAPTER II

THE PECULIARITIES OF HANDS WHICH SHOW A SUICIDAL TENDENCY

The hand is generally long, with a sloping line of head, and a .developed Mount of Luna, particularly toward its base. The line of head is also very much connected with the line of life, and so increases the excessively sensitive nature of the subject. In such a case the individual would not naturally be morbid or even show the inclination for suicide, but the nature is so sensitive and so imaginative that any trouble, grief, or scandal is intensified a thousandfold, and to kill or injure self gives the peculiar satisfaction of self-martyrdom to such a type, as exemplified by Plate XV.

The same indications being found in connection with a well-developed Mount of Saturn, will give the thoroughly sensitive morbid nature; an individual who will determinedly come to the conclusion that life under any circumstances is not worth living - so the slightest provocation by trouble or disappointment causes him quietly and resignedly to fly to that last resource which he has cherished and thought of for so long.

The excessively drooping line of head (Plate XV) on a pointed or conic hand denotes the same result, but only through the sudden impulse that is characteristic of the nature. To such a person a shock or trouble is all-sufficient to impart the impulse to the excitable disposition, and before there is time to think, the deed is done.

The opposite of this excitability is shown in the case of the subject's committing suicide when the line of head is not abnormally sloping. Such a person, however, will have the line closely connected with the line of life, a depressed Mount of Jupiter, and a very fully-developed Saturn. Such a subject will feel the disappointments of life unusually keenly; he will as well have a melancholy and gloomy turn of mind; he will, however, be logical in weighing every side of the

question for life and death, and if he arrives at the conclusion that the game is up and the battle over as far as he is concerned, he will, in a most reasonable and sensible manner, according to his standpoint, proceed to put an end to all misfortunes.

What such a person will suffer before he arrives at this conclusion it is scarcely possible to estimate. We are all so wrapped up in our own interests and affairs that we hardly see or notice the pale, worn face that has suffered so patiently, the hollow eyes of wakeful nights, the wasted cheeks of hunger, which appear for a moment by our side, and are gone for ever.

CHAPTER III

PROPENSITIES FOR MURDER

Murder can be divided into a great many different classes. What the hand principally recognizes is that of the abnormal tendency toward crime, the class of crime itself being traced by the type of hand in respect to the inclinations of the subject. That some people have a natural predilection toward murder cannot, I think, be doubted. There are born criminals as well as born saints. It depends upon the development of the will, in keeping with the surroundings and circumstances, whether the criminal tendencies will be developed or not. The destructive tendency as exhibited by children does not denote their want of sense, but denotes the innate sense of destruction before it has been curbed by the fear of consequences, by the will, or the surroundings that are brought to bear upon the nature. Some people born into the world have this propensity more developed than others; the slightest flaw in their surroundings being responsible for the after-evolution of the criminal. Again, I do not hold that to be criminal in giving way to passion, to temptation, is to be weak-minded. On the contrary, crime can only be considered in relation to the individual. What is temptation to one is not temptation to another. I do not hold that because of such things crime should go unpunished; on the contrary, crime must be dealt with for the protection of the community: but what I do hold is, that crime should be punished in accordance with the individual and not in accordance with the crime.

It therefore follows that in the study of crime one must place one's self as far as possible in the position of the criminal. (It is astonishing how many different expressions one finds in the face of a picture from different points of view.)

As regards the hand, it divides murder into three very distinct classes:

1. The murderer made so by the instinct to kill, as exhibited in the brute creation, through passion, fury, or revenge.

2. The murderer made so by the greed of gain; the nature that will stop at nothing in order to gratify its covetous tendency.

3. The utterly heartless disposition which feeds on the sufferings of others; the nature that will even live on friendly terms with the victim - the one that will, as it were, deal out death in drops of honey; the person who cannot be touched by the longings for life exhibited by the sufferer, and who, though keenly alive to the danger, feels in that danger a sense of delight, and, with utter lack of moral consciousness, takes more pleasure in such work than in the gain it brings.

The first class is very ordinary. The man or woman becomes a murderer by circumstances. Such an individual may be thoroughly good-natured and kind-hearted, but some provocation excites the blind fury of the animal nature, and when the deed is done, such a one is generally crushed and broken by remorse.

In such cases the hand shows no bad sign more than ungovernable temper and brute passion. It is, in fact, the elementary hand, or a near approach to it. The line of head is short, thick, and red, the nails short and red, and the hand heavy and coarse. The most remarkable characteristic, however, will be the thumb. The thumb will be set very low on the hand; it will be short and thick in the second phalange, and the first phalange will be what is called "the clubbed thumb" (Fig. 8), very short, broad, and square: this is found almost without exception in such types. If in such cases the Mount of Venus is also abnormally large, sexual passion will be the destroyer; when not unusually developed, the greatest failing will be that of ungovernable temper.

In the second class none of these points will be abnormal; the most striking peculiarity will be the line of head, which will be heavily marked, but with a decided growth upward (Plate XIV); it will be found in an abnormal position, rising high toward Mercury, or far before it reaches that point it completely leaves its place on the right hand; as the propensities become stronger, it enters the line of heart, takes possession of it, as it were, and thus completely masks all the generous impulses or kind thoughts of the subject. (See previous remarks on the line of head, Part II, Chapter IX, page 131.) The hand is usually hard, the thumb not abnormally thick, but long, very

stiff, and contracted inward. The entire formation gives covetous propensities, and an utter want of conscience in the pursuit of gain.

The third class, to the student of human nature, is the most interesting, though it may be the most terrible.

It is the hand of the subtlest nature in regard to crime. There will be nothing abnormal in connection with the hand itself. It will be only by examination of all the characteristics that the treacherous side of this nature will be discovered. The leading features, however, will be a very thin, hard hand, long, the fingers generally slightly curved inward; the thumb long, and with both phalanges well developed, giving both the ability to plan and the strength of will necessary for execution; it will rarely, if ever, be found bent or inclining outward, although such a formation exists at times on the hands of the first-mentioned class.

The line of head may or may not be out of its proper position. It will, however, be set higher than usual across the hand, but will be very long and very thin, denoting the treacherous instincts. The Mount of Venus may be either depressed on the hand, or very high. When depressed, such a subject will commit crime simply for the sake of crime; when high, the crime will be committed more for the sake of satisfying the animal desires.

Such are the hands of the skilled artists in crime. Murder with such persons is reduced to a fine art, in the execution of which they will study every detail. They will rarely, if ever, kill their victim by violence - such a thing would be vulgar in their eyes - poison is the chief instrument that they employ, but so skilfully that the verdict is usually "Death from natural causes".

PART IV

THE APPARATUS FOR "THOUGHT PHOTOGRAPHY AND REGISTER OF CEREBRAL FORCE"

In the earlier pages of this work it will be noticed that I have alluded more than once to the idea of the brain generating an unknown force, which not only, by its radiations through the body, caused marks and variations on and in the body, but that also through the medium of the ether in the atmosphere every human being was more or less in touch with and influenced by one another (see pages 35, 37, and 40).

When I first made this statement years ago, I did not do so only on an opinion based on the writings of scientists such as Abercrombie, Herder, and others, for I had at that time a tangible proof that such a force did exist through experiments made by my friend, the well-known French savant, Monsieur E. Savary d'Odiardi. I knew some years before I wrote of this force that this gentleman had invented an apparatus which had been exhibited before the Academie des Sciences, Paris, in which a needle of metal could be moved a distance of ten degrees by a person of strong will concentrating his attention on it at a distance of from two to three feet.

This little machine was in its infancy, and although scientists marvelled at it, yet there were few who thought it would ever be so far perfected as to be of use in any practical way; but the brain of the man who could think out and invent such an apparatus could not be satisfied to rest at such small beginnings; for nearly five years he patiently worked and laboured on, until at last, after many setbacks, he triumphed over all obstacles, and constructed an apparatus which completely eclipsed the first machine he had invented, and showed with every person the action of thought in the brain, and which, instead of being able to move only ten degrees, could register 760 in one movement. From that time on he confined his attentions to observations of the registering needle with people of different emotions and idiosyncrasies of temperament.

In his electro-medical hospital for the cure of diseases reputed incurable by ordinary means, he had ample opportunities for watching the effect of various temperaments and diseases on this singular apparatus. The result of his work was to enable him, by "the observation of cases," to make certain rules to act as a guide in watching the indications of this instrument.

Subsequently, I had the honour of assisting Professor d'Odiardi with various experiments in connection with this apparatus; and finally, for the sake of obtaining charts of all sorts and conditions of people, he requested me to collaborate with him in the use of this machine, in order that he might enlarge his scope and field of observation.

After placing notes made from hundreds of experiments in my hands, I took the instrument to my rooms in Bond Street, and tested it upward of thirty to forty times a day in connection with the various people who visited me.

The proof that the needle in this machine was influenced by a force radiating from the brain was shewn by the Professor in his experiments with people who approached it under the influence of certain drugs that injure or stupefy the brain. This was also proved by the fact that though the entire body may be paralysed, yet as long as the brain was uninjured the needle in the instrument would act as before. He also demonstrated that "subjects addicted to the habit of having recourse to drugs known as neuro-muscular agents," depressers of the reflex action of the spinal cord, such as chloral, chloroform, bromide of potassium, etc., were the less apt to produce (by looking at the instrument) a deflection or a succession of them in the registering needle; thus demonstrating that the transmission of cerebral force by external radiation was interfered with by the use of such drugs; the absence of the radiation produced by thought-force seeming to point out that the production of thought and the intensity of it was impaired by the ingestion and assimilation of those agents. Not only was such an effect produced by toxic drugs, but also by any kind of intoxication; i.e., by an excess of stimulants, whether in the form of drink or of food. Thus was the stupefying effect of drunkenness and voracity scientifically proved by this registering apparatus.

The same diminution of deflective power in a subject over the needle was caused by anger, violence (after the fit), and by envy, jealousy, hatred (during the fit). A subject being tested in the

vicinity of a person he disliked or hated was shown by the instrument to lose standard; if in the vicinity of a person he liked or loved the standard denoted by the needle was raised.

He also demonstrated that an idiot had no power to deflect the needle in the apparatus, whereas a single look from a person endowed with brain-power might cause movements and deflections at distances varying from two to twenty feet.

Among the many interesting experiments made from time to time by the inventor and myself, was one described in a magazine article entitled " The Most Wonderful Machine in the World." It was to the effect that upon one occasion a gentleman stood in front of the instrument criticizing its action and endeavouring to find some explanation of its power. About the same time several other persons entered the room, and in casual conversation one of them mentioned the fact of a sudden fall in the value of a South African company's shares. No one knew that the gentleman looking at the machine was the holder of many thousands of pounds' worth of these shares; but at the moment the drop in the value was mentioned the man's mental emotion caused the indicator in the machine to move rapidly and register one of the highest numbers that has been recorded by it.

Another curious experiment was that in which one could determine which of two people loved more than the other. In this case the two persons were tested separately, and charts made of their movements shown by the machine. They were then left together for half an hour before being tested again. The one whose love was strongest was found to have a greater influence on the instrument, while the other was found to have lost power over the registering needle, in a greater or lesser degree, according to the effect produced by the other person's presence.

One of the most extraordinary conditions of the machine was that there was no physical contact whatever required. In the regular course of experiments the person to be tested stood within a foot to two feet of the instrument; but if the atmosphere was clear and dry, a person of a strong will might influence the needle at a distance of from ten to twenty feet.

No magnets were employed by the operator, nor was there any electric contact with the needle, except the unknown agent - be it odic force, magnetism, or something still more subtle that radiated from the brain through the body, and through the atmosphere to the machine. People tested this for themselves in every conceivable manner. The great unbelievers tried in every way to prove that the needle was moved by some other agency, but one and all in the end admitted that the action of the needle was due to a force given off by the person tested.

One of the leading divines in the Church of England, after seeing the machine being tested in a variety of ways, said: " Such a machine not only would convince one of the influence of mind over matter, but more importantly the influence of mind over mind; for if the radiation of our thoughts affect this needle of metal, how much more so must we not affect the thoughts, ideas, and lives of those around us.

In conclusion, may not then the very force that moved this needle be the very power that in its continual action marks the hand through the peripheral nerves. We know not, and may never know, why this unseen force should write the deeds of the past or the dreams of the future. And yet the prisoner in his dungeon will often write on the stones around him his name and legend, to be read or not, as the case may be. May not, then, the soul, as a captive in the body, write on the fleshly walls of its prison-house its past trials, its future hopes, the deeds that it will some day realize? For if there be a soul, then is it, being a spirit, conscious of all things, its past joys, its present sorrows, and the future - be it what it may.

PART V

CHAPTER 1

SOME INTERESTING HANDS

THE HAND OF H.H. THE INFANTA EULALIA

The hand of H.H. the Infanta Eulalia of Spain shown on Plate II, is remarkable, if only for the quantity of lines that appear, most of them contradictory in their meanings, as was the character of the lady, the subject of this sketch.

The Infanta Eulalia was a clever, brilliant woman who could do almost anything and yet did nothing exceptionally well.

As Aunt to Alfonso XIII, ex-King of Spain, she had an exalted position in one of the most distinguished Courts of Europe. She, however, threw overboard her great opportunities, brought discredit on her position by her numerous adventures, made a failure of her marriage and lost the greater part of her fortune.

She could paint extremely well, had considerable talent as a writer and musician, could use a rifle and ride to hounds as few women can and yet for all practical purposes accomplished nothing very remarkable.

I reproduce this hand as an example of the line of Sun, that although appearing well in its early part, at about the middle of the palm crosses over and finishes on the Mount of Saturn, an extremely unfavourable indication on any hand, especially so if the line of fate appears to split up or lose its strength before it reaches its termination.

Other points for the student to notice are the downward curve of one end of the line of heart at its commencement under the Mount of Jupiter, the general appearance of the heart-line itself, the broken-up irregular Girdle of Venus, the drooping lines of marriage on the base of the fourth ringer. The peculiarly marked line of head with an "island" in the centre, with one end terminating in a "star" on the second Mount of Mars, the indication of mental brilliancy, but of an erratic kind.

The Infanta Eulalia had an extraordinary magnetic personality, she was a delightful hostess, could speak fluently every European language, she attracted people to her and yet made innumerable enemies. (See lines crossing from Mount of Mars under Jupiter.)

In studying this hand, it is well to bear in mind that a vast number of lines have a tendency to contradict or neutralize their meaning. As a rule, it will be found that persons are more successful when the principal lines are clear and distinct and as it were, not confused by a multitude of minor marks running through them.

THE HAND OF GENERAL SIR REDVERS BULLER, V.C.

The right hand of General Sir Redvers Buller, Plate III, is a remarkable example of two lines of head on the same hand.

One is contained in the level line of head and heart crossing the palm from side to side. The other, the line from high up on Jupiter.

The lines from the line of life on the base of the first finger are also worthy of interest.

The hand itself is long, of the intellectual type, while the thumb stands out clear and distinct, the embodiment of willpower and determination.

The fourth or "little finger" is the one badly developed part of this hand, but Sir Redvers Buller was a man with no great command of language or gift of eloquence, and was unable to defend himself when the moment came when speech would have been a valuable asset. I have written about the indications given by the fourth finger in Chapter XI, Part I.

The lines of fate and Sun are also good up to the point where a line may be noticed crossing the line of Sun toward Saturn. This is not a good sign on any hand, as it indicates some reverse of fate, at about the time when this mark crosses the line of Sun.

General Sir Redvers Buller had extraordinary power and command over his men when he employed the gift of organization and authority conferred on him by the line of head coming from Jupiter.

There is, however, something contradictory and even unlucky about persons who have the lines of head and heart running together across the palm. Such people have a kind of "single track" brain that will not listen to others or take any advice unless it comes from themselves. They may meet with considerable success due to their excessive power of concentration on some one object, until any mark on their line of Sun bends or inclines toward the Mount of Saturn. If such is the case their plans as suddenly turn out wrong and they usually meet with disaster.

Sir Redvers Buller was sceptical when I told him that there lay before him another campaign which would bring censure and criticism on him.

This actually occurred when, as Commander-in-Chief in the Boer War, the disaster of "Spion Kop" and the Modder River brought about his recall and censure by the War Office.

THE HAND OF SIR ARTHUR SULLIVAN, BART,

Sir Arthur Sullivan will be remembered for the original and beautiful music he composed for the "Gilbert and Sullivan Operas." The reproduction of his right hand on Plate IV, shows the line of head separated from that of the life, long and gently curved into the middle of the Mount of Luna. The space between the head- and life-lines denotes the dramatic quality of his work, while the curved line of head into the Mount of Luna indicates his great powers of imagination and originality.

The line of fate so closely tied to the Mount of Venus accurately portrays the difficulties of his early life when he sacrificed himself to help his family and relations. The second or inner fate-line starting out towards the middle of the line of life and rising upward into the Mount of Jupiter, in itself, promised successful ambition to be followed as it was later by the main line of fate also curving towards the same mount.

In spite of the recognition of his work by the public, hardly any lines of Sun can be seen on this hand, but it has to be remembered that this great composer had not by nature a sunny, happy disposition. He cared little or nothing for personal fame or glory, nor did his work bring him any great amount of worldly possession or wealth.

The hand of William Whiteley, Plate V, one of England's great business men, called "the Universal Provider" because his store was said to be able to supply anything from a "needle to a battleship," is a good example of "the business hand."

It is the square type with fairly long fingers and a very "level-headed" looking head-line, closely joined to the line of life. There was nothing rash or impulsive in William Whiteley's "make-up"; he was noted for his caution, but at the same time he was always ready for any emergency.

The fate-and Sun-lines on this hand are well marked. There is one peculiar line rising from the centre of the line of fate toward the base of the Mount of Jupiter, but which appears to be cut

through by a line from Mars to the Sun. This occurs at the age he had reached when he was shot and killed in Jus office by his supposed illegitimate son.

When I took the impression of his hand I warned him of danger of a violent death.

Very calmly he asked: "How far off is that danger?" I replied: "About thirteen years from now." Then thirteen years later he was shot to death at the height of his enormously successful business career.

THE HAND OF THE RIGHT HON. JOSEPH CHAMBERLAIN, M.P., AND

HIS SON, WHO LATER BECAME SIR AUSTEN CHAMBERLAIN

These two right hands, Plates VI and VII, are good examples of heredity as shown by hands. It will be noticed that the shape is similar in both father and son, while the lines are very much alike.

I took these impressions in Mr. Chamberlain's private room in the House of Commons. Mr. Chamberlain was keenly interested in my predictions that his son Austen was destined to follow the same political career that he had done.

It is common knowledge that as the years went past, Austen Chamberlain filled one by one the exalted positions his father had occupied in Government life. He entered Parliament at the same age, and successively filled the positions of Postmaster General, Chancellor of the Exchequer, Leader of the House of Commons and finally received knighthood for his services as President of the Locarno Peace Conference after the war.

Further, he suffered the same class of illness which his distinguished father passed through

retire from public life (see health-line attacking the line of life) which caused paralysis to his father in his sixty-third and sixty-fifth year.

CHEIRO'S OWN HAND

In Plate VIII, I reproduce an impression of my own hand as an example of what is called "the double line of head."

I have stated in previous pages of this book (Chapter VII), that "a double line of head" is very rarely found. The character shown by each of these lines of head is in apparent contradiction to the other. For example, the lower line closely joined to the line of life denotes a mentality extremely sensitive, artistic and imaginative.

The upper line gives the reverse characteristics: namely, rising on the Mount of Jupiter and running nearly straight across the palm, it denotes self-confidence, ambition, power to dominate others and a level-headed, practical way of looking at life. One can hardly imagine such mentally opposite characteristics in the same person, but the impression given of my own hand is a good illustration of these statements.

On my left hand there is no sign whatever of any upper head-line - there is only the lower line to be seen; and it is a curious fact that the appearance of the upper head-line on my right hand only commenced to be noticeable when I was about thirty years of age. The world as a lecturer and public speaker. This forced me to make a supreme effort to overcome my extreme sensitiveness as shown by the lower head-line, with the result that the upper line began to develop and in a few years became the dominant one on my right hand.

I have also stated that in cases where "the double line of head" is found, persons who possess these lines are inclined to live what are called "double lives" of one form or another.

In my own particular case this has been remarkably true, for more than thirty years one section of the public only knew me under my nom de guerre as "Cheiro," while another section only knew me under my own name.

I can further state here, that-due to the influence of the more sensitive side of my nature, for many years I gave vent to my feelings by writing poetry, both sentimental and religious, while at the same time, the other side was engaged in appearing as a lecturer on the public platform, as War Correspondent, and later, as editor of newspapers in London and Paris.

These "double lines" of head may be very clearly seen in the impression of my right hand reproduced in this volumen.

A BABY'S HAND TWENTY-FOUR HOURS OLD

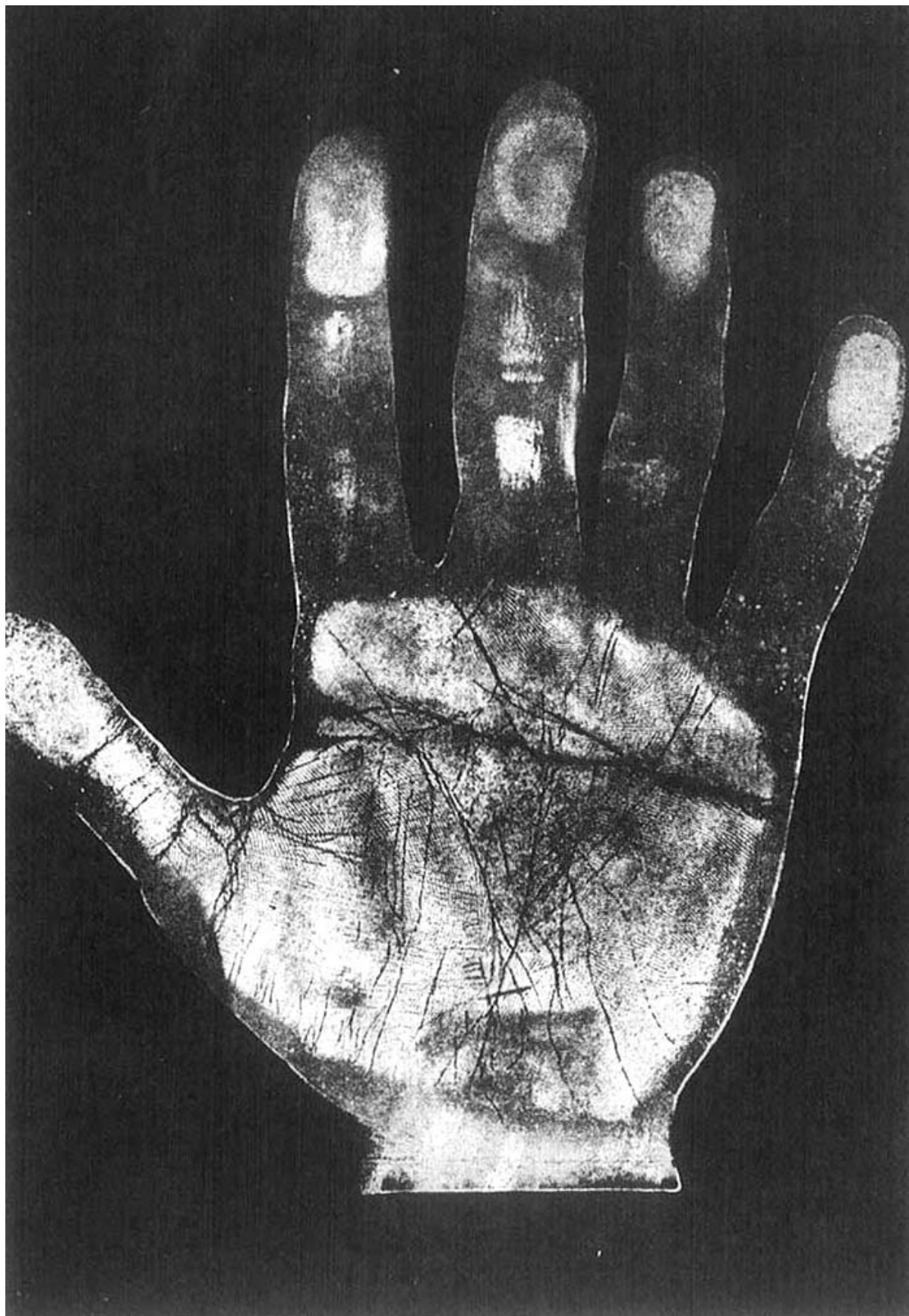
The impression of this baby's right hand I took twenty-four hours after its birth. Impressions of very young children's hands are very hard to take, as the flesh is so soft and pliable and the little ones will not keep still.

In this case, Plate IX, I succeeded very well and the lines may be quite clearly seen. I made this impression many years ago and the "baby" has now grown to be a man. He has done very well in a business career (probably due to the upper line of head lying so straight across the hand).

THE HAND OF MADAME SARAH BERNHARDT

The most remarkable point about this imprint (Plate X) is, the lines of fate and Sun rising so early in life from almost the wrist (and running parallel to one another to the advanced years of the life. The "great Sarah" commenced her dramatic career at the age of sixteen. In spite of her remarkable talents she had many difficulties to contend with, up to the period when on her hand the two lines of fate may be seen coming together about her twenty-sixth year. From this date on

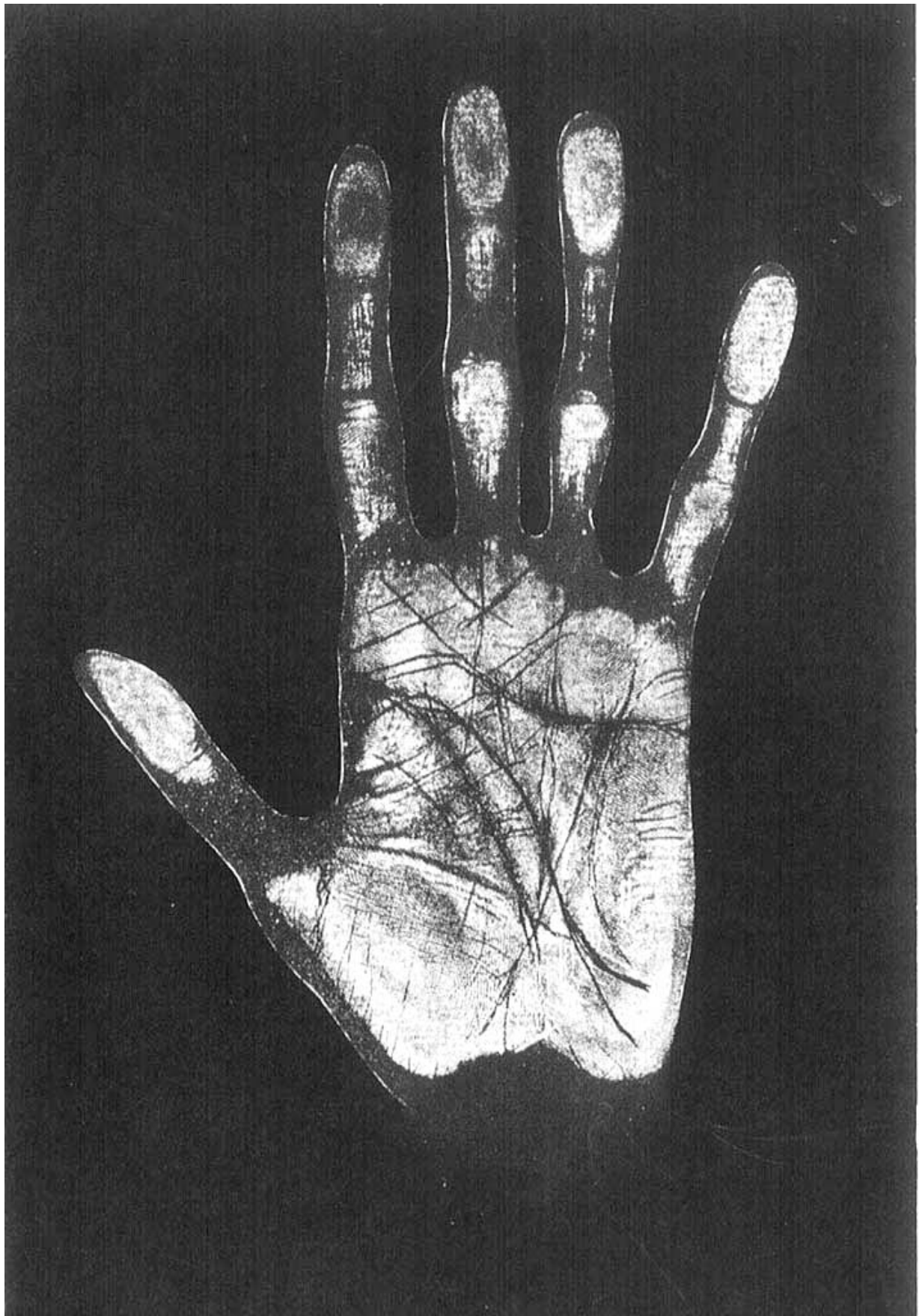
The line of head is clear as if drawn by a rule, while the open space between it and the line of life denotes her impulsiveness and dramatic ability which I called attention to in Chapter VII of Part II.



THE HAND OF DR. MEYER, CONVICTED OF MURDER

Plate XIV

For details see page 212



THE HAND OF A SUICIDE

Plate XV

For details see page 214

It will be noticed the remarkable number of small lines that appear to be shot out of the line of life in an upward direction. These indicate what may be termed "spurts of energy" at these moments.

These are not good signs, if a heavily-marked line of health is seen attacking the life-line from the Mount of Mercury. In Madame Bernhardt's case there is hardly any health-line, it appears to stop, or fade out, after her early years. As is well known, the great actress had a wonderfully strong constitution once she passed her middle years, which continued to the last period of her life.

Madame Bernhardt was born in Paris, October 22, 1845. She died in Paris, March 26, 1923, in her seventy-eighth year.

THE RIGHT HAND OF DAME MELBA, G.B.E., THE FAMOUS AUSTRALIAN PRIMA DONNA

It will be noticed that the line of head (Plate XI) is separated by a space between it and the line of life, very much alike to that on Sarah Bernhardt's hand, it also rises on the base of the Mount of Jupiter giving the qualities of great ambition.

In Chapter V of Part II in dealing with the line of life I wrote: "When there is a medium space between the line of life and that of head, the subject is more free to carry out his or her plans and ideas; it also denotes energy and a very go-ahead spirit." In speaking of the line of head in Chapter VII, I said: "When a space is found between the line of head and that of life, it is beneficial when not too wide; when medium it denotes splendid energy and self-confidence and is a useful sign for barristers, actors, preachers, etc."

Dame Melba had all those qualities that suited her for a life before the public. Both the fate- and Sim-lines on her hand are also sharply marked, especially the line of Sun culminating, as it does, in the form of a triangle at the base of the mount of that name.

In estimating the ultimate success of a person's life, it is always wise to notice if these lines of fate and Sun appear equal to one another.

The "double life-line" that may be noticed about the middle of the hand gave Dame Melba enormous vitality and by running outward into a line of travel towards Luna, promised the almost continual run of long voyages from one side of the world to the other which was so much a part of this remarkable woman's career.

Dame Melba consulted me in New York when she wrote in my Visitor's Book:

"'Cheiro' you are wonderful - what more can I say?

"NELLIE MELBA".

THE HAND OF LORD LEIGHTON, P.R.A.

Sir Frederick Leighton, who later became Lord Leighton, had just been elected President of the Royal Academy when he gave me the impression of his hand which appears on Plate XII. His left and right were exactly alike; for some reason of his own he preferred that in my book I should reproduce the left.

For a man's hand, it is almost a perfect example of the "Conic or Artistic" type, which I have described in Chapter VI, Part I, but in Lord Leighton's case, his hands were strong and elastic, which gave him the strength of will to hold in check his natural love of luxury and comfort. His artistic disposition, characteristic of this type, was, however, much in evidence in his beautiful studio and in his home, where he lived more like a Persian prince in a palace than an Englishman.

The line of Sun from the wrist to the third finger is very remarkable. It promised him the fame and glory which came easily to him from the very commencement of his brilliant career.

Lord Leighton studied hands from the standpoint of his art and in all his pictures emphasized their shape and expression.

THE HAND OF "MARK TWAIN"

The right hand of "Mark Twain," Plate XIII, does not come out as clear as one would like. It was made by means of smoked paper, a process I employed in the earlier days of my career. I later substituted a process I will describe later on in these pages.

The most remarkable thing to notice in the impression of the right hand of this celebrated American humorist is that the line of head lies almost level across the palm. This characteristic is found on the hands of persons who develop the faculty of "seeing both sides" of anything that interests them.

"Mark Twain" had this particular gift in a very marked way and which comes out strongly in all his writings. He was not a "visionary" by any manner of means. If anything he was an avowed sceptic and had to have facts to support his views or ideas.

When he came to see me I did not know who he was. While I was taking impressions of his hands, he said: "The past may leave its mark, I admit, and character may be told down to its finest shades of expression; all that I might believe - but how the future may be even foreshadowed is what I cannot understand."

In answer to his argument I took up the question of heredity. I showed him an impression of a mother's left and right hands with the imprints of five of her children's until we came to one

" In this case," I said, "which you can follow up and prove for yourself, every section of this girl's life repeated, even to dates, the events of the mother's life, although twenty years separated them in time.

"Now," I concluded, "if one had known the events of the mother's life and seen that the same markings appeared in the hands of the child - then, even say at six years of age, one could have predicted the events which would take place in the fate of the daughter."

This interested my visitor so deeply that he took notes of the various hands and was particularly struck by the fact that even the circles in the skin of the tops of the thumbs of the mother and this child agreed very closely.

As he was going he told me who he was and added: "The one humorous point in the situation is, that I came here expecting to lose my money by my foolishness, but I have gained a plot for a story which I certainly think should be a 'best seller'"

A short time later he published Pudd'n Head Wilson, dealing with thumb-marks, which had an enormous success.

Before he left he wrote in my Visitor's Book the following

"'Cheiro' has exposed my character to me with humiliating accuracy. I ought not to confess this accuracy, still I am moved to do it.

"MARK TWAIN."

THE HAND OF A CONVICTED MURDERER

I obtained the impression of Dr. Meyer's hand under the following conditions. On the occasion of my first visit to New York, some reporters representing the New York World called and said they wanted to test my powers by having me read imprints of hands without my knowing the names or positions of any of the people. Without demurring, I accepted the test and we at once got to work.

I had described the character and careers of perhaps a dozen of these test cases, when the impressions of a strange-looking pair of hands were put before me. I was struck by the fact that the lines on the left were in every way normal while those on the right were as abnormal as possible. I particularly noticed that on the left hand the line of head lay clear and straight across the centre, whereas on the right it appeared to have twisted out of its place, closing in against the heart-line under the base of the third finger.

I summed up the impressions before me by stating: "Judging from these hands, the owner of them undoubtedly commenced his career in a normal way. He is likely to have been a religious man in his early years." I thought that it was probable he might have commenced life as a Sunday-school teacher and later become interested in science or medicine.

I went on to describe how the man's entire nature slowly and steadily had changed under the continual urge to acquire wealth at any cost, until he was finally prepared even to commit murder for money.

My remarks noted down by the reporters were as follows: " Whether this man has committed one crime or twenty is not the question, as he enters his forty-fourth year he will be found out, arrested, tried and sentenced to death. It will then be proved, that for years he has used his mentality and whatever profession he has followed to obtain money by crime and has stopped at nothing to achieve his ends. This man in his forty-fourth year will pass through some sensational trial, he will be condemned to die, yet his hands show that he will escape this fate and live on for years - but in prison."

When the interview with me appeared the following Sunday in the New York World, the paper disclosed that the hands I had read were those of a Dr. Meyer from Chicago. He had that very week been arrested on suspicion of having poisoned wealthy patients whom he had insured for considerable amounts of money.

The trial, as might be expected, was a sensational one, but in spite of the efforts of the best lawyers, he was sentenced to die by the electric chair. The conviction was appealed against. Three trials in all took place, but at the third he was again condemned to death without hope of a reprieve.

A week before his execution, he requested that I should go and see him. I was taken to his cell in Sing Sing prison. As long as I live, I shall never forget the interview.

"Cheiro," gasped the now completely broken man, "at that interview you gave the reporters, what you said about my early life was true. But you also said that although I should be sentenced to the electric chair, I should live on for years - but in prison." I have lost my third and last appeal - in a few days I am to be executed. For God's sake, tell me if you stand by your words - that I shall escape 'the chair'

Even if I had not seen his line of life going on clear and distinct well past his forty-fourth year, I believe I would have tried to give him hope. To me it was torture to see that poor wretch before me, to feel his cold clammy hands touching mine, and see his hollow eyes hungry for a word of comfort. Although I could hardly believe what I saw, I pointed out that his line of life showed no sign of any break, and so I left him, giving the hope that some miracle could still happen that would save him from the dreaded "chair." Day after day went past, with no news to relieve the tension, Mentally I suffered almost as much as the poor man in the condemned cell. The evening papers, full of details of the preparations for the execution fixed for the next morning were eagerly bought up. I bought one and read every line.

Midnight came. Suddenly boys rushed through the streets screaming "Special Edition." I read across the front page, "MEYER ESCAPES THE CHAIR, SUPREME COURT FINDS FLAW IN INDICTMENT." The miracle had happened. The sentence was altered to imprisonment for life. Meyer lived for fifteen years. When the end did come, he died peacefully in the prison hospital.

If students study this hand, they will see how closely its indications follow the descriptions I have given of the line of head showing the tendencies for premeditated murder in early pages of this book. Students must not confuse this rising line of head against the heart-line with the one straight line of head and heart combined, which will be seen in further impressions given later.

THE HAND OF A SUICIDE

Plate XV shows the hand of a woman who was possessed with suicidal mania. In this case the line of head may be seen sloping sharply downward toward the wrist under the Mount of Luna. This young woman, although she had a good home, developed acute suicidal mania at the age of eighteen. She tried to kill herself on four different occasions until she finally succeeded in her purpose as she entered her twenty-eighth year. Note that her hand belongs to the long narrow psychic type with "philosophic" joints to the fingers, corresponding to my description of the Psychic Hand in Chapter VII, Part I.

It is interesting to bear in mind that this young girl had the Circle of Saturn at the base of the second finger with a line from it cutting the line of life at about her age of twenty-eight and on the line of Sun the commencement of an "island" at about the same date.

The line of head when sloping under the base of the Mount of Luna is a much more positive indication of acute suicidal mania than when the line of head curves downward into the face of the Mount of Luna. In the latter case the subject has a naturally despondent nature which only requires some added blow of fate or disappointment, which the highly imaginative disposition exaggerates (sloping head-line on Luna), to bring about the fatal act.

CHAPTER II

HOW TO MAKE CLEAR IMPRESSIONS OF HANDS

Printers' ink, especially the kind employed by the police for fingerprints in all cities, is the best means I have found for making good impressions of hands.

Readers can purchase this ink at any establishment where they sell printers' materials.

At the same place, get a small gelatine roller, which is generally fitted in a metal frame with a wooden handle.

Next, get a few quires of white coated paper about the size of an ordinary sheet of typewriting paper. I specify coated or glazed paper, as it takes the best imprints. When you have obtained these requisites, go to any hardware store and get a rubber mat about a quarter to a half inch thick, what is called a "kneeling mat" will do very well. These are necessary to make a springy cushion, so that the fine lines come out clearly.

Place a sheet of the coated white paper on the upper surface of the rubber mat. Smooth out a small portion of the printers' ink by running the gelatine roller over it on a piece of glass.

When all is ready, run the gelatine roller over the subject's left and right hands, press them firmly down on the sheet of paper, turn the hand over on the back and with the flat part of the thumb press the paper lightly into the hollow of the palm and wrist, peel off the sheet of paper, starting from the fingers, and you will find you have obtained a clear impression of all the lines of the hand.

You may at first find some difficulty with persons who have a dry, acid skin, which may make the imprints in many cases look "spotted." This can be got over by first washing the hands you are going to treat with warm water, drying them thoroughly and sprinkling with a light dusting of some powder like talc. If you have not got talc, a little flour or chalk will do as well.

There are many ways of removing the printers' ink from the hands. The simplest and best is to get a small tin of the powder sold at all motor supply stores for cleaning oil and grease off hands, rub this on the hands in hot water and the ink will come off easily.

Alternatively, a few drops of petrol will do equally well, although it may not be quite so quick in its action.

Once the impressions are made on coated paper by printers' ink, they dry rapidly and will, for all practical purposes, last for ever.

I advise that the imprints should be signed and dated, so that they may always be identified. I further suggest that the date and place of the subject's birth should be jotted down on the back of each impression, also that a drawing of one of the fingers should be included, showing the nail and noting down whether the "moons" are large or small.

An A.B.C. classeur of the kind used in offices for filing, will also be found useful in order to find rapidly any imprints which may have been stored away. Another but more elaborate method of making very clear impressions is to soak a sheet of white paper in oil (in this case the paper need not be the coated or the glazed kind) press the hand with the printers' ink on it and finish as previously explained.

This method is useful in cases where the skin of the hand is very dry or difficult to take on account of marked acidity.