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THE SCOTTISH GEOGRAPHICAL MAGAZINE.

ADDRESS TO THE GEOGRAPHICAL SECTION OF THE
BRITISH ASSOCIATION, 1900.

By Sir GEORGE S. ROBERTSON, K.C.S.I., President of the Section.

WHEN the British Association for the Advancement of Science honoured me with an invitation to preside over this Section, I accepted the distinction, thoughtfully and with sincere gratification. The selection as your President at Bradford, this great and interesting centre of commercial energy, of a student of political movements who was also deeply interested in the science of geography, seemed to point suggestively to a particular branch of our subject as appropriate for an opening address. This consideration, and, to my thinking, the fitness of the occasion, led me to believe that the British Empire itself was a very proper subject for such reflections as could be compressed within the limits of an inaugural presidential address. Many of my predecessors have eloquently and wisely dealt with various topics of admitted geographical rectitude—with geography in its more strictly scientific study, with its nature and its purview, with its recent progress, and with the all-important question of how it could be best taught methodically, and how most profitably it might be studied. In dealing with the important practical application of our science to the facts of national life—political geography—I feel that perhaps a word of explanation is necessary. Pure geography with its placid aloofness and its far-stretching outlook, combined sometimes with a too rigid devotion to the facts and conclusions of strict geographical research, is apt to incline many scientific minds to an admirable quiet-eyed cosmopolitanism—the cosmopolitanism of the cloistered college or the lecture theatre. It perhaps also at times has a tendency to create in purely academic students a feeling of half disdain or of amicable irritability against those who love the science for

its political and social suggestiveness and elucidations. Thus there is a possible danger that geographers of high intellectual calibre, with enthusiasms entirely scholarly, may come to underrate nationality and to look upon the world and mankind as the units, and upon people and confederacies and amalgamations merely as specific instances of the general type. We know that geography is often looked upon as the science of foreign countries more especially. Such mental confusion is undoubtedly less common than it was, yet it still influences, unconsciously, the minds of many people. It is well not to forget this curious fact, and to point out, as if it required emphasising, that there is nothing foreign to geographical thought in the association of geography and patriotism, and that the home country is worthy of careful study, particularly when, as with us, our home country is not Yorkshire, nor England, nor the United Kingdom, but the whole British Empire. That is my justification and my apology for taking Political Geography and the British Empire as my subject, if justification and apology seem to any one to be necessary. To the generous hearts of our distinguished foreign visitors who honour us quite as much as they delight us by their presence, I am sure of my appeal. Every true man loves his own country the best in the world. That beautifying love of country does not require him to be ignorant of or to hate other countries. The community of the civilised nations, no longer to be described as Christendom even, for Japan has been received into it, is a mighty fact in geography no less than in politics. To love mankind one must begin by loving individuals; before attaining to true cosmopolitanism one must first be patriotic.

Now, besides dealing with the topography of the globe, geography considers also the collective distribution of all animal, vegetable, and mineral productions which are found upon its surface. The aspect of the science which deals with man's environment, and with those influences which mould his national character and compel his social as well as his political organisation, is profoundly interesting intrinsically and of enormous practical usefulness when rightly applied. Given the minute topography of a country, a complete description of its surface features, its rivers, mountains, plains, and boundaries, a full account of its vegetable and mineral resources, a knowledge of its climatic variations, we have at once disclosed to us the scene where we may study with something like clearness man's procession through the ages. Many of the secrets of human action in the past are explained by the land-forms of the globe, while existing social conditions and social organisations can often thereby be intelligently examined and understood. Persistent national characteristics are often easy to explain from such considerations. For instance, the doggedness of the Dutch river-population, caused very greatly by a perpetual struggle against the sea, or the commercial carrier-instinct of the Norwegians, those northern folk born in a country which is all sea-coast of countless indentations. Having few products to barter, the Norwegians hire themselves to transport the merchandise of other peoples. We British also were obviously predestined to isolation and insularity, when perhaps in the human period the Thames ceased to be a tributary of the Rhine. Our Irish fellow-

countrymen were similarly fated for all time to lead a separate, special, and national life apart from our own, when at a still earlier period, geologically, the Irish Channel was formed.

Such large-scale facts are not to be overlooked; there are others, however, of varying degrees of prominence. Some merely require to be interpreted thoughtfully, while others, after diligent study, may still remain dubious and matter for speculation. Geography is the true basis of historical investigation and the elucidation of contemporary movements. At the present time great social and political changes are occurring throughout the world—in Europe, Asia, Africa, and America, and in the islands of the great seas. These changes are absolutely dependent upon the physical peculiarities of the different lands acting upon generations of men during a prolonged period of time. As a consequence of certain soils, geographical characteristics, and climates, we notice how harsh surroundings have disciplined some races to hardiness and strenuous industry, accompanied by keen commercial activity, which is itself both a result of increasing population and the cause of still greater overcrowding. Then we see other people at first sight more happily circumstanced. With them the struggle to live is less ferocious, their food is found with little toil. But we perceive that the outcome of generations of Nature's favouritism has been to leave them less forceful and less ingenious in the never-ending warfare of existence. By comparison they grow feeble of defence against the hungrier nations, ravenous for provender. Man for ever preys upon his own kind, and an easy life in bland surroundings induces a flabbiness which is powerless against the iron training of harsh latitudes, or against the fierce energy and the virile strength produced by hereditary wrestling with unkindly ground.

The discovery of America and Vasco da Gama's voyage round the Cape originated movements and brought into play those subtle influences of foreign lands upon alien sojourners, and through them upon their distant kindred, which alter the course of history and modify national manners and perhaps national characteristics also. The colonisation of territories in the temperate zone by European Governments, separated by vast ocean-spaces from their offshoots, has given origin to new and distinct nations different from the parent stock in modes of thought and in ways of life—a result due mainly, no doubt, to local physical conditions, but in part also, if only in part, to detachment, to complete and actual severance from the mother-country. This brings us to that most interesting and important topic, geographically speaking, of distance, an aspect of our science which is of the utmost concern to traders and to statesmen; indeed, an eminent German geographer defines geography as the Science of Distances. To this subject of Distance I wish in particular to direct your attention, and especially to its bearings upon the British Empire.

The British Empire is equal in size to four Europes, while its population approximates four hundred millions. Although that may seem a somewhat grandiloquent method of description, it is a fairly accurate statement of fact. Still more interesting to us is another truth—that outside of these islands we have some ten millions of white-skinned English-speaking fellow-subjects. These islands are scarcely more than

one-hundredth part of the whole Empire, although we count as four-fifths of its white population; of the total number of the Queen's subjects we are, however, no more than a tenth.

British Empire is somewhat of a misnomer, just as the North American and Australian Colonies were never colonies at all in the classical sense of the word. For the colonies are not independent of the mother-country. An empire again really means a number of subject peoples brought together, and at first held together, by force. India is an empire, for instance. Some new title or phrase would have to be invented to describe accurately all the possessions of the British Crown from the Government of India through all possible grades of more or less direct control until we come to some colony with representative institutions, and thence to the great commonwealths with responsible legislators and responsible cabinets. Happily, however, there is no need now for any novel designation. The style *British Empire* has become in time of stress a rallying cry for all the Queen's subjects, and the term has been sanctified by the noble, eager devotion shown to her Majesty, both as a beloved and venerated constitutional sovereign, and as the common bond of unity between those great self-governing daughter-nations which we in the past were accustomed to speak of as "our colonies." Consequently, *British Empire* has henceforward a clearly defined, a distinct, a national significance, just as Imperialism has a special and peculiar meaning to all of us. We understand by *British Empire* and by *British Imperialism* a confederacy of many lands under the rule of her Britannic Majesty. This confederacy is dominated by white peoples—Anglo-Saxons, Celts, French-Canadians, and others—knit together in most instances by the ties of blood relationship, but with equal if not greater closeness by common interests, an identical civilisation, and a love of liberty, in addition to that dignified but enthusiastic acceptance, already referred to, of the constitutional sovereignty of the same Queen. We may hope that generous democratic expansiveness and social assimilation will also in time detain willingly within the limits of this British confederacy of white peoples those other Christians and distant kinsfolk of ours in South Africa who are at present so bitterly antagonistic.

Ruled and controlled under liberal ideals by the centre of authority there are, in addition, the great subject-territories whose non-Christian population are less advanced in moral and material progress. They exhibit indeed every degree of backwardness, from the barbarism of the savagest tribesman to the intellectual but, archaic civilisation of ancient Asiatic nationalities.

Concerning the British Empire, and comparing it with other empires, ancient, recent, or now existing, its two most remarkable features are its prodigious and long-continued growth and the persistency of its power. It cannot to all seeming grow much larger, from lack of expansive possibility. But it is unprofitable to predict. Every step which has been taken in the way of extension, particularly of late years, has been against the wishes and in almost passionate opposition to the views of large sections of the people. Yet the process of enlargement has gone on continually, being often in actual despite of a Government, whose

members find themselves powerless to prevent absorptions and concretions which they would gladly avoid. Objections to this perpetual growth of empire in territory, and to the resulting responsibility which we not altogether willingly accept, are unanswerable theoretically. The too heavy and continually increasing strain upon our military resources every one can appreciate. The limit in power of the strongest navy in the world is at least as obvious as the vital necessity that our Navy be largely and ungrudgingly strengthened. Naturally the cry of cautious patriotic men is the same now that it has always been—"Consolidate before you step farther." In India, owing to conscientious and strenuous opposition to every suggestion of expansion and to the almost violent form which that opposition often took, our progress has been on the whole slow and comparatively safe. We have (I, of course, avoid all allusion to very recent policy) as a rule consolidated, strengthened ourselves, and made our ground sure before another advance. But there is a general impression that in other parts of the world we have been hastily and unfortunately acquisitive, whether we could help it or not; that the new provinces, districts, and protectorates are some of them weak to fluidity; that the great and unprecedented growth of the Empire has led to a stretching and thinning of its holding links which are overstrained by the weight of unwieldy extension and far beyond the help of a protecting hand. I hope to be able to show that in some important respects this suspicion is not altogether true; that science, human ingenuity and racial energy have given us some compensations, and that it is not paradoxical nor incorrect to say that our recent enormous growth of empire has been everywhere accompanied by a remarkable shrinkage of distances—by quicker and closer intercommunication of all its parts one with another and with the heart centre. In short, the British Empire, in spite of its seemingly reckless outspread, its sometimes cloudy boundaries, its almost vague and apparently meaningless growth, is at the present day more braced together, more manageable, and more vigorous as a complete organisation than it was sixty years ago. The difference between its actual extent in the last year of the century and its size at the date of the Queen's accession can be estimated by a glance at a remarkable series of maps published in the *Statesman's Year Book* for 1897, while since 1897, and at this instant, as we all know well, its mighty bulk is being still further increased.

The world as a whole has strangely contracted owing to a bewildering increase in lines of communication, to our more detailed geographical knowledge, to the formation of new harbours, the extension of railways, the increased speed and the increased number of steamships, and the greatly augmented carrying power of great sailing vessels built of steel. Then, hardly second in importance to these influences are the great land lines and the sea-cables, the postal improvements, the telephones and, perhaps we may soon add, the proved commercial utility of wireless telegraphy. This universal time-diminution in verbal and personal contact has brought the colonies, our dependencies, protectorates, and our dependencies of dependencies, closer to each other and all of them nearer still to us. Measured by *time-distance*, which is the controller of

the merchant and the cabinet minister just as much as of the soldier, the world has indeed wonderfully contracted, and with this lessening the dominions of the Queen have been rapidly consolidating. Nor is this powerful influence by any means exhausted. In the near future we may anticipate equally remarkable improvements of a like kind, especially in railways, telegraph lines, and deep-sea cables, and in other scientific discoveries for transmitting man's messages through water, in the air, or perhaps by the vibrations of the earth. For us particularly, railway schemes of expansion must be mainly relied upon to open up and to connect distant parts of the Empire. Our true and only trustworthy road of intercommunication between the heart of the Empire and its limits must always be the sea. For general trade purposes, such as the convenience of business travellers, all continental lines and all the great projected railways will be helpful, whatever nation controls them; but our certain security is the sea, the sea which protects us, which has taught us to be an Imperial people. If we ever forget that, there may be a calamitous awakening. We must not be persuaded to build—or at any rate to place reliance upon—land roads or railways through regions inhabited by tribes and peoples over whom we have not complete military as well as political control. Persian, Arabian, North African railway projects are happily rarely heard of now. As national enterprises they never were and never could be practicable, or otherwise than dangerous mistakes. We are a world-power solely because of our worship and because of our command of the sea. In the future also we shall remain a world-power only so long as we hold command of the sea in the fullest sense of the term, not merely by the force and efficiency of the fighting Navy, but by the excellence and the perfecting of our mercantile marine, by increasing its magnitude, carrying power, and speed, and by anxiously attending to its recruitment by British sailors. We must not attempt to overtax our resources to guard railway lines through foreign semi-civilised or savage countries by exported or local armies. A heavy land responsibility lies upon us already. Under a little more we might be easily overweighted and crushed down. We must concentrate all our surplus energies upon our sea communications. Therefore the railway lines which I spoke of as helping to consolidate the Empire in the near future are those only which are projected or are being built in the various colonies and dependencies, lines to distribute and collect, to connect provinces, and feed harbours. The mighty Canadian Pacific Railway is unique in the Empire. It not only complies with all these requirements, but in addition it provides to Australia and the Eastern dependencies an alternative road, convenient and safe. As I said before, all railways, wherever built, will probably help us directly or indirectly in the long run, provided we are never committed to the protection of any one of them outside of our own boundaries.

And what has been said about railways applies, with obvious modifications, to telegraph lines and to maritime cables. The more general the extension of these, and the more numerous they become, the greater benefit will there be to this country in its double capacity as the greatest trader and the greatest carrier of merchandise in the world; while the

actual equivalent to a diminution of time-distance in travelling is to be found in the instantaneous verbal message which can be despatched to the most distant point of the Empire. But we ought certainly to join all the shores of the Queen's dominions by sea-cables completely controlled by British authority. To rely upon connection between our own cables through telegraph systems stretching across foreign countries, however friendly, or to permit the ends of these sentient nerves of the Empire to emerge upon shores which might possibly become an enemy's country, is dangerous to the point of recklessness, that parent of disaster. As a melancholy instance of my meaning it is only necessary for us to remember the Pekin catastrophe—how we suffered from those dreadful intervals of dead silence, when we could not even communicate directly with our own naval officers at Taku, or with any one beyond Shanghai, although we have in our possession a place of arms at Wei-hai-Wei upon the Gulf of Pechili. It is obvious that we ought to have an all-British cable for pure strategic reasons as far as Wei-hai-Wei, our permanent military outpost on the mainland.

Now to give some suggestion of the increased facilities for carrying merchandise, for conveying passengers quickly about the world, and for the sending of messages to all parts of the earth, a few, a very few, salient facts may be quoted about ships—sailing ships and steam vessels—and about telegraphs and cables.

In 1870 there were no more than ten British sailing ships which exceeded or reached two thousand tons burden. In 1892 the yards on the Clyde alone launched forty-six steel sailing ships which averaged two thousand tons each. In 1895 the number of large steel sailing ships being built in the United Kingdom was down to twenty-three, and, speaking generally, it is inevitable that sailing vessels must give way to ocean steamships for most kinds of cargo—cattle, coals, wood, grain, oil, and everything else.

Now let us turn to the results in shortening journeys accomplished by the progress made in the construction and in the driving machinery of steamships within the last forty years, which has especially been fruitful in such improvements.

During this century the six months' voyage round the Cape to India became a forty and then a thirty days' journey by what was known as the overland route for mails and passengers through Egypt. By degrees it had become shorter still by the railway extensions on the Continent and by the unbroken steamship passage through the Suez Canal, until now the mails and hurrying travellers may reach London in twelve or fourteen days after leaving Bombay; and the great liners of the P. & O. Company can arrive in the Thames eight days later. This famous corporation, after her Majesty had been reigning nearly ten years, possessed only fourteen ships, with an aggregate of 14,600 tons. Now it owns a princely fleet of fifty-three ocean steamers, with a total capacity of 142,320 tons. Practically, the voyage to India in her Majesty's reign has been diminished by one-half at least.

Also since the Queen's accession the passage between the British Isles and the Commonwealth of Australia has grown shorter, from the ninety

days taken by the sailing clippers to the fifty-three days occupied by Brunel's *Great Britain*. At the present time it lasts from thirty to thirty-five days by the Suez Canal route, while it has been finished in as little as twenty-eight days. Australia is consequently only half as far away, in time, as it was; while, if the Suez Canal were closed for any reason, we have at our disposal, in addition to the Cape route with its quick steamers, which is linked to us by the Pacific Ocean road, the splendid service of that Empire-consolidator, the Canadian Pacific Railway.

The important part played by the Suez Canal in this connection will be discussed a little later. Now I am merely indicating by a few well-known facts the diminution of distance by the improvements which have been made in the ships themselves and in their propelling machines.

Across the Atlantic the rapidity of travelling and the general average speed of all cargo steamers have increased remarkably. Very interesting statistics on this point were given to the British Association for the Advancement of Science last year, at Dover, by Sir William White in the Presidential Address of Section G. We may say, without repeating details, that during the last half of the nineteenth century the breadth of the Atlantic has practically been diminished one-half.

In 1857 the Union Company contracted to carry mails in thirty-seven days to the Cape. Now the contract time is nineteen days. This again diminishes the distances by one-half. As an instance of the remarkable change which has been made in steamships within forty years, it may be mentioned that the first *Norman* of the Union Company took forty-two days to reach the Cape, while the present *Norman* has covered the journey in fourteen days, twenty-one hours. I need not specify particularly the equivalent acceleration of speed upon other great steamship lines. All our sea distances have been shortened 50 to 60 per cent. in an identical way.

It is not too bold to predict that the Atlantic, from Queenstown to New York, will, before long, be steamed in less than four days. The question has now resolved itself simply into this—will it pay shipowners to burn so much coal as to ensure these rushing journeys before a cheaper substitute for coal is found? We know that a torpedo-destroyer has been driven through the water at the rate of forty-three miles an hour by the use of the turbo-motor instead of reciprocating engines. Consequently an enormous increase in the present speed of the great Atlantic liners is certain if the new system can be applied to large vessels. By such very swift steamers, and by the example they will set to all established and competing steamship companies, the journey to Canada and subsequently to all other parts of the Empire will be continually quickened, until predictions which would now sound extravagant will in a few years be simple everyday facts.

We must turn next to the subject of telegraphic communication, especially as it relates to the British Empire.

The mazes of land-lines and of sea and ocean cables are too numerous and intricate to be described in detail. Also the general effect of this means of bringing distant peoples together, and its transcendent importance for political, strategic, and trading purposes, need not be too

much insisted upon in this place, so obvious must they be to every one. Yet, great as has been its power and advantage in all of those directions in the past, it is certain that still greater development and still greater service to the world will follow in the future even from existing systems, not to speak of their certain and enormous possibilities of growth. In the celerity of the actual despatch of a message we need not ask for much improvement. Lightning speed will be probably sufficient for our go-ahead children of the twentieth century. But where we may expect and shall undoubtedly get increased success is in multiplied facilities for sending telegrams all over the earth, and in widening their usefulness and convenience to all ranks and sections of the community. To obtain these necessary advantages there are two requisites—first, a great and general cheapening of tariffs and, as a certain consequence of such reduced charges, a duplication or even a quadrupling of many of the present cables to prevent blocking; and, secondly, an indefinite extension of both lines and cables everywhere. Progress in submarine telegraphy undoubtedly means a lessening in the price of service and a firmer control by the State, as an obvious corollary to the large help to the companies already given by the general tax-payer, quite as much as it means those scientific inventions and scientific discoveries which the coming years have in store for us. At the present time the charges are far too high, ridiculously so as regards India, and the use of the great cables is therefore very often beyond the power of the small capitalist and the trader of the middle sort. Yet certain and early news is of supreme importance to large numbers of both classes. Its absence hampers or stops business, while its price is too severe a tax upon average profits. This fact has led to the invention of ingenious and elaborate codes. They might possibly have been devised in any case; but there is no doubt that messages by code would be certainly expanded so as to prevent all possible ambiguity, if telegraphing to distant countries were not so costly. The spreading of land-lines and sea-cables about the earth has gone on rapidly since 1870; to the extent that those already completed would seem even to be in advance of their requirement, if that requirement were to be measured by their full employment. Nevertheless it is to be wished that new companies could be formed and new lines laid down to excite competition, and thereby to cheapen rates; or else that our Government should step in and regulate charges over subsidised British lines. For the power of the great telegraph corporations, by reason of their monetary resources, enables them to overcome ordinary rivalry and to treat public opinion with indifference. A general cheapening of rates has constantly been followed by increased profits, earned by the resulting augmentation of traffic, but it needs an enterprising directorate to face the necessary initial expenditure, except under pressure. Boldness and foresight in finance are naturally less prominent features in the management of the great telegraph companies than contentment with a high rate of interest on invested capital. All their energy and watchfulness are employed to crush competition rather than to extend their activities indefinitely. Moreover, money-making is their business, not Imperial statesmanship. If it were a question of the

added security or the close coupling-up of the Empire (which are probably synonymous) on the one hand, and a loss of profit (however splendid the dividends might still remain) on the other, we know what would be the result of their deliberations.

Important as are the sea-cables for statesmen, for strategy, and for commerce, they are or will be equally important socially to keep up intimacy and swift intercourse between families half in Britain and half in India for instance, or between friends and relations in these Islands and in the great colonies. They might be made to give the sensation almost of actual contact, of holding the hand of your friend, of speaking directly to his heart. It is this interchange of personal news and private wishes, quite as much as the profound political and commercial aspects of lightning communication with all parts of the Empire, which will bind the Empire in bonds stronger than steel, easy as affection, to hold it together with unassailable power. Consequently the health and strength of the Empire depends very greatly upon a cheapening of telegraph charges. Doubtless a time will come when all our main cables of the first importance will be in the hands of Government, when they will only touch upon British territory, and when they will be all adequately protected from an enemy. Those are truly Imperialistic and patriotic aspirations. But we must never forget the grand part in bringing together, within whispering distance as it were, the different parts of the world, and consequently of our world-wide Empire, which has been taken in the past by such Napoleonic organisers as the late Sir John Pender. It is to him and to such men as he that we owe those splendid beginnings which by means of vital reflexes from the nerve-centre of the Empire have helped to fire our white fellow-subjects all over the globe with a loftier patriotism and with new, brave, and broader ideals of nationality.

It was coincident with the opening of the Suez Canal in 1869 that the liveliest interest began to be taken in sea-cables, and a master mind perceived their commercial possibilities. Before that time the success of the constructing companies had not been great. Sir John Pender then founded the famous Eastern Telegraph Company by the amalgamation of four existing lines, which had together laid down 8500 miles of sea-cables, besides erecting land-lines also. A year later, in 1873, from three other companies he formed the Eastern Extension Australasia and China Telegraph Company, which jointly possessed 5200 miles of submarine lines. From that date the extension of electric communication to all parts of the earth, over wild as well as over civilised countries, and beneath the salt water, has only been equalled by their average remunerativeness. Now there are 175,000 miles of submerged cables alone, of which this country owns no less than 113,000 miles. The history of some of these cables is full of interest, and might attract the delighted attention of the lover of picturesque romance no less than of the student of commercial geography. It also supplies suggestions and many facts, both to the physical geographer and to the student of seismic phenomena. Science has taught the companies to economise time, labour, and material in cable-laying operations, as well as how to improve the working instruments. Human ingenuity, business perception, and organising

power have shown once more their startling possibilities when directed and controlled by cool, clear-eyed intelligence combined with general mental capacity.

It is only necessary to reaffirm, for the reasons already given, the national, the imperial, the commonwealth requirement for cheap telegraphy, and the profound necessity there is both strategically and politically for complete government control by purchase, guarantee, or other equitable means over main cables which connect Great Britain with her daughter states, her Indian empire, and her dependencies. Our communications with our own folk must be independent of private companies and completely independent of all foreign nations.

All the details which I have given are illustrative of man's successful energy and of his progressive ingenuity in enslaving the great forces of the earth to diminish distance, to shorten world-journeys, and to speed world-messages. Another human achievement, the piercing by Lesseps of the Suez isthmus, has had remarkable consequences. It had been talked of in England centuries ago. Christopher Marlowe makes Tamerlane brag—

“And here, not far from Alexandria,
Whereas the Tyrrhene and the Red Sea meet,
Being distant less than full a hundred leagues,
I meant to cut a channel to them both
That men might quickly sail to India.”

The illustrious French engineer solved one great problem in 1869, only to originate others which are of profound importance to commercial geography—and to the British Empire most of all. The Suez Canal has brought India and the Australasian Commonwealth wonderfully near to our shores. It has greatly diminished many time-distances, but why has it not injured our Eastern trade? Also is there any danger or menace of danger to that trade? From the very beginnings of the great commerce, the Eastern trade has enriched every nation which obtained its chief share. It has been the seed of the bitterest animosities. It alienated Dutch and English, blood relations, co-religionists, co-reformers, into implacable resentment, and bitter has the retribution been. On the other hand it brought into temporary alliance such strange bedfellows as the Turks of the sixteenth century and the Venetians. At the present day what international jealousies and heartburnings has the same rivalry not fostered! For all the trading peoples know how vital is that traffic.

In the earliest days of commercial venturings the Eastern trade focussed at Alexandria, afterwards at Constantinople and the Italian “factory” stations of the Eastern Mediterranean. Barbarous upheavals in Central Asia interrupted the current at times, but only as temporary dams. Then came Vasco da Gama's voyage round the Cape and its sequels—the diversion of the rich merchandise of the Orient from the Italian ports and from the Eastern Mediterranean to the sea-coast cities of the Atlantic. Out of the relentless scramble of the Atlantic nations for this, the grandest of the trader's prizes, the English came out bloodily

triumphant and the British have remained the dominant shippers ever since. But when the Suez Canal was trenched through, a geographical reversal followed: the merchant's chief path may be said to have left the Cape circuit and to have regained the old line, with immensely added facilities, to debouch upon the Eastern Mediterranean. Why has it not affected us more profoundly? Are not geographical canons outraged by the great steamers passing by the French and Italian ports to find distributing centres in these islands? I think that theoretically it is so, even admitting that the foreign harbours are more difficult than ours. Practically only a few industries have suffered; the volume of our trade has increased greatly, and it still remains easily pre-eminent. One of the chief explanations I believe to be this: Geographical considerations were defeated, for the time at any rate, by the excellence of our banking system when the Suez Canal was opened. The wealth of the country, then as now, instead of being separated and divided into isolated patches, was accumulated in the hands of bankers and was readily and easily available for commercial enterprises. So the necessary steamers—huge, and of special line—were built at once by our companies and launched into the valuable Eastern trade before their rivals could begin to stir. This country had the invaluable help of its monetary facilities. Wealthy shipping corporations, once fully organised and successful, have great power, by reason of their reserves and resources, to hustle and to ride off the attacks of weaker and less-experienced competitors. Supposing this great change had but just occurred—our advantages, though still distinct, would have been less remarkable. And in the future international trade jealousy will be keener and the competition even more severe. We must not forget that our geographical position is no longer in our favour for steamships plying from the East, and, as in the immediate past, we must throw away no chances, but seek to make up for that admitted defect by foresight, by education, by maintaining and constantly adding to our experience, and by defending and supporting that admirable system—our national banking system—which has carried us over seemingly insurmountable obstructions to brave trade triumphs.

The general considerations which I have named might lead to the inference that actual geographical disadvantages, in trade competition for instance, may sometimes be conquered by man's resourcefulness and energy. Within obvious limitations that is certainly true. At places, as we know, the borderland between geography and many of the natural sciences is often vague and confusedly interlaced. So perhaps also with mechanical and economic science our boundaries at certain spots overlap. Quick steamers, far-reaching telegraph lines, and the piercing of isthmuses by ship-canals may at the first glance appear outside the purview of the geographer. Yet from that particular aspect of geography which I have already spoken of as the Science of Distances we perceive how relevant they are, how worthy of study. Truly ours is a very catholic science, and we have seen how even the comparative value of national banking systems may help to explain seeming geographical inconsistencies, to reconcile facts with possibly unexpected results, and to show how the human element modifies, perhaps, the strictly logical conclusions of the

geographer intent upon physical conditions alone. It is for the statesman and the philosopher to speculate upon the character and the permanency of such influences. Our success as an Empire will probably depend for its continuance upon a high level of national sagacity, watchfulness, and resource, to make up for certain disadvantages, as I think, of our geographical position since the cutting of the Suez Canal; and it will also depend upon the comprehensive and intelligent study of all branches of geography, not the least important of which to my view is the Science of Distances—the science of the merchant, the statesman, and the strategist.

THE GEOGRAPHICAL SECTION OF THE MEETING OF THE BRITISH ASSOCIATION AT BRADFORD, 1900.

President.

SIR GEORGE ROBERTSON, K.C.S.I.

Vice-Presidents.

SIR JOHN MURRAY, K.C.B., F.R.S. ; SIR THOMAS H. HOLDICH, K.C.I.E. ; H. R. MILL, D.Sc., LL.D. ; J. SCOTT KELTIE, LL.D. ; E. G. RAVENSTEIN.

Secretaries.

H. N. DICKSON, B.Sc., F.R.S.E., F.R.G.S. (*Recorder*) ; EDWARD HEAWOOD, M.A., F.R.G.S. ; E. R. WETHEY, M.A., F.R.G.S.

Committee.

COLONEL F. BAILEY, *late* R.E. ; VAUGHAN CORNISH ; DR. H. O. FORBES ; STAFF-COMMANDER DUBOIS PHILLIPS, R.N. ; T. G. ROOPER ; ELI SOWERBUTTS.

Delegates from the Royal Scottish Geographical Society.

COLONEL F. BAILEY ; GEORGE SANDEMAN.

The following papers were read in the Geographical Section :—

THURSDAY, SEPTEMBER 6TH.

1. *The President's Address*, which is printed on another page.
2. *Geographical Teaching in the West Riding*, by T. G. ROOPER.
3. *Commercial Geography in Education*, by E. R. WETHEY.

FRIDAY, SEPTEMBER 7TH.

4. *The Treatment of Regional Geography*, by H. R. MILL ; an account of his monograph on South-West Sussex, of which an abstract is given in the *Geographical Journal*, March and April 1900.