The Geographical Position of the British Empire.¹

By VAUGHAN CORNISH, D.Sc.

THE POSITION WHICH HAS BEEN OCCUPIED.

THE British Empire, although situated in every continent, with shores on all the oceans, is seen to have a definite geographical position when we consider the ports of call which unite its lands and the naval stations which guard the communications. During the growth of the Empire eastward and westward from Great Britain, numerous harbours were held at different times, those retained being a selection unrivalled by the ports of any other State in commercial and strategic position.

The naval station of Bermuda, well withdrawn from aerial attack, has a central position in the great western embayment of North America intermediate between the ocean routes which connect Great Britain with Canada and the West Indies. No foreign ports flank the route between Canada and the west coast of Great Britain. At the western gateway of the South Atlantic we have excellent harbourage in the Falkland Isles. Malta, the capital of our fleet in the Mediterranean, has a commanding position at the straits which connect the eastern and western basins, and the naval station at Gibraltar helps to ensure the junction of the Home and Mediterranean Fleet and to protect the Cape route. The British army which is kept in Egypt as garrison of the Suez Canal ensures our use of this gateway so long as we can navigate the Mediterranean. If that navigation be interrupted we can still oppose the seizure of the Isthmus, for we are able to send reinforcements by way of the Red Sea. East of Egypt the British island of Perim stands in the Straits of Bab-el-Mandeb, and the garrisoned fuelling station of Aden provides the necessary port of call on the routes to Bombay and Colombo. Colombo, in the Crown Colony of Ceylon, is at the parting of the ways for Australia and the farthest parts of our Asiatic possessions, and Singapore stands at the narrow gateway of the shortest route between India and the Far East.

The Cape route to India and Australasia is improved by British ports of call in Sierra Leone, St. Helena, and Mauritius, and is more effectively dominated from British South Africa than at first appears, for although there is open sea to the south there are no useful harbours in the Antarctic continent, and on the African coasts the harbours are under British control for a thousand miles from Cape Town.

Of the six great foreign Powers, the French alone are posted on the flank of both routes between Great Britain and the Indian Ocean, and no Great Power has its home territory on that ocean. Thus the principal lands of the British Empire—Canada, the British Isles, South Africa, India, and Australasia—have good communications with one another across the Atlantic and Indian Oceans both in peace and war.

The conditions of strategic communication across the North Pacific, on the contrary, are adverse to us, owing mainly to the circumstance that we opened up British Columbia across the prairies and by the

coasting voyage. Had our colonising route been across the Pacific, the Hawaiian Islands, which were first brought into touch with the Western world by the ships of the Royal Navy, would have been a British settlement and one of our first-class naval stations. As things happened, however, these islands were first needed by the Americans, and now form the essential western outpost of the United States navy. Between them and British Columbia the ocean is empty of islands, and Fanning Island, south by west of Hawaii, with the adjacent small coral islands in our possession, are no adequate substitute, even apart from overshadowing by a first-class naval station in the neighbourhood. Thus there is no good strategic communication between Australasia and Canada across the North Pacific. In this connexion it must be remembered that cousinship does not relieve the American Government from the obligations which international law imposes upon neutrals. It was not until three years after the outbreak of the War that America could offer us any facilities in the harbour of Honolulu which were not equally open to Germans. It must also be noticed that we have no control of the Panama route between New Zealand and Great Britain.

Turning to the question of communication between British Columbia and India, it is important to realise that the Pacific coasts of North America and Asia are in a direct line with one another, forming part of a Great Circle, so that there is no short cut across the ocean, as the map misleadingly suggests. Thus the course between Vancouver and Hong Kong is not only very long, but also closely flanked by the home ports of Japan, so that its security in time of war depends upon the attitude of the Japanese.

When, therefore, we differentiate the routes on which we have well-placed naval stations and recruiting bases from those dominated by the ports of some other Great Power, we see that the lands of the Empire are united by the Atlantic and Indian Oceans and strategically separated by the North Pacific. Thus the form in which the Mercator map is usually drawn by British cartographers with Canada in the upper left and Australasia in the lower right corner is a good representation of our maritime Empire, for it shows the countries as connected across the Atlantic and the Indian but not across the Pacific Ocean.

Upon this map a symmetrical distribution of our lands is revealed when a Great Circle is drawn connecting Halifax in Nova Scotia, the eastern terminal port of the Canadian Pacific Railway, with Fremantle, the western terminal port of the Australian railway system. This truly direct line is twisted on Mercator's map into the form of the letter S. The line passes through Lower Egypt close to the Suez Canal following the general direction of the Main Track of the Empire, which is the steaming route from Canada to Great Britain, and thence by the Suez Canal to India and Australia. At one end of the line lies the Canadian Dominion, and at the other Australasia, to the north the British Isles, and to the south the Union of South Africa, the chief homes of the British nation. Our

¹ From the presidential address delivered to Section E (Geography) of the British Association at Liverpool on September 13.

coloured peoples are also distributed symmetrically about the line, India being on the east, the Crown Colonies and the Protectorates of Africa on the west, so that it is the axis of symmetry of the Empire. Not far from its middle point is the Isthmus of Suez, where our direct line of sea communication is crossed by the only continuous route for the international railways which will connect our Indian and African possessions, and adjacent to the Isthmus is the central station of our airways.

Such is the form and position of the British Empire, regarded as a maritime organisation, which in fact it is.

The Empire thus mapped has an intermediate position among the commercial, national, religious, and racial communities of the world such as is occupied by no other State. The ocean routes must always be the link between the two great land areas of the world, and in the present state of land communication provide the connexion between the numerous independent systems of continental railways. The chief of these systems is based on the ports of continental Europe, of which the greatest communicate with the ocean, and therefore with other railway systems, by way of the English Channel. Thus the island of Great Britain is intermediate between the principal termini of the European railways and the other railway systems. Its harbourage is unequalled by that of any country of continental Europe, and its supply of shipbuilding material and coal exceptionally good. Thus the physical characters of the island accord with its position on the commercial map, and the metropolitan British in their intermediate position have become the chief common carriers of international commerce.

The Suez Canal, where we have the principal control, is the gateway between the railway termini of Europe, the greatest manufacturing centre of the world, and those of the monsoon region of Asia, the greatest centre of population. It is also on the shortest route between the railways of North America and India.

How far-reaching is the effect of our intermediate position is strikingly suggested by the fact that it is the British naval stations which would, if available, provide America with the best line for reinforcement of the Philippines, the Achilles heel of the Republic. The distance of Manila from the naval shipbuilding yards of the United States is almost exactly the same by Panama and Suez, but the Pacific connexion is bad, owing to the great distance between the stations of the American Navy. The relation of Port Said and Singapore to America and the Philippines is only one of many cases in which our position is intermediate between the home and colonial possessions of a white nation. Thus the important French possession of Indo-China has to be reached from France either by way of the Suez Canal where we maintain a garrison, or by rounding the Cape where we have a national recruiting base, as well as a station of the Royal Navy. The true significance of our intermediate position has, however, been generally missed owing to a one-sided interpretation of strategical geography. An intermediate station, particularly a naval station, has commonly been regarded as a blocking position, a barrier where freedom of movement can be interfered with. The historical fact is, however, that the harbours

of the British Empire have also been a link between nations. In the War the British Empire was the link of the allied and associated powers, and its geographical position is unequalled for making a benevolent alliance effective or for checkmating the action of an alliance formed with a sinister purpose.

The British Empire provides in Canada the one link on the political map between the European and American divisions of the white race. Of the 1650 million people in the world, the whites number about 500 and the coloured 1150. The former are mainly grouped on the two sides of the North Atlantic Ocean; of the latter, the greater part, about 800 million, are in the monsoon region of Asia, which includes India, Indo-China, China proper, and Japan.

In tropical Australia the British, in the exercise of their discretion, have set up a barrier between the white and coloured races. The problem of Australian settlement is complicated by the circumstance that the northern coast-lands lie in the Tropics, and have a climate which makes field work very arduous to white men. It is, moreover, uncertain if British families would continue true to ancestral type in this climate. If, however, settlers from the neighbouring monsoon lands of Asia be admitted, it would be impossible to maintain a colour line between tropical and temperate Australia, and the labour of the Commonwealth would in time be done by coloured people. The Australian British are far from the main body of the white race and from Great Britain, the chief recruiting base of their own nation. On the other hand, the distance by sea between Townsville, Queensland, and the Japanese coast is no longer than the course of the coasting steamers from Fremantle to Townsville; and the other lands of monsoon Asia are even nearer than Japan.

The relations between geographical environment and national welfare indicate that the decision to erect a barrier against coloured labour in tropical Australia is best both for the white race in Australia and for the coloured people of the monsoon region of Asia. The admission of coolie labour would deteriorate the national character of the Australians, for the greatest nations are those which provide their own working class. The descendants of the Asiatic coolies would on their part have a stunted existence as a community unable to share fully in the national life of their new land, yet cut off from the main body of their own people. Far better, then, that the Asiatic coolie should remain where the family life of his descendants will be part and parcel of national life.

Neither should it be assumed that there is not room in Asia for a large addition to the population. The pressure of population in China is largely due to the undeveloped condition of mining, factories, and communications. The coal-fields are unsurpassed in the world, and iron ore is abundant; if they were worked, and factories were based upon them, the new occupations and improved market for agricultural produce would provide at home for many of those who now migrate overseas. The further development of manufacture in India would operate in the same direction. The growth of a manufacturing population in China and India would stimulate cultivation and stock-rearing in the sparsely inhabited region under Asiatic

rule which runs diagonally across the meridians from the Persian Gulf to the Amur, and includes the eastern provinces of Persia at one end and Mongolia and Manchuria at the other. This has for the most part a light rainfall, but comprises much fine prairie country and some good agricultural land, while in the more arid tracts there are many great rivers fed from snow-fields and glaciers which could be made to irrigate large areas.

Adjacent to the Indo-Chinese peninsula are the East Indies, the climate of which is suited both to Indians and Chinese, with great tracts of undeveloped land the productivity of which is attested by luxuriant forest. The sparsely peopled regions of Asia near to India, China, and Japan by land and sea, and for the most part connected with them by ties of civilisation, provide an area for the overflow from these countries which is more than twice as large as tropical Australia and British Columbia, together with California, Washington, and Oregon, the American frontier provinces of English-speaking labour.

India includes one of the most important borderlands within the Orient, that of the Mohammedan and Hindu worlds. The Punjab, with its great rivers and plain, is in such striking contrast to the mountains and plateau of Iran that we are apt to lose sight of the fact that, climatically, it more resembles the highland on the west than the rainy valley of the Ganges on the east. It is an eastern borderland of Islam, a religious world which is mainly comprised in the belt of dry country which stretches diagonally from the Atlantic shore of Morocco to the Altai Mountains. Delhi, under the Great Moghul, was an advanced capital of the Mohammedan world just within the Ganges valley, which is the headquarters of Hinduism. In this sub-imperial capital the two antagonistic civilisations are now linked to the government of Great Britain, and the age-long wars between them have ceased.

Up to the time of British predominance, India was the terminal position of continental conquerors unused to the sea, who did not develop the advantages of a salient maritime position. The ports of India lie conveniently for a long stretch of coast-land on the great gulf which forms the Indian Ocean, and now, owing to the facilities provided by British shipping, much of this coast-land has easier communication with India than with its own continental interior. Several British possessions in the parts of Africa adjacent to the Indian Ocean are in the intermediate position between the principal homelands of the black peoples and the overflowing population of India, and nowhere has the responsibility of our intermediate position called for more careful examination of the rights and interests of competing coloured races. The decision with reference to Kenya which has just been given by the Home Government recognises the main physical regions in the coloured world as political divisions of the Empire within which the established races have special rights, which it is our duty to safeguard.

From the foregoing facts it is clear that the British people, metropolitan and colonial, are in a greater degree than any other nation the doorkeepers of the world in respect of economic, strategic, and racial communications.

THE CONSOLIDATION OF THE POSITION.

The consolidation of the geographical position which the British nation has won turns upon the future of colonisation within the Empire. The ratio of white to coloured people in the Empire is only about one to six. The former are mostly of British stock. The latter are of many stocks, differing physically from each other as much as from the white people, and belonging to diverse religions. Their numbers are steadily increasing under British rule. Consequently, if the Empire is to be guided by the British, the numbers of our race must also increase. There is, however, a school which considers that if our ideals of ethics and efficiency are once accepted by the coloured peoples, the racial complexion of the Empire will be unimportant, as public affairs will be regulated by our principles. This proselytising point of view does not take account of the contingency that British ideals implanted in coloured stock may receive alien development in future generations owing to biological causes. Our confidence in Western culture in general, and the British version of that culture in particular, is based more upon the power of adaptation which it has shown in our hands since the Renaissance and the era of oceanic discovery than upon any system of which we can hand over a written prescription. It is only in our own national communities, mainly composed of British stock, with minorities nearly akin, that we can be confident that British ideals will develop typically in the way of natural evolution. Therefore in our own interests and in that of the coloured races (who conflict among themselves) it is desirable to maintain the present proportion of the British stock, to whom the Empire owes the just administration of law and a progressive physical science.

We have to note that the population of Great Britain, which is now forty-three million, outnumbers the combined population of Canada, Newfoundland, South Africa, Australia, and New Zealand in the proportion of two and a half to one, and increases more rapidly than that of all these Dominions. Thus the chief source available for the British peopling of the Dominions is the metropolitan, not the colonial, population.

The number and density of the population of Canada is exceeded in the proportion of about ten to one by the white population of the United States, hence it is inevitable that there should be a large flow of people from the latter country to the Dominion. As it is essential to unanimity in the Empire that the Canadians should continue to be British in sentiment and not become pan-American, a large immigration from Great Britain is required in Canada. Moreover, the population of continental Europe outnumbers that of Great Britain in the proportion of something like ten to one, and as emigrants go to Canada from many European countries there is a further call for British immigrants to maintain the British character of the Dominion.

The co-operation of the Union of South Africa in the War only became possible after the failure of an insurrection by part of the Boers. Since the number of persons of Dutch and British stock is about equal, an influx of British colonists is required in order to ensure unanimity between South Africa and the rest of the Empire.

The population of Australia stands to that of Japan as about one to ten. The Japanese are as patriotic as well as an advanced nation, and claim equality with the white nations from patriotic motives. It is evident, therefore, that a strong reinforcement of British population is needed to maintain the doctrine of a white Australia. For the same reason New Zealand also needs emigrants, since Australasia is strategically one.

But what are the needs of Great Britain? There is a school which teaches that we should be strategically safer if we had no more people than our farms can feed, which would be about one-half of our present population; that we have passed the number which can ever be supported here in comfort; and that additions to the population would deteriorate its quality by packing the slums. The same school contends that emigration, by taking the best and leaving the worst, will produce a disgenic effect in the home country. The conclusion is that the salvation of Great Britain can only be ensured by a drastic reduction in the size of the working-class family. The strategic argument used by this school is out-of-date, as the proper plan of campaign for a combination of Powers bent on breaking the stranglehold of the Empire is not naval blockade but aerial bombardment, and what the country now needs for its defence is a great development of technical industries and therefore a large population. A rural Britain would be quite unable to defend itself.

The economic argument shows too little appreciation of the permanent commercial advantage of our geographical position. As soon as the world gets again into its stride, conditions in Great Britain will improve, and thereafter each increase in the population of the world outside will provide more work in this country since our geographical position is unsurpassed for rendering economic service to other nations.

The common notion that we are packing the slums is contradicted by the census. Taking the case of the Metropolis, not only is central London less closely peopled than formerly but the five rural counties round London contain a million residents who were born in London and have spread out into the country-fied surroundings.

Neither does the census support the loose assertion that the towns are unable to replenish their population without fresh blood from the rural districts. The proportion of London residents who are London-born has steadily increased throughout the last forty years, and the birth-rate in towns is as high as in rural districts even when corrected for the effect of migration between them. Happily, also, the opinion formerly current that the townsman was deficient in morale was refuted by the War, in which our urban regiments showed a sustained valour which has seldom been surpassed in the long annals of military history.

The contention that selection for emigration will leave us only the worst, ignores the essential consideration that the best youngster for the Dominions is not necessarily the best for the Home Country. Here we need lads with sufficient business tenacity to resist the restlessness of youth quite as much as the Dominions need those who have a taste for frontier life.

The unequal distribution of men and women as between Great Britain and the Dominions limits the marriage-rate and consequently the total birth-rate of the British throughout the Empire in a way to which no other nation is equally subject. The excess of women in Great Britain cannot, however, be wholly paired in the Dominions unless the exodus of men to the United States be largely re-directed to our own lands.

Now that the limitation of the family is year by year determined more by choice and less by chance, it is important that all should know the size of family which is necessary for increase of the race. Taking account of the present age of marriage and the number of deaths before that age, I find that a general preference for the family of three would not quite maintain our numbers in Great Britain even if all migration ceased. If, therefore, the size of family be universally decided by choice the number of the race cannot be maintained, far less increased, under present conditions unless those who enter into matrimony cherish the ideal of a family of four children. Upon this, more perhaps than upon any other factor, depends the continued efficacy of the British Empire for guiding backward races, enlarging international commerce, and restricting the range of war.

The Sun and the Weather.

A RECENT article by C. G. Abbot and his colleagues of the Smithsonian Astrophysical Observatory (Washington: Proc. Nat. Acad. Sci., vol. 9, 1923, No. 6, p. 194) directs attention to a remarkable decrease in the amount of heat radiated by the sun during 1922 and the early months of 1923. This amount, the so-called "solar constant," has been well below its average value since the beginning of April 1922. No such outstanding sequence of low values has been found since the beginning of observations in 1905, and if the sun's variation influences terrestrial weather, 1922 and the early months of 1923 ought to show this influence. If the temperature of the earth's surface were determined directly by the amount of solar radiation, this long-continued deficiency would give rise to a general fall of temperature by 2° or 3° F. Owing to the com-

plexity of the atmospheric circulation, no such simple direct response is to be expected, but we may reasonably look for anomalous weather, and in fact the winter of 1922-23 appears to have been unusually disturbed in North America. In different districts there were extremes of both heat and cold, drought and rainfall, and the authors remark that "while it is far too early in the study of the relations of solar radiation and weather to state that the extraordinary solar change caused the unusual winter weather, it does no harm to draw attention to both."

If we turn to Western Europe, we find similar disturbed conditions, especially in the north, while the Arctic Ocean has been characterised by low pressure and abnormally high temperature. The coincidence with low solar radiation may be remarked, but it is