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THE MADRAS GEOGRAPHICAL ASSOCIATION

RULES.

1. The name of the Association shall be 'The Madras Geographical Association.'

Objects.

2. The objects of the Association shall be :—
- (A) To promote geographical knowledge ;
 - (B) To secure for geography its proper place in the High School, the University and its constituent and affiliated colleges ;
 - (C) To help to improve the methods of teaching geography ;
 - (D) To work for a school of geography being started ;
 - (E) To promote studies about South India from various standpoints.
3. These objects shall be secured by :—
- (A) Holding meetings and conferences, and publishing periodicals and occasional bulletins ;
 - (B) Organizing geographical exhibitions and excursions ;
 - (C) Helping in the preparation of geography books in the languages current in the Presidency ;
 - (D) Forming a central library of geographical literature, and collecting maps, charts, plans, models, slides and instruments ;
 - (E) Providing for circulation to members, of books, periodicals, and other collections ;
 - (F) And by such other ways as are deemed necessary to effectuate the objects of the Association.

Membership.

4. The membership of the Association shall be open to all those who are interested in the promotion of geographical knowledge or in the teaching of geography.

5. There shall be two classes of members, honorary and ordinary.

6. Honorary members are those who shall be so elected by the council by the majority thereof present at its meeting. They shall be exempt from liability to pay subscription, and shall have all the privileges of ordinary members, except voting.

Continued on Page 3 of the Wrapper.

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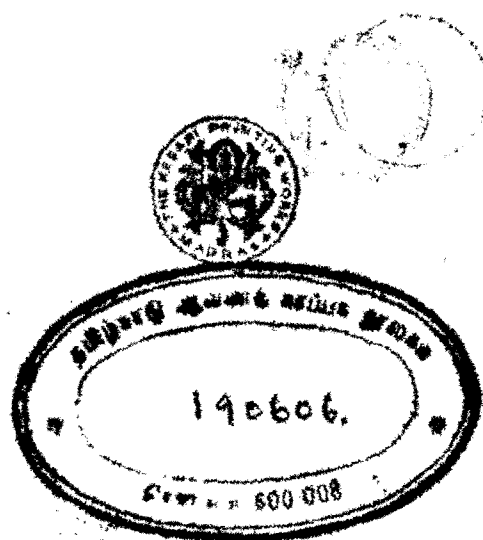
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The Planting Industries of Southern India.

Along the Western side of the peninsula which forms South India runs a high range of hills rising to 7,000 feet or more. This range acts as a huge wall or barrier against which the moisture laden south-west monsoon winds impinge and deposit rain in large quantities. In July and August, the rainfall may reach 100 inches a month while at most times of the year there are frequent showers. On these hills, at elevations of anything from 3,000 to 6,000 feet, tea is cultivated. In the North, tea is grown at sea level, but in this part of the world, it is necessary to get up high in order to ensure well distributed rainfall so necessary if this plant is to be kept constantly 'flushing' that is, putting out young shoots and leaves which are required for making tea.

On the Eastern slopes of the hills where the rainfall is not so high, coffee is cultivated from 2,000 to 5,000 feet. While on the Western side at the foot of the hills where conditions are hot and moist and tropical, Rubber is grown.

The history of Tea in South India begins in 1832 when Dr. Christie applied for a grant of land in the Nilgiris. He died in November of that year and his tea plants were distributed in the hills. In 1834, as a result of the activities of William Bentinck, plants obtained from China were distributed to many parts of South India for trial. Those sent to the Nilgiris were planted in the Kaity valley. It was not till 15 years later, however, that any serious attempts were made to grow Tea on the Nilgiris on a commercial scale. In 1839, tea was reported to be growing in the Wynaad, while by 1859, it had been established in Travancore. At first, everybody was obsessed with the idea that only the China variety of tea could be grown despite the fact that in 1823 Bruce had found tea growing wild on the Assam hills. This is the variety of tea which is now grown so largely in the East and which has ousted China tea from the home market.

Very little real progress was made in South India with the crop till 30 years ago. At that time, there probably did not exist more than 10,000 acres of tea if as much. Now, there are 96,000 acres,

supplying some 10 per cent. of the total crop exported from India. This rapid development is due to British pluck and money and enterprise.

The difficulties which have had to be overcome are enormous. In the first place, the tops of these hills are covered with huge jungle and for the pioneers there were no roads. All labour has had to be imported. The pioneers literally hacked out their estates from the jungle, made their roads, and got up their heavy machinery. The jungle having been felled is burned, an economic waste no doubt, but owing to lack of easy transport, it is inevitable. The tea is grown from seed and young plants are raised in nurseries and planted out in the field when about a year old. Tea in its natural state is a small tree and to make it spread out and assume the form of a spreading bush with as large a leaf surface as possible, it is cut down about three inches from the ground at the end of its second year. It then shoots out and forms a flat topped bush.

The tea of commerce is made from the very young shoots containing at the most two leaves. These are collected by gangs of women known as pluckers who go round the fields twice each month and collect the leaves and bring them to the factory in baskets. They become very skilled at this work and pluck very rapidly. The work is paid for by piece and a good plucker can earn as much as a rupee a day in the season.

Owing to the steepness of the land and the heavy rainfall, a great deal of attention must be paid to soil erosion. At one time, the planters were obsessed with the Ceylon method of keeping the fields clean weeded and the soil bare and the losses due to erosion were enormous. Science has come to the rescue and the planters have been taught to conserve their soil by means of cover crops and manure them with green dressings making use of local weeds which can be grown under control. Now-a-days, it will be difficult to find a big estate under the old conditions and there are thousands of acres under green dressings.

It is only natural that if a bush constantly has its young shoots picked off as fast as they appear, the time will come when it will become a mass of twigs and will cease to put forth any more shoots. When this happens at the end of every three years, as a rule, the

bushes are all pruned. All the twiggy growth is cut off and the bushes are cut back to the hard wood so that a new start may be made. It is a measure of the hardiness of the plant that it will stand this treatment and constant bullying and yet survive. Yet it does so, and as far as we know, will go on doing so for 100 years or more.

In order to produce the commercial product, the tea has to undergo a process of manufacture which essentially consists in a chemical process of fermentation which is brought about by natural moulds present on the leaf itself. The first process is that of withering—the leaf as brought from the field is spread out on mats arranged tier above tier in sheds and there it becomes flaccid. It is then rolled in special rollers which crush the leaf expressing the juice on to its surface, and at the same time give it a twist. Here, fermentation proper begins. The rolled leaf is then broken up and placed on cool fermenting floors for the process to be completed, in some cases, being re-rolled. Finally, when the tea maker judges the process to be complete, it is fired, that is rapidly dried in a current of hot air. This stops fermentation and dries the tea. It is then graded and packed.

(All these processes were illustrated by means of lantern slides.)

Coffee.—Coffee planting is a much older industry and its origin is veiled in mystery. Popular legend has it that it was brought from Mecca by a pilgrim in 1600 and first grown in the Bababudan Hills of Mysore. However that may be, there are now some 72,500 acres under this crop in South India.

It is grown at lower elevations than Tea and does not need so much rain. Like tea, it is raised from seed in nurseries and the young plants are put out when about a year old. It is a large shrub, and is allowed to grow naturally to a great extent merely being pruned to keep it in reasonably handy shape. In South India, it is always grown under the shade of forest trees either indigenous or imported. These are planted at regular distances at the same time the coffee is put out. The object of this shade is to keep the coffee cool, and to shade the ground and keep it moist, providing for tropical moist conditions. There is one crop a year, the fruit being the object in this case. At the end of the hot weather with the first rains about May, the bushes flower and a

coffee estate in flower is a wonderfully beautiful sight. It is covered with masses of white flowers in bunches at the nodes of the old wood and it looks as if there had been a snow storm. Highly scented and humming with bees which play a large part in the natural fertilisation of the flower, it is a never to be forgotten sight. The beauty is very fugitive, however, the blossom lasts only 3 or 4 days and this is an anxious time, for should heavy rain fall at this time or a hail storm come along—and both are prevalent at this time of year—an immense amount of damage may be done. Should all go well, a large number of flowers set and the result is a heavy crop of berries in close bunches at the nodes of the branches. About December, these ripen up and turn bright scarlet, and at Christmas time make one irresistibly think of Holly. The ripe berries are picked by coolies and brought in baskets to the pulper—a machine which squeezes them between rollers and strips off the skin and leaves the coffee beans inside covered with a sticky pulp. The skins are floated off in water and the heaps of pulped berries are allowed to ferment. This fermentation unlike the case of tea plays no part in the flavour of the resulting coffee. It merely makes the sugary pulp soluble so that it can be washed off. The fermented beans are thoroughly washed and then spread out on tables to dry in the sun being constantly turned over. The result is known as parchment, for the twin coffee beans are enclosed in a thin white papery envelope. In this form the coffee is sent to the coast away from the danger of rain and there it is still further dried in the hot sun of the plains. It is then passed through machines which remove the papery envelope and the resulting beans are graded according to size and shipped to home market.

(Illustrated throughout by lantern slides).

Rubber.—Rubber is the most recent plantation product of South India, the variety grown being Hevea. The first estate on a commercial scale was opened in 1902. To-day, there are 60,000 acres under this crop and it illustrates more than any other the rapid development which is possible. Planted at the foot of the hills in dense jungles and among swamps, fever ridden and inaccessible, where 25 years ago, one had to walk or ride—sometimes swim to estates, now one finds luxurious bungalows lighted with electric light and one can drive everywhere in comfort in a car.

In the case of tea, the product sought is the leaf; in the case of coffee the fruit. In the case of rubber, it is the curious milky emulsion known as latex which lies in the special cells between the bark and the cambium which is desired. This must be obtained by skilled and careful tapping. A thin slice of bark is removed by means of a sharp knife each day and the latex which exudes is caught and collected in a cup—usually a half cocoanut shell. The latex is put in pans and—coagulated by the addition of acetic acid the resulting mat of rubber being rolled and then dried in smoke.

Being a big tree, this cultivation is unlike the other two—the forest being replaced by a forest again but of rubber trees.

(All the processes were illustrated by lantern slides).

Diseases.—Like other crops, the plantation crops are attacked by numerous pests and diseases. These as well as cultural improvements have been dealt with in an intensive manner by scientists belonging to the Madras Agricultural Department, and so convinced have the Planters become of the value of and need for scientific help and research in connection with their crops that they have now established their own Scientific Department with Experiment Stations and experts paid for by themselves.

Transport.—When the planter has built up his estate and established his crop and his factory, his difficulties are not over. There are the questions of transport. The estates in these remote hilltops are often situated a hundred miles or more from rail head or port, and roads are few and bad. Enormous engineering difficulties have been overcome to make good roads to the estates. These, of course, are essential as not only must the final produce be got out, but food and stores for the labour force must be brought in and also heavy machinery has to be transported for factory purposes. Every possible use has been made of water transport by river and lake and backwater, and waterfalls have been harnessed in many places to supply electric power. So steep and difficult are the roads up many of the hill-sides that bullock carts have still to be largely relied upon for heavy transport, and it will be many years before motor lorry transport can even be thought of. However, the improvement in the estate roads during the last 10 or 15 years has been enormous and now the touring car can get over most of them and lorries are beginning to run.

(Slides were shown of typical ghat roads and waterways).

The thing which strikes one most of all perhaps about the planting industries of South India is the courage and persistence of a small body of Britishers who have established their estates, built roads, and put on a sound footing a huge industry in the face of enormous difficulties contending with nature in all her worst moods, mountains, floods and fever. They have won through cheerfully and successfully.

I would ask you if you have been interested in this lecture, next time you sip your cup of tea or coffee or loiter at your ease in your smooth running car to give a few moments thought to the men who enable you to indulge in these luxuries and all the enterprise, energy and hard work which has rendered them possible.

R. D. ANSTEAD, M. A.

A LECTURE ON PLANTERS' CROPS.

The Marquess of Linlithgow presided at an interesting lecture delivered by Mr. R. D. Anstead, Director of Agriculture, on Monday evening (22—11—26) at the Museum Theatre. The subject of Mr. Anstead's lecture was "Planters' Crops, their Distribution and Management," and the lecture, which was delivered under the auspices of the Madras Geographical Association, was listened to with keen interest by a large and representative gathering, including Sir Thomas Middleton, the Hon. Sir C. P. Ramaswamy Aiyar, Mr. D. Scott Bremner, Mr. H. Waddington, Dewan Bahadur S. Bavanandam Pillay, Rao Bahadurs R. Krishna Rao Bhonsle and V. T. Krishnamachariar, Mr. C. T. Thiruvengkatachariar, Mr. Chas. Straker and Mr. Smith.

Rao Bahadur Mr. H. Narayana Rao, President of the Association, in welcoming the Marquess of Linlithgow, and in requesting him to take the chair, said that Mr. Anstead was not only the Director of Agriculture but was an acknowledged expert in planters' crops. Through the Director's kindness they would presently be witnessing on the screen the making of a plantation, which took a generation and more to build up.

Tea, coffee and rubber, known as planters' crops, the speaker said, were among the best contribution of Great Britain to the permanent wealth of India. Here they had the sun, the soil, men and money too, but they had lacked that enterprise which alone could make those fruitful together. British brains and capital, British enterprise, grit and character had stepped into that breach and had metamorphosed whole hill-slopes into gardens useful to man. Often the solitary European for miles and miles around, the British planter was at his work, day in and day out, for years together, clearing the primæval jungle, fighting snakes and wild beasts, looking after his men, applying the latest machinery and watching his plants grow, doctoring them for their pests and feeding them with best manures and marketing the produce with his eye on the main chance.

At length, after years of waiting, the plants began to bear and he was able to pay handsome dividends to shareholders 6,000 miles away. In point of alertness and organisation he was second to none, and companies like those of the Kannan Devan Hills could give points to the best German farmers described by Sir Thomas Middleton (a Member of the Royal Agricultural Commission).

Sir James Mackenna, in his narrative of the work of the Agricultural Colleges in India for 30 years, stated that their work was useful by way of establishing a negative result, namely, that British methods of husbandry were ill-suited for bodily transplantation in Indian conditions. But the British planter here had shown how they could be best adopted to meet his new conditions.

The Marquess of Linlithgow had already felt the charm of India, her infinite fascination, so far as to decline an important office in his party. He would, it was hoped, give India of his best in still more exalted spheres in the years to come. With these words the Marquess was proposed to the chair amidst acclamation.

The Marquess said that it had given him great pleasure to take the chair. The subjects of agriculture and geography were as closely allied to each other as the planters and the Agricultural Department represented by the Director of Agriculture, Mr. Anstead had great experience in this branch of cultivation

and the speaker was quite certain that his lecture would be greatly appreciated and be listened to with the utmost interest.

(Mr. Anstead then delivered the lecture printed above).

VOTES OF THANKS.

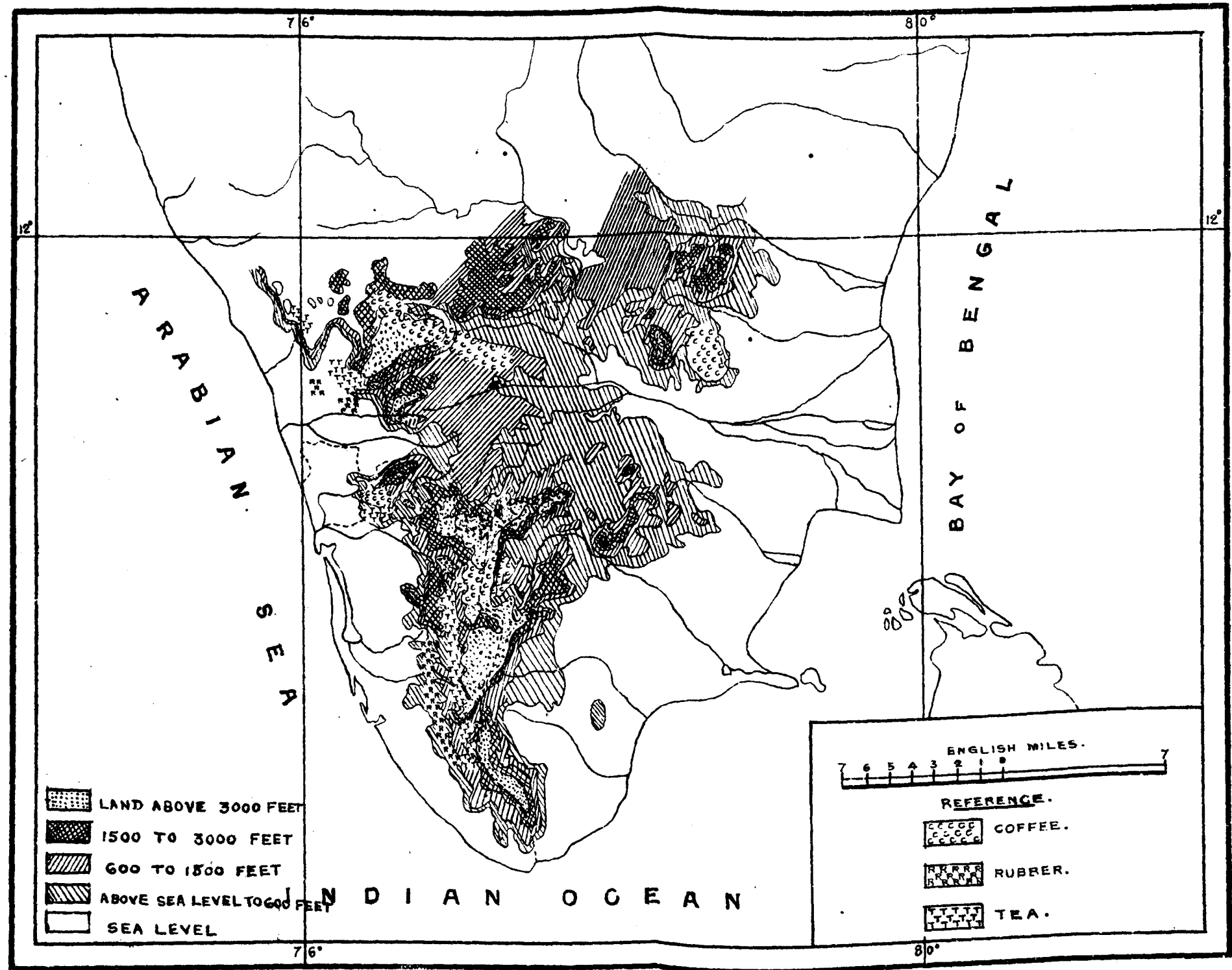
The Hon. Sir C. P. Ramaswamy Aiyar, Vice-Patron of the Geographical Association, proposed a hearty vote of thanks to Mr. Anstead for his instructive and interesting lecture. They were particularly fortunate, he said, in having present the Marquess of Linlithgow, who was presiding over the Royal Commission of Agriculture now sitting in Madras. They all looked forward to that Commission and to its labours with great interest. They believed that the results of the deliberations of the Commission would enable this country to make a move in agricultural matters, as they realised that this country would essentially be an agricultural country. Most of them were proud of their past, of their own culture, etc., but they did not desire that all the industrial conditions of the West should be brought to India. They would be glad if India proceeded and developed on agricultural and industrial lines in such a way as not to complicate the problems of industrialism in this country. Mr. Anstead had played a big part in the improvement of agriculture in Madras, and his lecture showed what human labour, intellect and skill could do in benefiting human environment so that some good might come out of it. In this task the East and the West should co-operate. Tea, coffee and rubber were largely controlled by European planters and by European industrialists, and they showed that England was willing to develop this country. More Indians should take to this avocation, so that tea, coffee and rubber could be Indian plus European just as every other thing was. What they wanted was energy, patience, enthusiasm, organisation, etc., and these they could learn only from the West. What the planters had accomplished showed what organisation and continuous and patient work could achieve.

The agricultural population in India, which was a thrifty one, should not merely rely on the past, though that knowledge might be of some use, but should learn that the world had moved rapidly

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MAP SHOWING PLANTING AREAS IN SOUTH INDIA.



that science and all that it taught should be interwoven with own knowledge with a view to getting the best results. The speaker, in conclusion, expressed the hope that the agriculturists would benefit largely by the work of the Royal Commission on culture and thanked the Chairman for having come there and Anstead for his instructive and illuminating discourse.

The Chairman, having made a brief reply to the reference made to the task before the Royal Commission by the Hon. Sir C. P. Ramaswamy Aiyar, said that in such matters it was the achievement and not the promise that counted. He would, therefore, not take up their time by making any prognostication of the direction in which his recommendations would point or by giving them an undertaking that the Commission would do their best, because, as they were aware, he did not undertake those grave and arduous tasks unless they were fully determined to give all their best. (Hear, hear.) It was no doubt, that India's future for many a long day must be based on industry and agriculture and the Hon. Sir C. P. Ramaswamy Aiyar had told them that he did not desire that all the industrial conditions prevailing in the West should be introduced in Oriental countries. Nevertheless, they hoped that the measurable future would see in this country a more flourishing agriculture calling upon the industrial enterprise of India to provide it with the machinery and agricultural implements which it required.

They had listened with the greatest pleasure to the excellent lecture by the Director of Agriculture and it was good for them to remember that a planter made his contribution to the wealth and prosperity of this Presidency and that he was a part and parcel of the agricultural system. They would all welcome the indication that his needs were being duly met by the Agricultural Department. The speaker said that he would gladly join with the Hon. Sir C. P. Ramaswamy Aiyar in his hope that Indian enterprise would turn its eyes towards the planting industry. He would surely look forward to a growing demand for many of the products of the planters community as the Western world was progressively recovering from the financial exhaustion as a result of the late war. Indians would, it was hoped, take a full advantage of the demand that would be created by the altered conditions. The Chairman wound up his remarks by thanking Mr. Anstead for his interesting lecture.

Mr. Anstead thanked the Marquess of Linlithgow for honouring the Geographical Association and himself by taking the chair. The Association took it as a mark of gracious favour. He also thanked the Hon. Sir C. P. Ramaswamy Aiyar for the appreciative remarks he had made.

The meeting then terminated.

Character and Environment.

Geography is the study of human environment. In its purely scientific aspect it deals only with facts. In its practical aspect it opens ways towards an increasingly rational and beneficent co-ordination of the two elements in geographical study, humanity and its environment.

But the developing consciousness of humanity will not remain satisfied with facts or their practical application. Speculation will see deeper implications, profounder co-ordinations, and out of these will build up a philosophy based on the realities of Man and his cosmic home. From humanity's scattered perceptual contacts with its environment has arisen the modern science, or organised knowledge, called geography. From that knowledge will blossom the Wisdom of Earth, the *Geo-sophia* (Geosophy), or Philosophy of Geography. This lecture is intended as an introduction to some of the possible contents of a geocentric system of thought. Such a system will accept the facts of scientific geography; but it will pass beyond them, and beyond the question of what use humanity can make of its environment for its physical comfort, into a consideration of the relationship of the factors of human environment with the qualities and development of the inner nature of humanity.

On September 1, 1923, two great cities and a number of large towns in Japan were shaken to pieces and burnt to ashes; tens of thousands of people perished and hundreds of thousands were reduced to misery. A speculative anthropologist in India asked the question, "Why did Japan get such a shaking?" An equally speculative student of humanity replied, "Because it needed it." From the interrogation and answer of the intuition came the sifting

of the intellect over the facts of nature, and a series of hypotheses. Was the articulation of the Japanese people and the vast catastrophe referred to but a mere accident of circumstances? or was there some pathological condition in the composition of the Japanese people that needed the medicine of disaster?

A few weeks after the earthquake, a Japanese writer expressed his conviction that posterity would ultimately regard the earthquake as worth while. It had produced in the people a reaction of a most desirable and necessary kind. Vices fell away, virtues emerged, co-operative effort supplanted individual activity. The people rose to a level beyond the normal. They were shaken out of their usual inertia of the mind. Their activity, which is largely physical and emotional, became more than ordinarily intellectually formative. Reaction came. Yet there are indications of new forces in Japanese life. "Radical thought" has become so troublesome that official steps have to be taken to stamp it out—which means that the official pull towards intellectual inertia finds some degree of obstruction.

Here we have a suggestion towards the gathering of data for the study of the psychological influences of environment. The question that has at least once in a lifetime been struck by experience from every thinking human being, "what are we here for?" is the negative aspect of an intuitive hypothesis,—that we are here for a deeper purpose than that only of the physical body; that we are, in fact, spiritual beings using the media of physical incarnation for the present inscrutable purposes of the inner spirit. Out of this arises a character survey of the peoples living in the earthquake zones of the world with a view to establishing the hypothesis or making modifications in it or its developments. The question is, Do the peoples born in these zones, taken broadly, need the external stimulus of catastrophe for their inner development? How does the matter work out when we take the opposite quality of directed, conscious, responsible, continuous creative activity which draws obviously on mental activity? Assume a group of entities seeking an environment providing means for the development of such activity. What is needed is an oscillation of circumstances demanding regular adaptation but with just enough deviation from regularity to encourage alertness and pliability. This condition of regular change points fairly

clearly towards the oscillations of climate. These preserve a modified regularity to which humanity must adjust itself. But a delimitation has to be made. The areas of permanent high temperature (tropical forests and tropical deserts) and the areas of permanent low temperature (the frigid zones) are of no service in the development of an organised active life. Between them, however, lie the temperate zones with a short and not severe experience of heat and cold, and two intermediate seasons of gradual movement between heat and cold. In these regions live the peoples of Europe and the United States, who are proverbial for just the qualities helped into expression by the environment in which they are incarnated. Further, they are proverbial for self-reliance which comes of responsible activity, and for self-respect which comes of the exercise of power. But self-reliance may be carried to excess and become selfishness that finds satisfaction in mere accumulation of material things; and self-respect may become self-assertion that finds satisfaction in imposing its will and desires on others.

How does the environment of the active groups of humanity supply means to curb these excesses? From the good soil of the temperate zones nature helps man to produce abundant crops. These enrich him materially, and also provide means for the exercise of faculty in production, storage, distribution and anticipation. But nature also secreted in the ground certain substances, such as coal and iron, which when discovered and used by humanity so developed and expedited the production of certain articles that large numbers of human beings were ultimately concentrated on specialised processes of manufacture under the control of a small number of other human beings who were versed in intenser modes of adjustment, foresight and provision. The problems of capital and labour emerged and developed inside the industrialised groups of the temperate zone; the collateral problems of market-making abroad, also developed. The mutual expansion of these groups ultimately brought them into collision. The culminating collision was the Great War. Japan was externally shaken to some realisation of a larger life than that of the senses. Europe was self-shaken to some realisation of a broader life than that of the separate antagonistic groups.

Between inertia and activity lies a quality that co-ordinates both; a poise that in repose is potential activity, and in activity is reflected

repose. The psychological need here is for discipline under development and for contemplation. The natural provision for the use of a group of entities of such a type is an environment that is steady and comfortable; that reduces to a minimum the distractions of physical necessity, and gives ample opportunity for withdrawal from activity in order to pursue the disciplining of the inner nature which cannot be done when attention is focussed on the outer things of life. These conditions of environment are found in the sub-tropical areas, where climate is relatively steady, where life can be lived in simplicity, and where inevitable needs can be supplied with little effort. India is the typical land for contemplation. But here also extremes may result in self-centredness and heedlessness of the conditions of others. The medicine of catastrophe is applied here also, but takes the form of local disaster in flood or famine that calls for immediate organisation or relief and points towards the necessity of a social unification that will not need these shakings in order to induce an attention to others that should be as natural as breathing.

This is the human aspect of Geosophy. But if there be any truth in it, we should find indications of a similar relationship between environment and other phases of the varied life of the cosmos. Evolution teaches the gradual development of forms for the expression of indwelling life. That life, in its varied phases and gradual advance, would seek conditions suitable to its needs. The advances of psychological study make it difficult to accept as final the purely physical explanation of evolution, that because a crawling creature found it necessary to fly it grew wings. It is now being more and more clearly seen that any degree of interrelationship and response between any of the factors of the cosmic life means an inner affinity. From this the mind moves stage by stage to a conception of a total life in which inheres all that is ultimately worked out in its details. The life begins to be seen as primary, the form as secondary and serving the purposes of the life. The vast current of tendencies through the ocean of the unknown moves from undifferentiated life to life individualised. Within that current all details serve the total process. Humanity is helped on by its natural environment. Nature is assisted upwards by human co-operation such as in the transformation of wild grasses into rich cereals. Climate provides different degrees of stimulus for humanity, but Geosophy

sees a similar provision for the sub-human degrees of life. Heat expands, cold contracts. Life is at a standstill at the poles, extremely active at the equator, and controllable in the regions between. In the cold seas there are enormous shoals of fish of one kind, but few species. In the warm seas there are smaller shoals but a larger number of species. The same features are seen in forests, in birds, in insects. These similarities are not accidental. They challenge an enquiry as to whether the conditions of environment are not used by the evolving life of nature for the purposes of her successive degrees of development from diffuse rudimentary potentialities to phases of accomplishment on the verge of the human stage. To what has been set out above may be added a study of the environment of the great civilisations of the past; and on the basis of ascertainable phenomena in nature, such as climatic variations and the gradual movement of America towards Asia, prophecy may be indulged in as to the likely location and characteristics of future groupings of humanity.

JAMES H. COUSINS, M. A., D. LITT.

Rural Geography.

Modern Geography is the Science of Human Environment. It describes and explains how the natural factors of environment, such as soil, relief, temperature, and rainfall control life in general, and human life in particular. This aspect of the subject has been called Physical Geography. But man, unlike other life-forms, is not a mere creature of circumstances. In a sense, he is a creator also, able to rise above his surroundings, and control and conquer Nature, by understanding and following her laws. This conquest of his environment by man falls within the purview of another aspect of geographical study known as Human Geography.

Both these aspects of the Geographical Science—the physical and the human—can be studied both in the urban area as well as in the rural. But God made the country while man made the town; and so the physical side can be better studied in the rural area, while the human can be better studied in the urban. With this difference, however, both aspects can be studied everywhere.

At the outset it may be worth while remarking that compared with the modern nations of the West, our country is one in which the rural area and the rural population play a preponderant part in the national economy; hence the greater interest and importance which attaches to a proper study of our rural geography.

In this and the following papers, it is intended to touch upon a few of the important topics and problems of rural geography, with special reference to South India, and treat them in a popular way. Among these may be mentioned the following:—the village-name, its situation and probable origin, its initial advantages, its plan and parts, its climate and weather, and their effect on the life and activities of the villagers, its plant and animal life, its classes and communities, its occupations and industries, its trade and transport, its social and religious life, etc. I confine my observations to the Madras village, but with necessary modifications the principles developed here may be found to be applicable elsewhere also.

The first point of interest about any place is its *name*—which often carries with it some amount of poetry and history, often giving us a clue as to its origin. In a large number of instances these names are connected with natural features and objects, such as a forest, a tree, a river, a mountain, a tank, soil; sometimes, they bear the name of a deity, king, or other patron or founder. As illustrations may be mentioned the following names of villages from among several:—Arkadu, Mangadu, Vedaranyam, Bilvaranyam (Tiruvalam), Kattupakkam, Tiruvalangadu, Velur, Mamidipudi, Chintalacheruvu, Tenneri, Arpakkam, Panapakkam, Tatipaka, Kondapalli, Adavikolanu, Isukapalli, Kalmedu, Rallapalli, Gajapatinagaram, Mahendravadi, Kolattur, Chandragiri. Often times the size and original character of the village is also suggested in such endings of place-names as the following:—pattu, padu, parru kuppam, mangalam, pakkam, puram, varam, palayam, valasa, palli, halli, gudem, vada or ada. The study of place-names forms a very absorbing one, in the pursuit of which I should not be led away from the main subject. So, I stop.

In dim far-off times the whole of South India must have been covered with forests of the Savannah type, open woods with closer clusters of trees along river-banks or near other receptacles of water changing into thickly wooded forests where the rainfall rose beyond

60 inches per annum. The work of man has altered all this now, so that the greater part of the country is now covered with smiling fields, dotted with groups of human habitations, which we call villages. Before the present state of things came to be, an intermediate stage can be pictured, when the villages had arisen in the midst of clearances in forests, and when village was separated from village by uncleared, intervening forests *i.e.*, untilled land overgrown with natural vegetation. This stage still lives in tradition in the familiar grandmother's stories.

Probably we have a still earlier stage in the evolution of the village, traceable in the *Asrama* or hermitage of sages, who were real pioneers in this respect like the European backwoodsmen in the North American forests, undergoing any amount of trouble (*srama*) at every stage. But this might account, if at all, for the origin of only one type of village.

Whatever the origin, there is no doubt that the forest had to be cleared first, and naturally men chose to do so at first at some favoured spots which had special advantages. Two such advantages that were invariably sought after were (a) a fairly raised stretch of land, and (b) a good supply of water.

The site for the village:—The first consideration in the choice of a site is that it shall be a fairly level piece of land, high enough to be free from floods during rains, and one which will drain off the water in all directions. This is such a common and familiar feature of every village that it usually does not impress itself on one at first sight. The surface conditions near a village—the lie of the land round about it is an important controlling element in its life and activities. In a town, the relief of the place is hidden under man-made pavements and masonry work. But in the rural area, highland and lowland, slope and drainage are patent everywhere. The effect of relief is obviously seen in moisture control.

A good supply of water:—This leads us to the second consideration in the choice of a site for a village, which is even more important, proximity to a source of water-supply. Water is required in the first instance for man and beast for drinking and washing purposes. It is interesting to note in this connection that *agraharams* rose usually along banks of rivers or near big tanks

since the Brahmin population living in them needed a perennial supply of good water for their daily ablutions. Water is also required for agriculture, and every village, however insignificant, needs its own source of supply for this purpose also. In fact, the size, wealth, and importance of a village depend upon an abundant and steady supply of water for irrigational purposes almost throughout the year. We know how the countryside is studded with hundreds of irrigation tanks, big and small, each of which irrigates from one to several villages. These reservoirs have served to increase the prosperity and importance of villages, whose origin was probably due to a meagre source of supply at first. Similarly, along river-banks and spring-channels villages are to be seen like beads in a string.

A third consideration sometimes operating in the choice of a village-site is *the soil of the land* to be cultivated. This is not such an indispensable factor as a good water-supply. For, poor soil can be improved by means of manures, whose efficacy seems to have been known even from very early times. After all, soil control reduces itself again into moisture control. The difference, for example, between a sandy soil and a clayey one lies not merely in the absence of organic matter in the former, but also in its porosity, which prevents the retention of moisture. It seems to be the fact that soil controls not so much the choice of a village-site as it does the further growth of it in wealth and prosperity, after the village itself had come into being.

Sometimes, as a result of the additional advantages of good communication, a central situation or a strategic position or more often the lucky growth of certain industries, a village might continue to develop till it ceases to be a village and becomes a town. But in its origin, every village must have had these two initial advantages of a proper site and a good supply of water.

Every village consists of (1) the inhabited part, (2) the tank or other source of water-supply, (3) the cultivable lands, and (4) *poramboke* or public lands, generally left fallow, and used as grazing ground, where nothing better is available for the purpose. Each of these will be considered in its proper place in another paper; but, one thing that is worth noting at this stage is that the underlying

basis of distinction is the natural feature of surface level or relief upon which depends the moisture-control of the whole village. The inhabited part, as already pointed out, usually occupies a stretch of land which is above flood-level. The tank, if there is one in the village, affords a very interesting example of human control of environment. Across a stretch of sloping country at a convenient spot a bund is erected, above which rain water instead of flowing down the slope collects and forms the tank proper. As a result what was originally a mere sloping land now divides itself into a catchment area, a tank and the cultivated fields irrigated from the tank. The fields themselves fall again into different classes according to their level and the consequent availability of water into treble crop, double crop, single crop and dry crop fields. Then, there are *poramboke* lands *i.e.*, lands sufficiently elevated, ordinarily uncultivable, but useful for various communal purposes.

The normal occupation of the bulk of the inhabitants of a village is agriculture, and the various operations connected with it are dependant upon the seasons. The effects of climate and weather on the life and activities of the village will be considered in the next paper

N. SUBRAHMANYAM, M.A., L.T.

The New Teaching of Indian Geography.

A meeting of the Geography Section of the Madras Teachers' Guild was held on Monday, the 6th December, 1926, at the Kellett Hall, Triplicane, with Mr. G. D. Watkins, of the Madras Christian College, in the chair. Miss E. D. Birdseye, of St. Christopher's Training College, gave a lecture on "The New Teaching of Indian Geography."

The lecturer said that to many people geography was a string of abstractions. This was because the subject had been taught mechanically. They must make the teaching as really human as possible. It was a good principle of teaching to go from the known to the unknown, but sometimes the principle was misused. They were told that they might begin geography for school children in Madras with Chingleput. In England it was very well to start the subject from the place where the children lived and to go to other

places because the children had many opportunities of going about in 'buses', trams or trains and knew their own places well. But it was not so in India. Boys and Girls in Chingleput generally saw little of the district.

The lecturer suggested common foodstuffs as the starting point for the teaching of geography in Madras and explained how by beginning from rice they could go on to millet, wheat and other grains and then to money crops like jute and cotton as distinguished from supply crops, the places where they were grown, the climatic conditions favourable to their growth, the monsoons and the river systems, the labour required for the crops, the occupations of the people, forests lands and tea areas and so on. She pointed out that in this manner the pupils would eventually have known everything about India's structure, her climate, vegetation, occupations, communications, trade, towns and population.

The Chairman, in the course of his speech, said that they were held down too much by the traditional ways of teaching. They must proceed along new lines more suited to the conditions prevailing in the country. Nature-study in India suffered because they were merely following a system imported from England. They kept pouring knowledge into the boys till the boys felt like bursting and in the examination at the end of the term they tried to pull out what they had put in. Boys should not be helped too much, but must be trained to observe and do things for themselves and to educate themselves.

Books and Journals received.

The Indian Empire by L. Dudley Stamp, (Longmans' Regional Geographies of India, Part IV) published by Longmans, Green & Co. The Educational Review: August, September and November 1926.

Rural India: July, August, September and October 1926, and January 1927.

The Quarterly Journal of the Andhra Historical Research Society: July 1926, and October 1926.

Birds and Bird-life by P. Raghavendra Rao, (Telugu) Published by R. Venkateshwar & Co. Price 8 as.

The Geographical Journal (London): December 1926.

News and Notes.

The Annual Meeting of the Madras Geographical Association was held on Monday, the 17th January at 5 P.M., at the Madras Christian College with the President, Rao Bahadur M. R. Ry. H. Narayana Rao, in the chair. The Report for the year 1926 was read and adopted. The office-bearers and members of the Working Council for 1927 were then elected. (*Vide* last page of the cover for the list.)

After the business meeting was over, the President vacated the chair for Dr. F. H. Gravely, under whose chairmanship, Prof. C. Lakshminarayanan, M. A., Lecturer in Zoology, Christian College, delivered an interesting lecture on "*Birds of South India: their Distribution and Habits*," illustrated by lantern slides.

(A full account of this lecture will be published in one of the future issues of the Journal of the Association.)

The second ordinary meeting of the Association was held at 5.30 P.M., on Saturday, the 26th February in the Y. M. C. A. Auditorium with the Hon. Mr. A. Ranganatha Mudaliar, the Minister for Development in the Chair, when Mr. A. Swaminatha Iyer, retired Deputy Collector and Editor of 'Rural India,' read a paper on "*South Indian Cattle: their Breeds and Distribution*." An interesting discussion followed the paper, an account of which will be published in a future issue of the Journal.

Miss. E. D. Birdseye, B. Sc., of the Wesleyan Mission gave a suggestive talk to the members of the Geography Section of the Madras Teachers' Guild on "*the New Teaching of Indian Geography*," under the presidency of Mr. D. W. Watkins of the Madras Christian College. A summary of this lecture will be found on another page.

Mr. N. Subrahmanyam, M. A. I. T., Lecture in Geography Teachers' College, Saidapet, has Commenced a series of articles on *Rural Geography* in "Rural India" of September 1926. The first article has been reproduced in this number, with the kind permission of its Editor.

Dr. J. H. Cousins, M. A., D. Litt., Principal, Brahma Vidya Asrama, Adyar, delivered a Very interesting lecture to the students of the Geography Section of the Teachers' College, Saidapet, in December last on *Character and Environment*. A summary of this lecture has been included in this number.

Geography has had no place at all in the Indian Universities. It is, however, consoling to know that a beginning has been made of making it a University subject. In the Madras and Andhra Universities, Geography has been included in the Intermediate Course in the list of optionals in the Science Group in Part III along with Mathematics, Physics, Chemistry and Natural Science. But provision has been made in the rules for students of History, Logic, or Language also to choose Geography as one of their three optional subjects. Still, we are very skeptic about any immediate improvement in the position of the subject.

For one thing, Geography had been effectively removed from the higher classes of the High Schools in the Presidency for over a decade, so that the necessary foundation is lacking for the undergraduate in the College. Secondly, Geography in the Intermediate Course does not lead on to a Degree Course in it. Further, public opinion is ignorant and apathetic about the subject and its importance. Lastly, it is doubtful whether several colleges will soon enough get themselves affiliated in this Cinderella of School and College. We are glad, however, to learn that the Madras Christian College and the Adyar National College intend affiliating in Geography from July next.

It is proposed to have a separate Board of Studies in Geography in the University of Madras. We hope this will be an accomplished fact in the near future, so that Geography in this University may not continue to suffer for want of the guidance of its own votaries and sponsors.

The Question of a School of Geography has not yet been finally settled, and will probably be referred to the New Board of Studies, if it comes into being soon. Meantime another question to be decided by the University authorities will be the provision of a Degree in Geography—if Madras is to come into line with modern progressive Universities abroad in this direction. But, educated public opinion has to be educated on this matter.

The beginning of a better state of things in the High School also regarding the position of Geography seems to be in sight. It is understood that the Secondary School Reorganisation Committee has recommended to Government that Geography should be made a compulsory subject in the fifth and sixth forms also. We expect that an outline course in it will be compulsory for all, while providing scope for specialisation as a C. Group subject for those pupils who are likely to take it up in the Intermediate. But considering the pace of things here and the general apathy, it is not wise to be over-sanguine about progress in this direction also.

The question of Geography in the High School leads us on to the connected problem of the supply of trained teachers of Geography. Before 1923 every History graduate, during his training course, got a sort of superficial training in Geography teaching also along with a training in the methods of teaching History. But since that year four batches of teachers trained in the Pedagogy of Geography have gone out from the Training Colleges in the Presidency, the though number of teachers thus trained has not exceeded two digits. As soon as Geography begins to get its proper place in the High School, which may not be far off, the demand for trained teachers of Geography will suddenly go up. To meet this situation, we would commend to the Educational Authorities the advisability of arranging for Refresher Courses in Geography.

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