

# THE 'NEW' GEOGRAPHY

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| Reported by   | R. G. Wheeler    |

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The nature of academic Geography has changed so greatly during the last quarter century that many consider that a 'revolution' has occurred. This revolution comprises a complex of partially interacting components so that no single place or time of origin can be identified, but the main changes originated in North America and Europe after World War 2, became generally accepted in university departments during the nineteen sixties, and are now penetrating school curricula. The time is therefore ripe to consider the relevance of some of these new ideas to geography teaching in Rhodesian schools, and this set of papers is intended to provide some background for such an exercise. This introductory paper attempts a broad overview of the 'new' Geography, while the following papers concentrate upon certain of its important components in more detail. It is emphasised that these papers provide only a general introduction, and attention is drawn to the list of references, virtually all of which can be consulted in the University of Rhodesia Library.

Although the 'new' geography is frequently equated with the 'quantitative revolution', the trend to quantification is in fact only its most obvious component - although a vital one - and in large measure expresses new thinking about concepts rather than being an end in itself. Although in the first flush of enthusiasm for quantification some tendency was exhibited to regard it as an end in itself, it is now more soberly regarded as a better means to geographical goals that have not fundamentally changed, the new power tool rather than the craftsman himself. Some recent developments, however, are largely independent of both academic philosophy and methodology. It is proposed, therefore, to attempt to unravel some of the main strands and briefly examine them individually.

### THE CONCEPTUAL REVOLUTION

The conceptual 'revolution', the basis of the 'new' geography, is essentially a new look at the entire discipline - its scope, nature, purpose and methods. As a distinct step forward for the subject as a whole it has been referred to as a paradigm (Berry, 1973), Kuhn, which exhibits a number of characteristics.

Firstly, following increasing dissatisfaction with what many have regarded as the essentially descriptive role of traditional academic geography, there has been a marked shift from description towards attempted explanation of man-environment inter-relationships. This implies a move towards scientific explanation; i.e. a movement in both 'physical' and 'human' geography nearer to the more rigorous philosophical and methodological mainstream of science and by implication correspondingly away from the more intuitive methods of the arts (although to me geography continues to be both art and science). This in turn implies more precise measurement and manipulation of data (the 'quantitative revolution') and also a shift

from the more traditional inductive to deductive reasoning, with an emphasis on hypotheses and testing procedures (Fig.1). From a primary concern with accumulating individual case studies (the idiographic approach), there is now a tendency to search for general 'laws' that explain spatial processes and patterns (the nomothetic approach), so that geography becomes centrally a spatial science. The recent decline in regional studies per se is in part associated with this general trend. The trend towards more scientific general explanation (law-seeking) appears to place geography upon the path that leads to the goals of prediction and ultimately, perhaps of prescription or, as Chisholm (1971) has put it, 'from delver ..... to decider'. To date we have only taken a few hesitant steps beyond the point of explanation.

Finally, under this head may be added the important current trend - perhaps more in terms of philosophical speculation than in practice - towards the reunification of the physical and human aspects of geography through a common methodology and scientific purpose. This is long overdue within geography itself, and provides at least one slender bridge between the 'arts' and the 'sciences' in general. (Davies 1976).

### THE 'QUANTITATIVE REVOLUTION'

Essentially a means to an end, quantification means the greatest possible precision and detail in measurement, the logical ordering of data, their rigorous mathematical and statistical manipulation, careful generalization and abstraction from known facts and the search for general 'laws', all on the basis of initial hypotheses, modelling and hypothesis testing using a deductive approach. These methods are the subject of the next paper and are consequently by-passed here. It is interesting in passing to speculate whether the quantitative revolution caused the conceptual revolution or vice-versa; one suspects a two-way interaction, and this illustrates the complex interaction between the various strands that make up the 'new' geography as a whole. The acquisition of a powerful new power tool, in the form of the new methodology (including the use of computers), by no means implies that the old simple 'hand tools' are obsolete. Simple map analysis, descriptive local case studies, etc., still have an important part to play, particularly in the developing world where relatively sophisticated data needed for some of the new methodology are not available, so that its attempted use becomes downright dangerous. Many parts of the world still have to be described in the simplest geographical terms before they can be 'explained'.

### PROCESS METAGEOGRAPHY

An important aspect of the 'new' geography is the shift of emphasis from primary investigation of geographical patterns to include that of the spatial processes that create the patterns themselves usually in continuous change. This trend applies throughout much of the traditional range of geographical investigation, from processes of landscape denudation to flows of goods and services in marketing geography. Clearly it represents part of the desire to explain landscapes. It presents difficulties in that whereas

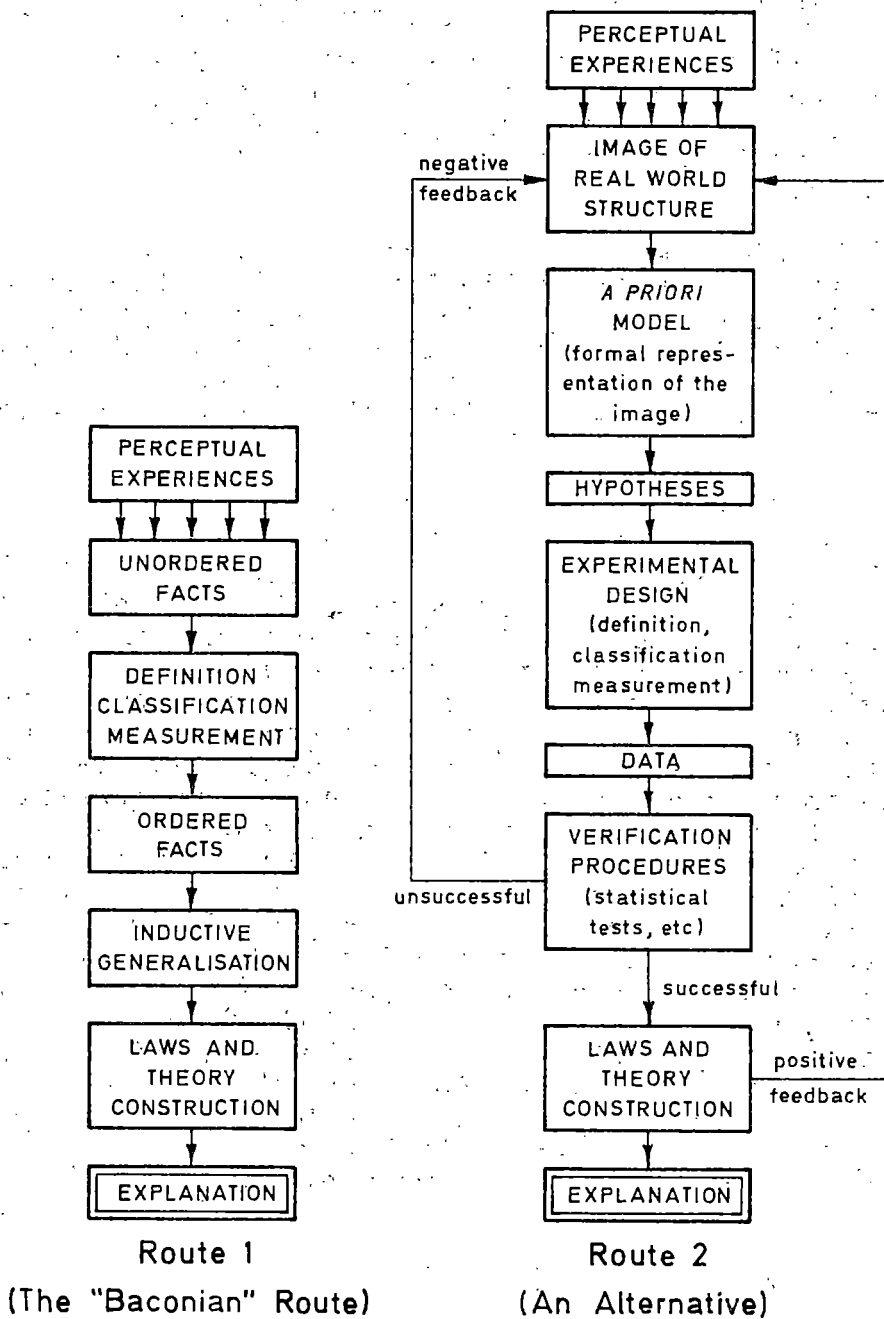


Figure 1: Routes to Scientific Explanation  
(After Harvey 1969)

landscape patterns are essentially visible, the processes or flows that underlie them are by definition in motion and usually invisible, and as such difficult to depict on the geographer's traditional canvas, the map. It may well be, therefore, that cartography now needs new techniques to catch up with conceptual and methodological changes. Movements are usually portrayed cartographically by simple flow charts and time changes by sequential mapping or time series; more sophisticated methods may now be called for (perhaps for example, incorporating rotatable three-dimensional computer-printed diagrams). The basic problem is that the greater concern with process implies plotting the dynamic, whereas the map is a device designed basically to capture static patterns, if only at a moment in time. Nevertheless the real world is made up of dynamic flows which in their interaction produce quasi-stable spatial patterning, and our desire to explain must lead us to face afresh the problem of mapping such flows. Berry (1973) has proposed that our concern with processes should be developed to become the major theme of Geography (quoted Davies, 1976 pp 9-10), which he calls 'process metageography'. Clearly to organise our discipline on the basis of flow patterns would lead us centrally to adopt a systems approach, as discussed in the next paper.

### THE INFORMATION REVOLUTION

Alongside such new thinking in Geography there have become available within the last ten or fifteen years, vast additional increments of factual information on the earth's surface through remote sensing techniques, mainly from small-scale satellite imagery. These consist basically of sophisticated multi-spectral aerial photography, plus infra-red photography and radar sensing to permit imagery beyond the visible spectrum (0,3-0,7 microns) and by night and through cloud. In particular, the Earth Resources Technology Satellite (ERTS I) has permitted the entire earth's surface to be imaged systematically, regularly and repetitively, thus recording time changes, including seasonal changes. Satellite images may be transmitted by radar, or digitised for transmission and reproduction by automated, computer-linked cartography. In support of this development data banks are being built up to store, retrieve and process vast quantities of geographical data becoming available, while new rapid map production techniques, including the use of laser graphics, are becoming available. Thus, at small scales suitable for world-wide studies, raw data are being expanded to meet (and currently even to exceed) the demands from new approaches and new techniques.

### BEHAVIOURISM AND PERCEPTION

This forms the subject of the fourth paper. It suffices here to state that geographers are now concerned to harness the insights of psychologists (and to some extent sociologists) on perception to their particular purpose of understanding the geographical environment in the form of 'mental maps.' This approach recognises that we perceive 'reality' through a personal and subjective perception filter or screen that incorporates both our senses and cultural conditioning. Haggett (1972) has described this as 'the view from inner space', in contrast to the view from outer space provided by remote sensing. Perception in Geography is potentially

of great significance, and represents an entirely new way of looking at the objects and events that make up the geographical environment. Since it is by definition highly subjective (although group perceptions may be identified), it poses problems of rigour and objectivity, which must be solved if it is to fall in line with the generally scientific approach of the 'new' geography as a whole. At present its impact, as a new approach, still developing vigorously, is difficult to judge.

RELEVANCE AND RADICALISM

The latest major trend in Geography is the 'relevance debate'. This is concerned, not with the state of the discipline, but with the use to which it should be put. It reflects a general concern - by no means confined to Geography - that our teaching and research are too academic, too remote from reality. Basically, its proponents argue that academic geography should descend from its ivory tower to the market place, and offer its particular (spatial) perspective and techniques for the solving of real and pressing world problems, many of which have undeniable geographical aspects - population growth, pollution, resource depletion, etc. This is briefly discussed in the fifth paper. To date the movement has had close connections with the political left, and tends to perceive urgent real world problems in radical socio-political terms. If followed through, the relevance trend would lead geographers from teaching and research more and more into consultancy work, then directly into planning, and finally into active politics, where the final decisions are made.

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