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# THE SCOTTISH GEOGRAPHICAL MAGAZINE.

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SOME RECENT CONTRIBUTIONS TO GEOGRAPHY.<sup>1</sup>

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(*With Plate.*)

THE first of the recent contributions to the subject of geography to which I wish to direct your attention is the latest, the address delivered by Colonel C. F. Close, C.M.G., R.E., to the Geographical Section of the British Association, as president of the section, at its meeting at Portsmouth at the end of August this year.<sup>2</sup> It is a remarkable address, coming as it does from one occupying a presidential chair in a body devoted to the study of geography. For, after asking, as so many have done before him, the meaning and object of geography, and adopting a method of his own to arrive at the answer to that question, he comes to the conclusion that a geographer who has not made a special study of one or more of such subjects as geodesy, surveying, cartography, geology, climatology, or ethnography can do much to popularise these subjects but cannot hope to do original work.

I need hardly say that this is a conclusion with which I do not agree, and I think that the answer to this contention may to some extent be read between the lines of observations made by Colonel Close himself. He remarks, "I shall very probably be told that, in laying some stress on the above-mentioned aspects of the subject, I have forgotten that the main purpose of geography is the study of the earth as the home of man, or the study of man as affected by his environment, and that, however necessary it may be to begin with a foundation of geodesy, geology, and climatology, we must have as our main structure the investigation of the

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<sup>1</sup> Opening Lecture of the Session 1911-12, delivered to the Geography Class, Edinburgh University, October 11, 1911.

<sup>2</sup> See *Scottish Geographical Magazine*, 1911, pp. 505-16.

effect of place conditions on the races of man, on human history and human industry, on economics and politics."

Now if we only change "the effect of place conditions" into "effects connected with place conditions," this sentence does in fact include a statement of what I believe nearly all geographers would be agreed in telling him. It contains, indeed, somewhat more than that, and perhaps somewhat more than Colonel Close meant to say. When he suggests as an expression of the main purpose of geography "the study of man as affected by his environment," he makes the scope of geography too wide. The air we breathe is a very important part of the environment of man, but the study of the mere physiological effects of air as such, apart from local differences in the composition of the air, is no part of the task of the geographer. This, however, is practically a trifling and indeed merely formal correction, inasmuch as the local differences in the air we breathe are important, and these do come within the range of the geographer's consideration.

I have to mention further that Colonel Close is willing to concede, at least conditionally, some force to this claim as to the main structure in geography. That is why I have said that an answer to his contention above stated may to some extent be read between the lines of his own observations. I propose afterwards to consider the gingerly fashion in which he makes this admission, but meantime I want to note the fact that it is to some extent made, and to consider the effect of that admission on the mode he has adopted for arriving at an idea of the scope of geography.

I have indicated a change in wording with reference to the claim put forth as to the main structure of geography. My reason is that, as stated in my opening lecture in 1908, no effects of place can be pointed out except in virtue of facts that are not connected with place. To take the simplest illustration, if one speaks of the influence of mountainous country in impeding transport and communication, that assumes the fact that in going up hill one has to contend against gravity, a fact belonging to the realm of physics. Consideration shows that influences connected with place are modified in a great variety of ways which can be understood only by making oneself more or less acquainted with facts belonging to many sciences. If, for example, it is recognised that one effect of the substitution of perennial for basin irrigation in Egypt is to deprive the Egyptian fields of fertilising silt, it obviously becomes an important geographical problem to inquire how, placed as Egypt is, the lack of that fertilising agent may best be made good. Obviously this involves a knowledge of chemistry and vegetable physiology and investigations under both these heads, as well as knowledge of the mechanism of trade, but in so far as the ultimate aim of the inquiry is the determination of place values the inquiry is geographical.

Bearing that in mind, let us now consider how Colonel Close has endeavoured to ascertain the field of geography. Taking the *Geographical Journal* as indicating the matter with which geography deals, he has analysed the original contributions in that publication during the five years 1906 to 1910. He finds that 57 per cent. of these give the

results of explorations, and the remaining 43 per cent. may be referred to general physical geography, economic and social geography, hydrography, meteorology, and climatology, and other sciences and branches of study, leaving nothing over for geography as such.

But see what is involved in this procedure. He assumes that accounts of exploration, being mere description, have nothing of the nature of science in them. But all description involves selection, and the selection of the points you emphasise, the endeavour to place all the facts in your description in due relation to one another, depends on the aim you have in view, and if that aim is to bring into prominence influences on man connected with place and to attach to each their due weight, then the description becomes a truly scientific geographical description from the point of view of geography recognised by Colonel Close as at least a possible one. If mere description is to be excluded from the work of science, what becomes of geology, zoology, botany, and other sciences in which description with a distinct aim is a necessary foundation?

And with regard to the remaining 43 per cent. of the subjects dealt with in the last five years in the *Geographical Journal*, if we once recognise the great variety of ways in which place values are modified, we cannot but discern the necessity under which the geographer lies, while still keeping his own aim distinctly in view, for taking up inquiries now connected with one branch, now with another branch of science. Surely Colonel Close would never contend that the different sciences can be conceived as existing in air-tight compartments, having no connection one with the other. He tells us that a map showing the distribution of plants will be better interpreted by a botanist than by a person ignorant of botany. We are not called upon to question that. We may admit that to construct such a map one must be a botanist, but we have none the less to add that the botanist who constructs such a map must be also a geographer. He has to inquire into the nature of local facilities for and barriers to dispersion, and to that extent he is making geographical inquiries, and it may be added that he will find he is dealing to a large extent with the same considerations as have the most prominent place in human geography, physical features and climate.

I have referred above to the gingerly fashion in which human geography is recognised by Colonel Close as at least a possible field for scientific geography. What he says is this: "Before this human aspect of geography—or, for that matter, any other aspect of the subject—is recognised by the world of science as an independent, indispensable, and definite branch of knowledge, it must prove its independence and value by original, definite, and, if possible, quantitative research." To this demand in itself geographers can take no exception, but they have good reason to complain that he should stop where he does, thereby seeming to imply that geography has not yet done so.

To see whether this implication or apparent implication is just let us consider carefully the nature of his demand. By using the term "original" he does not mean to make the preposterous demand that our work should not be based on the labours of others, for he has just stated that in

our original investigations "we have the right to all the results obtained by others, provided that we add something valuable of our own." In demanding definite research, and we presume research leading to definite results in the way of demonstrated effects connected with place conditions, he does not insist that the degree of those effects should be capable of being expressed quantitatively, and that being so it would be easy to show by crowds of examples that such results have been arrived at. He adds, however, that the research should, if possible, be quantitative. To this demand also geographers will take no exception, even though they will readily admit that the measuring of individual influences connected with place is for the most part a matter of great difficulty if not utterly impossible. Probably in every case there are different influences connected with place at work at the same time in bringing about certain results, and the utmost that can be shown quantitatively is the joint effect of those causes. Still, many examples can be given of quantitative results that clearly show at least approximately the degree in which influences connected with place operate. That is shown, for example, when calculation reveals a certain amount of correspondence, other things being equal, between the amount of the rainfall or the altitude and the density of population; when maps are constructed showing the limits that may be reached by travellers or goods from a given centre within a given time; when it is shown that the ratio of the entrepôt trade to the total export trade of different ports is constant within narrow limits in different years notwithstanding wide fluctuations in the amount of the trade, or when we find that, year after year, as I shall have occasion to point out to you in a later part of this course, the ratio of the value of cotton goods sent out of the United Kingdom by way of Liverpool and Manchester remains just about two-thirds of the whole in spite again of great fluctuations in the total. It may be objected that these are all individual instances and that it would be a higher achievement to arrive at a general law expressed quantitatively, a law, for example, that would enable us to state with reference to all ports the proportion of entrepôt trade that might be expected to fall to them. Granted, but that is obviously more difficult, and, if such a law is to be reached at all, it must be by means of individual quantitative results such as have been instanced, which therefore are illustrations of scientific method.

What I have said here may be regarded as a weakness in the subject of geography. So it is. It would injure the subject to blind ourselves to the degree of definiteness attainable in its investigations. The result of investigation may be definite in this sense, that the fact of the operation of causes connected with place may be shown in multitudes of cases where they are not obvious, but we may be compelled, after careful consideration of the various influences at work in individual cases, to content ourselves with a mere estimate of their relative importance. One consequence is that it may be safely asserted that no geographer would agree with all the estimates of any other geographer, even although there is substantial agreement on the more important points, and, in consequence of continued investigation, more and more of an approach to agreement. Parenthetically it may be observed that this weakness in geography is not without

its advantages from an educational point of view, inasmuch as nearly every separate case in geography affords special exercise for thought. Still I would have you observe that this is merely a parenthesis. Our subject at present is not geography as a discipline, but the field of investigation belonging to geography. In connection with that, however, I may remark that if there is, as I contend, such a field, the very weakness that I have indicated, increasing as it does the difficulty in cultivating it, is no reason for the field being abandoned, but quite the reverse.

Just one other point in Colonel Close's observations I will take note of. He admits that no student of history, economics, or politics can disregard the effect of geographical environment, but adds that it is not as a fact disregarded by writers on those subjects, and he apparently wants us to believe that it may safely be left to them to pay due regard to the influence of that environment. Now if that is the implication of Colonel Close's observation I would put to him this question:—If such is really the case is it not a little remarkable that Ernest Lavisse, in writing his great history of France, feeling the necessity for an introductory volume on the geography of France, should not have written that volume himself, but should have entrusted it to a trained geographer, Professor Vidal de la Blache?

It is somewhat noteworthy that this presidential exposition on the subject of geography should have been given in a year in which several important works have been published illustrating the scientific treatment of geography from the point of view to which Colonel Close gives such scant recognition.

Of the works to which I refer, I will first mention a small book by Dr. Marion I. Newbigin, entitled *Modern Geography*.<sup>1</sup> Small as it is, I would direct your special attention to it. With her well-known literary skill the author succeeds in rousing the reader's interest from the first page, and in the space of less than two hundred and fifty small pages indicates the numberless ways in which influences connected with local differences in surface-relief and the modelling of that relief, climate and weather, the distribution of plants and animals, wild and cultivated or domesticated, the distribution of minerals and other things make a difference to man. The reader is thus brought to see in how many directions he must be on the watch in order that he may be able to make a fair estimate of the total sum of influences connected with the geographical environment, that he may be able to judge how far it is possible for man, according to our present knowledge, to modify that environment to his own advantage, and to discern the modes in which by his own action he may unintentionally modify it to his disadvantage.

The two other works of which in this lecture I propose to give an account are of a different kind. They are both works of considerable size and great learning, and both aim at giving an original treatment of the subject of human geography. The first of these works to appear was *La Géographie Humaine*, by Jean Brunhes, Professor of Geography

<sup>1</sup> London: Williams and Norgate (Home University Library), 1911.

in the Universities of Fribourg and Lausanne.<sup>1</sup> The other is *Influences of Geographic Environment*, by Ellen Churchill Semple.<sup>2</sup> Both have the same aim. They are both strictly a study of influences on man connected with place, an aim indicated in Miss Semple's work by the completion of the title with the words *on the basis of Ratzel's System of Anthro-geo-graphy*. But notwithstanding this similarity of aim, there are interesting differences in plan and method. I will take them up in the order in which they appeared.

Of all the works on geography with which I am acquainted, that of Professor Brunhes is the one that presents the most remarkable combination of the results of direct observation and research. The author has travelled widely in Europe and in North Africa, and everywhere he has observed minutely with a view to the bearings of what he saw on human geography, and has reinforced his observations with records of the camera, many of which serve to illustrate his volume. His research is likewise minute, and for all other workers in the same field the value of his book is greatly enhanced, not merely by the number of references in his notes, but by the indications he gives as to the precise value or nature of the books and papers referred to, especially such as are insufficiently known, or, it may be, nowadays more known by name than read and studied as they still deserve to be. The work extends to more than eight hundred pages of a large octavo, exclusive of the index and contents, and hence it does not surprise one to learn that it is the result of labours spread over ten years.

Definiteness may be said to be the primary aim determining the plan of the work. It is for that reason that the author lays so much stress on direct observation in the study of geography. Thus only, he thinks, can we adequately ascertain the nature of the connection between human activities and facts of geographical distribution. He emphasises, it should be said, the term connection. "Between facts of a physical order," he says, "there are sometimes relations of causality; between the facts of human geography there are only the relations of connection" (pp. 780-81). By this he means, however, only what is involved in what I have stated above, that place conditions have no influence in themselves apart from influences that are not geographical. Coal, he points out, has existed where it exists now since the beginning of history. That it should have the connection it now has with human activity involved, not merely the fact that it can be used to develop heat, and that that heat again can be used as a means of applying power, but involves also the co-operation of a psychological element, man's knowledge of that fact, and the development of man to that stage of civilisation in which he had the desire to use that power.

In order to analyse as definitely as possible the nature of the connections between human facts and other facts of distribution, he asks us, as Suess has done in the beginning of his great work on *The Face of the*

<sup>1</sup> Paris: Félix Alcan, 1910.

<sup>2</sup> New York: Henry Holt and Company. London: Constable and Company, 1911.

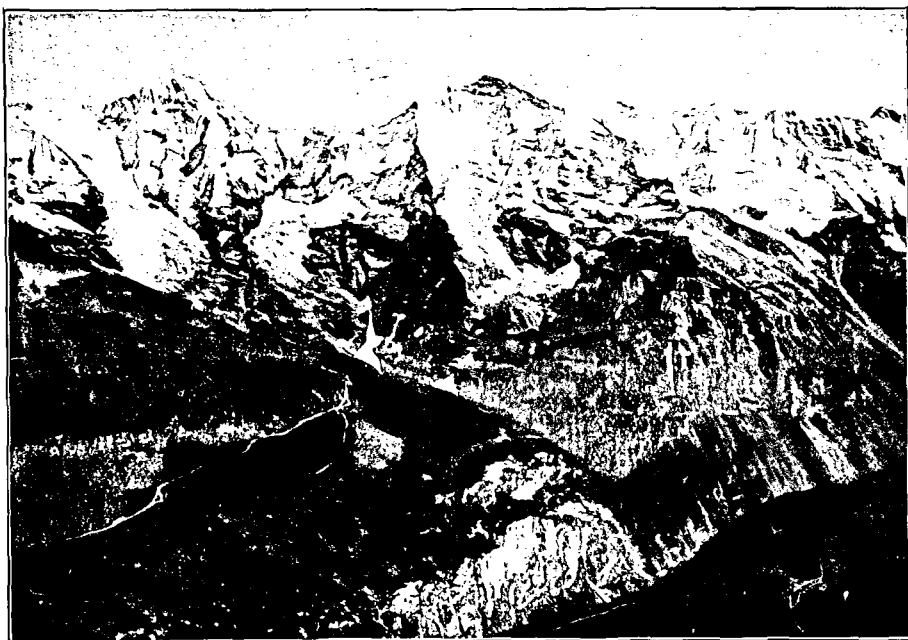






Bird's-eye view of the Limmat and the town of Zürich.

[Cliché Ed. Spelterini.]



The Jungfrau and the valley of Lauterbrunnen.

[Cliché Ed. Spelterini.]

*Earth*, to imagine ourselves raised above the surface of the earth high enough to have a considerable extent of the surface registered on a photographic plate. He then asks us what are the human facts that would be there represented. First of all, he says, men themselves, but besides men, and all the more abundantly where men are most numerous, other concrete things which are reducible to six essential types forming three groups. The first group he calls "Phenomena of sterile occupation of the soil," including (*a*) houses, and (*b*) roads. These phenomena he illustrates by a bird's-eye view from the height of 650 feet of the Limmat and the town of Zürich, in which, he remarks, houses, streets, bridges, etc., are just as distinctive features of the earth's crust as the river, and by setting this view in contrast with a similar view taken from the height of about 8000 feet of the massif of the Jungfrau and the valley of Lauterbrunnen, a view in which the only discernible human fact is a winding white line which represents the railway ascending to the Little Scheidegg. (See Plate.)

The second group he calls "Phenomena of conquest in vegetable and animal life," divisible into (*c*) cultivated fields, and (*d*) domestic animals. The third group is composed of "Phenomena of destructive economy," what the Germans call *Raubwirtschaft*, literally robber-culture, divisible into (*e*) mineral exploitations, and (*f*) vegetable and animal devastation (pp. 63-70).

None of these results or forms of human activity could be exhibited without the aid of certain natural forces, above all, water, wind, and human beings, but in thus speaking of water, for example, as a force Professor Brunhes refers not merely or principally to its use under the head of what we call water-power, but also to all its other uses, as for drinking, drainage, irrigation, etc.

All the facts of human geography, however, can be and ought to be examined in the light of the six above mentioned essential phenomena.

Chapters iii., iv., and v. of the work are accordingly devoted respectively to each of the three groups of those phenomena. Houses and roads, therefore, form the subject of Chapter iii., in which the connection is shown between the geographical conditions and the form and structure, including the materials, of the house, between them and the material characters of streets and roads, the grouping of houses in villages and towns and the localisation of such human agglomerations, the means of communication within towns, and finally the general geography of the means of communication. The treatment is not exhaustive, but for the most part by means of illustrative types, such as the wooden houses of northern and central Europe, houses and villages in different parts of Egypt. Generally construction is considered with reference to cases in which the means of transport are still defective, so that it is inevitable that the materials used in construction, necessarily costly to transport, are those found on the spot. There is no consideration of the parts of North America in which the spread and multiplication of population have depended on the introduction of modern methods of transport, and where accordingly we see "frame houses" a characteristic feature of plains hundreds

of miles distant from the source of the timber. It should be noted, however, that elsewhere Brunhes, while agreeing with Ratzel in observing that with advancing civilisation the dependence of man on geographic conditions is not suppressed but merely becomes changed (p. 804), expressly points out that highly developed civilisations are in a very large measure independent of the tyranny of the immediate geographic environment (p. 618). It is in virtue of this growing independence that timber of distant origin is made available in prairie house-building—in the building indeed of our own houses.

In the chapter on the geography of cultivation and the rearing of livestock, plants and animals are first considered in relation to the great facts of climate. Another section deals with the origin, number and importance of cultivated plants and domestic animals. The cereals most extensively cultivated are then considered separately with reference to the geographical conditions favouring their production. A section is devoted to the leading textile fibres individually treated, and lastly there is a very interesting section on the various forms of pastoral nomadism and semi-nomadism.

Under the head of destructive economy the two types chiefly dealt with are forest devastation as illustrated by the mode of life of the Fang in equatorial West Africa, and coal-mining, “the type *par excellence* of mineral exploitation on a great scale.”

These matters being disposed of, the author, again with the view of securing the greatest possible degree of definiteness in the treatment of his subject, takes up in the next two chapters the consideration of small natural units of the type which he calls “islands,” these small units, he thinks, forming the best introduction to the study of the totality of geographical factors affecting a region. Four types of islands or islets of humanity (*d'îles ou d'îlots d'humanité*) appear, he says, “to fall naturally under our observation: islands of the sea; oases, which are the islands of the desert; the peopled ‘islands’ or ‘oases’ of the great northern or equatorial forest; and the elevated enclosed valleys of mountainous regions, which are also ‘islands’ or ‘oases’ isolated in great altitudes” (p. 71). But of these four types only two are treated at length, the “Islands of the Desert” (Chapter vi.), and the “Islands of the High Mountains,” of which the Val d’Anniviers is taken as the type (Chapter vii.). Both chapters are based entirely on personal observation, and are of great interest. Both these “island” types, it will be observed, are kinds of islands in which the geographical conditions place special difficulties in the way of external communication, and there is no special treatment of what are commonly known as islands, one characteristic of which is that their surroundings generally favour such external communication in a high degree.

The eighth chapter has the general heading of “Beyond the Essential Phenomena,” and deals with regional geography, ethnography, social geography, and historical geography. Characteristically Professor Brunhes recommends the commencement of the study of regional geography with that of *pays*, or well-defined small natural regions. Notwithstanding the general heading, however, he avers that as geographers

we claim to penetrate into the territory of economic and social questions only in so far as the three groups of essential phenomena will explain or can be made use of in explaining the social facts by their localisation or their special forms (pp. 628-9), and it is apparently in virtue of the application of this criterion, with a negative result, that he excludes from human geography the study of races and languages, holding that as regards the facts of race and language the terrestrial world has not acted or does not act at all, or acts in a manner so infinitesimally small that our means of observation are incapable of detecting and measuring that action (p. 626).

A chapter follows treating of geography in education, and in the last chapter, entitled "The Geographic Mind," the author shows, among other things, how the disposition to regard things from a geographic point of view is extending in economic, social, and historical investigations, and in intensified efforts on the part of man to adapt himself to geographic conditions.

In Miss Semple's work on *The Influences of Geographic Environment* it is not minute personal observation that forms the dominant feature, but great width of survey. Geography is indeed indebted to the author of this work for many such minute studies in widely different parts of the world, some of the results of which are naturally taken into account in this book. But the basis of the present work is wide learning followed up by close study of the enormous range of facts which have thus been brought under review. In accordance with this there is a difference between this work and that of Professor Brunhes in the style of illustration. Here there are none of the photographs of geographical features that constitute so essential a characteristic of *La Géographie Humaine*. All the illustrations are in the form of maps. The chapters all deal with large subjects, and from every one of them can be gleaned interesting illustrations of geographic influences, absolutely definite in the sense above indicated, yet not to be arrived at without such wide and careful study, and serving in many cases to warn us against explanations which without such study have a delusive appearance of simplicity.

The first chapter, entitled "The Operation of Geographic Factors in History," is of a general introductory character, giving various illustrations of influences that fall to be treated separately, according to their nature, in subsequent chapters. From it we may note the emphasis laid on the distinction between direct and indirect effects of climate, and the illustration drawn from the differentiation of colonial peoples. Many have ascribed the rapid modification of the physical and mental constitution of immigrants from Great Britain into North America, South Africa, Australia, and New Zealand simply to the effect of climate. "The prevailing energy and initiative of colonists have been explained by the stimulating atmosphere of their new homes. Even Natal has not escaped this soft impeachment. But the enterprise of colonials has cropped out under almost every condition of heat and cold, aridity and humidity, of a habitat at sea-level and on high plateau. This blanket theory of climate cannot, therefore, cover the case. Careful analysis supersedes it by a whole group of geographic factors working directly and indirectly."

First we have to consider that before the days of cheap ocean transport and hustling steerage agents the ocean barrier had the effect of calling out from the home country only men of abundant energy, and these often with superior qualities of mind and character. Then, further, their new environment favoured variation and the perpetuation by heredity of the original characteristics, and the modified type soon became established because the abundance of land encouraged a rapid increase of population; that, too, under conditions that banished carking care, begot a hopeful attitude of mind, and yet constantly presented new problems to be promptly solved by individual ingenuity and resourcefulness (pp. 18-22).

The second chapter deals with "The Classes of Geographic Influences" under the four heads of physical effects of environment, psychical effects, economic and social effects, and effects on the movements of peoples. The direct action of physical conditions is sometimes too clear to be mistaken. "For instance, we can hardly err in attributing the great lung capacity, massive chests, and abnormally large torsos of the Quichua and Aymara Indians inhabiting the high Andean plateaus to the rarefied air found at an altitude of 10,000 or 15,000 feet above sea-level. . . . When the Aymara Indian descends to the plains . . . he either dies off or leaves descendants with diminishing chests" (p. 34). Sometimes this influence is indirect, arising from the fact that the geographical conditions impose certain predominant activities. Thus, thin legs with well-developed arms, chests, and shoulders, have all been noted as characteristics of tribes living in boats on rivers of South America and South Africa, and on the shores of the islands of Tierra del Fuego, British Columbia, Alaska, and the Aleutian Isles (pp. 35-6). Of psychical effects an interesting illustration is drawn from Blackstone, who states that "in the Isle of Man, to take away a horse or ox was no felony but a trespass, because of the difficulty in that little territory to conceal them or to carry them off, but to steal a pig or a fowl, which is easily done, was a capital misdemeanour, and the offender punished with death" (p. 40), a state of matters which, so far as the horse is concerned, may be instructively contrasted with the opinion cherished on the prairies of North America and other parts where the facilities for horse-stealing are greater. Economic and social effects, it is pointed out, are especially significant where they determine the size of the social group, as in Chinese Turkistan, where the need of irrigation scatters the population in detached spots of various size from the oasis of Kashgar with its 60,000 inhabitants to the "single families which Younghusband found living by a mere trickle of a stream flowing down the southern slope of the Tian Shan" (p. 43). Of the effects upon movements of peoples due chiefly to the character of the features of the earth's surface the illustrations are so numerous that it is needless to specify any in particular.

The chief lessons of the third chapter, headed "Society and State in relation to the Land," may be said to be summed up in the statements that the anthropogeographer "sees the common territory exercising an integrating force . . . growing stronger with every advance in civilisation involving more complex relations to the land — with settled habitations, with

increased density of population, with a discriminating and highly differentiated use of the soil," and in other ways (p. 53), and that "this growing dependence of a civilized people upon its land is characterised by intelligence and self-help. Man forms a partnership with Nature, contributing brains and labor, while she provides the capital or raw material in ever more abundant and varied forms" (p. 71).

Under the head of "The Movements of Peoples in their Geographical Significance," which forms the subject of the fourth chapter, we may note the emphasis laid on "the vast sum of lesser but more normal movements which by slow increments produce greater and more lasting results" than the few conspicuous migrations to which history is prone to direct almost exclusive attention (p. 76). "It was the great intellectual service of Copernicus," we are told, "that he conceived of a world in motion instead of a world at rest. So anthropogeography must see its world in motion, whether it is considering English colonisation, or the westward expansion of the Southern slave power in search of unexhausted land, or the counter-expansion of the free-soil movement, or the early advance of the trappers westward to the Rockies after the retreating game, or the withdrawal thither of the declining Indian tribes before the protruding line of white settlement, and their ultimate confinement to ever-shrinking reservations" (pp. 79-80).

The fifth chapter has the most comprehensive title of all, that of "Geographical Location," under which head we are to include not merely the size and form of the geographical subject, whether country, island, city, or whatever else it may be, but also its relations to other regions (p. 130). With this wide content for the term it is hardly to be wondered at that the author should state that "the location of a country or people is always the supreme geographical fact in its history. It outweighs every other single geographic force." It is obvious that under this large heading a great variety of considerations must come under review, but I will draw attention only to one, which contains a recognition of a fact of the most vital importance in geography, one to which we have already had occasion to refer, namely, that geographic values are subject to change. According to Miss Semple, location is the geographic factor "most subject to the vicissitudes attending the anthropogeographical evolution of the earth. Its value changes with the transfer of the seats of the higher civilisations from sub-tropical to temperate lands; from the margin of enclosed sea to the hem of the open ocean; from small naturally defined territories to large, elastic areas," and so on (p. 150).

With the wide meaning given to location it is not surprising to find that most of the following chapters of the book treat of geographical location in a number of special aspects. The subjects of chapters vi. to xvi. inclusive are "Geographical Areas"; "Geographical Boundaries"; "Coast Peoples"; "Oceans and Enclosed Seas"; "Man's Relation to the Water"; "The Anthro-geography of Rivers"; "Continents and their Peninsulas"; "Island Peoples"; "Plains, Steppes and Deserts"; "Mountain Barriers and their Passes"; and "Influences of a Mountain Environment." Time fails me to give any account of these chapters individually,

and for my present purpose it is not necessary. I have perhaps already said enough to give you an idea of this important work, with which I hope that some of you at least will make yourselves better acquainted by careful study. Your attention may, however, be directed with advantage to a few of the points dealt with in the chapters enumerated. In that on "Boundaries," there are some interesting paragraphs on natural boundaries being essentially zones not lines, areas of scanty population lying at a distance from the centres of power, and within which the artificial boundary line is liable to move, an idea developed at length also in Lord Curzon's well-known lecture on *Frontiers*.<sup>1</sup> People are apt to think of rivers as natural boundaries, but in the chapter on "Rivers" it is rightly pointed out and illustrated by numerous instances that it is "only under peculiar conditions" that rivers become effective as ethnic, tribal, or political boundaries (p. 361). "Rivers unite." That is one of their main functions, especially where easily navigable, a fact enforced by still more numerous instances (pp. 357 ff.). "The Connecticut River Settlers of early colonial days laid out all their towns straight across the valley, utilising the alluvial meadows on both banks for tillage, the terraces for residence sites, and the common river for intercourse." If one asks for illustrations of definite geographical influences on human activity it would be difficult to produce a more decisive case than that quoted from Parkman in token of the importance of the navigable rivers in early days in Canada:—"One could have seen almost every house in Canada by paddling a canoe up the St. Lawrence and Richelieu." Every dwelling faced on this water thoroughfare. "The original grants measured generally 766 feet in width and 7660 in depth inland; but when bequeathed from generation to generation, they were divided up along lines running back at right angles to the all important waterway." "In the early Connecticut River Settlements, the same consideration of a share in the river and its alluvial bottoms distributed the town lots among the inhabitants in long narrow strips running back from the banks" (p. 366).

The long chapter on "Island Peoples," extending to fifty-seven pages, makes up for the lack of such a chapter in Brunhes' *Géographie Humaine*, and here due attention is paid to the accessibility of islands. But islands, it is pointed out, have double and opposing influences. In the lowest stages of civilisation it is their segregating influence that is most marked in relation to man, as it always is in relation to plants and other animals than man; but while this segregating influence never ceases to operate, with higher development and advancing nautical efficiency islands "become points of departure and destination of maritime navigation, at once center of dispersal and goal, the breeding place of expansive national forces seeking an outlet, and a place of hospitality for wanderers passing these shores" (p. 412).

The last chapter of the volume deals with "The Influence of Climate." The author points out that climate enters fundamentally into all consideration of geographic influences, either by implication or

<sup>1</sup> Oxford, Clarendon Press, 1907.

explicitly, in consequence of which all the other chapters have been indirectly concerned with climate to no small degree; but this final chapter contains a general view of the relations of climate, mainly indirect, to human activity, and I may wind up this account of Miss Semple's volume by citing an interesting illustration of indirect and unobvious geographic influence under this head. The climate of Argentina affords a long growing season as compared with the wheat and maize growing areas of North America. This enables the Argentine farmer to stretch out his period of sowing and reaping and thus till a larger area. The International Harvester Company of North America has discovered that this reduces the demand for agricultural machinery since the implements are able to serve about twice the acreage usual in the United States, as each can work twice as long.

It seems to me that even the brief account I have thus given of these two works shows that they amply meet the demand of Colonel Close for original definite research in geography, and justify the language I made use of on the occasion of the inauguration of this lectureship in 1908, when, after expressly emphasising a number of the points on which Colonel Close lays stress, I went on to say:—

“But these illustrations of the duty of the geographer may perhaps give rise to the objection that after I have handed over one part of geography to the geologist, another to the meteorologist, and others to the botanist and the zoologist, and have nevertheless found it necessary to make even the anthropogeographer trench on the ground of all of them, I am now making him trench on the domains of the historian and the economist. My reply is that I frankly admit it, but that in regard to the life of man so important are the influences attached to local conditions and place relations, that it is of the highest consequence to have a class of investigators whose constant and single aim is to see that the known causes that affect the value for man of place are never overlooked, and to be always searching for unknown causes that have the same effect. And I think I may add as a proof of the weight due to that consideration that it is not among economists and historians that such studies are discouraged, but rather among them that geography, specifically anthropogeography, as a separate branch of study finds some of its most ardent supporters.”<sup>1</sup>

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<sup>1</sup> *Scottish Geographical Magazine*, 1908, pp. 573-4.

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*Note.*—The two illustrations on the accompanying plate are drawn from Prof. Brunhes' book, the blocks having been kindly lent by M. Félix Alcan, the publisher.—ED. S.G.M.