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THE TEACHING OF GEOGRAPHY AND SOCIAL SCIENCE.

By PAUL DE ROUSIERS.

I.

THE teaching of Geography has been considerably modified during the last few years. I still remember the dry lists of names that were placed before me in my childhood, and constituted what were supposed to be lessons in geography. They were a curious jumble of proper names, in which all the straits, capes, and gulfs of a part of the world were passed successively under review: the Skagerack, Gibraltar, the Bosphorus jostled themselves together in the memory of the pupil, who knew not where to locate them, for geography was taught chiefly from books. Atlases were only consulted by the curious; the pupil knew his lesson well if he could declaim, without any show of interest, the enumerations of the book—for instance, recite in one breath all the capes of Europe from the North Cape to Matapan.

This method has wisely been abandoned. Now school-children work with atlases, they have large wall-maps in their class-rooms, and are asked to identify the names they learn with the points to which they refer. Moreover, it is sought to render the study of geography interesting, and for that object all that is necessary is not to remove the interest that the study naturally possesses. The pupils are shown something of real geographical science, that is, the description of the Earth; they are initiated into the history of the formation of continents and of the upheaval of mountains; they are told why a large river exists in one place, a dry and sandy desert in another; and thus the geographical details stored in the memory are connected together by a rational method. They perceive that the snowy peaks and large streams have not been distributed at hap-hazard over the surface of the globe, but recognise in their situations a consistent plan and the effects of general laws.

By this method progress is made in two directions at once: in the direction of science, in the first place, for a knowledge of some of the laws which produce order in the universe is substituted for a mere exercise of the memory; and also in the system of tuition, because the instruction is better and more easily conveyed. But on entering on this new and more efficient course, the teaching of geography has met with a difficulty which was unknown to the old method, and is a consequence of the very progress that has been made—namely, risk of confusion.

Formerly physical geography comprised only the position of the country under consideration, its limits, latitude and longitude, its orography and hydrography, and its outline—capes, gulfs, and straits. To this was added, under the name of political geography, an account of the administrative divisions; and this was all.

But now a very different view is taken. It has been thought—and, indeed, justly—that the description of the Earth should not be confined within such narrow limits, and accordingly details relating to a

number of other subjects have been gradually introduced into geographical works, and even into atlases.

First of all, we will notice geology. The external form of the Earth, the quality of the surface soil, and the nature of its composition are so closely connected with the subsoil and geological changes that the latter cannot be entirely ignored by geography. And, again, is it not in the subsoil that are found coal-mines, mines of metallic ores, and petroleum pits, the presence of which is the cause of important modifications of the surface, and has a direct interest for the inhabitants of the globe? A certain knowledge of geology seems, therefore, necessary for a thorough investigation of the Earth.

Meteorology also claims a place. We cannot be said to know the Earth and how it is constructed, if we are ignorant of the phenomena of heat and cold, their intensity and duration, their influence on mankind, and the reciprocal actions of the domain of the winds and the domain of the waters—in one word, all the atmospherical conditions to which the inhabitants of the world are exposed. According as you go to the Antilles or Canada, to India or Siberia, you have to protect yourself from extreme heat or extreme cold, so that your mode of life is thereby completely changed. The persistence of certain winds produces arid desert, while the beneficent influence of others contributes to the fertility of the soil. Certain parts of the globe are devastated at frequent intervals by fearful hurricanes. How can such important facts be passed over in silence? And, without carrying the inquiry too far, we may ask what is the influence of climate on the products of the soil, on the physical constitution of the human race and of animals. For all these reasons it is indispensable that geography properly so called should be furnished with information regarding the atmospheric envelope.

Similarly, it must give an account of the vegetable and animal productions of each country. It must not be forgotten that the Central Asian plateau is a vast grassy steppe where graze, according to the nature of the herbage, herds of horses or of goats; that the reindeer alone can make its home on the *tundras* of Siberia; that the forests of equatorial America harbour only birds. These are not merely curious details, but are the essential features of the physiognomy of each of these countries, which differentiate them completely from neighbouring lands; and it is through them that the pupil is enabled to grasp their character and distinguish between them. Unless the professor gives due prominence to each of these features, the attention of the pupil will soon flag, crushed by the monotony of a lifeless and colourless enumeration. Should the pupil surmount this obstacle, should his memory be able to treasure up a series of encyclopædic data, he will have no notion of the realities that underlie the proper names. To him an Arab, a Laplander, a Chinaman, a Fuegian, a Maori, a Belgian, a Dahomian, and an Englishman will differ from one another only by the vagaries of individual wills; he will have no conception of the different physical surroundings in which they move. He should, therefore, be shown by pictures taken from life how the activity of man is reduced to fishing and the keeping of herds of reindeer on the shores of the Arctic Ocean, to the chase of small game in

the valley of the Amazons, and to pastoral pursuits on the steppes; how, on the contrary, countries which yield a variety of products are the field of progressive civilisation and unlimited modifications.

In this way geography has summoned to its aid geology, meteorology, botany, and zoology in succession. Each of these sciences has, indeed, furnished contributions to the knowledge of physical nature.

Though the introduction of these four new factors is perfectly legitimate, it is bound to bring with it a certain degree of complication, especially in the study of geography; and yet nothing has so far been mentioned which goes beyond the range of the physical knowledge of the Earth—of descriptive geography.

But the Earth is more particularly interesting in its relations to mankind, and the elements that nature contributes to the activity of man are not generally apparent except when brought into the service of that activity. Not content, then, with considering the Earth as a planet to be described like any other, geographers have described it as a planet inhabited by man, and the great work on universal geography published during the last few years by Elisée Reclus bears the secondary title, *La Terre et les Hommes*.

It is curious to notice how, little by little, all social facts, to whatsoever class they may belong, have succeeded, according as they harmonise with the personal inclinations or special studies of one or other geographer, in finding their way into geographical works by this wide-open door. From the moment that man was introduced on to the stage, the whole social system entered with him.

Let us consider, for example, what that rather vague term, economical geography, which now appears in every book and atlas, includes: firstly, the resources of all kinds presented by nature—that is to say, a detailed description of mineral, vegetable, and animal products; then the ways in which man makes use of them—grazing, fishing, hunting, harvesting, agriculture, silviculture, mining; the innumerable industries which transform the material supplied by the initial labour; the means of transport, such as roads, canals, and railways, which facilitate the distribution of the products of different forms of labour; the commercial establishments which effect their exchange. And in each of these branches we find mention made of the precise object of the work, the machinery employed, a description of the workshop in which the work is carried on, of the manner in which it is conducted, of the staff by which it is executed, and of the ties that connect the labouring element with the managing element, which entail a review of the question of wages, hours of labour, etc. Nor is this all. The term economical geography extends beyond the labour of man to the results of that labour—that is, property, its possession, transmission, nature, and various forms. Open any book of geography compiled according to the new methods, and you will find references to all these subjects. Every one of these books does not, of course, contain exact and complete information on all these points—far from it; but they all touch on these subjects, and pronounce a general opinion, accompanied by a few details taken pretty much at random, thus giving the studious pupil the impression that he has gained some infor-

mation, that he knows things of which in reality he has been able to acquire no idea whatever.

This mass of facts, added to the former, produces a very remarkable medley. It is, again, quite a different thing when we come to the inevitable chapter on manners and customs, languages, religions, etc. There the geographers allow themselves full freedom, and, according to their fancy, heap up together notices, short or detailed, sensible or puerile, on family organisation, food, dwellings, costumes, local amusements, primary instruction, universities, academies, fine arts, religious, political, military, and judicial organisation, history, language, and ethnography; it is a fortunate chance if palæontology, demography, statistics, and anthropology are not invited to the feast.

It should be remarked that this encyclopædic chaos is not restricted to large quarto volumes intended for consultation; it is found also in so-called elementary treatises of geography, in those which are drawn up in accordance with the syllabuses of examinations. In both cases the great fault of confusion is the same, the chaos is equally complete. Except in geographical dictionaries, where the alphabetical arrangement introduces an order, artificial but convenient for the seekers, works of universal geography are very difficult to consult. One never knows whether one will find the information required, nor where to find it, and, on the other hand, details are sometimes met with which have no evident connection with the science of geography. This is a great inconvenience for workers. As for pupils, the difficulty proceeds from the necessity of getting into their heads isolated facts by a great exertion of pure memory, and, consequently, without any advantage to themselves, knowledge being useful only when it can be arranged in the mind, when the fact can be grasped, understood, conceived, when its cause can be recognised.

In this state of chaos the question presents itself: Is there really a science of geography extending beyond the form of continents, hydrography, orography, and other purely physical facts? Is it an unwarrantable development to add to the old enumerations of capes and gulfs fresh enumerations relating to productions, language, the origin of races, etc.? In other words, can the study of geography legitimately concern itself with subjects of this kind?

If the present confusion were inevitable, if the new method of learning geography necessarily involved the undigested compilations and encyclopædic *résumés* that we are familiar with, the answer would not be difficult; but there is a remedy for the state of things I have noticed, and this remedy will give to the science of geography its own peculiar value, its true function, and at the same time will render the study easier and more attractive. It consists simply in introducing an element which is still absent, though so many others have been added; this element is the natural order which connects the facts studied to one another.

II.

There is no occasion to invent this link; all that is necessary is to find it, for it exists already. We have already some notion of it; we have

some perception that certain climates, certain physical conditions, the abundance, scarcity, or total absence of certain productions, have an influence on various phenomena of the social system, and for this reason we insert in our geographies all kinds of details on the manners and customs of the inhabitants of each country described. It only remains to determine clearly the relations of cause and effect connecting the physical and social systems.

A similar progress has already been accomplished as regards the facts strictly relating to the description of the material world. We are not now told straight out that Africa has so many capes, so many rivers, so many peaks, but a general idea is first conveyed of the form of the continent: its massive outlines are indicated, the slight development of its coast-lines, and the consequent scarcity of bays and gulfs; then the main lines of its relief are laid down, and the existence of a vast central plateau is noticed, and the distribution of water over the surface is explained as determined by the relief. In other words, the various physical features are grouped together instead of being enumerated, and this is done, not in an arbitrary, conventional manner, but with reference to the relations actually uniting them.

Such is the true geographical method. It now remains to apply it, not only to physical facts which constitute the basis of geography, but also to social facts, which depend on and supplement the former, whether they be economical facts, political, military, historical, or others. We have emerged from chaos as regards physical facts; we must attain the same standard as regards social facts.

And, first of all, we must decide what social facts really fall within the scope of geography. At present anything and everything is inserted in chapters on manners and customs, religions, etc.—too much or too little, and sometimes both at the same time. It is essential that we should know where geography begins and ends, however universal and detailed it may be. This science must have limits like all other sciences.

To find them, all that is needed is to call to mind the reasons for giving a place to new subjects in the programmes of geography. Their admission was due to a conviction that these new branches of investigation were not unconnected with local physical conditions. These relations, then, are the origin of their presence; it is by virtue of them that they have gained recognition. This being the case, nothing is easier than to choose out of the sum-total of social facts those which have definite relations to physical conditions. All these facts have their geographical side. If the relation connecting them with physical conditions be simple, easy to grasp, and direct, they may legitimately be admitted into elementary geographical works; if, on the contrary, they are connected with these conditions by a complicated relationship, difficult to trace out or indirect, they should be reserved for more abstruse treatises.

The whole question, then, depends on a knowledge of the exact relations which obtain between physical and social facts. This knowledge has been supplied by social science since the method of observation was applied to this science, first by Le Play, and afterwards by M. de Tourville. I do not claim that social science, in its present state, gives the

key to all the relations of cause and effect between all physical and all social phenomena; I mean simply that it has determined certain of them, and that it furnishes the sole means of discovering others. Like the other sciences based on observation, it is always in a state of development; but, like them also, it has succeeded in registering some interesting results. By the aid of these it is possible to select social facts and group them together as they may be required, just as with the results of physical science the selection and grouping of physical facts concerning geography may be effected.

Suppose, for example, that I have to give an elementary lesson on the Central Plateau of Asia. Let us see how I should proceed to draw out the scheme with the aid of social science. Passing over, be it understood, the physical description of the region—which refers only to the Earth—I come to what concerns man.

In the first place, I must speak of labour, for here it is in direct dependence on the physical conditions, which only allow herbage to spring up spontaneously and prohibit cultivation. Grazing only is possible; and that only with a nomad mode of life and an absence of all restrictions to free movement—that is, under a system of proprietorship in which the land is common to all. I should point out by some examples how domestic industry of a simple kind produces clothing, carpets, and other useful articles from the raw material furnished by the herd; I should describe this workshop in which the patriarchal form and traditional methods are dictated by the circumstances; I should discourse on the sovereign and indispensable authority of the patriarch, the assemblage of the young households round the same hearth, and the habits of respect and docility resulting from this arrangement. I should also give some details concerning the food, of which milk is the sole basis; on the movable tent, so different from our houses of stone and brick; on the style of dress; on amusements; on instruction; on the absence of any higher authority than that of the family; on the historical rôle of these pastoral peoples, able in consequence of their nomadic habits to transport themselves *en masse* wherever grass is to be found by the way, indifferent to cold or heat owing to the extremes of temperature that occur on the Great Steppe. In short, I should give a lesson in which social facts would occupy a prominent place, because, on this soil, unchanged by human activity, they are most intimately connected with local conditions.

I should proceed differently had I to deliver a lecture on, say, England, a country where the soil has been thoroughly transformed by the labour of man. Here the part played by nature shrinks into the background, and human action is much more important. Nature determines primarily the sphere of action in which man moves, but man, gradually extending his power over nature, enlarges this sphere artificially. He not only modifies the surface soil by cultivation, but he descends into the bowels of the earth in search of coal, a new material for his activity. He elaborates natural products by costly and complicated processes; he creates means of rapid communication which change the physiognomy of the country and annihilate distance. He orders his life in a thousand

different ways according as he is a cultivator, a manufacturer, a sailor, trader, etc. The variety of conditions proceeds from a complicated state of society, and the exertions of man tend to break down the opposing barriers of nature, so that the social state is both less easy to describe and less intimately connected with local conditions.

We see, then, that the number of social facts which properly fall within the geographical scheme is more restricted. All that remains is to point out what assistance man has derived from nature to second his victorious efforts, and what modifications he has forced on nature in order to obtain his ends. I should remark, for example, how the presence of coal has favoured the development of industry, and how an insular position has stimulated maritime commerce, navigation, and the divers modes of transport, because the results have a geographical interest in that they bring together countries separated from one another by situation; but the details of the progress have little to do with the physical conditions, and the ties that unite them are too loose, too complicated, or too indirect to be mentioned in an elementary lesson. I should not, therefore, explain to pupils the social organisations of England as I should the social constitution of the shepherds of the Great Steppe. I should content myself with alluding to this complicated system, the fruit of the long-continued efforts of man, and hence lying without the bounds of geographical study.

It must not be supposed that complicated social systems owe nothing to geography. Even in those manifestations of human energy which are least dependent on nature, the latter leaves its trace; but, instead of exerting a decisive and preponderating influence, it appears only as an occasional and subordinate force. For instance, commercial and financial combinations, the inspirations of literature and the fine arts, seem to be personal aptitudes capable of transportation to any part of the world; and yet it is recognised that the great routes of commerce are dependent on geographical facts, and that the centres of exchange are favourable to the development, and indispensable to the exercise, of the special faculties which evolve these combinations. It is equally certain that pastoral peoples are more disposed to reflection and to intellectual work than the agricultural; that music develops itself more easily in societies where the families live together in groups, than where they are isolated, etc. Commerce, literature, and the fine arts may find a place in geography as far as they are subject to the influences just stated.

Well, then, according as the society is in a primitive state, confining itself to the gathering in of the spontaneous products of the soil, or a complicated organisation transforming the soil and its products, the geographer should modify his method of exposition. In the first case, he can define the effect of the physical conditions, because it is direct and uniform, and consequently is complete in itself. In the second, he should, on the contrary, proceed by the help of subordinate reflections, laying before his readers or pupils the influence of such and such a local circumstance, wherever it manifests itself, and with regard to the facts on which it acts. Thus a perfect harmony will exist between the fact itself and the manner in which it is presented.

We understand sufficiently, by the example of the Great Steppe cited above, how countries with a simple form of society may be depicted. It will also be at once admitted that social facts have a place in a more complete and detailed study of geography. It may not, however, be so clearly understood how they can be admitted into an elementary lesson without overburdening the memory and exhausting the attention of young pupils. Nevertheless, I am convinced that they are, on the contrary, an aid to memory, and can rivet the attention of a child ten years old of average intelligence.

I have made the experiment personally, on a limited scale certainly, but I have found the method successful. I teach geography to my children, and I always notice that they retain much more accurately those geographical facts of which I have pointed out the interest from a social point of view. I am not speaking only of such as act uniformly and immediately on simple societies, as the aridness of the deserts, the herbage of the steppes, the warm moisture of the equatorial forests, or the glacial temperature of the Siberian *tundras*. I allude also to small details, which exhibit a perceptible influence on one or other of the phenomena of life in highly organised communities.

For instance, the geographical position of certain towns or countries easily explains their commercial development. The peculiarity of their geographical position, which appears to have the greatest influence and which is the most easily comprehended, should always be thrown into relief. Thus, if you explain to a pupil that Bremen and Hamburg are placed at the mouths of the Elbe and the Weser respectively, in front of the peninsula of Jutland, which intercepts the entrance into the Baltic, and that consequently they stand at the natural point for the unloading of merchandise coming from England, France, Spain, the Mediterranean, India, China, and the New World and consigned to German markets; if you endeavour to show him the natural advantages of these circumstances; if you make him thoroughly understand them by varying your explanation in all imaginable ways, until you perceive that the idea is thoroughly fixed in the child's head, you may be sure that he will not easily forget the exact position of Bremen and Hamburg, their commercial importance, the points where the Elbe and the Weser enter the sea, their curvature towards the east, the form and position of Jutland, and all the other purely geographical facts that your explanation has grouped together, and of which he has been shown the connection. In this way the indications of the map are inspired with life, and become interesting to the pupils. Similarly, you can make them perceive that Portugal, the most commercial part of the Iberian peninsula, commences on the east exactly at the points where the Spanish rivers become navigable; that Montreal, the commercial capital of Canada, has been built below the rapids of Lachine, at the place where the St. Lawrence presents an almost impassable obstacle to vessels ascending the river; that Venice at the period of its splendour, when land carriage was difficult and navigation in its infancy, constituted a convenient emporium for commerce between the Orient and Occident, thanks to the deep indenture of the Adriatic.

Neither are you precluded from giving political sketches. You can very well explain to children of fifteen years of age that the neutrality of Switzerland is to a great extent due to its physical configuration and to its situation, just as its democratical constitution has its origin in the equality of conditions produced by the poverty of its soil.

And, when you come to new countries, why not cite the advantages or obstacles which their various physical characters present? It is a simple matter to show that the continental climate of Australia, a land compact in form, is unfavourable to the colonisation of its inland tracts, while the narrow islands of New Zealand offer at all points the conditions of humidity favourable to cultivation. You can point out the part played in colonisation by the mines of California, which gave so much notoriety to that state, and attracted workmen who afterwards became cultivators. What singular reflections can also be made on the immense valley of the Mississippi, formerly only a hunting-ground for the Indians, but now become one of the granaries of the modern world! The vast tracts without forest, sometimes even without stones, would have been difficult to turn to account if rapid steam transport had not been introduced to connect them with the forests of the north and the industrial districts of the east. There is no end, indeed, to the examples that might be given, but I wish only to show that the method of procedure is easily applicable.

But that is not its only advantage. The substitution of a rationalised method for one purely mnemonic has, besides, the invaluable merit of showing the pupil the interest of what he learns, of educating his mind at the same time that it furnishes his memory with useful knowledge. Geography then would not only profit by a method which perfects it and systematises it; children who are obliged to study it would also find an excellent opportunity of developing their intelligence and strengthening their reasoning faculty.

It is worth noticing that by becoming more scientific the study of geography becomes also easier and more attractive.

OBITUARY.

THE last of the noted African explorers of the previous generation has passed away, and we much regret to chronicle the death of Sir Samuel White Baker, which took place at Orleigh, Newton Abbot, on the 30th of December 1893. He was born in London in 1821, and thus was 73 years of age.

Baker was a Gloucestershire man, but was principally educated in Germany. Throughout his life he was an energetic traveller. A man of fine physique, he was not only a noted sportsman, an engineer, an explorer, and an administrator of no mean ability, but he possessed great literary ability, and his books have been, and still are, widely read. We may notice here a few of them: *The Rifle and Hound in Ceylon* was published in 1854, followed in the next year by *Eight Years' Wanderings in*