There is a strong resemblance between confessional traditions and the various traditions of geographical learning and teaching. Just as members of denominations usually realize that they are all trying to obtain and enjoy communion with God in their own way, so also do geographers of different traditions realize that, though they are divided in their methodology and immediate interests, they are united in their attempts "to understand the entire globe as a single interacting system."¹ To this end they all engage in field work and the use of maps in attempts to interpret and explain the spatial relationships of observed phenomena. The intention here, therefore, is to note and explain the various geographical traditions, in terms of their contribution to the structure of the discipline and their value as educational instruments.

From the outset it has to be understood that traditions in geography have developed in a similar way to those of other disciplines. Initially there was a series of assumptions based upon a combination of crude observation, misinformed religious dogma, and rumour. For many centuries people believed sincerely that the earth was flat, and that it was the undoubted centre of the universe.

¹
Outside the continents of Europe, Asia, and Africa there was only a watery void that gave hints of a possible descent from the lip of the terrestrial saucer if one's ship ventured too far. The voyages of discovery that heralded the Renaissance brought a new interest in the development of mathematical geography. A spherical earth had new seas to chart and new lands to discover. Facts were unearthed; new calculations were made. Men were happy for several centuries to pursue the unknown, and render it knowable in cartographic form. In the late nineteenth century, when vigorous social and political movements brought educational opportunities to the masses, there was a sharp reversal of the scientific trend. At the highest levels there came the development of a literary tradition. In the universities, Arts students, conversant mainly with literature, languages, and history, were drawn more to the use of accurate but beautiful literary forms than to a scientific preoccupation with non-literary analysis. At the lowest levels, there was another development which corresponded well with Victorian fussiness about precision in spelling (a relatively new phenomenon), and which was to give to geography an image that was unworthy of its possibilities. The memorization of capes and bays, and towns and products, accorded well with an age in which there was virtue in the training of the "memory." In recent years there has been a return to scientific investigation. The Space Age demands a greater precision than literary forms could give, more meaning than memorization programs have made available. It can be seen that geography is subject to the general historical climate; the spirit of the age tends to be reflected in it.

A brief account of development within a discipline inevitably places each aspect end to end in the time sequence, when in reality there is considerable overlap. It is possible for several traditions to co-exist. It is also possible for traditions that have seemingly terminated to show a resurgence. Indeed, the development of some disciplines is a story of attempts to synthesize differing viewpoints, or at least to establish an equilibrium between them. Geography is such a discipline.

McNee has attempted to define geographical traditions as consisting of:

1. Physical geography . . . "the arrangement and functioning of 'natural' things on the surface of the earth."
2. Cultural geography . . . "the relationship between man and his environment."

3. Regional geography . . . "what a given place is like as a 'totality.'"

4. Spatial geography . . . "the geometry of the earth's surface . . ."

5. Political geography . . . "how the political system impresses itself on the landscape."

He claims these research "traditions" as having been in existence "from the time geography was first studied in ancient Greece." However, this is too neat a division. While it is possible to assert that these divisions represent geography as it is researched and taught at the present time, it is certainly incorrect to claim that each of these is in fact a tradition that may be traced back to a point in the distant past. It is also impossible to substantiate the suggestion, implicit in McNee's classification, that each of these aspects appeared as a coherent set of values and relationships at a particular point in time, and has maintained its essential character through succeeding ages.

Tradition is the outward expression of modes of thought that have gained refinement and sophistication through the ages without losing their essential characteristics. Thus if we wish to explore geographical tradition, we have to attempt to identify and isolate those modes of thought which have continued through time and which have been expressed in various ways in the development of the discipline. This is not easy, for the traditions which are to be noted here have never been entirely separate from each other. They intermingle in a disconcerting but stimulating way, to form the changing kaleidoscopic patterns of geographical study.

The Exploring Tradition

An early developing tradition may be seen in the attempts of man to discover routes through unknown territories or uncharted seas, and to record in map and written description what he had seen for the benefit of others. Often the purpose was to find trade routes, as with Marco Polo's travels in the Orient, with Columbus'
accidental discovery of the Americas when in search of India, and
with Mackenzie in the North-west Territories of Canada. Sometimes
it was to found a new land away from oppression, as with the
Great Trek of the Boers in South Africa, and the westward migra-
tion of the Mormons under Brigham Young beyond the mid-nineteenth-century frontiers of the United States. In other instances,
as in David Livingstone, exploration was mixed with religious and
social ideals, or, as in Alexander the Great and Julius Caesar, with
military conquest.

The exploring tradition, although initiated by people whose
main interest was not geography, was raised to its greatest height
by people either specifically interested in the geographical phe-
nomena that they saw or whose interests were non-commercial. As
Debenham has noted, "the real incentive to make land maps came
rather from interest in places than from any need to find the way
from place to place." It is significant that geographical societies
were founded in Paris (1821), Berlin (1828) and London (1830)
at a time when there was a great upsurge in explorations by Eu-
ropians in North America, Australia, New Zealand, and Africa —
developments, of course, related to colonization and empire build-
ing. These societies did much to assist explorations, and to make
use of new discoveries in the writing of geographical description
and the construction of maps. It is not surprising that the verdict
of modern geographers on their Victorian predecessors is that,
though they failed to develop adequately other geographical tradi-
tions, they were justifiably preoccupied with the wealth of material
flowing from explorations.

The exploring tradition is less important in modern geography.
There are few areas of the world that have not yet been opened to
geographical study, although one may still visit small, hilly areas
of East Central Africa, where the inhabitants flee on the approach
of a European, and which are obviously virgin territory for micro-
exploration. Yet from the educational viewpoint, the explorer's ap-
proach is a valuable one.

Even when well into adolescence a pupil in school may feel,
through a significant field experience, the challenge and excitement
of seeing a new landscape (new to him, that is) on which he can
test classroom theory or develop theories for further analysis in
the classroom. For many of those who become geographers it is the simulated exploration of fieldwork in unfamiliar territory, demanding questions and hypotheses, and the proofs that may be found in compass traverse and soil sampling, the comparison of real landscape with map, and human activity with physical environment, that has drawn them to the discipline. It is in simple fieldwork and small-scale sample studies (a vicarious kind of exploring), that today's pupil finds his geographical starting point.

The Aesthetic Tradition

The beginnings of an aesthetic tradition can be seen in ancient map-makers who were "concerned more with filling blank spaces with portraits of potentates or succinct remarks such as, 'Here is much rhubarb,' than with any representation of permanent features." 6 Crude as these were, they indicated a firm belief that a map existed in order to tell a story in "a most complex form of shorthand, saving pages of descriptive text." 7 In more recent years, Wooldridge has noted that geography is concerned with understanding "how our terrestrial home is constructed, the meaning of its scenery and of the patterns of its sky." 8

The most notable developments in the aesthetic tradition occurred during the present century, when geography became for a time a literary subject. In France, where study of the humanities was always more prestigious than scientific study, the subject was claimed for the former. In Britain, also, geography was normally classified as an arts subject in the grammar school.

Isolation of the aesthetic tradition is especially difficult, because it is bound up with the growth of regional study, which itself is also a product of attempts to "soften" the effects of determinism, to be discussed later. It is perhaps sufficient at this point to note that the response of geographers to the educational milieu was to produce a concentration on regional study, which in many cases consisted of the writing of what were basically deterministic accounts, proceeding from physical structure to human occupations, with the relationships between the various categories sometimes clarified, often blurred, by the beauty of language. Language can
be used to conceal awkwardness of argument as well as to reveal truth.

Nevertheless, it has to be admitted that there was a need for this type of study, to integrate the collections of material that frequently existed in Europe, for in countries like France there existed clearly defined physical regions in which cultural distinctiveness was also apparent. European feudalism had left its mark in a relatively immobile peasantry that tended to maintain regional dialects and customs. The industrial revolution had not substantially changed this because migration had been mainly within regions; in spite of the growth of railways, the average migrant did not move far. Moreover, statistical information on a national or supra-national basis was lacking. The most useful accumulations of facts had been the work of interested individuals whose studies had been entirely within a region, and were usually in a form that did not match with studies elsewhere.

What often appealed to the literary regionalists was the possibility of achieving, in micro-geographical form, a harmonized study of the earth as a whole. In 1903 A. J. Herbertson noted that "geography is not concerned with the distribution of one element on the earth's surface but with all." In the same year, Paul Vidal de la Blache's *Tableau de la Géographie de la France* appeared as "a contribution to literature as well as to the geography of France." Each study within it noted the harmony of physical and human features.

Herbertson and Vidal de la Blache had been preceded by Carl Ritter with his teleological approach to regionalism; they were co-existent with Sir Halford Mackinder, who founded the Oxford school of geography, and who contributed much to the teaching of regional geography. It was left, however, to James Fairgrieve to popularize regional geography in schools, to emphasize that the gaining of an understanding of man-land relationships is part of education in citizenship.

This view is echoed in the present by Neville V. Scarfe. Scarfe stresses the need for less "accumulation of knowledge" and more encouragement "to inquire enthusiastically about their world," less
domination by the text-book and more inquiry in field and laboratory, but indicates his beginnings in the literary regional approach when he chastises television producers for not realizing that what teachers really need is “simple ungarbled descriptive data by means of which children can be brought into almost direct contact with the reality.”

The Deterministic Tradition

Regional geography was a product, not merely of the aesthetic tradition, but also of the deterministic tradition. Determinism in geography was mainly a product of the late nineteenth century, and arose out of Darwinian theory. Friedrich Ratzel in his *Anthropogeographie* (1882) envisaged man as a creature of his environment. It is significant that the conception of a region, as has been noted above, was soon to be defined in terms of physical unity, that the study of a region was to proceed in “logical” order from physical “determinants” to human products, and that, even in the present, when regional study is becoming less fashionable, the terms “geographic factor” and “geographic influence” are still used popularly (though not professionally) to mean physical factors only. Even when it became obvious that in at least some cases, such as Quebec and the English “Potteries,” the physical region was less significant than cultural affinities that crossed physiographic boundaries, the older framework was retained, or a curious mixture of physical and cultural regions was adopted, and the order of study within remained basically the same. P. W. Bryan’s cultural landscape studies, which aimed at analysis of “the concrete representation of man’s adaptation of his environment,” were worthy attempts to redress the balance. They did lead on to the development, by Griffith Taylor, C. Daryll Forde, H. J. Fleure and others, of a social geography in which even “religions and philosophies are amenable to study by the geographical approach.”

The development of social geography was accompanied by changes in regional study. Both owed much of their impetus to the disillusionment caused by a world war and the subsequent periods of economic depression. The late nineteenth century, with its Darwinism crudely applied to human development and the sudden rise
in living standards due to technological advancement and rapidly increasing trade outlets, had been rife with unfounded optimism, in which man was seen to be at or near the pinnacle of the evolutionary process. Now it was realized that man's future lay in his ability to make decisions intelligently and co-operatively. Regional geography took refuge in a modification of determinism known as possibilism. Whereas E. Demolin could declare that "if the history of Mankind began again and the present surface of the earth were to remain unchanged, that history would be repeated in all its main traits," 18 and Ellen C. Semple could assert vigorously:

Man is a product of the earth's surface . . . On the mountains, she has given him leg muscles of iron to climb the slope; along the coast she has left these weak and flabby, but given him instead vigorous development of chest and arms to handle his paddle or oar . . . 19

Brunhes observed, in writing of the interrelation of all phenomena on the earth's surface, that "we must ascertain in what measure it has determined them, and in what measure on the other hand it has been affected by their influence." 20 Meanwhile, Vidal de la Blache noted that the largest ears of corn were grown, not in their native tropical habitat, but on the prairies of the American Mid-West, and that nature's role in human affairs was that of an adviser. 21 In general the possibilist position was that nature makes available a number of possibilities for human occupation of the earth's surface, and that man, within this framework is able to exercise choice. At times, as seen in the development of new quicker ripening grains and the encouragement this gave to settlement in the Peace River District, on the borders of Alberta and British Columbia, the peripheries of nature's framework are eased outward a little. But it is never a matter of man defeating nature, only of co-operating with it more intelligently.

Determinism was a worthy attempt to achieve order, the function of any science, but in its strictest form it had an air of unreality. In its more refined possibilist form it was less unreal, but suffered from the obvious difficulty of matching the items within a still-used deterministic framework in terms of cause and effect. The effect was to bring about a reliance in the high school class-
room on the memorization of the descriptive sequence within a region so that progression was measured by the ability to memorize a greater number of related facts more efficiently. It was little wonder that regional geography with this format failed to excite the interest of many pupils, or to provide sufficient stimulation for some of the more able of them. Some teachers feel it is regrettable that this particular tradition is so faithfully maintained in schools, often to the exclusion of others, at a time when the world’s “physical characteristics are no longer seen to have the same explanatory force and their tedious reiteration in school texts can serve no purpose other than to dull the wits of the student.”

The Integrating Tradition

A fourth strand which may be discerned in geography is the integrating tradition. Whereas determinism and aesthetics conspire to draw physical aspects and human aspects toward each other, attempts to integrate geography with other sciences have tended to result in the pull of physical geography toward the physical sciences and of human geography toward the social sciences. It is significant that McNee, writing in post-deterministic, post-regional study style, has some difficulty when he tries to discern what it is that present-day geographers share.

It is true to say that educational thinking in the twentieth century has been dominated by the long shadow of John Dewey. Dewey was conscious of living in a country in which old ways of life were rapidly giving way to new forms. Developments in science and technology were bringing about new industrial undertakings in which the family as such had no place, and there was a huge immigrant population. In Europe, parents had been able to advise their children, but confronted with, in many cases, problems of language, differences of culture, differences of work opportunity, and unfamiliar styles of government, they were unable to cope. The task of Americanizing, democratizing and socializing had to be passed on to the school. It is not surprising, therefore, to find Dewey stating that “the true centre of correlation in the school subjects is not science, nor literature, nor history, nor geography, but the child’s own social activities.”

Since Dewey and his followers saw, in the North American
schools of their time, a kind of geography in which none of the traditions here described was adequately represented, and which concerned itself with little more than the memorization of only tenuously related facts, they concluded that geography *per se* was of little educational value, and it would be better, therefore, if anything of value in it were amalgamated with social studies, to promote the examination of society as it is. In so doing there was more loss than gain, for pupils lost any sense of structure they might otherwise have acquired, so that, while they gained much social experience at more superficial levels, they were not provided with the analytical tools and ways of thinking of the various disciplines so merged. Geography in particular lost its physical aspects, and its distinctive points of view in human aspects tended to become subordinated to an almost equally emasculated history.

The reaction to Dewey's pragmatism among professional geographers was not generally to move to an opposite pole, but, while asserting vigorously the need for distinctive geography teaching, to recognize the desirability of demonstrating the fundamental unity of all knowledge. C. Daryll Forde, for instance, noted that:

> The present academic subjects known as History, Sociology, Ethnology, Human Geography, and Economics are not autonomous fields to the degree that may be claimed for Physics or Botany. Their separation is largely one of convention, and results rather from the inelasticity of academic organization than from any substantial claim to utility in the advancement of learning.  

It was out of this kind of thinking that there arose, in the schools, a definite tendency to accept that man himself was the central theme of geography. Many geography teachers also went so far as to suggest that the subject should be taught with broad social purposes in mind. Fairgrieve, for instance, stated quite bluntly that:

> The function of geography is to train future citizens to imagine accurately the conditions of the great world stage and so help them to think sanely about political and social problems in the world.
Others have echoed this to greater or lesser degree. R. C. Honeybone notes that “many teachers would agree that it is a desirable aim to foster a sympathetic and critically understanding attitude towards foreign people and their problems, and that the proper teaching of geography can contribute towards that end.” Long and Roberson, commenting upon a series of experiments at the University of London Institute of Education, designed to show whether or not the use of geography for improving attitudes toward foreign people can be effective, state that “although specific effort to improve attitudes by means of geography teaching may not always be successful, unless this effort is consciously made, attitudes are likely to remain unchanged.”

A relationship between geography and other disciplines has always been recognized, as in regional studies use was made of material from geology, climatology, agriculture, sociology, history, etc. to build up a complete picture of man-land associations. What Deweyan influence has achieved is a more general recognition that geography is distinguished from other disciplines, not by content, which may be common, but by modes of thought. So that the planning of a geography curriculum has to take account of developments in other disciplines, which will share the same or similar content.

The Scientific Tradition

The fifth and final tradition in geography is the scientific tradition. It begins in the fifth century B.C., with the intelligent observations of Herodotus, who saw the black soil along the river Nile, recognized it as deposited silt, and then concluded that the Nile delta had been built up by such depositions. Scientific geography languished, like science generally, during the middle ages, saw only spasmodic development between the Renaissance and the nineteenth century, began then to show a more scientific outlook, but only during the present century, and especially during the present decade, showed signs of substantially changing the established structures and teaching traditions.

Modern expressions of the scientific tradition may be noted in the work of physical geographers, like W. M. Davis, who was not
content with the description of landforms, but went on to formulate hypotheses in order to explain them. While his "cycle of erosion" was undoubtedly oversimplified, it provided food for thought, and still gives rise to investigation and healthy controversy of a type that other traditions do not provide. The physical geographers, especially the geomorphologists, accepted the need for the development of theories much earlier than others, but the groundwork for a scientifically based human geography was being laid at the same time, in the work of, for instance, the German W. Christaller, who in 1933 developed a theory to explain the relationship, in spatial terms, of the various types of settlements in an area. It is based upon the idea that one may visualize a landscape on which is superimposed a series of hexagonal latticework patterns, related to each other by the central point of a smaller hexagon becoming one of the corners of a larger hexagon. The central place within each hexagon is then presumed to be larger and more important than others within the hexagon, because it develops marketing facilities more specialized than those of smaller population centres. It is obvious that such a theory would be especially relevant to areas where the location and development of settlements is apparently fortuitous, as in the great plains that stretch from the Gulf of Mexico to the Laurentian Shield, so that we find American geographers, such as Lösch taking the basic idea and, in adapting it, finding ways of making it more flexible. Subsequently Gunawardena has noted the relevance of the Löschian system to settlement patterns in southern Ceylon, while Skinner has made similar discoveries in the Szechwan province of China.

At the present time, many geographers are preoccupied with the task of constructing theoretical models to explain and assist in remembering the various types of geographical phenomena. Basically this entails the detailed observation (in which one or more ideas gain preliminary testing) of a number of cases of the same type of phenomenon. The common elements are then incorporated into a model (i.e. a simplified miniature of reality) which may then be applied to other similar phenomena elsewhere on the earth's surface. Obviously no model can adequately represent what is unique, for precisely the same geographical conditions cannot be found in two different places. But this does not justify the discarding of the model. Through the establishment of a good model a
better understanding of reality is achieved, but there comes also the realization that the reality is far too complicated and variable for full understanding to be achieved by model application. More sophisticated models may achieve better generalization, but their very complexity may be inimical to understanding.

The question of understanding is important, for in the teaching situation, as distinct from the research situation, we have gained nothing if the end result of model construction and application is confusion in the mind of the student. Continued mental stimulation is also necessary. As Chorley and Haggett have noted, not only do model frameworks have to be constructed so that they are "capable of considerable exploitation through time as experience with the model leads to more and more sophisticated handling of the information within it," but they need to be constructed so that when a basically simple framework has outgrown its usefulness as an element in child development, it can be discarded, and an imaginative leap made to a more complicated model framework. What is not known yet is exactly where these imaginative leaps should be; at what point in a child's development should he move on to a new structuring? Much geographical and educational research must necessarily be done before there is a scientifically reasonable hierarchy of models to be applied in the high school.

It is overstating the case for the scientific tradition to say that, in geography generally, and in geographical teaching particularly, it will supersede the other traditions entirely. One hopes that it will always contain something of the drama and excitement of exploring. An emphasis upon science ought not to be at the expense of good descriptive writing, and maps and illustrations that are tasteful as well as accurate. The integrating tradition will be more meaningful within a scientific framework. Determinism, in its possibilist guise, may well continue to serve a useful purpose, if some form of regionalism is retained.

It has to be admitted, though, that the scientific tradition is likely to gain the greatest strength in the immediate future. And there are good reasons for this. In the first place geography is now in a position to benefit by new techniques in statistics. Not only are there more standardized statistics available, but there are computers available to retrieve information and construct complex pat-
terns with great speed. There are aerial photographs which can trace changes in landscape patterns (the Cuban missiles) within a day or so. In the second place the neat tidy regional arrangements of yesteryear have broken down, in some cases under the disruption of warfare, in others simply because economic changes and new administrative patterns have been so rapid in developing. The new circumstances call not merely for description, but for prediction.

In the high school situation what we need to do now is to see that “what the child does for the first time is what the scholar does at the forefront of his discipline.” And this, Winter has suggested, means being concerned with the ability to apply facts to new situations, “with the analysis of complex situations, and with intuitive synthesis of ideas to resolve complicated problems.”

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