On the Object and Subject of Geography

Rolf Guttesen

Abstract

Basic theoretical problems in geography are discussed. The development of the subject is seen primarily as a result of the division of labour among sciences. The subject's contextual dimension is made up of the different forces that influence the discipline, and the theoretical dimension comprises the method of presentation, the object and the metatheory. The subject can not be defined in the proper sense of the word, but its object can: the ecumene or the human habitat. An approach is discussed for the presentation (theoretical development) of geography by the means of dialectical method, using the labour as the basic category.

Keywords

Theoretical geography. Object and subject of geography. Dialectical method.

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As a teacher in geography one often meets the question 'But how, then, do you define geography?' The students expect an answer that will clarify their need for coherence and inner logic in the subject. An informative label on a university subject must comprise several aspects, among which are object, elements of theory, methods, concepts, and perhaps purpose. There is no use in saying that geography can be defined as 'the description of the earth'. It is a simple tautology. My ambition is show that it is possible to find a way between the relativistic position with 'ad libitum' definitions of the matter where "anything goes" and the absolutistic position that dogmatizes a universal and eternal definition.

The Core of the Subject

Somewhere there must be a passage from geography over to something else. Related subjects in the vicinity also have their territory, where they have prescriptive right.

Hägerstrand (1986;39) has reflected on such core-areas. 'It is not very fertile, scientifically speaking, to try to determine with exaggerated accuracy what lies inside and what lies outside a scientific discipline. Concepts and methods have always been wandering about in the system. So will it always be. But at the same time we must have a division of labour'. He is not content with the narrow demarcations that characterize large parts of both human as well as physical geography. For want of a better alternative he turns to the German concept of 'Gefügekunde', in Swedish 'hopfogningslära' or 'integrative science'. He develops the idea by saying (p. 42): 'The fascinating integrations are those that are created between processes, taking place side by side, sometimes co-operatively, but more often in conflict with each other.' The landscape is the scene, and the acting parts are not just what is immediately visible, but everything present.

Label or Definition

Several efforts in making an informative label or a definition of geography are found in the literature. The tautology 'description of the earth' is not incorrect, but it leaves several queries unsettled: Is it enough just to describe? Which criterions can be used, when distinguishing between essentials and nonessentials? What is to be 'defined', the object, subject or theory, method or what? The subject is a historic formed unit, that will continue to be modified. But, two main aspects have to be taken into account, a contextual and a theoretical dimension. The theoretical dimension shall clarify three essential aspects of the matter refer-

ring to method, the object, as well as the metatheory. The contextual dimension, on the other hand, has to review the factors that in different ways promote or impede the development of the subject.

The Contextual Dimension of Geography

The factors that influence the development of the science are outlined in fig. 1. In short they are:

a) 15-20 years ago our gymnasium or secondary school was the main market for the candidates in geography. Now, private enterprises as well as communes, counties and state institutions are the main users. This shift sets new requirements to the qualifications of the candidates.

b) Following this shift, an increasing tendency towards a 'symbiosis' with sponsors and others came into being. Collaboration contracts are funding a great part of the research today. This shift has given the research new directions and reduced the possibility of a free choice, but it has made the subject more visible in new circles.

c) The politics of the research councils as well as other funds influence the possibilities of support for different programmes.

d) The way university authorities view the matter plays a role, when posts are to be established or reappointed.

e) When it comes to the political and administrative layer above the university, ie. the relevant ministry, the same thing has its effect When requirements for teaching in geography are in- or decreased then the university subject is affected.

f) This leads us to a more delicate problem, namely competition with other related subjects. Which one of a group of related disciplines are producing the best results measured on an international scale? Which have long-range and rational research plans? Certain points of overlap with neighbour disciplines are necessary, but this will continue to be a critical problem.

g) Now, the subject also has its own inner dynamic. Or is it inertia that conditions the apparent motion? Evolution, new ideas, utilisation of fertile efforts from home and abroad, subject-related discussions and mutual critique takes place to a certain extent, but is it sufficient?

h) At last, it must be emphasized that the 'spirit of the ages', fashion or what is 'in', also has a role to play. Livingstone (1995;198) calls it 'modern chauvinism - the assumption being that the most recent idea must be the best'.

Which thoughts are possible to think in a certain period, and which will stay hidden in the shadow?

The Theoretic Dimension of Geography

Three important features will be treated: first the method of research and presentation; second the object; and third, the metatheory.

On Method

Methods are used in different fields and with different purpose: for investigation (analysis) of an object, for collection of information, for working up of data, and for presentation of scientific knowledge. The appropriateness of any method depends on the nature of the matter and the question.

The Scottish school. Adam Ferguson has given a plain and clear description of the scientific method that includes two sequences: analysis and synthesis. He writes (1769;3): 'Method in science is of two kinds; analytic, and synthetic. Analytic method is that by which we proceed from observation of fact, to establish general rules. Synthetic method,

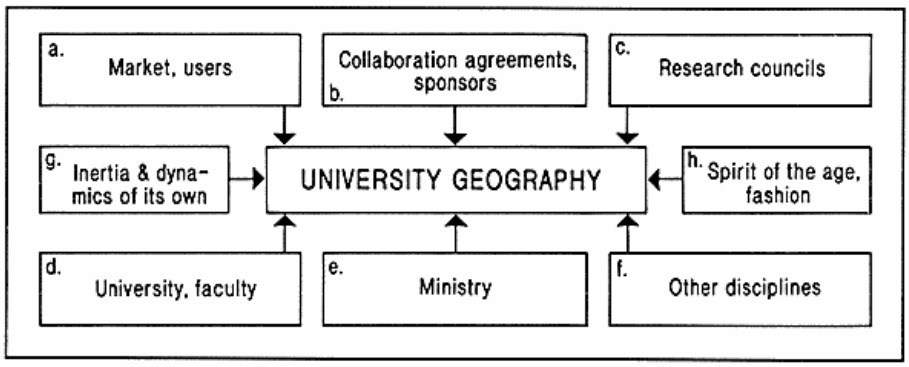

Figure 1: *Box-diagram showing factors affecting the extension and intension of geography.*

is that by which we proceed from general rules to their applications', and he concludes: 'The first is the method of investigation. The second of communication or of enlargement of science.'

To analyze means to decompose or break up. The basic meaning of synthesis is to assemble what was broken up in the analysis. The classic scientific method that Ferguson described was not his own invention. Ferguson referred to Newton. One of his students was Adam Smith whose analysis lead to a basic category, labour, that is the foundation for the following synthesis. Starting with this, new categories are synthesized incorporating value, division of labour, productive force of labour, as he moves toward increasing complexity and concreteness. Ricardo also uses the synthetic method, but his basic category was not labour but value. Let me here add that both analysis and synthesis can be conducted at different levels as well as in different directions.

The Continental school. Neither Newton, Smith or Ricardo had any chapter 'on method'. Ferguson gave just a scanty description of it. But we can refer to several continental schools. Kant outlines it in his "Prolegomena" (pp. 10 & 24). Marx outlines the problems in "Einleitung" (MEW 13;631), where he says (my emphases, RG): 'Es *scheint* das Rigtige zu sein, mit dem Realen und Konkreten, der wirklichen Voraussetzungen zu beginnen, also z.B. in der Ökonomie mit der Bevölkerung, die die Grundlage und das Subjekt des ganzen gesellschaftlichen Produktionsakts ist. Indes zeigt sich dies bei näherer Betrachtung als falsch. Die Bevölkerung ist eine Abstraktion, wenn ich z.B. die Klassen, aus denen sie besteht, weglasse. Diese Klassen sind wieder ein leeres Wort, wenn ich die Elemente nicht kenne, auf denen sie beruhn, z.B. Lohnarbeit, Kapital etc.' He continues: '*Finge* ich also mit der Bevölkerung *an*, so wäre es eine chaotische Vorstellung des Ganzen, und bei nähere Bestimmung würde ich *analytisch* immer mehr auf einfachere Begriffe kommen; von dem vorgestellten *Konkreten* auf immer dünnere *Abstrakta*, bis ich bei den einfachsten Bestimmungen angelangt wäre.'

When this position - the 'einfachsten Bestimmungen' - is reached then the synthesis and presentation can begin: 'Von da an wäre nun die Reise wieder rückwärts anzutreten, bis ich endlich wieder bei der Bevölkerung anlangte, diesmal aber nicht als bei einer chaotischen Vorstellung eines Ganzen sondren als einer reichen Totalität von vielen Bestimmungen und Beziehungen.'In a later postscript (MEW 23;27), he repeated the method in this way: 'Allerdings muss sich die *Darstellungsweise* formell von der *Forschungsweise* unterscheiden. Die *forschung* hat den Stoff sich im Detail anzueignen, seine verschiednen Entwicklungsformen zu Analysieren und deren innres Band aufzuspüren. Erst nachdem diese Arbeit vollbracht kann die wirkliche Bewegung entsprechend *dargestellt* werden. Gelingt dies und spiegelt sich nun das Leben des Stoffs *ideell* wider, so mag es aussehn, als habe man mit einer Konstruktion a priori zu tun.' This he calls 'meine dialektische Methode'.

The dialectic method of analysis and synthesis has many points of resemblance with the widely known inductive and deductive methods, that formally are appear as independent, but some say that they truly are inseparable (Jensen 1973;149).

The extensive quotation above shows how you can analyze the historic reality by going from the concrete level to the abstract, and the other way synthesizing by going from the abstract level to the concrete. The quotation does not give any hints how to change the focus from reality to theory of reality, or as it is visualized in fig. 2, how to convert from the historic side to the logic side; from sense observations to logical reasoning. This problem of transforming concepts into categories is seen as basic to all sciences. In reality it is never done once and for all. The transformation from the historic-abstract determinator to the logic-abstract configurator, as well as transforming all the essential elements into parts of a theory requires previous knowledge of the existing theory apparatus.

Abstract and concrete. In the above quotations the concepts abstract and concrete are used in a way that is decisive for the sense of the train of reasoning. But they are used in the classic German way, and not as used in common speech. By Hegel and Marx the meaning is equivalent to the etymological meaning. *Concrete* (latin concrescare): something grown together, and not just: consisting of matter or something firm. *Abstract* (latin abstrahere): something extracted, segregated, and not just: not concrete or intangible. So the relation between concrete and abstract is not on the same footing as empirical contra theoretical. Abstract can, as well as concret, be both things and concepts. Elements that are abstracted in the analysis are not just to be thrown away. They are all to be used again in transformed form in the synthesis.

Historic and logic. In the left side in the figure is reality in its historical evolution. It is scrutinized by proceeding

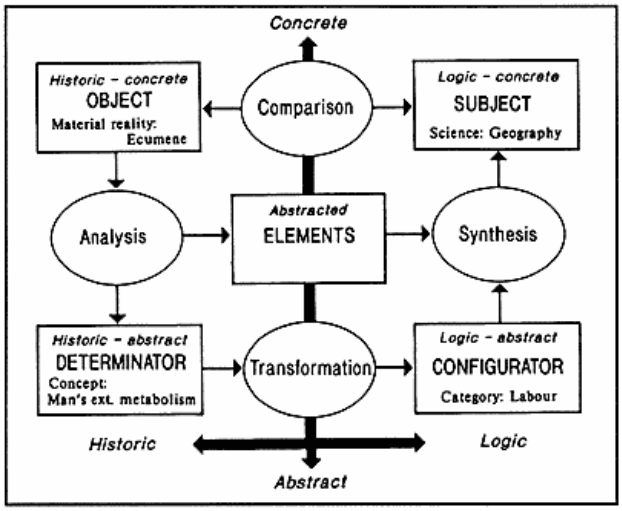

Figure 2: *Formal distinctions and connexions between concepts, categories, processes and movements in a dialectic approach to definition of the object and presentation of the subject. In reality the approach commences simultaneously over all the constituents.*

from the historic-concrete level to the historic-abstract level. When converting to the right side the sense concepts are transformed into logic-abstract categories, emphasizing essential sides of the object. In the process towards the logic-concrete level the categories are integrated into scientific laws and theories.

This movement in a circle or a spiral is showing similarities to the so-called hermeneutic circle in the works of Dilthey and Schleiermacher (Lübke 1982;31).

On the Object of Geography

Geography has an object that the subject is investigating. But the object alone does not identify geography. Other subjects can have the same object, or certain parts of it can be common for several subjects. But only few of the multitude of proposed formulations of geography's object have carefully distinguished between the subject itself and its object. A great deal of the variations in the attempts are caused by diverging conceptions of the extension of the subject.

My point of view is that geography has an object, and furthermore a metatheory related to this. The geographic disciplines, such as physical, ecological, human, urban, regional, economic or social geography must be regarded as having a more delimited object than the totality of geography. They establish themselves as units in a convenient division and specialization of scientific labour.

Five geographic main-themes. In stead of listing a file of definitions, I prefer to set up some main groups of geographical schools and their main themes. They are not mutually exclusive.

Physical geography and biogeography. This is a collective name for a wide spectrum of disciplines. They study inorganic as well as organic nature. Biogeography has in the post-war years been living in obscurity, but is advancing as the ecological school is making progress.

The ecological school and other man-land relations. The problematic concerning man-land relations can be traced through the whole modern history of geography. The accent has been placed differently, ranging from natural determinism to more possibilistic variants. They are to be seen in the perspective of their yield of new knowledge at their time. If we look at the natural determinism that today can appear primitive, it must be seen as the first serious attempt to create a scientific geography with natural instead of divine explanations.

The chorological view and areal differentiation. Space and the chorological aspect has characterized much of the debate on geography in recent times, and the background is to be found in the works of the Kant. In his 'Kritik der reinen Vernunft' he turned to an examination of the enquiring mind. He proposes the conception that man has some a priori 'Anschaungsformen', or intuitions. Space is the outer and time is the inner intuition. I read Kant's different statements in his "Physische Geographie" in such a way, that the specific about geography is that it tries to explain the presence and coexistence of the different natural phenomena as well as man. But his efforts to classify sciences according to his 'Anschaungsformen' are corrupting. It is futile to use these forms, the first prerequisites in every sensing, on a concrete level. Space is a empty form, from which nothing can be developed or synthesized. Both the causal relation as well as the evolution theory can not be seen simply in space, they require time as well. Without time the causal relation is nonsense. I see Kant as a significant philosopher, but an inferior geographer. Hettner rediscovered Kant as geographer and fixed the attention to the space concept, and Hartshorne went on in this groove.

Spatial arrangements and locational studies. While the previous theme often had a built-in conception of spatial entities as something unique that led to an idiographic geography, many recent directions have put nomothetic aspect in front. Schaefers article was a showdown with

Hartshorne's unique regions and idiographic fundament. It was an attempt to introduce the positivistic theory of science.

The Landscape school. I have distinguished between landscape and regional geography because the landscape idea was an attempt to identify those material phenomena that constitutes the object that geography alone could claim to study. Landscapes were considered material objects. Sauer (1925;316) makes the object and aim of landscape geography clear. 'Area or landscape is the field of geography, because it is a naively given, important section of reality, not a sophisticated thesis.'

Conclusions on the object of geography. The object can not be determined independent of the historical development and the context of the subject. Furthermore it must be fixed with capaciousness and it must contend the preconditions to draw a basic category to be used as base for the synthetic reconstruction of logic-concrete structures.

Now, it is time to ask: What can embrace such a variety as cities and settlement systems, infrastructure and transport, agriculture and heavy industry, production and reproduction, population and quality of life as well as natural conditions, such as climate, soil and water. Is it possible to place the corpus of geography's conventional spheres of interest under one umbrella?

Was the 'geographical experiment' (Livingstone 1992; 190) to reintegrate society and environment of Mackinder, Humboldt, Ritter, Ratzel, de la Blache and others fruitful or is it at all possible? The considerations on the classic mode of presentation and on the demands to an object, are leading me to the conclusion that the *ecumene* is that part of the reality which is best suited for the dignity of being the object of geography.

The word ecumene comes from greek: oikos that means house or housekeeping, and oikumene is the inhabited part of our earth. The polar regions, uninhabited mountain areas, dead deserts as well as the more or less untouched deep sea can not be included in the ecumene even if man with his curiosity from time to time comes roving about. But, in our modern world no parts of the earth with its hydrosphere and atmosphere can really be excluded as not-exploited by man, so let us call this the outer fringe of the ecumene. The ecumene does not have a constant extension, but is perpetually changing. James (1966;4) uses the term 'human habitat' in almost the same sense.

The Metatheory of Geography

The object of geography conditions its metatheory. Defining the ecumene as the object, it should be possible to see that the configurator for the commencing synthetic movement - through successive approximations towards the metatheory - has to begin with the basic relation that maintains the most elementary interaction between man and the nature.

Barrows (1923;13) was the first to underline the viewpoint that this necessary relation between man and nature was crucial to understand geography: 'I believe that those relationships between man and the earth which result from his efforts to get a living are in general the most direct and intimate, that most other relationships are established through these". This, the 'most direct and intimate' relation between man and earth, comes into being when man is producing his necessities. This basic relation determines the ecumene. Marx used the following formulation: 'Als zweckmässige tätigkeit zur Aneignung des Natürlichen in einer oder der anderen Form ist die Arbeit Naturbedingung des menschlichen Existenz, eine von allen sozialen Formen unabhängige Bedingung des Stoffwechsels zwischen Mensch und Natur' (MEW 13;23-24). From this it appears that labour:

- is a natural condition for the existence of man,
- is a condition for the external metabolism,
- is an activity with the purpose to appropriate nature,
- has a teleological perspective,
- is independent of social forms,
- is not connected to any special type of society.

These considerations lead us to the basic category of theoretical geography which is labour. Pure and simple labour. With reference to fig. 2 it can be said that the *concept* man's external metabolism is *transformed* into the *category* labour. This basic category I call the configurator, derived from configuration: outward form or figur, grouping. The category that shapes the figure.

The four elements of the labour process. The configurator, labour, is enriched and developed in the next stages by synthesising four components.

The *purpose of the activity* is to procure food, clothes, dwelling, tools and other necessities for the maintenance of life. The process is teleologic in the meaning that it has a particular end. On the other hand it is necessary, because man has not freedom to choose it or not. What is left out of account at the present stage (or not yet synthesized into the

configuration): The different forms of activity as well as are the different results of the activities, if they are things or tools, food, cloth or perhaps a thatched roof or a car; or if the product is to be used by the producer, given away, exchanged or sold for money. We are not considering intensity and productivity of labour, and the division of labour is not yet invented.

The activity takes place on the surface of the earth, it *occupies certain territories*. When grain is cultivated, then it excludes the grazing of cattle on the same area. In some cases a combination of activities that are not mutually excluding are seen on the same area, perhaps they even support each other. Water can be dammed up behind a dam with the purpose to produce electrical power or for irrigation. But the water is not suffering damage if someone is fishing in it or if vessels are transporting people and goods over it. In this case the synergetic view will be of special interest. Left out of account: Qualities of the territory as climate, soil, rivers, mountains, plains and forests are ignored.

The *object of labour* is the thing which is worked up in the purposeful activity. It is available in the territory, either directly or brought in. Here we simply think of objects of labour. Left out of account is the real variety that exists. It could e.g. be timber for construction of houses, wood for heating, wool for spinning and weaving, stone or iron for tools. The object of labour could also be a soil, an acre which is ploughed and sown. At this stage it is of no significance if it ends up in a finished product, a semi-manufactured article for later working up, perhaps on quite another place or territory.

The *means of labour* can be simple or complex tools or instruments that serve as prolongations and intensifiers of mans qualities and senses. In a hammer the mechanical power is used to beat many times harder than hand itself is able to do. A microscope makes man able to see and distinguish things that the naked eye did not manage. We are here ignoring if the means of labour is a digging stick, a loom, a tractor or an assembly line.

Of these four mentioned elements of the labour process the first one is a quality of man, the following three are qualities of the ecumene. All are aroused by mans nature. 'Man and not nature is the initiator', Livingstone (1992; 192) quotes Mackinder.

The incorporation of the division of labour. In the preceding passages some essential elements were synthesized or attached to the configurator. Next step will be to add the division of labour and to investigate the consequences. We must imagine that mankind very early have been practising some kind of division of labour that spontaneously came into being. In this way the first division of labour appears as a natural division of labour. It is gliding over into a social division of labour, and simultaneously a combination of labour is required. Divided labour must be combined again to act as social labour, and the condition for both aspects is that products are exchanged. After the introduction of the exchange of products between divided labour processes, we can talk of a *production process* instead of a labour process to distinguish levels of complexity in the proceeding dialectic synthesis. The division of labour takes place in several levels, but this problem shall not be discussed further here. Commonly the division of labour with its specialized production processes leads to increasing productive power of labour or productivity. The production process under modern conditions is a composite process producing commodities with both exchange value and use value. These elements are only separable as abstractions, never in reality.

In the synthetic evolution of categories both geography and economy in the classic form have categories in common until this level. Economy from this level takes its own direction and is developing aspects concerning of production relations that are the object of political economy: value, surplus value, profit and capital. In short it is the exchange value element of the commodity. The evolution of the categories in geography moves in another direction, building on the use value element and the productive forces; all of which are reflections of various aspects of the object of geography and its determinator: man's external metabolism. In other words the path of geography is laid out with the material-energetic side of production. Nevertheless the network of concepts of geography remains a complex system, including both laws of abiotic, biotic, social types as well as bridge-laws that are crossing these pure types. Ahead lies a theoretic work to do with the development and linking together of elements of theory that already exist.

Comments on the Dialectic Method to Define Geography
Fergusons description of it was scanty. Marx was more elaborate, and he uses the German philosophical sphere of concepts, marked by Kant and Hegel as well as the Enlightenment philosophers. With reference to fig. 2 the method shall shortly be explained.

The analysis moves from the historic-concrete object as a process of abstraction, where single elements are analyzed separately and in their connexions with other elements, towards the historic-abstract level. Here the aim is to find the constitutive process, called the determinator, that is able to determine the intension and extension of object. The determinator, called external metabolism in analogy with the physiological inner metabolism, is then transformed into a scientific category, the configurator, when placed in the theoretical framework.

The synthesis, on the other hand moves from the logic-abstract category of the configurator by adding new categories, the transformed components ending up with the subject of geography, the geographic theory.

Understanding the Nature of Geography

The initially quoted students question, how to define geography, was interpreted as a desire for coherence and inner logic in the subject. Some main views are summarized in fig. 3. Geography with its metatheory is placed in the centre of a pentagram, with each of its tips pointing towards its fringe and into a grey zone, where the five spheres on the figure contain some of the neighbour subjects. As an example: The geographic discipline called population geography points into the population sphere, and on the other side of the grey zone are found other subjects as demography and medicine. The circles around the spheres and disciplines overlap, but as this is just a schematic drawing the figure cannot show all possible overlaps. For example regional geography ought to be represented by a place where all the disciplines were overlapping. And with settlement geography the spheres of population, production and reproduction should overlap.

Concluding Remarks

Geography as subject can not be defined in the proper sense. It is the result of a division of scientific labour that depends on a long range of factors, where the subject's inner dynamics has a limited effect. On the other hand it is possible to define the object of geography. The ecumene is a precise and meaningful object by virtue of the historic-abstract concept 'mans external metabolism', that plays the role of the determinator. It has furthermore the ability to be transformed into a scientific category, a configurator, which is labour. This category can be used as base for the synthesis of geography's subject, its theory and network of concepts. The object is defined and the subject is developed simultaneously over four contiguous links.

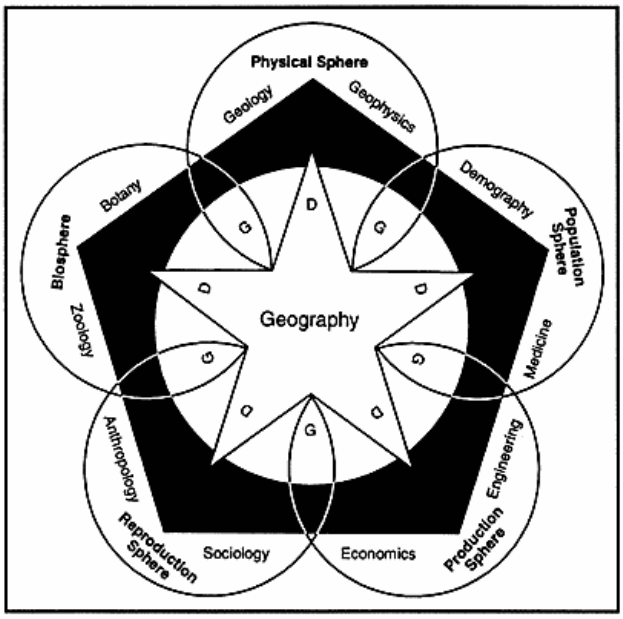

*Figure 3: An idealized picture of the world of sciences seen from a geographic point of view. The subject is surrounded by specialized geographic disciplines, marked **D**. These are spreading into the different spheres, illustrating that geography incorporate these, but do not occupy them totally. The areas of integration or 'Gefüge's between these disciplines are marked **G**. The adjacent disciplines are placed in an arbitrary succession, and integrations can evolve between all of them. The adjacent sciences placed outside the 'grey zone' are likewise placed more or less arbitrarily.*

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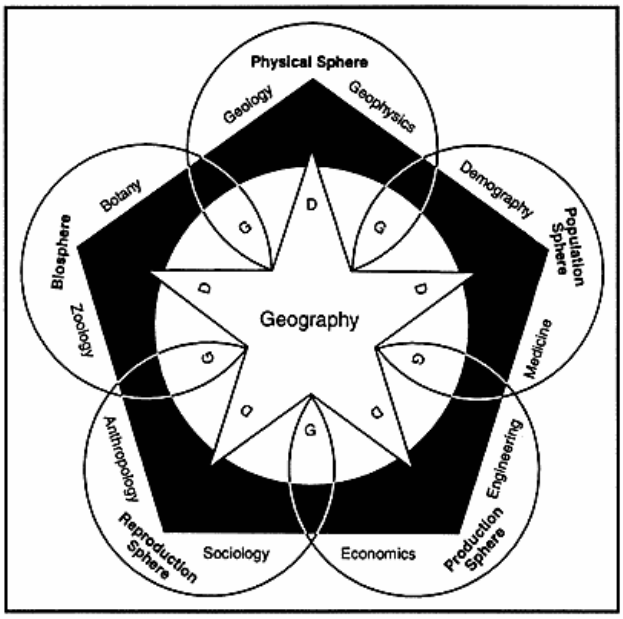

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