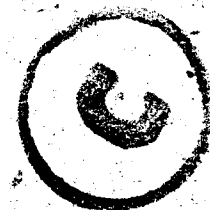


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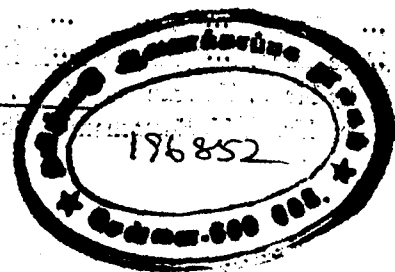
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Urban Geography with special reference to South Indian Cities

By Mr. R. Dann, Director of Town-planning.

A meeting of the Association was held on 2nd April, 1930 at the Hindu High School, Triplicane, with Miss E. D. Birdseye in the chair, when Mr. R. Dann, Director of Town-planning, delivered a lecture on "*Urban Geography with special reference to South Indian Cities.*"

Mr. Dann said that he understood 'Urban Geography' to mean a description of the surface features in cities and of their inhabitants as well as the reasons for the development of cities in certain localities. Most cities in other parts of the world had topographical reasons for their location in particular places; and water transport had often a great deal to do with it. In South India too, some towns were grown in this way, such as Vizagapatam near an estuary which requires only dredging, Calicut and Cochin on the west coast with a location best adapted for trade development, and Vellore where two main roads cross on the banks of a river. Trichinopoly, Srirangam, Erode, Bhavani, Bezwada and Rajahmundry were all situated on natural sites for the development of towns. But there were also several towns in South India which had no topographical or material reasons for their growth. For example, Madras on a level sandy surf-beaten coast, Madura on the banks of a dry river, Coimbatore, Guntur, Ellore and Bangalore have developed into towns on account of historical, administrative or other reasons, but not topographical.

Factors bearing upon the development of Towns

Surface Features

Of the topographical characteristics one general feature was that most of the cities in India were situated on dead level sites. That was not the case in England, where the country was most undulating. The effect of this dead level position was that there was no excuse for the roads being anything but straight. The undulations in England make for circuitous routes, while in the American cities, as in Seattle for example, the roads are laid on the chessboard plan, regardless of contour. The roads in the South Indian cities are usually straight.

Another of the effects of this level situation was that the drainage problem in the Indian cities became very difficult to be solved owing to the necessity for pumping up, and therefore costly also. This was a normal condition in several towns.

The third point that might be mentioned about South Indian cities was that though there was heavy rainfall in most of them, there was practically no city where there was no trouble for adequate water supply. On the West Coast the rainfall was heavy; yet in all the towns there was the question of water scarcity to be solved.

Again, though some of the cities were located near rivers, their beds were usually dry. In other parts of the world a river without water is practically unknown. As a topographical factor, however, these dry river-beds offered no obstruction to the flow of traffic except in the rains.

Climatic Conditions

Looking to the climatic conditions of the cities also, the lecturer said that they had got here absolutely contrary conditions to what was to be found in the western cities. If houses were built in urban places with a view to keep out the sun and the heat, conditions for living in the city would become undesirable. Yet in Indian cities houses were planned and built in that way. The sun saved them very much from the results of insanitary conditions. As the main roads were usually east-to-west, they were fully exposed to the sun throughout the day, while the houses on either side were protected from the morning and evening sun.

Another consideration in South Indian towns is the *heavy rainfall*, requiring a great accommodation for carrying away surplus water. In England underground drainage takes away house and rain water.

Long periods of drought form another factor to be reckoned in several Indian cities, needing a provision for longer water-supply. The Red Hills Tank, which supplies fresh water to Madras city has a storage for two years' failure. Many cities have to go a long distance to get water.

The question of *wind and its direction* was another factor bearing on the development of towns. Breeze had a greater effect, however, on buildings themselves than on towns directly. For example, the preference for the southern aspect of houses is due to the prevailing southern breeze in summer and the need for protection from the north-east monsoon in winter.

Social Customs

The *social customs of the inhabitants* had also their effects on the development of towns. There was a tendency here for particular castes and communities to congregate in one place and develop that into a town. This was done for obvious and desirable reasons. In the West the cleavage in society was horizontal, but in the East it was vertical. In the former case all rich men would try to live in one area and the poor in another. In the latter case the rich and the poor lived side by side. This factor created great difficulties on the question of development of towns. It was difficult to plan the area economically, giving adequate and proper convenience to the needs of the houses of different sizes of the rich and the poor men.

Excessive fragmentation of lands and house-sites due to the prevalence of the joint family system and the conservative tendencies of the people was common; and this led to difficulties in town-planning. There was no sort of co-ordination or co-operation and the result was a disorderly development of the towns. To remedy such defects, in England there is usually an agreement between the owners and the authorities which has been tried at Mambalam. In Germany the authorities take over the whole land and re-constitute it in proportion to the original areas of the several owners. About

35 per cent of it is reserved for public purposes, and the remaining 65 per cent is handed back after re-modelling.

There are again other undesirable features, such as the natural habit of *frontages creeping up* and narrowing the street, and drains and avenues being kept inside the house.

Another thing that they had to note when they studied the urban geography of South Indian cities was the idea of *developing towns and building houses in auspicious directions*. For example, it was considered inauspicious to develop in a southerly and westerly direction. There were, he believed, adequate and even hygienic reasons for this idea.

Again it was considered inauspicious to move away from the original place, even when it ceased to possess its original advantages and the suburbs and extensions offered better facilities.

The aspect of the house was also a matter of auspiciousness, and had its influence on the development of the roads. When they are oblique, they lead to untidiness of street development.

In conclusion, the lecturer said that the art of town-planning and development was not unknown in Ancient India. In fact, it had developed as an art. It would, therefore, be a profitable thing for the members of the Association to further pursue the study of this important subject.

To a question from Mr. C. M. Gopal, Mr. Dann said that there was some good reason for the idea among the Hindus that it was inauspicious to build a house facing straight in the direction of a street or road. It was generally laid down in old books, and it was correct to some extent also, that it was not desirable that ordinary houses of the citizens should occupy such a prominent position. It would be more becoming if public institutions like temples, churches or schools were constructed in such prominent positions.

Mr. C. S. Srinivasachari pointed out how a town like Vriddhachalam which was an old trading centre lost its importance when the railway line diverted its traffic, and how it was beginning to recover some of its former trade after the construction of the chord line from Villupuram to Trichinopoly. He also raised the problem of improving the original areas of towns which were built for other purposes which no longer held good.

The meeting came to an end after a vote of thanks to the chairman and the lecturer.

Modern Turkey

By Mr. Hermann Kolb

Herr Hermann Kolb, the German traveller and journalist, spoke at a meeting held on 4th August, 1930 under the auspices of the Association, at the Teachers' College, Saidapet, on "Modern Turkey and his motor trip from Turkey to India." The lecture was illustrated with lantern slides. Mr. Kolb spoke for two hours, the major portion of which was devoted to an interesting narration of the development of Modern Turkey. The lecturer said:—There are roughly three million Turks in Europe who do not belong to Turkey, chiefly in Thracia, Macedonia and Dobriya, and the Turks were therefore very eager to keep the European portion of Turkey in their possession. Till now Turkey was the leading Mahomedan nation and the strongest independent Mahomedan country. During the Great War a portion of Turkey had been occupied by the Allies; but Young Turkey under the leadership of Kemal Pasha re-conquered their territory; and since 1922 Turkey was again an independent country. The interior portions of Asia Minor were very thinly populated, and immigration of Mahomedans was encouraged. Angora was in the midst of a desert. At the end of the war its population was only 25,000; but now it had about 90,000.

Conditions in Turkey were more favourable for reforms than in Afghanistan. Being surrounded by Western countries, and having no tribal and Moulvi questions, Turkey was advancing very rapidly. The Parliament at Angora had only one political party and people had only one idea, namely, the advancement of Turkey. Turks desired to be national first and religious next. Old customs like beards, veils, etc., had disappeared. In offices a bearded man had either to resign or shave himself clean. The spirit of youth had been introduced in every department.

Turkey was for peace. She wanted peace to develop her industries and agriculture. The Government encouraged industrial undertakings. New factories need not pay taxes and Turkish manufactures were given full protection. In the near future Turkey was bound to be a prosperous country.

The abolition of veil and the reforms made in marriage laws were two very important changes which marked the advent of Modern Turkey. Primary education had been made compulsory and they had given up the Arabic script in favour of a phonetic script. Turkish is the official language and every attempt was made to eliminate foreign words from it. Turkish ladies were very keen on reforms. The old type of dress had been discarded in favour of the European style. Turkey had a good army. National spirit was encouraged in schools and through newspapers; and in that respect no other country could be compared with it.

Before the War, Turkey was ambitious to have a big Mahomedan Empire. The War made them realise that Pan-Islam could only remain as an idea. There were a number of countries in Central Asia and Soviet Russia speaking languages similar in origin to Turkish. But all of them were not Mahomedans. Modern Turkey had an ambition to unite all these countries into one. But Soviet Russia was taking necessary precautions. They had granted some of these countries in the Soviet Union freedom, so that they might oppose any encroachment on the part of Turkey. But, the lecturer said, Turkey might find it impossible to unite the countries lying between Asia Minor and India, and might therefore come back to Pan-Islam not for religious, but for political reasons.

The speaker next referred to the difficulties in travelling. Though there would be no C. I. D. men following a foreigner, as in India, yet travellers would be required to get permits from the police at every village. In most of the villages there were no hotels. But each village had a village guest house, where visitors could be accommodated and fed even free of charge. Sometimes the guest room would be in the residence of a rich man of the village. Dogs were barometers of prosperity; and if a foreigner found on entering a village fat dogs, he could be sure of a good welcome.

The lecturer then spoke about his travel through Syria and Iraq. It was not so bad to travel in a Syrian desert as some American travellers had written. He then referred to the Khurds and Iraqians and their characteristics, and proceeded to speak about Persia. The streets in Persia were clean and beautiful. Persia was also trying to get modernised; but she could not do it at the same pace as Turkey owing to the influence of Moulvis. Army service

was compulsory in Persia and a good army was required to keep internal peace. Persia had not the same national feeling as Turkey. They would not be strong enough to resist a foreign invasion. Therefore Persia and Afghanistan were bound to be pro-British. In every house in Persia carpets were woven and for that reason there was not much poverty. But big industries were in the hands of foreigners. The country was mainly agricultural; and railways and motor cars had not become popular there. From Persia the speaker said, he came to India *via* Baluchistan as the troubles in Afghanistan prevented him from visiting that country also.

With a vote of thanks to the lecturer the meeting terminated.

Geographical Films

Under the auspices of the Association, the newly formed Educational Moving Pictures Co., Madras, gave a show of Geographical Films at 5.30 P.M., on Monday the 15th September, 1930, at the Teachers' College, Saidapet. Mr. A. Rama Rao, B.A., I.E.S., Principal of the College, presided on the occasion.

In introducing the new venture to the Educational World, the Chairman said that the main idea of its organisers was social service, that of giving better methods in education. He hoped that educational institutions in the city as well as all over the Presidency would take advantage of the facilities offered, and trusted that not only geography, but every other important subject stood to gain by using the educational films.

The lecturer then said: "We have travelled very far from the old geography of lists of place names, exports and imports, etc., and the subject has become a science, in fact the meeting place of all the sciences. We are no longer satisfied with mere facts of geography, but try to find out the causes of those facts. But even scientific geography is but a skeleton; and something more than science is needed to stir their imagination and to cover the dead bones of the subject with flesh and blood and make it a live one. It is the film and the projector that will thus clothe the science.

"No doubt the best way to study geography is by actually travelling to the different parts of the world. But it is not possible for all of us to do so. There is the expense and the difficulties involved

in travel ; and I am one of those that prefer armchair travel. In fact I think that in some respects a good film and a good lecturer are better than travel." Even in the study of literature, he said, the film served a valuable purpose. Much of the disinclination to the study of literature that was in evidence among the student population was due to the form in which it was presented as Examination Texts with dry, though learned, notes and commentaries. He was, however, sure that if the play or the novel was projected on the screen, the student could himself prove a learned commentator of the characters and situations.

In Science also the films, he said, had a great future. For example submarine life and such other difficult topics offered very good scope for realistic study.

In conclusion, he had no hesitation in saying that the introduction of the cinema in the educational field would revolutionise the whole quality of education, and would make it more efficient and economical. He congratulated the Educational Moving Pictures Coy., on the pioneering work they had started and wished them every success.

Three Geographical reels were then put on the screen—the Desert Regions of the World, Water Power and Panama Canal with two short Charlie Chaplins coming between them. Each reel lasted for over 15 minutes and the whole show occupied a little over an hour.

The Secretary then thanked the Chairman for having kindly presided and delivered an interesting speech on visual instruction, and made an appeal to the teachers from various schools who were present in the audience to patronise the venture for the sake of better education. He said :—" It has been demonstrated there that more real geography could be learnt in a short hour by the film than what they could by reading books for several hours. The Educational Film is a cheap and efficient means of education in this democratic age, and it is hoped that schools and colleges would make the best of the opportunities afforded." He then thanked Dr. Y. Subramaniam of the Educational Moving Pictures Coy., for having kindly arranged the show, and hoped that his efforts to put the cinema to an educational purpose would be crowned with success.

"With Shackleton, 1914—1916"

By Capt. H. T. Hudson.

Under the auspices of the Madras Geographical Association a meeting was held at the Presidency College on the evening of October 28, 1930 when *Captain H. T. Hudson*, of the "Manora" spoke on his experiences in the Antarctic Seas when he accompanied Sir Ernest Shackleton as the Navigating Officer of the expedition which set out to cross the Antarctic ice from sea to sea. There was a very large gathering and Mr. G. G. Armstrong, Chairman of the Madras Port Trust, presided.

After a short introduction by the Chairman Capt. H. T. Hudson delivered his address which was principally characterised by the light-hearted manner in which he spoke of the serious difficulties encountered by him and the members of the expedition in the Antarctic wastes.

He was often asked, he said, as to what benefit was derived from exploring the Polar Seas. He thought there were many uses from it. One that made a great appeal to him was that in a time of prolonged peace such as that which preceded the Great War, activities such as the Polar exploration gave an opportunity for doing deeds of daring and gave England something to think about and be proud about.

Great Britain had always been pleased to answer a friendly challenge from any other nation ; and he could use no better words than Sir Shackleton's to answer for the inception of the 1914 expedition.

"After the conquest of the South Pole by Amundsen, who, by a narrow margin of days only, was in advance of the British expedition under Scott, there remained but one great, main object of Antarctic journeyings, namely, the crossing of the South Polar Continent from sea to sea."

The Party left the India Docks, London, at 10 A.M., on the first of August, 1914, in the wooden ship "Endurance." There was a reason for the use of wooden ships in explorations of that kind in preference to iron-clad ships. The wooden ships had greater latitude in the matter of "give" and took strains better than the iron-clad ones. The latitude of the ship in the matter of "give" was of great importance as it was likely that the ship

would be wedged in the ice for long periods at a time. After anchoring for a little while off Southend they were off to Margate. They would all perhaps remember what a frightful agitation there was at that time as to whether England should declare war on Germany or not. While at Margate Sir Ernest sent a telegram to the British Admiralty offering to abandon the Expedition if the services were required for war service. The Admiralty replied asking him to carry on with the expedition. On their way round to Devonport they were met by a little French Torpedo boat which came down quickly on them. They informed the "Endurance" that Great Britain had declared war on Germany. As soon as they heard the news the party manned their rigging and cheered themselves hoarse. In looking back on things he thought that that was one of the greatest thrills he had experienced.

From Devonport they sailed to Buenos Ayres *via* Tenerife and Madeira. At Buenos Ayres Sir Shackleton and Wild joined the "Endurance" with a team of 75 dogs. It must have been a strange experience for those dogs, born and worked hard in the snow in Canada, to have gone over to England and thence to Buenos Ayres crossing the equator. All the dogs were very husky ones and they were of all possible kinds of breeds. The only thing common to them all was the wolf strain in them. It was however found that the dogs with the least strain of the wolf in them stood up to the hard work best.

All previous expeditions to the Antarctic Area had attempted the South Pole from the Ross Sea. That was in the New Zealand quadrant and therefore the jumping off place for those expeditions had been the isles off New Zealand. But Shackleton's expedition attempted the Antarctic from the less known Weddell Sea which was in the South American Quadrant. Therefore they made South Georgia their jumping off point. Though in the British Encyclopedia it was stated that South Georgia was an uninhabited island they found there a population of more than 1,000 all engaged in whale fisheries. There were only two Britishers in the island, one a magistrate and the other a meteorologist employed by the Argentine Government.

A very curious thing happened when the Expedition landed in South Georgia. Sir Ernest, to make the dogs comfortable, hired a number of old oil barrels to be used as kennels. Near each dog

one barrel was placed; but not a dog went inside the barrel; they all spread themselves over the top of the barrels and thus went to sleep (laughter.)

The Expedition left South Georgia on December 5 and proceeded to the ice pack. Mosman, the Scotch meteorologist who was the authority of those regions, had advised Sir Shackleton to go as far East as convenient before proceeding South. The detour was advised in order to secure for the Expedition fine weather. They went as far East as 15°W and got fine weather. But Nature is a game of give and take, and they found that the fine weather was a handicap in that the sea was not rough enough to break up the ice (laughter). The Party came across the ice pack in 56°S and had to push right through the pack up to latitude 77°S without coming across any open water.

The ice pack was navigated in the following manner. The navigation was directed from the crow's nest. The man in the crow's nest kept a look-out for likely lanes of water in the ice and picked out the lane most likely to lead in the direction they wanted to go. The lane was traversed to its end when another lane was chosen and so on. Sometimes they would be hung for days together before pitching upon a suitable lane.

On their way down south they sighted new land which was not on the map at all. Even though the land was all covered up with ice there was no mistaking the contours and undulations of land when they saw it. It was rather exciting to realise that they were the first people who had ever seen it.

In the middle of February (1915) they reached the farthest south point touched by the Expedition and were only about 20 miles from a place which looked a very likely one for landing. But then came winter, in February instead of in April! The ship was frozen in the mass of ice and every effort to free the ship proved futile. Therefore they had nothing to do but to stay in the ship throughout the winter when they had a continuous night. Although apparently stationary, the vessel was drifting north, away from their objective, with the pack.

The speaker next explained in detail the movement of the ice pack away from the Pole towards the north.

The Weddell Sea is practically a V-shaped bay.

The southerly wind from the Pole blows the whole of the pack norwards leaving open water. This wind is so cold that the open water soon turns into ice. So the pack originally blown north could not join the land. The open water which has been turned into ice is in its turn blown northward and kept there without possibility of joining back the land by the ice pack which newly forms over the open water. So it goes on and the whole of the ice in the sea ratchets to the north and anything fixed on it goes north also. The ice besides its main motion towards the north has also a circular motion to the west.

Continuing, the speaker said that in winter the Weddell Sea is a great sheet of ice with only some cracks here and there caused by the temperature differences. Perhaps in summer the ice floes cracked and separated either owing to its proximity to the sea, or to the opening out of the Bay or to the setting in of the warm weather. At first the ice pieces which broke away measured at least hundreds of square miles. Supposing that one great mass of ice of the size of Madras Presidency and another of the size of Bombay Presidency moved in slightly different directions (caused by little differences in the direction of the wind) and struck each other. Something must happen; and something did.' (Laughter). The edges of the floe crumpled up and fell over one another forming irregular hillocks. As sea ice was always very rough, there were hillocks all over the place with never a smooth bit of surface.

In October 1915 the "Endurance" got into one of the cracks formed by the breaking ice floe and the ship's stern post was crushed right into her. After pumping day and night for about six weeks they abandoned the task and left the ship for the ice.

The ship abandoned, the party had to make for the nearest land which was Paulet Isle, about 300 miles off! From the abandoned ship they were able to salvage about two tons of concentrated food which were safely packed in tin-lined chests. They planned to walk the 300 miles to Paulet Isle in about 30 days. Before starting they had two days' rest. The party had, of course, to carry the provisions and the boats along with them over the rough surface. They started out on sledges and the speaker was in the first sledge. On the first day on which they had planned to do 10 miles they found that they had travelled only 200 yards: (Laughter). At the end of four days they had covered about quarter of a mile

(renewed laughter). So nothing was to be done except to camp on the ice. They pitched the tents on the snow. All the tents had ground sheets; but they found that they had to make up the ground under the sheets once in every two or three days as the warmth of the body melted the snow underneath and gave them the feeling that they were going down (laughter). He supposed that if they had not made up the ground under the ground sheets every two or three days as they did, they would have ended up by being thawed up to the level of the water. They stopped at that camp till Christmas. But the camp was all the while slowly but surely drifting nearer their objective (Paulet Isle). The monotony of the camp soon told upon several members who became restless and wanted to move on—even in the South Pole there were people who would not let well alone: (Laughter). "After a time Shackleton was won over and Christmas Day was put on two days ahead!" (renewed laughter). They had an enormous feast and a day to sleep it off!

Thence they moved off marching at night time only, because the lower temperature made a harder surface to march upon. They made better going that time, marching a mile a day. After a week the condition of the ice made it impossible for them to go any further, and so they camped again and remained in that camp for three and a half months drifting all that time towards the north. They had to kill the dogs, because they ate the same food as they were doing and the provisions were running short. When the food was exhausted they started to live on seals and penguins which were available in abundance and also blubber! How did they relish the blubber? Well, it was all a matter of comparison and when they were hungry they found the blubber good food indeed: Once while on this camp they actually drifted past Paulet Isle (their objective!) about 20 miles off. But there was absolutely no chance of their getting to the Isle.

While they were thus drifting they came across an iceberg which came within an ace of destroying their ice floe and all! Explaining the icebergs the speaker said that while sea ice, being mostly surface ice, moved chiefly by the force of the wind, the icebergs which were enormous lumps of ice from the glaciers floated nine-tenths under water and were carried along chiefly by means of the currents in the sea. When the current is not flowing in the

same direction as the wind, the paths of the sea ice and the icebergs crossed, and the floes were crushed by the icebergs which made an enormous noise in the process.

Their camp all the while drifted towards the sea. The ice floe on which their camp was situated became smaller and smaller every day owing to its thawing with the warmth of the water and the temperature. The swelling sea broke up the edges of the floe easily owing to the want of tenacity of the sea ice. So they searched for and found a lane in the ice. They put the boats in the water and rowed down the lane until it was dark. Then they moved on to the ice and camped for the night. Just when they had settled for the night, the floe broke in two and they had to spend the rest of the night walking about. All the next day they rowed towards the open sea. At night the boats were tied astern on one another and paddled slowly. On the next night they anchored to a small iceberg and slept in the boats. The next day the berg to which they had anchored broke into large pieces of ice about three to four hundred weights each. These pieces were dashing against each other making it very dangerous for the boats to stay in the vicinity. So they rowed out to the open sea. That night they spent in the boats in the open sea. In the morning they found that all of them had been seriously affected by the frost. But they overcame that difficulty by knocking about one another (laughter). That was not altogether a nice night. Their oars became heavier by successive layers of ice, and they found it impossible to bale out the boats as the water had frozen into ice within the boats. They had to chip out the ice pieces which threatened to weight them sufficiently to sink them.

When daylight came they made for Elephant Isle. When they were some distance away from that isle, Sir Shackleton said "Every boat to itself" and two of the boats which had sails drew away from the rest. Then Shackleton countermanded his order. Soon after they reached the Isle. But it was impossible to stay on the beach where they had landed, as it was quite likely that at the first sign of rough weather they would all be washed away. So Wild was sent in a boat with a small crew to find a new home. He returned at night after having found a safe camping place. The next morning they all moved to that place. The following three days were very uncomfortable. It was a trying condition when

everything they had was damp. A strong wet wind was blowing and nothing could be got dry. They slept anyhow and anywhere and took advantage of the smallest shelter.

By this stage Shackleton decided that something drastic should be done to improve their condition and he provisioned out one of the boats with the object of taking a party with him to obtain relief for the rest. Shackleton took with him Worsley, Crean, McNevis, Vincent and McCarthy. Their boat journey to South Georgia across the dangerous seas was now a matter of history.

Wild was in command in Elephant Isle. With the object of providing shelter for the party, rooms had been excavated in the ice walls. But Wild found that those rooms were of no use. So two small walls of ice were built. On top of these walls the boats were capsized and the sides were covered with all the canvass they had. Thus a shelter was made and the party slept inside this. There they lived happily for three and a half months on meat diet! They killed and ate everything they saw. They cooked everything in a blubber stove they had improvised out of an old oil drum. So, as long as the animals came to them to be killed and cooked (laughter), they were all right. All the animals in the Polar regions were heavily coated with fat; the whales had a coating of fat about 18 inches in thickness, the seals about 2 inches and the penguins about $\frac{1}{2}$ inch. He believed the members of the party were themselves putting it on! (laughter). So the animals were killed and cooked in their one fat.

They were beginning to think that the party under Shackleton which had set out to obtain relief had been done in, when one morning one of the members of the party on Elephant Isle came running and shouted that a boat was coming towards the island. That boat proved to be the Chilean light-house tender which Shackleton had brought as a relief. As soon as he landed on shore Shackleton's first question was "Are you all well" and the reply was given "All safe and all well." They were all soon on board the Chilean light-house tender, making for civilisation and their first news of the world after two years. After all they did not find much in civilisation.

In the course of his replies to questions put by members of the audience, Capt. Hudson said that for food they had only seals and

penguins. They found that neither had any disease among them. At times they were forced to eat blubber only.

For clothing they had two light warm suits over which they put on a Burberry Mittens and leather sock were found comfortable foot wear.

They did not see much of aurora borealis while there, but the speaker had seen them north of the Shetlands. The aurora was not of a short duration like lightning but lasted for a long while sometimes even for hours on end. It was possible to see things by the light of the aurora.

Sir Ernest Shackleton died in 1922 and was buried in South Georgia in the midst of the surroundings he had so loved during his life time.

In the course of his concluding remarks Mr. G. G. Armstrong said it was difficult for them in Madras to realise what the lecturer had been telling them that evening in such a light-hearted manner. In their part of the world the sun was much in evidence. But in the Polar regions the sun was never to be found overhead and it would, to say the least, be never uncomfortably warm. The Captain made little of the difficulties that had been met and overcome by the heroic band of explorers; and he had mentioned their meal of blubber in quite a casual vein.

He was sure they were all very grateful to the Captain for his interesting and instructive speech.

After a vote of thanks to the Chairman and the lecturer, the meeting came to a close.

Forestry in Madras

Mr. R.D. Richmond, Chief Conservator of Forests, delivered an interesting and instructive address on 'Forestry in Madras' yesterday afternoon at the weekly meeting of the Madras Rotary Club held at the Gymkhana Buildings.

Mr. Richmond began by saying that it was not an easy thing to fix the date on which forestry was first regarded seriously in this province. A forest department was first formed in 1856; but for a very long time before that date the forests of South India were of considerable importance in connection with the supply of teak for the Bombay Naval shipbuilding yards and the gun carriage factory. But as they went on and no thought having been given to the future, teak became hard to obtain and it was this increasing difficulty which led in the forties to the commencement of the famous Nilambur teak plantations in Malabar. These plantations probably now constituted the most valuable forest property in the world.

The speaker then paid a tribute to the work of Dr. Cleghorn, Jogo and Turnbull in the department in its earliest years. It was in 1881 that the Forest Act was passed; and he believed that a forest conscience was of slower growth in India than it was in other parts of the Empire which had adopted a forest policy long after India had done so.

Proceeding, Mr. Richmond said:—

Following the pre-occupations in respect of finding teak for the Dockyards was a period of activity in setting aside areas for the supply of wood fuel to the Railways: and it is curious that it was not realised until much later that the public at large should be protected in respect of their timber, fuel and other demands upon the forest. This at last realised, there was feverish activity, so far as a very limited staff allowed of, in reservation, survey and settlement which continued until the early years of this century. Some forestry was practised in the meantime; makeshift arrangements were in force for the provision of produce and the realisation of revenue, but the main problems had not yet been tackled. Principally in connection with fuel supplies for the railways, but also for

other purposes, considerable areas of casuarina plantations had been formed, to be given up some twenty years ago as it was thought that this activity might well be left to private enterprise; while the beautiful woods of the Nilgiris had been saved from destruction by the formation of plantations of exotic species. This is perhaps the most striking item in the work of the early days of the department. The aesthetic value of the "sholas" remains and the Nilgiri towns enjoy a more ample and cheaper wood supply than any other hill stations in India.

Revenue value of Forests

As indicative of the direct value of forests to a country it may be mentioned that the gross revenue so derived over the whole of India and Burma in 1926-27 was four and a half millions sterling and the surplus revenue was two millions. From the earliest days the forests of Madras have paid their way. In sixty years there has been only one in which revenue has not covered expenditure and the forests of the Presidency have, in some fifty years, produced a total net revenue of 252 lakhs. The surplus has never been very striking; Rs. 25½ lakhs in 1919-20 was the highest, when there followed a number of comparatively lean years, one reason for which was the considerable rise in pay and wages following the war. But in the last two years there has been a very marked recovery, to a surplus of over Rs. 15 lakhs; and although nothing very spectacular may be expected, this surplus 130 times greater than it was 50 years ago, will steadily increase, as will the value of the forests, not only as a money-making factor but as a many-sided and invaluable asset to the country.

Fifty years is a short time in the life of a forest, but in that period much has been accomplished. A property, degraded by centuries of misuse, has gradually been improved and is being brought to a condition at which it can be made the fullest use of. It is commonly supposed that with the increasing use of metal the consumption of wood decreases. Such is not the case. The world's consumption of wood per capita is higher to-day than it was thirty years ago. Much, it is true, is devoted to paper-making—the increased use of paper is a sign of expanding civilisation—and a world shortage of soft woods is predicted on this account; but as countries develop and a higher standard of living is attained wood and more wood is required for better class dwellings and so on.

It is the duty of the forester to see that the property entrusted to his charge is made the fullest use of to ensure that the people are able to obtain their requirements with the least inconvenience and, above all, to see that the principle of the sustained yield is not deviated from. The forest represents the capital, what that forest puts on in growth in one year is the interest, which alone it is permissible to remove. But before it is justifiable to work a forest, it is necessary to know what kind of trees it contains and at what rate the trees grow, to devise the best methods of working with due regard to replacing the tree crop removed and to consider the difficulties of extraction and the prospects of marketing. It is only within the last few years that the staff, the means for doing this essential work, has been available, leading to the longest step forward yet taken in the development of forestry in the Madras Presidency.

Similarly, steps have recently been taken to undertake silvicultural research, to ascertain by centralised enquiry and experiment how best and cheapest to establish crops of the large number of different kinds of useful trees which occur—the teak, the rosewood, the sal, the sandalwood and a host of others. Some of you here may not be aware of the importance of the sandal tree to this Presidency. An insignificant tree, a parasite on its neighbours, it is responsible for an annual revenue of some Rs. 10 lakhs and, what with its ailments and vulnerability to theft is a source of perpetual anxiety.

Among other post-war efforts have been those towards utilising kinds of wood hitherto little used and working types of forest hitherto considered inaccessible—in fact, research on an industrial side has been undertaken. Results, many of them of a negative nature, have been obtained, much useful information has been collected, but the value of the timber extracted is too low to cover the cost of extraction; and the kind of intensive working involved by the use of machinery is unsuited to the hill forests of the West Coast. But a promising method of working is now being evolved and profitable exploitation is in progress. On flat ground the elephant will beat the machine, while, on the hills, man-power has established its superiority over other motive agencies. Saw-milling by Government agency has been tried and abandoned; it is probable that such enterprises should be left in private hands.

Wooden Sleepers for Railways

Another development of the last few years has been the supply of Railway sleepers, the number so supplied increasing annually. Not more than 44 per cent. of the sleepers used on the 40,000 miles of India's railways are of wood (I believe the total number of sleepers is some 63 million) and the use of metal is increasing, but there can be no doubt that the southern railways will always require wood to the full extent of the ability of Madras to supply it. Unfortunately, a project to render the less valuable timbers suitable for use as sleepers by preservative treatment came to nothing, a plan for the experimental manufacture of three-ply wood, which is so largely imported, sharing the same fate.

The forests of the country are badly distributed; very naturally they are principally confined to the hills and to land unfitted for agriculture; costs of production are high, leads by railroad are long and timber imported by water is able to compete successfully in many places with that produced locally. And many of the main users of wood fail to appreciate the fact that our own teak is, if anything, superior to that imported from Burma (to a value of some Rs. 80 lakhs a year) while a large number of the other kinds of timber are suited for a variety of purposes to which the more expensive teak is at present devoted.

Apart from timber, the forests supply the population with agricultural implements, fuel, leaves for manure, and grazing. Last year 20 million cubic feet of timber and fuel were exploited and grazing, at purely nominal fees—as low as 3 annas per cow per annum in some cases—was provided for nearly two million head of cattle. With the denudation of areas excluded from reservation, and of the private forests, the demands upon the reserves become more and more intense and it is the aim of the Department to increase, so far as funds and staff permit, the productivity of the forests in its charge. The people must be afforded a legal means of obtaining what they require.

Marketing of Forest Products

Something, too, has recently been done to improve the marketing of the great number of minor products—gums, canes, tanning and other barks, oils, flosses, fruits and so on—which the forests provide; while lac, the source of considerable revenue elsewhere, has now been introduced into several centres. But a great

deal remains to be done. The mixed nature of the forests, the large number of species occurring and transport difficulties—all operate to the disadvantage of forest industries such as match and pencil making and the manufacture of paper. It has been said that the bamboo of India and Burma will be able to supply the world's need in paper and it has been shown that an admirable paper can be made from this source. Arrangements have been made for the supply of paper to a private company in the presidency and it may be hoped that paper making from bamboo may soon be a locally established industry.

If some stress has been laid upon the financial and direct aspects of forestry it must not be supposed that the indirect benefits are not of the first importance. Without forests a country, particularly a tropical country, cannot exist. The reduction of countries to desert condition owing to the destruction of its tree growth has been apparent in many instances.

Effect on Water-Supply

The effect of forests upon the water-supply of a country must be obvious as is their function in the regulation of the run of the silting of rivers and the prevention of floods. Unhappily the results of neglect are slow in showing themselves, but one is personally aware of the gradual and progressive silting of the Godavari mouths, of silted rivers being unable to contain their flood water, of a river used not a century ago for floating our teak on its way to the Bombay dockyards no longer possible for such a purpose; while the repeated wash-aways of the Nilgiri road and railway in the last few years are due to one cause only, as is the repeated interruption of the East Coast Railway over a number of years. The forests of Madras protect seven million acres (and the consequential revenue of cultivable land under major irrigative works alone). This aspect of forestry, and the need for afforesting important catchment areas is generally overlooked and though its value in this regard is difficult to assess in rupees it is very great indeed. It is an aspect, which is in many respects more important than finance and it is this which makes forestry essentially an affair for the State. The financial side is important—every forest must be worked to its fullest capacity and must be perpetuated, working must be on the most economical lines, the people must be provided with their

requirements, but the other objects served by forests should never be overlooked.

The area of reserved forests now left in charge of the Forest Department is 15,500 square miles; so that the average area in charge of a district or division is as much as 550 square miles while some are far of greater extent. This is a more than sufficient task for any one man, even if considerably less than the 1,700 square miles I wandered round and round—unable to do much more—as one of my first district charges. Increases of establishment there have been, as a result of years of struggle, but the staff is on none too generous lines now and when one recalls how difficult it is to protect the small confines of our own gardens, it is easily realised what is the task confronting a small protective staff expected to prevent theft from over 15,000 square miles enclosed in 26,000 miles of boundary and in the immediate charge of only about 1,500 forest guards.

Education in Forestry

Forest education has not been forgotten. A school for the education of the lower ranks was instituted at Dehra Dun some fifty years ago. Under a few years ago the officers of the department were trained in Europe, first in France and Germany, and from 1887 in England; but there is now a course of training at Dehra Dun. A Forest College was established at Coimbatore in 1913 and is responsible for the training of the Rangers of Madras, the neighbouring provinces and Indian States.

Time prevents mention of the aesthetic side of forestry, its appeal to the lovers of natural history, of the fauna and of the wild. The life of a forester in India may be hard, he is faced with continued difficulties and discouragements; but few of us I think would choose a different career, had we to start in life again.

With a vote of thanks to the speaker the meeting terminated.

Geographia : By "Lance"

The Prince of Wales has recently declared that Geography is an Imperial subject. In this article, Lance discusses some of our hazy Geographical notions, and allows himself a certain amount of "latitude" with a map of India.

A. P. Herbert once courageously attempted his daughter's Geography paper in *Punch*. He apparently only knew two rivers in India, the Ganges and the Googlie. Of the Ganges he wrote, "Calcutta is at the mouth of the river, and they have a sweep there." Mr. Herbert evidently still remembers some of his school Geography, but how much he has forgotten! Indeed, most of us in our mature years have very hazy notions about the lay-out of the globe.

At a dinner party the other night, we fell to discussing certain well-established misconceptions. It all arose out of the statement made by Phyllis that Edinburgh lies west of Bristol. We scoffed at the notion, and some of us were not satisfied until an atlas was brought to the table. She was right, of course, and she was right again when she added that Moscow is south of Edinburgh.

Customs and climate are often responsible for false conceptions of relative position, and some of the facts that emerged from our discussion were almost startling. People in England who propose to take a trip to Morocco will probably talk about going to the gorgeous east, quite overlooking the fact that this colourful bit of the "East" is west of London. I suppose we are apt to view each continent as a whole, and apply our ideas of north and south, east and west, to the whole mass, irrespective of other masses elsewhere. It is when we come to compare these masses that we make astonishing discoveries, as for example that icy Labrador lies in the same latitude as that part of the British Isles stretching from Oxford to John O'Groats, or that Madrid and New York are on the same parallel, or that Winnipeg is south of Penzance. Again, at our dinner party, we thought Edward was pulling our legs about the Panama Canal. Everyone, he said, knows that the canal joins the Atlantic on the east to the Pacific on the west. Yet the

Atlantic end of the Canal is *west* of the Pacific end ; you go east to get west. We looked that up in the atlas too.

And what about India? Most of us are aware that Aden is south of Calcutta, Bombay and Madras, because we have followed the course of our voyage out and home, but do we realise that Calcutta is a long way north of Mexico City, or that Srinagar, Gibraltar and Los Angeles are roughly of the same latitude? Or will we concede that Amritsar is north of Jericho and New Orleans? I think too, that the majority would be inclined to say off-hand that flyers bound for Australia, crossing India by the Karachi-Allahabad-Rangoon route, bear south all the time. Yet Allahabad is actually north of Karachi.

And now get out your gazetteers and atlases.—*Times of India Illustrated Weekly.*

Outline of a Geographical Scheme of Education

(Approved by the Gidumal Sanskrit Pathasala, Hyderabad, Sindh)

The Geographical Scheme of Education summarised in this folder is based on the experience of Dr. James H. Cousins, formerly Geography Master in the High School, Dublin, Ireland, and Demonstrator in Courses for Teachers under Professor A. J. Herbertson and Professor Grenville Cole in the Royal College of Science in Ireland. The scheme formed the basis of the degree courses in Geography of the National University (India), and is at present followed in the school of Dr. Rabindranath Tagore, Santiniketan, Bengal.

The word *Geography* has until recently carried a burden of unhappy connotations in education in the form of dreary lists of names and facts imperfectly related to the interests of the student. But modern educational advance has done much towards raising the term to the dignity of its ancestry: Greek *Ge*, the Earth-Goddess; *Grapho*, writing; that is, the study of the Earth as a living entity; or, as we now interpret it, the study of the inter-relations of humanity and its environment.

The environment of humanity is a complex of phenomena which act simultaneously on human life, but which fall into three

groups of factors: (1) the *active factors* or climatic conditions, (2) the *responsive factors* or geological circumstances, and (3) the *vital factors* or living phenomena which manifest themselves through the interaction of the active and responsive factors.

These factors correspond to the *energy, substance and life* of science, and to the *Purusha* and *Prakriti* of the religion and philosophy of India. They are the *verbs, nouns and meaning* of the language of nature.

The whole process which is the subject of geographical study may be summarised as follows:

Changes of temperature caused by the movements of the earth set up movements in the atmosphere which, according to their direction, are wet or dry. These climatic factors, acting on the surface of the earth, produce the conditions through which the powers of life and growth which are inherent in the universe may express themselves.

The study of the factors in human environment will not follow a straight line from group to group over a number of years. It will be carried out in concentric circles enclosing a survey of all the factors at the student's level of knowledge. Each week's work will cover some aspect of the three factors. The three main stages of geographical progress, as indicated in the tabular statement below, will be distinguished mainly by a development of method.

In the primary stage the method will be that of observation based on local material and personal experience. This will develop the inductive capacity of the mind which derives principles from observed facts. Vital contact with the realities of nature will stimulate the pleasure and attention that produce accuracy and retentiveness.

In the secondary stage comparison will have developed, and its materials will be drawn from areas expanding from the local to the international. Comparison will lead to modifications in knowledge and understanding, and will develop the deductive capacity which applies ascertained principles to new facts.

Later, when the student can move in his and her universe with some assurance, the study of the more remote and subtle elements in human environment will complete the materials of

geocentric education, and provide the data for the synthetical study which belongs in its fullness to the college career of the student.

Each of these processes—experiential, comparative, synthetical—involves the others. They are distinguished in the student's progress by a change of proportion according to the growing capacity to handle larger groups of facts and their significances.

Outline of a Geographical Scheme of Education

The horizontal division of the tabular summary below show the three main stages in the study: experiential, comparative and synthetical. Sub-division will be made in the main stages according to circumstances in the school.

Local observation here means Hyderabad, Sindh. Extension will move to the Province, thence to India as a whole, then Asia, Eur-Asia, and the world. Other area-studies will arise as the work proceeds, such as the deserts of the world and their cause.

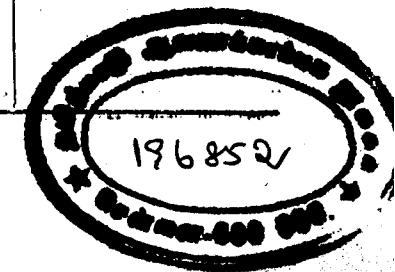
The vertical divisions show the progressive study of each of the three factors in human environment. These will accumulate materials for subsequent special studies. Collegiate courses will consist of research into special features of the study. Post graduate and adult-education courses will consist of synthetical interpretation of the interaction of the three factors in various areas.

Materials for the study are available in the numerous textbooks, atlases and gazetteers now published; but special value is set on the exchange of local data between schools because of their living interest.

A geographical education, such as that here outlined, co-ordinates the natural and human sciences, bringing into mutually illuminating relationship such studies, for example, as astronomy and botany on the one hand, and history and civics on the other. It lays the foundations of professional and vocational specialisation without loss of cultural balance. It develops the interpretative capacity which is the essence of wisdom. It generates understanding of the student's place among the wonders of the universe and therefore of the place of other individuals; and thus tends towards the establishment of the sympathetic community of interest among humanity as members of one diversified family which is the scientific basis of human unity and peace.

	ACTIVE FACTORS	RESPONSIVE FACTORS	VITAL FACTORS
FIRST STAGE: EXPERIENTIAL	<i>Temperature</i> Use of thermometer. School records and graphs of temperature. <i>Pressure</i> Use of barometer. School records of pressure. <i>Humidity</i> Use of rain-gauge. Use of hygrometer. School records. Inter-relationship of temperature, pressure and humidity, locally observed.	<i>Land Relief</i> Local irregularities in land surface. Elementary surveying. Modelling of land features. <i>Land Composition</i> Composition and history of main classes of local rocks. <i>Drainage</i> Boundaries, directions and influence of local rivers and water-courses.	<i>Vegetation</i> Local natural vegetation as influenced by active and responsive factors. <i>Animal Life</i> Local wild animal, bird and fish life as influenced by active and responsive factors. <i>Human Life</i> Local population and organisation of human life.
	<i>Temperature</i> Influence of altitude, latitude and sea on temperature. Mapping of areas of temperature. <i>Pressure</i> Similar study of influences and mapping. <i>Humidity</i> Similar study of influences and mapping. Comparative study of seasonal features and changes over large areas. Weather forecasting.	<i>Land Relief</i> Surface features of large areas. Railway routes. Advanced surveying. Map projections. <i>Land Composition</i> Composition and history of rocks over large areas. Fossils. Metals. Soils. <i>Drainage</i> River systems of large areas. Ocean basins and depths. Tides. Currents. Trade routes.	<i>Vegetation</i> Cultivated vegetation as influenced by active and responsive factors. <i>Animal Life</i> Domesticated animal life as influenced by active and responsive factors. <i>Human Life</i> Distribution and varieties of population as influenced by active and passive factors. Agriculture. Industry. Social organisation. Culture. Religion.
	<i>THIRD STAGE: SYNTHETICAL</i> Study of the climatic conditions of the world; and of their inter-relations, and their influences on the surface features and the life of the world.	Study of the surface features of the world; and of their reflections on one another, and their modifications of the climate and life of the world.	Study of the vegetable, animal and human life of the world; and of the inter-relations between them, and their reactions to and influence upon the climate and surface of the world.

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Group (vii)—Geography

In the B. A. Degree Course of the Madras University

The course shall comprise the study of (i) Regional Geography, (ii) Economic Geography, (iii) Physical Basis of Geography and (iv) Cartography.

The syllabuses for the above subjects will be prescribed from time to time.

The Examination shall be a written one and the scheme of Examination shall be as follows :—

- | | |
|--------------------------------|------------|
| 1. Regional Geography—I Paper | — 3 hours. |
| 2. do. —II Paper | — do. |
| 3. Economic Geography | — do. |
| 4. Physical Basis of Geography | — do. |
| 5. Cartography | — do. |

The divisions for the special minima shall be (1) Regional Geography and Economic Geography (2) Physical Basis of Geography and Cartography.

Syllabus

(1) **Regional Geography** :—The study of a larger region, such as a continent or continents and a more detailed study of a smaller region—both regions being prescribed from time to time.

(2) **Economic Geography**.—

(i) **General relations between Physical and Economic Geography** :—The influence of physical features, climate and the nature and distribution of soils and minerals on the distribution and growth of vegetation and animal life, and on the occupations, health and efficiency of man.

(ii) **Chief World Commodities** :—Distribution and conditions of production, relative supply and markets. Foodstuffs of vegetable and animal origin—mineral products—materials used in the textile industries—rubber, oils, timber, leather, and other articles of importance in the world commerce.

Chief Industries :—Their regional distribution, special attention being paid to textile, iron and steel, ship-building and

chemical industries—sources of mechanical power—the labour force in various parts of the world.

(iv) **Transport and Trade-routes** : inland and oceanic—relation to hinterland and markets. World ports—Exchange of products. Development of new regions and sources of trade.

(v) **Study of a particular region** other than that selected for special regional study—to be prescribed from time to time.

(3) **Physical Basis of Geography** :—

(i) (a) An elementary knowledge of the common rocks and of the simple geological structures and of the influence of geological factors on land forms.

(b) A very simple and general treatment of the geological history of the earth's crust, indicating the main features of the great geological systems—Archaean, Palaeozoic, Mesozoic, and Tertiary.

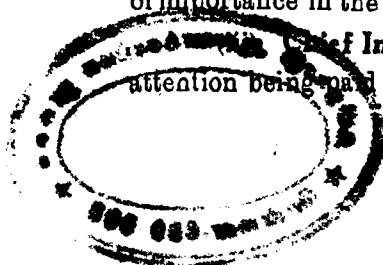
(ii) A more detailed treatment than in the Intermediate syllabus of the surface features of the Earth with special reference to the evolution of land forms and to the various theories which have been put forward to account for their development.

(4) **Cartography** :—The study and interpretation of topographical maps of various scales and types, and of very simple geological maps. Methods of showing relief and other features. Scales and their transformation. A knowledge of the principal maps in use in the chief countries of the world and the 1-M International map.

Simple methods of survey, including the use of the chain, the plane-table, prismatic compass, and the clinometer.

The principles of the following projections :—Mercator, Mollweide, simple conical, Gall's stereographic, orthographic, and Lambert's equivalent azimuthal. Candidates are expected to know the principle underlying each projection, its defects and its suitability for particular purposes or areas. They should be able to identify each projection as far as possible by inspection or rough measurement.

Candidates will be expected to show some acquaintance with field work ; and their field work note-books will be submitted for scrutiny.



First Geographical Conference

HELD AT

The Training College for Men, Poona

January 12 and 13, 1931

PRESIDENTIAL ADDRESS

BY

Mr. K. S. VAKIL, M. Ed., F. R. G. S., I. E. S.,

Educational Inspector, S. D., Dharwar.

LADIES AND GENTLEMEN,

I thank you very much for the honour you have done to the profession to which you and I belong by inviting me to preside over this Conference. The usual custom is to invite gentlemen outside the teaching profession to preside at such educational conferences. You have chosen, however, to make a new departure by selecting one of your own fraternity for the purpose. Let us hope that the choice may not prove altogether ill-advised.

This Conference is, so far as I know, the first of its kind in this Presidency, and Principal Tawde and his co-workers deserve to be congratulated on the very notable and welcome step they have taken in singling out geography from amongst the school subjects for discussion at this Conference. This very choice demonstrates in a telling manner the importance that has come to be attached by present-day teachers to this subject as an item in the programme of school education.

To realise the remarkable change that has come over the attitude of teachers towards this subject during the last few years, we have only to recall how we were taught and how we learnt geography in our own school days. Both teachers and pupils of the unhappy school days that are now happily gone looked upon geography as the most hateful of all school subjects and hated it as they hated none other, and wondered all the time they taught or learnt it what could be the purpose of the educational authorities

in including such an execrable subject in the school curriculum. They regarded it as a purely book-subject to be taught and learnt directly from the prescribed text-book without any deviation whatsoever from the order in which it was treated therein. Its teaching and study commenced, uniformly in the case of all countries and continents, with—boundaries; seas, bays, straits, and gulfs; mountains and rivers; products; political divisions; towns and cities; exports and imports; etc. Most of us can easily recall, for we can never forget, how our teachers in teaching the Geography of England and Wales, Scotland and Ireland in High School Standard IV insisted on our learning the names of all the counties of these countries and the principal towns in each in the very order in which they were given in the text-book and how any change in the order in which they were given in the book or any omission therefrom was punished as a serious default. The only circumstance that somewhat enlivened the gloom that shrouded the teaching and learning of geography was the occasional use of the school map to get the pupils to note the positions thereon of seas, bays, gulfs, capes, mountains, rivers, etc. that they had learnt by heart. How changed are those irrational ways of teaching and learning geography! The movement for greater attention to this subject and for the adoption of rational methods of teaching and learning it began, if I mistake not, with its recognition as a separate subject of examination at the School Final Examination instituted by the Educational Department in 1905. Ever since then, it has received greater attention at the hands of teachers and pupils; and inspecting officers have insisted on the adoption of better methods of teaching it. The school map has been supplemented by the pupils' atlas and the text-book has been supplemented by charts and pictures illustrative of geographical facts. The magic lantern has also come in as a useful aid in its teaching and the cinema is awaiting introduction as a still more useful aid in enlivening its teaching and study, particularly the human aspect of it, which is by far the most important part of geographical instruction and study.

To school teachers and pupils, geography is not the science of the Earth. It is, to them, the story of the earth which is their home, their dwelling place. While literature unfolds and exposes man's inner nature, his passions and emotions, while history relates the story of man in relation to his neighbours, geography

tells the story of man in relation to his physical environment. For the study of man's nature, of his relations to other peoples, and of his relations to his natural environment it is necessary that every complete scheme of school education should include the teaching of literature, history and geography. That is why these subjects have been included in all school courses as obligatory subjects of instruction. Their teaching, however, fell in the hands of teachers ignorant of their value in the scheme of school studies and of the right methods of approaching them, who know little or nothing of the subjects beyond what was given in the text-books and who took it to be their duty to impart knowledge of these subjects as given in the prescribed text-books. Thus, teachers, instead of maintaining their position as masters of text-books, became their slaves. But text-books, though they are good servants, are bad masters. Once you allow them to be your masters, there is no end to the extent of your degeneration. You get satisfied with the knowledge of the subjects you have to teach as it is given in the text-book; you confine yourself in your teaching to the limits thus set by the text-books; you tend to adopt the text-book writer's method of treatment of the subjects; you cease to look beyond and to progress; you become indolent; and you rust and fossilize. A worse fate overtakes your pupils. They are required to confine their study to the prescribed text-books and they are thus limited in their range of outlook towards the subjects, they have little or no interest evoked in the subjects and they begin to look upon their study as nothing less than imposition.

These attitudes of teachers and pupils towards these important subjects of school study, particularly geography, were and are often encouraged by the ignorance and lack of vision on the part of inspectors and examiners. In spite of all the efforts on the part of teachers to rationalise the teaching of this subject, little real improvement or progress can be expected if examiners and inspectors ask questions which require pupils merely to reproduce and recite lists of names of mountains, rivers, and lakes; bays, straits and gulfs; countries and towns; exports and imports; etc. As the late Lord Rosebury rightly observed while opening the London Day Training College in 1907, what we need is not merely training of teachers but also training of examiners and inspectors, for it is this latter class of functionaries that set or retard the pace of progress,

If their methods of inspection and examination are intelligent and suggestive, they induce a progressive attitude of mind on the part of teachers; if their tests and questions require mere reproduction or recitation of dry facts of physical, economical and political geography as given in the text-books, they tend to induce an attitude of self-complacency on the part of teachers and effectively block the path of progress.

To my mind, the study of geography could be easily deprived of all its dryness and distastefulness and rendered positively interesting, if teachers were to treat it not as *formal* but *human*, having the closest relation to every-day life in the world in which we live and not at all requiring the text-books either by teachers or by pupils except as supplementary aids. To start with, the earliest lessons in geography may well be based on common foods and drinks and on articles of clothing and of every-day use in the household, such as rice, pulse, bread, vegetables, water, milk, whey, curds, tea, coffee, sugar, molasses, firewood, charcoal, oil, butter, kerosene, matches, bed, blanket, dhotar, shirt, cap, etc., which would provide suitable subjects for interesting talks by teachers to pupils and for investigation by the latter in their own child-like manner. Attention may next be directed to the study of the school, its distance from the pupils' home, its location in relation to the home, its size, its constituent class-rooms, their length, breadth and height and the objects placed in them, its distance from notable places in the locality such as the temple, the mosque, the dharmashala, the chavadi, the water tank, the river, the post-office, the railway station, the police station, etc. Attention may next be turned to the study of the part which these places play on the life of the people of the locality; to the different castes, races, religions, manners and customs, dress, food, etc., of the people; to local officials and functionaries; to local animals and plants, etc. Thus, the first beginnings of geography-study would be woven round the home of the pupils and would use, as materials for such study, not facts given in any particular text-book of geography but things lying within the reach and daily experience of the pupils. Thus, would the foundations of geography-study be firmly laid and real interest evoked in the subject. Such study would involve more outdoor work than indoor classroom work and necessitate much free open

air movement on the part of the pupils round about their home and school and principal places in the locality and much detailed and careful observation of their physical environment which would all conduce to their health and happiness besides adding to their knowledge.

Teachers little realise what valuable use they can make in the teaching of geography, of the local provision-dealer's shop, of the local post office, and of the local or nearest railway station. The provision dealer would be able to show what provision or articles of common food and drink he had to import from outside because they were not produced locally; the post-master would show how his post-office was the centre of communication with the outside world and served the various practical needs of the people, not only of the locality in which it was situated but also of those living outside—far and near. The railway station-master would be able to show to commodities being loaded into and unloaded from the goods-vans lying in the goods-yard and thus indicate which things were produced in larger quantities than were required for local consumption and which in smaller quantities or none at all. Thus would interest be created in local economics which touch the the pupils' life as much as the local exporter's or importer's.

I would advise teachers to do all their teaching of geography as far as possible without the use of text-books either by them or by their pupils in the class room. In my view, this is the only effective way of making it really interesting. The only aids that they and their pupils should feel free to use in the class-room are maps, atlases, charts, pictures, the lantern, and the screen. Remember that the ultimate aim in education is bookless teaching. The more we approximate to this aim in practice, the better will it be for us and for our pupils.

The next thing I would suggest to teachers is to endeavour to create immediate interest in the subject of their geography lesson by connecting it as far as possible with the pupil's life and environment. They should always ask the question—why should we study this subject? What interest has it for us? Thus, while beginning the geography of our province, presidency, or country, we may evoke interest in it by introducing it as the story of the province, presidency or country to which we belong, as the story which we ought to know for our own sake if we would know our neighbours

with whom we have to deal in the various affairs of our daily life. We may similarly introduce the geography of Asia as the story of the continent to which we belong, the continent which was the birth-place of our religion and of the religions of others who live with us, the geography of Europe as the story of the continent to which our rulers belong—the continent to which we owe our postal system, our railway system, our telegraph system, in fact, almost everything new ^{you know} which has made life easy and enjoyable; the geography of Africa as the story of the continent which have suffered from their physical conditions more than any other people, whose progress in the human race has been retarded by natural circumstances over which they had little or no control; the geography of America as the story of the continent to which we owe the wonderful motor car which has annihilated distance between the village and the taluka town, between the taluka town and the zilla town, between the zilla town and the capital city of the presidency.

Further, each lesson in geography should be based, as far as possible, on the local or home geography with which the pupils may be familiar. Thus, if the subject of the lesson is the races of mankind, we can draw for the materials of our lesson on the different races of people who are living among us, and whom we have had occasion to see, *e.g.*, brown people, white people, black people and yellow people. The only people pupils cannot have seen are red people—the American Red Indians, whose story may be told through pictures illustrating their physical build and facial features, life and occupations, manners and customs. If the subject of the lesson is the climate of any particular country, the materials for it can be collected easily from the climate of the school locality. Thus, can local or home geography be made the starting point of each lesson in geography.

Further, every opportunity should be taken to correlate geography with history. Thus, for instance, while beginning the geography of Arabia, we may interest our pupils in it by telling them that it is the story of the country which gave birth to Muhammad, the Prophet of the Mussalmans who are living with us and who form one-sixth of the population of our country. Similarly we can introduce the geography of Bihar as the story of the birth-place of Buddha who gave religion to one-third of the human race, of

Palestine as the story of the birth-place of Christ, of China as the story of the birth-place of Confucius, of Portugal as the story of the birth-place of Vasco-da-gama, of Italy as the story of the birth-place of Columbus, of France as the story of the birth-place of freedom and popular government.

Further, geography may be used as the means of explaining how the present social, economic, and political condition of different peoples and countries of the world has been largely determined by their natural environment. For instance, it may be explained how great a part has geography played in determining our present position, how mountains and seas encircling our country have circumscribed our view of life and our outlook on it and made us immensely orthodox, how bountiful nature, ample sunshine, sufficient rain-fall, and rich soils have made our country predominantly agricultural and our people self-sufficient, self-satisfied, and unprogressive, how the Khyber Pass and Bolan Pass, the two narrow gateways to India on the north-west, led to periodical incursions and expeditions to this country by peoples living beyond its frontiers and how the incoming of these foreign peoples has chequered its history.

Remember, however, that there is not one method of teaching geography in schools. There are many. Each teacher is free to devise his own, subject to the general educational considerations indicated above. Who would not feel interested in geography if it were thus taught rather through maps and pictures than through printed text-books; as a subject of immediate interest to us; as a subject easily explainable and understandable through knowledge of our own home surroundings; as the story of the birth-place of the world's greatest men; as the means of understanding what is largely responsible for our present social, economic, and political condition. I am sure that you will agree with me that Geography thus taught, would be not only learnt without tears but that its study would be pursued with enthusiasm as lover's labour. Its study, thus pursued, would have a most humanising influence on young learners and would tend to shake and ultimately knock down the barriers that divide the different peoples of the world and to unite them into one universal brotherhood.

Hints and Comments on the S. S. L. C. (A—Group) Syllabus in Geography

Having finished the Southern Continents and North America in Form IV, the pupil takes up Eurasia for study in the Vth Form. He is now concerned with learning the Geography of the Old World which has a long historical back-ground and a complex social, political and economic life. He now completes his knowledge of the terrestrial whole by making frequent comparisons between the regions of Eurasia now studied and the corresponding regions in the other continents. Moreover, he rounds off the study of the Home Country in this class. Hence, one full year has to be devoted to this part of the syllabus.

We shall discuss in this article the treatment of the subject-matter, cutting it up into lessons at the same time. As has been pointed out in the previous article, about 50 periods in the year will be available for the subject at two periods per week; and of these about 32 lessons can be devoted for the General and Regional Geography of Eurasia, excluding India for which about 18 lessons may be required.

The study of the relief and rivers of Eurasia would need three lessons not only on account of the size and complexity of the double continent, but also because similarities and dissimilarities with North America have to be brought out fully. Further, position and surroundings, though not mentioned in the syllabus, will have to be dealt with at first.

The climatic study of Eurasia is typical of the method that should be followed in this class. For, all the climatic principles, established concretely and inductively in the study of the other continents, find their application and revision in this continent. Comparison with North America in this respect is particularly interesting and profitable. In presenting a picture of the natural regions of Eurasia, the close correspondence with those of North America and of the southern continents should be emphasised, so that a generalised view of the natural regions is obtained according to the particular conditions of location. By such frequent

comparisons the general principles of Geography are well driven home, while automatic revision of facts and topics regarding the continents already studied is carried out. Five lessons are suggested for the climate and natural regions of Eurasia, thus making up a total of 8 lessons for the General Geography of Eurasia.

In treating the regions one by one the necessity for proportionate treatment cannot be sufficiently emphasised. For one thing, the portion will have to be finished within the available time and this can be done only by the teacher confining himself to the salient points and the fundamental and characteristic features of each of the regions, and not by being tempted into a systematic and exhaustive treatment of them. It has to be remembered that the A-group syllabus is meant to be an outline study, with an emphasis on the essentials only.

In the *British Isles* the influence of the sea and the climate on the life and activities of the people and the industrial regions and their outlets are the topics for special study; and three lessons are suggested for the region.

In the *Western Mainland of Europe*, each political unit, while possessing certain common characteristics, stands out distinctively for a particular type of activity which should receive special treatment. For example, France is both an agricultural and an industrial country; and the conditions making for the difference should be brought out. Again the location of the country on the overland route to the East is important. The industrial character of Belgium, the colonial and maritime activity of Holland, parts of which had to be reclaimed from the sea, the co-operative dairy-farming of Denmark, and the industries, forestry and agriculture of Germany are aspects to be stressed. Three lessons are suggested for this portion, one each for France and Germany, and one for Belgium, Holland and Denmark together.

In the *Scandinavian Peninsula*, the lumbering industry and the use of water-power in Sweden are important. In the border states of the Baltic margin, we find outlet areas cut off politically from their natural hinterland in Russia. Two lessons will do for this *Baltic Region*.

In the *Central Highlands of Europe*, the minerals and industries of Czecho-Slovakia, the farming of the Hungarian plain, and

the use of water-power in the Alpine region are aspects of study needing emphasis; and three lessons are suggested for the areas.

In the *Mediterranean Region*, plant adaptation to conditions of summer drought and culture of fruits and cereals, studied with reference to other similar parts of the world would be revised and summarised. The effects on the life and activities of the people of the lack of coal in the Iberian mineral area and the presence of water-power in the fertile Transjordanian plain afford very interesting studies in contrast which should be brought out to the pupils. The historical importance of Rome and Italy should not be out of sight of. Not more than three lessons would be required for dealing with this region.

The *South-West Lands of Asia*, sometimes called the Land of the Five Seas, is a region of plateaus and deserts, and has been important through the ages as an overland highway between the East and the West. Turkey lies in this region; and the one alluvial plain here, Mesopotamia is being rapidly developed after the Great War. Two lessons would be enough for dealing with this area.

Central and Northern Eurasia contain fertile wheat and pasture lands in South-Eastern Europe, desert areas in Central Asia, and the tundra, the temperate forest and the temperate grassland in latitudes corresponding to those of similar regions in North America. But the contrasting development in the two continents, due to the difference in the human factor, needs to be well brought out. Only two lessons are suggested for all this wide area.

China, Japan and Indo-China (including the *East Indies*) are all monsoon lands with a large industrious population, though of them Japan alone has developed industrially. Six lessons are suggested for these lands at two for each.

This distribution makes up a total of 32 lessons so far.

For obvious reasons *India* has to be treated in greater details, and 18 lessons are suggested for its study as shown below:—Three for position, relief, etc., four for climate, etc., two for vegetation and animals life, one for peoples, one for occupations and industries, one for trade, transport and sea-ports, five for the survey of the provinces and states and one for Ceylon.

The present fifth form pupils who had to follow the original syllabus last year in the fourth form have already done the Geography of India, and for them this portion is a matter of revision. The

time thus gained would not, however, be enough for completing the Americas, which according to the present syllabus is to be done in the fourth form and which was not done in that class last year. Hence, as a special case this year a part of the fifth form syllabus will have to be carried to the sixth form next year. It can, however, be easily finished then, as the amount of work to be done in that class will occupy only half the year (as will be shown later), and even that is practically ~~revising~~ ^{revising} the portions completed in ~~previous year~~ ^{previous year} but "posting up in the ledger."

As regards the method of treatment, suggestions made in the previous article, regarding map-reading, map-filling and map-correlations, hold good here also. Other aids to teaching such as pictures, readings, statistics etc., will all be used, making the treatment realistic and interesting.

In the next article the syllabus for the sixth form will be taken up and discussed similarly, after which teaching notes will be given in each number of the Journal on important topics in the syllabus. Queries regarding doubts and difficulties will also be answered.

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

Reviews.

School Atlases

Essential for the study of Geography in schools is the provision of good atlases which the pupils can use by themselves; and these, like the text-books, need to be specially prepared for the country in which they are to be used. Formerly atlases prepared for use in English schools with a number of special maps of British Isles and the various European countries with only one or two maps of India were the only available ones for use in our country also. Luckily, things have now changed; and we are glad to be able to review below a few atlases specially prepared for use by Indian pupils. In a back number of this Journal we had already reviewed J. Bartholomew's Indian School Atlas, published by Oxford University Press,

The INDIAN SCHOOLS IMPROVED ATLAS.—Published by the Calcutta Fine Art Cottage, Calcutta, Price Re. 1 as. 8 (available through the Indian Publishing House, Limited, Madras.)

This is a creditable Indian venture, and contains a large sized physical map of India folded in, and half a dozen special maps of India, besides the other maps which are usually found in pupils' atlases. The inner pages of the wrapper contain diagrams of astronomical geography and statistics of population for Indian provinces, states and principal towns. A useful index is also appended. An improvement in certain physical maps such as those of Europe and North America by making the green colour on either side of 600 feet contour more distinct and the inclusion of the physical map of Australia are suggested for the next edition.

PHILIP'S SCHOOL ATLAS (Indian edition). Published by George Philips and Son. Price 8d.

This is a cheap atlas containing 16 coloured maps and four extra maps of India. The maps are good so far as they go, the colours being clear and the types distinct. But for use in the middle schools here the names have to be in the vernacular; and for use in the high schools some more important maps are required such as the physical maps of the continents and maps of some of the more important countries like the United States of America and the Dominion of Canada. It is, however, a good atlas for the price.

LONGMANS' VERNACULAR ATLAS (Tamil and Telugu editions). Published by Longmans, Green and Co. Price 12 as.

This is a marvel of cheapness combined with utility, and has been specially prepared for South Indian Schools. It contains several special and sectional maps of India and some astronomical diagrams. The types are clear and the names are not too crowded. We can strongly recommend it for use in our middle schools, as well as in such of the high schools as teach the non-language subjects in the mother-tongue. The absence of an index is, however, a sad drawback which detracts from its usefulness.

THE TAJ MAHAL ATLAS OF COMPARATIVE GEOGRAPHY. Edited by George Philip (Longmans, Green and Co., Madras). Price Re. 1 as. 5 ps. 6.

This is an atlas highly useful for high school pupils in India. It contains a series of 32 coloured plates, containing 70 maps and plans, printed in colours. An introductory letterpress of 8 pages, illustrated by maps, contains useful information regarding geographical terms, principles of relief, statistical summary for the world and for India, the chief world crops and 8 historical maps of India. Other important features of this atlas are systematic maps of the World showing climate, density of population etc., several special and sectional maps of India and a useful index with phonetic spelling of foreign place names. This atlas can strongly be recommended for use in the high school.

W. AND A. K. JOHNSTON'S ENLARGED ATLAS FOR INDIAN SCHOOLS. Published by Messrs. Macmillan and Co., Price Re. 1 as. 6.

This is another good Atlas useful for the high school pupils. It contains, besides an index, over fifty maps consisting of systematic maps of the world, special and sectional maps of India as well as sectional maps of Asia, Europe and North America.

VERNA CULAR ATLAS FOR INDIAN PUPILS. (Tamil edition) Published by Macmillan and Co.

This is another good Atlas for special use in South Indian middle schools. Besides physical maps of all the continents, it contains special and sectional maps of India, astronomical diagrams, and illustrations showing the difference between picture and plan. The types are clear and the names are not overcrowded.

Practical Work

GEOGRAPHY THROUGH MAP-READING: No. 1 British Isles, No. 2 Europe, No. 3. The British Empire, No. 4. Africa and No. 5 Asia. (Humphrey Milford, Oxford University Press).

This is a series of useful books on practical work connected with map-reading and the use of reference books, and contains exercises intended to throw more responsibility upon the individual pupil. It provides also a continuous set of problems which are well connected with everyday affairs. The questions are generally simple and suggestive, while there are some which call for team work and class discussions, and require consultation with several

maps. The series can be recommended for use side by side with any good text-book for the study of particular continents.

FOUNDATION EXERCISES IN GEOGRAPHY: Part I.—British Isles, Part II. Europe; Part III. The Americas; Part IV. Africa Asia and Australia; and Part V. The British Empire. By E. G. R. Taylor. (George Philip and Son.) Price 6d. each.

Each of these five books contains thirty sets of exercises, with accompanying maps, especially designed for juniors, to provide them with a substantial groundwork in the subject. The method followed is to get the pupils to copy each of the sketch-maps in the book on the left-hand side of their note-books and the descriptive sentences of the exercises on the right-hand page. The exercises contain blanks, marked with dashes, which they are to fill in with suitable words by examining the accompanying maps. This is certainly a desirable way of making the pupils observe and think, while helping them at the same time to memorize in an easy and pleasant way both the facts and the outlines.

(1) ELEMENTARY EXERCISES IN MAP WORK, (2) INTERMEDIATE MAPPING BOOK, and (3) SENIOR EXERCISES IN MAPPING AND MAP-READING: by V. C. Spary. (University of London Press). Price 9d., 9d. and 1sh.

This series of three books, containing graduated exercises, is intended to give the pupils an understanding of the methods of representing relief by contours and then to lead them gradually on to read and appreciate the features of different kinds of maps.

The first book attempts to supply the right kind of examples needed for a proper understanding of contour reading and map work. The second one introduces the pupils to section-drawing, interpolation of isotherms, the study of geographical influences determining town-sites and the preparation of distribution maps such as those of population and crops. In the third book, work of a more advanced kind is provided such as the description of typical land forms and areas from maps and section drawing, the mapping of described areas, advanced exercises in interpolation, and preparation and interpretation of climatic, economic and town-site maps.

THE STUDENT'S OWN CONTOUR ATLAS AND GEOGRAPHY: The World (7d.); Europe (5d.); The British Isles (5d.); America

(6d.) ; and the British Colonies (7d.). Published by the Grant Educational Co., Ltd., London.

These books contain a complete series of physical, continental and general outline maps, intended to be filled by the pupils with different sets of geographical features and used for interpretation by bringing out the inter-relations between the different maps. The pages of squared paper included in the books may be used for calculating areas and measuring distances, in finding comparative sizes of countries, and in recording growth and comparative size of populations, exports and imports, heights of mountains, rainfall etc.

THE PREPARATORY GEOGRAPHY: by W. J. Barton and W. L. Bunting. (Oxford University Press.)

This is a series of five books, containing graded exercises given on the left-hand page to be worked out in the sketch-maps on the opposite page. It provides work for seven terms, taking the pupils through a course of British Isles and Europe in the first three terms, and of the other continents in the next three terms, closing up with a course of the "Home Country" (the British Isles) and the World in the last term.

PHILIP'S GEOGRAPHY BOOK: by J. H. Hack (George Philip and Son). Price 7d.

This is a geographical observation note-book for making climatic, astronomical and other records by the pupils themselves quickly and effectively. It is intended that these records should be used for the deduction of abstract principles.

மனிதனின் இருப்பிடம் (THE DWELLING-PLACE OF MAN), by C. Morrison. (Macmillan and Co.) Price annas 8.

OUR HOME (IN TAMIL) by C. Morrison. (Macmillan and Co.) Price annas 8.

ATLAS GEOGRAPHY OF INDIA (IN TAMIL) by B. C. Wallis. (Macmillan and Co.) Price annas 6.

This is a graduated series of Geography books in Tamil, intended for the use of the preparatory classes of South Indian schools. They are written on quite modern lines, and are profusely illustrated the first two with pictures and the last with sketch-maps and diagrams. Mr. Morrison's books are in the descriptive

style of which he is a master, and are admirably suited for children's reading ; while the Atlas Geography of Mr. Wallis (a translation of his well-known English book) contains plenty of practical exercises, which would serve to drive home the facts learnt. We would like to see these books replacing some of the old world Geography books still being used in our schools.

A NEW HUMAN GEOGRAPHY OF THE INDIAN EMPIRE AND CEYLON, by C. Morrison. (Tamil edition by Mr. N. Subrahmanyam ; and Telugu edition by Messrs. B. Ramachandra Rao and C. K. Govinda Rao). Published by Macmillan and Co., Price annas 12.

This is a book on refreshingly novel lines, combining strictly scientific treatment and a pleasant descriptive style ; and amply illustrated with pictures, maps and diagrams. The regional method, which has been frankly and fully adopted in place of the political, and the practical exercises at the end of each chapter add to the merit of this book, which is advanced enough to be used in the High School. In fact, it is just suited for that part of the A-group syllabus in Geography which deals with India in the remodelled S. S. L. C. Course of the Madras Educational Department. The book is interesting reading for the general readers also who desire to learn about the Geography of their mother-country in the mother-tongue. The low price of annas 12 for a volume of nearly 250 pages brings it within reach of all.

DISTRICT GEOGRAPHICAL HISTORIES : MADRAS CITY, by Mr. C. S. Srinivasachari.

MADURA DISTRICT, by Mr. M. S. Ramaswami Iyengar. (Oxford University Press.)

These are the first two books of a series, projected by the Oxford University Press, dealing with the history and geography of the various districts in the Presidency of Madras. They consist however, more of history than of geography ; and the geographical portion is treated more as introductory for the history. The books are intended for use in the lower classes of the schools within the respective districts, and are written in simple and elegant Tamil, and illustrated with several pictures and a district map. Facts which are scattered in several official publications and have been the results of laborious research have been made available in this little

volume, which can be used not only by school-boys but also by others in the district who often remain ignorant of the locality they live in, of its past glorious history, and of all the other reasons for which it is well-known to a more enlightened world. The use of such books in schools will serve to kindle a local pride and a local patriotism, which form the beginnings and the real basis of national patriotism.

The neat get-up and the bold and clear type have added to the attractiveness of the volumes.

THE LIVING WORLD GEOGRAPHIES : Book I. THE WORLD IN OUTLINE, by J. T. Mulley. (Edward Arnold and Co.). Price 1sh. 3d.

This is a first book of formal World Geography after the descriptive or preparatory stage is over. After a few preliminary lessons on the General Geography of the World as a whole, the treatment proceeds regionally, the world being divided into about a dozen broad natural divisions. The language is simple and clear, and the volume is illustrated copiously with maps, sketches, diagrams and pictures. Practical exercises are appended to each chapter.

THE EXCELSIOR GEOGRAPHIES : Part I. Physical : THE SUN'S INFLUENCE UPON THE EARTH, by E. R. Shearmur, (G. W. Bacon and Co.). 2sh. Paper.

This book is an elementary treatise on Physical Geography, dealing mainly with the climatic principles of world geography and the resulting distribution of plant and animal life with their chief characteristics and influences on human life and activities. The treatment is concrete and realistic ; and the book is well illustrated with coloured plates, sketch-maps, diagrams and pictures, and contains summaries, statistical tables, and practical exercises.

SIX LECTURES IN GEOGRAPHY : issued as a supplement to the South Indian Teacher, Vol. 2, No. 3. With a foreword by Mr. B. G. Grieve. Price annas 8.

The book contains a resume of the lectures delivered at a Refresher Course in Geography arranged by the Madras Teachers' Guild in February 1929, on the eve of the introduction of the remodelled S. S. L. C. Course in which the subject was accorded a place. The topics of the lectures are :—(1) THE NATURE AND SCOPE

OF MODERN GEOGRAPHY by Mr. N. Subrahmanyam, (2) THE PHYSIOGRAPHIC BASIS OF GEOGRAPHY by Miss I. H. Lowe, (3) OCEANOGRAPHY in the S. S. L. C. Syllabus (?) by Mr. G. D. Watkins, (4) CLIMATE AND WEATHER STUDY by Mr. S. Veeraraghavachariar (5) GEOGRAPHICAL EQUIPMENT FOR HIGH SCHOOLS by Mr. N. Subrahmanyam, and (6) PRACTICAL GEOGRAPHY IN SCHOOL by Miss E. D. Birdseye.

RAMBLES IN THE WEST by Dewan Bahadur C. V. Visvanatha Sastri. Published by the author.

The brochure is a collection of the letters that were contributed to the 'Swarajya' by an experienced and shrewd gentleman of keen observation, possessed with a fine sense of humour and quite free from illusions of any kind. His impressions of the western countries he visited on the eve of his retirement are couched in a fine literary style with skill and without mincing matters, criticising quite frankly and praising where praise is due. We feel sure that the volume is something more than a mere book of the hour, containing as it does the valuable and judicious remarks of a high and experienced judicial officer, and hope that it will be re-printed in a more attractive and permanent form.

A SOIL SURVEY OF THE MALABAR DISTRICT by B. Visvanath and T. S. Ramasubrahmanyam. (Superintendent, Government Press, Madras.) Price Re. 1 as. 6.

This is issued as Bulletin No. 91 of the Madras Department of Agriculture, and is a valuable little pamphlet containing 18 coloured maps, a short letter-press and a table of analytical data showing the percentage of the distribution of nitrogen, lime and magnesia in each of the villages of the district. It has collected together and made easily available the results of indefatigable research and industry. We are anxiously looking forward for the Soil Survey of several other districts in the Presidency.

நமது தேசம் (OUR COUNTRY) by Miss E. D. Birdseye, (Christian Literature Society of India, Madras). Price 8 annas.

This is an elementary geography of India for children, and forms the third year geography course, following the use of Miss Darling's preparatory books. The country is divided into certain

major economic regions according to the chief prevailing crop; and the characteristic features, physical and human, of each of these divisions are woven together in simple language. Though there are no pictorial illustrations, the book contains several simple sketch-maps. The final chapter summarises the chief facts learnt.

A FIRST GEOGRAPHY OF INDIA by Elsa C. Stamp (Longmans, Green and Co.) Price 12 annas.

This book is intended to introduce the geography of the mother country to the young pupil through the medium of the things he sees in everyday life. It is illustrated with several pictures and sketch-maps; and a few typical exercises are given at the end of each chapter, which can be supplemented by the teacher. For general use in Indian schools, however, the book has to be rendered into the mother-tongue.

CLIMATE AND GEOGRAPHY, by O. J. R. Howarth (Oxford University Press).

This short outline of climatology is intended to supplement the chapters on climate in text-books of Geography. The treatment is simple, lucid and methodical, and leads the pupil step by step through all the fundamentals of the subject to an understanding of the factors constituting the different types of weather and the different climatic regions of the world. To illustrate the points in the text and to serve as data for practical work, a few tables of mean temperature and rainfall of typical places in each natural region are given at the end of the book.

MAP WORK, by V. Seymour Bryant and T. H. Hughes. (Clarendon Press, Oxford.)

This is a systematic treatise on Cartography of a fairly advanced character, and is suitable for use in the college classes and the Diploma Course as well as by the teachers of Geography as a book of reference. The treatment is clear and methodical, and illustrated with several useful diagrams. Chapter VIII on 'the Collection and Transmission of Information' is specially intended for military officers, who have to undergo a course in Cartography. Appendix I gives a Scheme of Practical Work and Miscellaneous Exercises. Appendix II gives notes to guide in the selection and purchase of

the apparatus most useful in map work. Appendix III explains the use of the theodolite.

INDIA OF TO-DAY: Volume VIII—THE DEVELOPMENT OF INDIAN AGRICULTURE, by Albert Howard and Gabrielle L. C. Howard (Oxford University Press). Price Rs. 2 as. 8.

This book attempts to give a short account of the present position of Agriculture in India. After discussing the factors underlying production and tracing the organization of agricultural research, the authors consider the results of recent research as regards crops, soils, manures, irrigation and animal husbandry. The human factor is then discussed in greater detail; and for the solution of the various rural problems and the improvement of rural conditions, they suggest in place of the isolated activities of the several departments their combination into a single agency called the Development Board of Rural Reconstruction, so that a much greater concentrated effort may be possible. This constructive suggestion has been made prior to the issue of the Report of the Royal Commission on Agriculture.

THE WORLD AND INDIA, by P. C. Wren and A. J. Herbertson. (Oxford University Press.)

This is an adaptation of Dr. Herbertson's well-known text-book of Geography by an English educationist in India for the use of Indian pupils. Hence, after the Physiographical Introduction to World Geography in part I, India receives a prior and fuller treatment before the rest of the world is taken up. The book is copiously illustrated with a very large number (242) of sketch-maps and diagrams, and is suitable for use in Indian High Schools.

THE WORLD: A GENERAL GEOGRAPHY, by L. Dudley Stamp (Longmans, Green and Co.) Price 5sh.

This is the English edition of the book which was first published in India in 1927 for Indian pupils. The chief feature of this volume as of the original book is the enormous number of sketch-maps, diagrams and pictures that have been used by way of illustration. About a third of the book, forming the first part of it, deals with General Physical and World Geography, while part II deals with Regional Geography. Coloured maps, mostly physical, of the

continents, the British Isles and India have been appended at the end. The book is suitable for use in High Schools.

THE WORLD, by O. J. R. Howarth and W. A. Bridewell, (Oxford : Clarendon Press). Price 6sh.

The Geography of the World has been condensed by the authors into a single volume ; but though packed with facts, they have been presented in proper proportion and in an attractive way, so that the book is readable and interesting. In part I of the book the countries of the world are described in a general way so as to present the fundamentals of their Human Geography in bold relief, thereby affording clues for the division of the world into natural regions in Part II. This second part deals with the Physical Geography of the world and includes a summary of the uses of the globe and the simpler methods of map-construction and representation. Though there are no pictorial illustrations, the maps and diagrams are quite good ; and each chapter contains several useful exercises of a varied kind.

AN INTRODUCTION TO WORLD GEOGRAPHY by Albert Wilmore. (London : G. Bell and Sons). Price 3sh. 6d.

This book is divided into two parts : the first dealing with the Principles of Physical Geography, and the second with the General and Regional Geography of the Continents. The inter-relationships between the physical factors and their influence on human activities have been well brought out in the treatment of the different regions ; but it is felt that there has been a little too much emphasis on the fact side especially on the economic aspect of Geography. The book contains no pictures ; but it is illustrated by several useful sketch-maps and diagrams. Study exercises appended to each of the chapters in part I are searching and suggestive.

JUNIOR REGIONAL GEOGRAPHIES by W. H. Barker and Leonard Brooks. BOOK III—THE REGIONS OF THE WORLD. (University of London Press). Price 2sh. 9d.

This is the third book of a series intended for juniors who are making their first regional study of the world as a whole before taking up the more detailed regional treatment of the continents, and aims at presenting the world setting of the continents and th

regions. The treatment is simple and interesting ; and the volume is well illustrated by a number of good pictures, diagrams and sketch-maps. A number of suggestive and stimulating exercises are given at the end of each chapter, which can be further supplemented by the teacher. Though primarily meant for juniors, the book can be used with profit by pupils studying for the Madras S. S. L. C. Course in A-group Geography, as it covers part of the prescribed syllabus.

GEOGRAPHY IN EDUCATION AND CITIZENSHIP, by W. H. Barker. (University of London Press). Price 4sh.

This book is the substance of lectures on "The Teaching of Geography" delivered to teachers of Manchester ; and consequently the illustrations are chosen mostly from that locality, though they indicate the use of similar examples elsewhere. The first two chapters, which deal with the Sociology of Locality and with the Home Region bring out and illustrate the truth of the statement that the Home Region is the essential laboratory of direct Geographical observation. The next three chapters deal with the material and method in the primary and the secondary stages of the school course. In the next chapter the author discusses under the title of Applied Geography the aim and content of Historical and Economic Geography. The other chapters treat of Equipment, Advanced Courses, and Citizenship. A select bibliography of standard books, atlases, periodicals and government publications, a number of good pictures and sketch-maps are other useful features of this recent volume on the Pedagogy of Geography.

ESSENTIALS OF COMMERCIAL GEOGRAPHY by M. L. Mukerji and L. D. Stamp. (Longmans, Green and Co.). Price Rs. 2.

This book is a short introduction to Commercial Geography, written by Mr. Mukerji and revised and illustrated by Mr. L. D. Stamp. The author has succeeded in adequately emphasising the inter-relationship between cause and effect, and produced a readable and interesting little book on the subject. The matter is logically arranged under the heads of 'Climate,' 'Regional Divisions,' 'Commodities,' 'Manufactures' and 'Transport', the last topic being fully treated in four chapters.

AN INTERMEDIATE COMMERCIAL GEOGRAPHY, by L. Dudley Stamp. Part I Commodities and World Trade. Part II The Economic Geography of the Leading Countries. (Longmans, Green and Co.). Price 7sh. 6d. and 12sh. 6d.

This book which attempts to bridge the gulf between the school and the college has within a short time taken its place among the standard books on the subject. The first part treats of the essentials of Economic Geography, on a world basis, of commodities and trade. The second part gives a brief recapitulation of the main aspects of world physical geography of the continents in order to serve as a foundation for the consideration of the economic geography of certain of the more important countries of the world. As the book is meant to be used mainly in the English-speaking countries, the treatment of the United States, and the units of the British Empire has been more complete than in the case of the others. The enormous number (555) of graphs and diagrams, the several tables of recent statistics, and the exercises at the end of each chapter as well as the examination questions selected from a variety of papers are all features that enhance the value of this useful book. We wish to point out, however, that a topical summary in the beginning with a reference to the pages is a desideratum, though there is a carefully prepared index for the two parts together.

EUROPE : A Regional Geography. By Nora E. Macmunn and Geraldine Coster, (Clarendon Press, Oxford).

This is a regional geography of Europe, planned and commenced by Professor A. J. Herbertson, but left to be completed by its present authors along the lines originally intended. The book is meant for use in the upper forms of schools and in Training Colleges.

The regional idea has been carried out here so strictly and logically as to include in this Geography of Europe the Mediterranean Lands of Northern Africa also. The book has been abundantly illustrated with sketch-maps and diagrams which have been used for a variety of purposes, of which the elucidation of town sites and natural routes may be specially mentioned. An appendix on Political Divisions and Peoples by Mr. O. J. R. Howarth, a summary of the Geographical Clauses of the Treaty of

Versailles, May, 1919, and a list of typical and suggestive questions have been included at the end of the book.

PRE-MUSULMAN INDIA : Volume I PRE-HISTORIC INDIA : by Professor V. Rangacharya. (Huxley Press, Madras). Price Rs. 5.

This book is the first of a series of nine volumes ambitiously projected by the author to describe the history of India from the earliest times to the Muhammadan conquest. It attempts to give a brief account of the evolution of Indian races and cultures in the Pre-Vedic period, thereby providing the background for its subsequent history. The abundant materials, recently made available in the fields of ethnology, anthropology, geology, folklore and pre-historic antiquities, have been freely laid under contribution ; and an attempt has been made to correlate the results of these studies.

After tracing in the first chapter the geographical evolution of India through the various geological epochs to the rise of Man and discussing in the second chapter the various theories regarding the origin of Man and describing the general features of eolithic man in India, the author discusses the cultures of the stone ages and the advent of metals in the next five chapters. On account of the profound importance of the recent finds at Harappa and Mahenja-daro one whole chapter is rightly devoted to the consideration of the Indus valley civilization. Though definite views are held regarding the origin of the Dravidians and the Aryans, all the theories connected therewith are placed before the reader in chapters IV and IX. Great erudition, much industry, clear exposition and freedom from bias have been exhibited in the production of this volume, which with the others to follow will, we are sure, take its place among the standard works on the subject.

It is, however, to be regretted that in this new synthesis, the Professor has failed to recognise the importance of the geographic factor without which any study or exposition of history is sure to be top-sided. If the effect of environment on Man is neglected in the study of human progress, it is impossible to get sufficient light otherwise to elucidate History. The chapter on *The Geographical Evolution of India* ought to have been followed up with another summarising the present geographical features of the country in a systematic work of this kind. Even this, however, does not

obviate the necessity for the frequent correlation of geographical factors, wherever necessary in the elucidation of the historical argument. The absence of the geographic outlook has been a deplorable feature in our country even amongst the educated; and we hope that the author will try to rectify the defect and make up the big gap in the succeeding volumes or in the second edition of the present volume. The book is not illustrated by any maps or diagrams; but a separate little companion atlas is promised.

We congratulate the publishers for the excellent type and the fine get-up of the book.

PHILIP'S POCKET SURVEYOR: designed by George O. Sherrin. (George Philip and Son) Price Rs. 2-4.

This is a simple and inexpensive instrument that can be used by anybody, and does much the same kind of work as a theodolite. Though it cannot have the minute accuracy of the latter, when carefully used its accuracy is more than ample for ordinary requirements. It can be used as a level, a clinometer and a cross-staff.

The pamphlet accompanying it explains some of the uses of the instrument such as comparing levels, finding the height of a tree or of a building, the gradient of a road, or the height of a piece of rising ground or a small hill, setting out a right angle, *e.g.*, for a tennis court, a football field, a boy's encampment, a building etc., finding the breadth of a river from one bank or the area of a field, and making a simple contour.

We strongly recommend it for use by teachers of Geography when they cannot afford to go in for anything more costly for field work with their pupils.

News and Notes

Mr. P. T. Srinivasa Ayyangar resigned his Presidentship of the Association, as he had left Madras; and the Working Council chose in his place Mr. Rao Sahab T. S. Subramania Ayyar as President for the rest of the current year. Mr. A. Appadorai, Treasurer, and Miss H. A. Edington, Member of the Working Council also resigned their places, the former for want of leisure to attend to his duties and the latter as she was leaving India. In