The Character of Regional Geography

Richard Hartshorne

The American geographer Richard Hartshorne’s The nature of geography, from which this extract is taken, is the major statement in modern English-language professional geography justifying regional studies as the central-piece of the field. Hartshorne (1899–1950) based his views on an interpretation of scholarly writing, particularly of nineteenth- and early twentieth-century German geographers. The writings of the German geographer Hertter, and precursors such as Kant and Humboldt, figure prominently in The nature of geography. From them Hartshorne took the idea that the region was a mental construct for analysis and not a natural or given entity. Originally published in 1939, The nature of geography was for many years the major text identifying the essential principles of the field as understood by an unabashed “regionalist.” This is not to say that it went unchallenged. Far from it. Its author became an important participant in controversy over the direction of the field, especially in its exchanges over the posthumously published articles of Töpfer (see chapter 15). Eventually The nature came to be regarded more as a “window for looking into a geographic past” (J. N. Estrin, in “Introduction: The Nature of Geography in perspective,” in T. N. Friedman and J. L. Mitchell, Reflections on Hartshorne’s The Nature of Geography, Washington, D.C., 1969, p. 2) than as a guide to how to combine a sense of the empirical differences between places with a perspective based on the “objective view” of the scientific Hartshorne still has his champions and there are those who believe that his views have been lampposted by his critics, but the revival of interest in place and regional geography in the 1980s owed little anything to the influence of Hartshorne’s arguments. Whether Hartshorne’s ideas are necessarily antithetical to the new ones is an entirely different question.

We have silently changed the author’s system of referencing, to the Harvard system.

number of difficulties into which this ambition has led. In this final consideration of regional geography it is necessary to understand clearly certain limitations imposed upon the student that are not found in systematic geography.

After a number of unsuccessful attempts to express the special nature of regional study in words, I find it can be most clearly presented if we may use mathematical symbols, though we shall not, of course, find it possible to express such complicated problems in any real mathematical formulae or equations.

Any particular geographical feature, z, varying over a region, might theoretically be represented as a function, \( f(x, y) \), and \( y \) representing co-ordinates of location. As a function of two variables, any such feature that we are able to measure mathematically, such as field crops, or crop yield — could be represented concretely by an irregular surface. Such a surface would then present the actual character of that feature for the whole region; it would, theoretically, be correct for every point, and for every small district. Furthermore, if the function involved were not too complicated, we could thus be assured that it would permit us to integrate the total of that feature for any limited section, as well as for any individual point. In a sense, part of our work in systematic geography corresponds to this form of presentation.

Likewise, the relation of any two or three geographic factors to each other within a region — e.g., the relation of crop yield to rainfall and humus content of soil — might be represented as a functional equation involving that many variables: \( z = f(x, y, z) \). The concrete representation of this relation might take the form of a surface. More commonly, in systematic geography, we consider only the relation of one factor to but one other, which we may then represent as a curve on a plane surface. Each of these factors, \( z \), of course, is a difference function, \( f(x, y) \), and the more complex equation, \( z = f(x, y, z) \), holds true only if it is unaffected by other factors, or if those which affect it are constant throughout the region under consideration.

Neither of these conditions is strictly true almost any geographic element we may consider is affected by more than two of the natural elements, and may also be affected by incommensurable, or quite unknown, human factors; and all of these factors considered vary to some extent no matter how small the area considered. Consequently, we have introduced a degree of distortion of reality even at this step in systematic geography.

We may introduce a further step by establishing element-complexes, \( x \), each representing functions of many variables, varying, by more or less irregular rules, with the variations in a smaller number of those elements. Thus, given certain conditions of soil, slope, temperature, and rainfall we may presume within a wide range and wild animal life, and we may express the total of all these \( z \) elements by \( x \), symbolically, its character over an area would likewise form an irregular surface that would indicate its character for any limited part. From the nature of these element-complexes, however, it is obvious that any such representation would have a high degree of unreliability.

In regional geography, however, we are concerned with a vastly more complicated function of the location co-ordinates. It cannot be expressed as the function of any one element or element-complex, but rather of various semi-independent element-complexes, \( x \), and of additional semi-independent elements, \( y \). Thus, the total geography, \( z \), at any point, might be expressed by the function, \( F(u, x, y) \). If we could have accurate and complete information concerning the form of the function, \( F \), and every one of the element-complexes, \( x \), and \( y \), as a function of various \( x \) elements and of the semi-independent elements, \( y \), the function would be so complicated that we could not hope to represent it by any concrete form, even in terms of \( n \)-dimensional space. We would have a function that would be solved only for each point, \( x, y \), in the region, but could not be correctly expressed for any small part larger than a point. In other words, we could study the geography of the area only from the study of the geography of the infinite number of points within it. This being, infinite, is impossible. The problem of regional geography, as distinct from a geography of points, is how to study and represent the geography of finite areas, within each of which the total complex function involved depends on so many complex functions, completely interrelated, as to permit of no solution by any theory of integration.

Consequently we are forced to consider, not the infinite number of points at each of which \( z \) is in some degree different, but a finite number of small, but finite, areal divisions of the concrete, within each of which we must assume that all the factors are constant. In order, then, to cover an entire region we will need but a finite number of resultants, \( u \), each representing the geography of a small unit of area rather than of a point. This method is legitimate only if one remembers that it inevitably distorts reality. The distortion can be diminished by taking ever smaller units, but it cannot be eliminated entirely; no matter how small the unit, we know that the factors which we assume to be constant within it are in fact variable. In practice, the smallest units that we can commonly take to consider are sufficiently large to permit of a marked degree of variation, and therefore of a significant distortion of reality in our results.

To express our conclusion in more common terms, in any finite area, however small, the geographer is faced with an interrelated complex of factors, including many semi-independent factors, all of which vary from point to point in the area with variations only partially dependent on each other. He cannot integrate these factors except by arbitrarily ignoring variations within small units of area, i.e., by assuming uniform conditions throughout each small, but finite unit. He may then hope to comprehend, by analysis and synthesis, the interrelated phenomena within each particular small area.

Although the studies of all the unit areas added together will constitute an examination of the entire region, this does not complete the regional study. As Penck has emphasized, it is not sufficient to study individual "chores" (approximately homogeneous districts) and to establish types of chores. "Above all geography must consider the manner in which these are fitted together to form larger units, just as the chemist does not limit himself merely to studying the atoms, but investigates also the manner of their situation beside each other in individual combinations. The comprehension of geographic forms (Gestalten) has scarcely
been taken into consideration by the new geography.” Just as a mosaic cannot be stories of which it is made, but requires also that we see the arrangement and grouping of the individual pieces, so the study of the arrangement of the "chores" will present different structural forms of significance [Leibniz, in Philosophia and published in English, (1927) 640].

Our second step — in a theoretical approach to regional geography — is to relate the unit areas to each other to discover the structural and functional formations of the larger region. Since all the factors concerned, and therefore the resultants, have been made arbitrarily small, it may be permissible to speak as though these were functional relations between the units themselves, and not strictly true. Further, the regional structure, which is homogeneous throughout, many of them so nearly alike that it is of the region. But when we return to regarding this mosaic which we have infinite minds can comprehend the infinitely variable function of many semi-infinite factors involved in the uniformity; we have delimited it from called very similar units identical in character.

There are certain other fundamental limitations, according to which we must insist upon if we are to compare the face of the earth, even in the more or less distorted form in which we present it. The fact is that, perhaps, we cannot like the face of the earth to any work of art, for we cannot assume that the product of one mind. On the contrary, it may be transferable to Huntington’s ‘pioneering spirit,” we may say that the face of the earth has been produced by the interrelated combination of different color and form, each changing its place as he proceeded. In systematic geography one might say,

This is the word that Nolch (1924) introduced as a term for a unit area. As he defined it, the concept presented by all geographical factors, or “geofactors.” A chore established on any particular scale could be divided into smaller chores each of which would presumably show a higher degree of homogeneity: adopting this term Penck and Granö (who follows a similar line of thought (1929) 28-31) would carry the process on to larger units; the size of the areas concerned is immaterial. Regional geography, therefore, studies the manner in which districts are connected and the processes by which these larger areas are related in a manner of greater scale, and so on, until one reaches the final unit, the only real unit area, the world.

There is, however, one important difference at the different levels of integration. Both Penck and Granö appear to ignore the fact that the small, but fundamental, element of fiction in the assumption of homogeneity of the smallest units of area.
increases, progressively as one advances to larger divisions. Consequently, the determination of these larger divisions requires increasingly arbitrary distinctions, in fact.

Assuming the first step, the establishment of "homogeneous units" of area, we may proceed to the second by enclosing in a continuous area which we call a region, the greatest possible number of "homogeneous units" that are nearly similar, together with the smallest number of dissimilar units. Our judgment of similarity will involve subjective judgment as to which characteristics of the homogeneous units are of greater importance than others, so that, at best, the determination of the region is in a sense arbitrary.

Furthermore, we seldom find in reality such a simple solution as that described. Though some geographic features vary but gradually from place to place, the irregular and steep variations of others - such as soils, slopes in mountainous areas, urban settlement, and all the features of essentially linear form, rivers, roads, and railroads - will force us to include in any region, "units" of quite different character. It is necessary therefore to determine which kinds of units are, either in actual interrelation or merely in juxtaposition of their characteristics, as approximately considered, and then to determine it as to include the greatest number of those several kinds of similar units, with the smallest number of units of other kinds.

In considering any large area in which we have first recognized "homogeneous units" and are attempting to form them into regions, which we can briefly characterize in terms of similarities or relations among some of those units, we may find the task relatively simple in parts of the area, where perhaps the great majority of the units are notably similar. But it may be extremely difficult in parts between these, which may be characterized by units that are, in some respects, similar to units on one side of them, and in other respects, to units on another side. Further, we will find areas containing such a variety of different kinds of units that we cannot see where to include them. In some cases, to be sure, we may recognize such areas as transition zones, but that merely postpones the fundamental problem of solving it. Likewise, to call them "characterless areas," or areas of "general" or "mixed" types is simply to dodge the problem entirely.

The individual student, no doubt, would gladly wipe such troublesome areas off the map, but he is not granted the privilege. In a science which seeks to know what the world is like permitted to ignore more difficult areas and confine itself to those easier to organize into its body of knowledge. Since these doubtful areas are commonly not merely narrow borders of transition, but areas of wide extent, perhaps as great or greater than those more clearly classified, there is no basis for assuming that they are of less importance in the total picture of the larger area, or of the world, than the areas whose character we can more readily describe. Furthermore, his statement with reference to the different parts of geography applies even more literally to parts of an area - "there is no more inherent worth in a center than in a border."

Consequently, when we divide any given area into parts which we call regions, so determined that those characteristics that we have judged to be most important may be most economically stated for each region, we cannot avoid many decisions based on judgment rather than on measurement. We must, therefore, acknowledge that our regions are merely "fragments of land" whose determination involves a considerable degree of arbitrary judgment. On the other hand, if all possible objective measures have been used, and the arbitrary decisions are based on the scientist's best judgment, we may properly regard his regions as having more validity than is expressed by the bare phrase "arbitrarily selected." On the other hand, a view of various writers previously noted, that geographers could be expected to come to approximate agreement on the specific limits of regions - or even on their central cores - appears, in view of all the difficulties listed, overly optimistic.

It hardly needs to be added that the conclusion that geography cannot establish any precise objective basis for regional division does not permit it to shirk the task of organizing regional knowledge into areal divisions determined by the best judgment possible. In order to utilize the generic concepts and principles developed in systematic geography to interpret the finding of regional geography, the latter must be organized into parts that are as significant as is possible. In the present state of development of the field - if not indefinitely - we do not have what would be the simplest solution, namely, a single standardized and universally accepted division and subdivision of the world into regions. Therefore, each student of regional geography has imposed upon him the task of standardizing his own system of regional division - unless he can utilize that of some colleague. "Standardized" is used here to indicate that the regional system is based on certain standards specifically stated, so that other students may know precisely what the organization is.

The complete organization of regional knowledge in geography requires - whether as a final or as a primary step - the division of the whole world. In whichever direction the process is carried on - and we noted that it requires consideration in both directions - the completed system must provide a regional division of the world in which our knowledge of each small part may be logically placed. For this extremely difficult problem we found two different methods of solution. Geographical knowledge may be logically arranged in systems of areas classified according to certain characteristics of the areas. Though this method has distinct utility for comparative purposes, it does not permit organizing all regional knowledge into one system, but requires several independent systems. Furthermore, it does not present the actual relations of areas as parts of larger areas. These relations can be included only in a realistic division of the world into a system of specific regions, in which all regional knowledge may be incorporated in a single logical system. Such a system unfortunately is not provided the geographer by any natural division present in reality, nor by anything corresponding to the simple division of organic forms. It must be developed and constantly modified by geographers as a result of research, at the same time that it is being used, always in tentative form, as the organizing structure of regional research.

We have suggested, in very general terms, the manner in which the problem of delineating regions may be met, in order that geographic knowledge may be
organized intelligently in regional units. What kind of knowledge is to be included within the regional study itself? So far as the nature of the material is concerned, we have previously indicated that a complete geography of a region includes all the kinds of phenomena that are included in systematic geography—insular as they may be present in the particular region. The only field of geography that is not included in regional geography, as well as in systematic geography, is historical geography. As there was a different geography in every past period, there may be any number of independent historical geographies, each including its own systematic and regional divisions.

References

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