

PART ONE

**RECENT TRENDS
IN CONTEMPORARY GEOGRAPHY**

ON SPECIALIZATION WITHIN GEOGRAPHY

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An exponential growth of geographical output is now a characteristic of our discipline. Such growth was demonstrated by Stoddart (1967) who measured the productivity of the discipline by the number of specialized series and publications and showed that the quantity of geographical research has been doubling every thirty years (Figure 1). This growth has been accompanied by increasing specialization in many sub-disciplines. Haggett, et al. (1977) suggested that each individual scholar obtains increasing economies of scale by specializing in a limited range of problems, and his limited time and resources, as books, equipment, maps and computer time, encourage him to concentrate on intensive study of a limited topic or region. This trend is clearly reflected by the long list of geographical specialities defined by the Association of American Geographers. The Association defines 57 areas of specialization in geography including specialists such as arid-zones geographers, manufacturing geographers, military geographers, medical geographers, resource geographers, rural geographers,

recreational geographers, tropical geographers, communication geographers, etc.

An even wider range of specialization is reflected in the classification of research products of today's geographers. Using the Geo-Abstracts issues of 1978, geographical research in both physical and human fields are classified into 127 subjects and 36 subdivisions for a total of 163 separate classifications (Table 1).

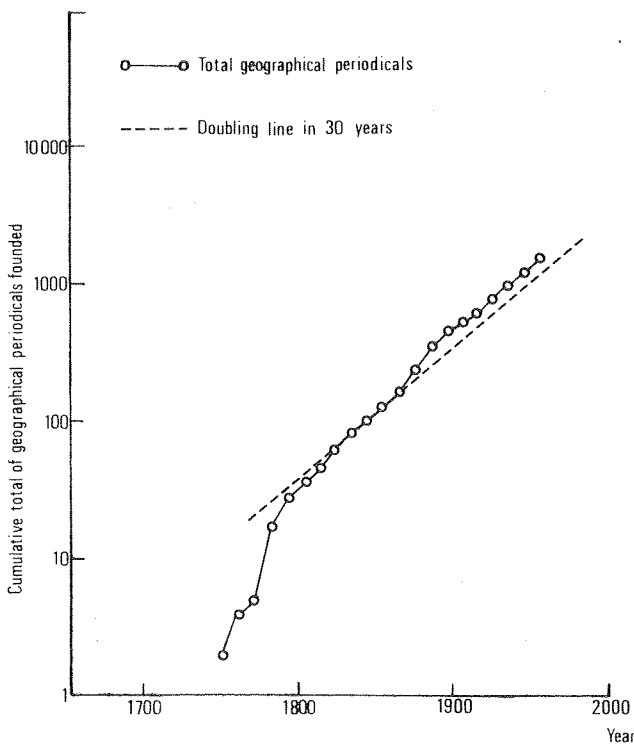


Figure 1: Cumulative totals of geographical periodicals founded
(After: Stoddart 1967)

Table 1

Number of geographical subjects used in the 1978 Geo-Abstracts issues for publications classification.

Field	Discipline	Subjects	Additional Sub-Divisions	Total
Human Geography	Social and Historical Geography	20		20
	Economic Geography	18	6	24
	Regional and Community Planning	12	20	32
Human and Physical	Remote Sensing and Cartography	11	10	21
Physical Geography	Climatology and Meteorology	8		8
	Landforms	26		26
	Hydrology	8		8
	Sedimentology	24		24
Total		127	36	163

The exponential increase in global data and the tendency toward disaggregation of research units is inevitably leading to the development of more and more sub-divisions within geography, and researchers tend or are even forced to concentrate on narrower fields. Haggett (1977) expressed this situation by caricaturing geography as a 'doughnut-shaped discipline' with growth and high activity at the outer periphery, leaving an empty core. Figure 2 exemplifies graphically what Haggett meant to express verbally, with the addition of arrows generalizing the orientation of contemporary and future geographical research. Contemporary research

covers a wide spectrum of topics emanating from the traditional core. Future research may even suggest the penetration into the geography of other planets. An example of such an undertaking is the study of sand dune movements on Mars, now being investigated by one of our departmental staff members working in Astrogeomorphology.

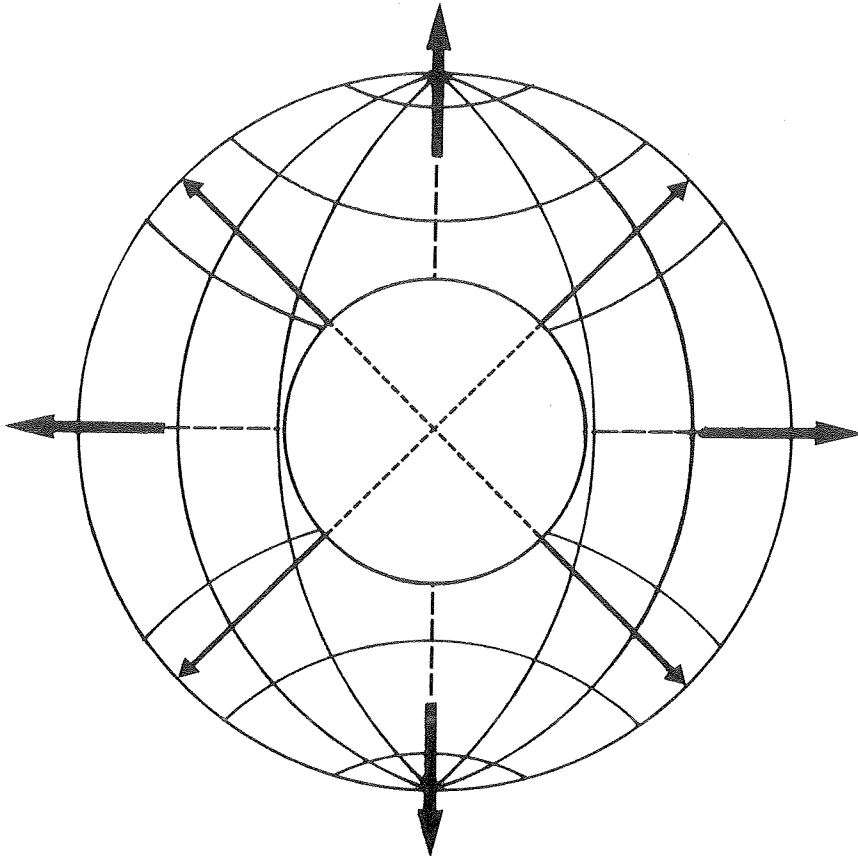


Figure 2: "The Spatial Structure of Geography?"

The tendency to specialize dictates increasing cooperation between geography and other disciplines as geology, economics, behavioral sciences, operational research, and others. It seems that those who did not develop intensive routes into other related disciplines belong to the shrinking core of traditional geography. One of the traditional definitions of the field defines geography as a discipline aimed at the understanding of an interacting system comprising all humanity and its environment on the surface of the earth (Ackerman, 1963). Can we justify such a definition without having ever increasing relationships with other related fields? The economist K. Boulding (1966) defined geography as the only discipline that has caught the vision of the study of the earth as a total system and which has strong claims to be the queen of the human sciences. To understand the system means to understand interrelated processes, which in turn implies disaggregation and ever increasing specialization. For example, detailed examination of most aspects of human behavior which are of interest to human geography would not be fruitful if the decision-making process were left out (Meining, 1962).

The general acceptance of quantitative techniques, the more complete mathematical training of a new generation, and the widespread availability of computing systems have led us into the present phase in which mathematical methods are but one of many

tools for approaching geographical problems. Moreover, mathematical methods encouraged greater specialization and opened avenues for communication with other disciplines. As Wilson (1972) stated, the collective ability to branch out and to be more ambitious is essential for future progress.

References

- Ackerman, E.A., "Where is a Research Frontier?", Annals of the Association of American Geographers, 53, (1963), pp. 429-440.
- Boulding, K.E., The Impact of the Social Sciences, New Brunswick, N.J. (1966).
- Haggett, P; A. Cliff, and A. Frey, Locational Models, London: Edward Arnold (1977).
- Meining, D.W., "A Comparative Historical Geography of Two Railnets: Columbia Basin and South Australia", Annals of the Association of American Geographers, 52 (1962), pp. 394-413.
- Stoddart, D.R., "Growth and Structure of Geography", Institute of British Geographers, 41 (1967), pp. 1-19.
- Wilson, A.G., "Theoretical Geography: Some Speculations", Transactions, Institute of British Geographers, 57 (1972), pp. 31-44.