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The Concept of Perception and the Geography Teacher

The aim of this paper is to set down some sources and to make a number of suggestions which may be useful in classroom geography teaching. The suggestions derive from research methods used in psychological work centering on environmental perception and behavioralism. Around these concepts cluster two of the dominant foci of research interest to emerge from the geography of the sixties.

In the search for general, predictable patterns and explanations for the location of features of the human-built environment, geographers of the sixties were gradually forced to recognize that a decision-maker has a limited knowledge of the pertinent information required if all decisions of spatial significance are to achieve economically optimal locations — thus the notion of “bounded rationality.” Furthermore, empirical investigations¹ clearly demonstrated that people may choose other than to optimize economic returns. They may decide that “enough is enough” and that an extra month’s holiday is to be preferred to a ten per cent increase in taxable income. This is still in the realm of rational decision-making, albeit based not on total but on partial or “bounded” information. It then becomes clear that human behavior and the impact of this behavior upon the environment can be understood only if recourse is made to the idea that people perceive their environment in different ways. Obviously, variability in human perception of the environment is less within similar culture groups than between culture groups, although if we accept the suggestions of the High School Geography Project exercise on the trend towards uniformity,² this generalisation is gradually breaking down in some aspects. However, we might say that perception is strongly influenced by individual and group values, prior and

present learning experiences, personality, tradition, language and numerous other variables.³ Thus, explanations and predictions of locations and patterns have to be stated in probability terms rather than in deterministic language.

the teacher as vulgariser

While the aim of this paper is to make a number of suggestions for use in geography lessons, the result may be to demonstrate that good teachers are good vulgarisers. For vulgarity, no apology is made, but let us be clear about where the vulgarity, the coarseness, the lack of refinement in the suggestions presented, may be perceived to lie. In behavioral research there is a continuing debate on the legitimate focus of the studies and on how to achieve explanation. Among psychologists there is unending debate on whether the kinds of questions and techniques of questioning (e.g. the semantic differential) measure what they purport to measure. In that these arguments generally lie beyond the classroom, the use of such concepts and techniques in isolation from theoretical discussion is actually vulgarising.

But although as teachers, we may be prepared to vulgarise, we do believe that it is essential to have a firm grasp of and an intellectual perspective on what we are teaching. In order to vulgarise with panache and to obtain confidence in our reasons for bringing exercises on perception into the classroom, "Problems of Geography" by William Kirk⁴ is highly recommended.

the significance of perception in teaching

The role of perception in geographical studies is to help increase our understanding of people acting in and responding to their milieux. It does this by considering the subjective elements of people's response to the world. In many instances, as Kirk pointed out, the perceived world is the real world. It has been established that motorists in England drive five miles an hour faster in built up areas which they classify as "not home" than in areas perceived as "home."⁵ The perceived world of "not home" is to them the reality of the moment and it affects their behavior accordingly. Perception studies in school, therefore, have a potential part to play in the affective as well as the cognitive domain of learning and understanding. So, to introduce students to the notion of perception — preferably through explor-

ations of their own perceptions — and its mediating role between mankind and environment may well increase their sensitivity to their own environmental attitudes and behavior.

investigating perceptions

What is the nature of the practical suggestions for immediate classroom use? Let us consider first the potential for the classroom of a research exercise undertaken on perceptions of the Canadian North by Louis Hamelin.⁶

The five-part questionnaire, which Hamelin has administered to numerous people, is included here as an appendix. A study of Hamelin's work would suggest that in the research situation there must be many difficulties in scoring the results of Part 1 of this questionnaire. Hamelin clearly had in mind a functional grouping by area, but do students take the same approach? What reason would they give to justify their classifications? This kind of exercise could be treated as open-endedly as a teacher wished and its potential for exploring the level of conceptualising, as well as the amount of knowledge, in the choices made gives it an appeal over and above its utility as a way of introducing a unit of work on northern areas. Plainly, this type of test can be devised for any area of the world, large or small, which a teacher wishes to teach.

A perception test based on Hamelin's was devised by about twenty fifteen to sixteen year old girls living on the East Coast of New Zealand. The girls had recently participated in a field trip to the West Coast, the character of which is beautifully described in the following passage.

The Coast, as it called itself, was a place for rain, beer and coal, almost to extravagance. There had also been gold in the fast rivers which rode from the white mountains. But this gold now lay locked in distant bank vaults and blighted towns were vanishing back into the bush. There was also, of course, a still earlier time, when only dragons of legend and thin defeated tribes inhabited this slender length of lowland. Stronger tribes came from the north, to gather the greenstone which lay thick in the rivers and to harvest slaves. The Coast had never been in on a win. Now they took the coal away. There were still the mountains, though, in dense dozens above the bush, sometimes pushing peaks almost to the sea, and throwing off glaciers. There were the mountains, and the icy winds off them, and the heavy rains they trapped, and there was the creepered rain forest and the crashing sea; and there were the places where men felled timber, or dug for coal, because there was not much else.⁷

A teacher had drawn up a list of several words which were functionally related on a resource utilization basis. These were as follows: "sluices," "Maoris," "gold," "Europeans," "coal," "aerial cableways," "rain," "tourists," "glaciers," "bush" and "greenstone."

It became apparent that the girls who had voluntarily turned up in the lunch hour for this post-field trip exercise were not happy with the list. To them, the words were not at all representative of the dominant features of the Coast. It then seemed more to the point^a to have them suggest words which should form a list and as a result of an informal, free-for-all discussion, with the teacher acting as recorder, the following list of the most popular words and phrases was compiled: — "glaciers," "dredge tailings," "rain," "dirty rivers," "rough pastures," "bogs," "lack of roads," "lack of farms," "hills" and "bush." They were most conscious of either (1) what the Coast lacked *vis à vis* their own east coast which was prosperously farmed, though drought prone, and had plenty of well-graded roads and high quality pastures, or (2) aspects of the natural environment which were most distinctively different, such as glaciers, bush and the frequency of rainfall. By modifying the exercise as the girls wished, they and the teacher learned a lot more about their perceptions and their level of thinking. Their perceptions did not cluster cognitively nor conveniently around resources, despite the teacher's attempt to orient the class work and field trip around such a theme.

Hamelin's questionnaire, which had been adapted by the teacher for the West Coast, was then abandoned and the group's assistance sought. The focus of the exercise became "If you were going to test the way local people see the West Coast, what words or statements would you use?" In the section paralleling Hamelin's Part IV, the following of many statements suggested were voted to be the most appropriate. (The first duplicates one of Hamelin's.)

1. *I would like living on the Coast.* (It is a region of declining population.)
2. *The West Coast is an unspoiled part of New Zealand.* (In the New Zealand national myth, this is generally believed to be so.)
3. *The Coast has a very bright future.* (The Government of the day [1973] was strongly advocating the exploitation of an almost non-renewable resource, the slowly maturing native forest, as one way of overcoming unemployment in the area.)

The girls considered negative replies to all three to be the appropriate ones, though they expected greatest disagreement to be revealed in

the responses to the third statement. Hamelin's Section V was also replicated, and to give a structured response to, "How do you see the West Coaster?" the group produced the following list: "conscientious," "sensitive to his or her environment," "boring," "impolite," "ungracious," "parochial," "aggressive," "has a strong regional attitude." (I do not know how the West Coasters with whom they came in contact perceived the school party!)

The final exercise was based on viewing slides taken by the girls themselves as well as some from the geography teacher's collection. By a process of elimination, in response to the question, "Do you consider this slide to be typical of the Coast?" it became apparent that those slides which featured the brightly painted houses, small settlements strung out along the roads, or buildings of any kind were judged to be more typical than those featuring the high snow capped mountains or bush clad slopes.

A possible extension of the exercise is one in which slides of the West Coast are interspersed with slides from other parts of the country. Such an exercise might serve, not only to build up a mismatch situation, but to allow for an exploration of the similarities rather than differences between places and people. Another useful exercise would be to have students administer the questionnaire to contemporaries or parents. The difficulties of scoring the responses and realising the ambiguities of meaning which would be almost certain to arise would be salutary experiences. At some stage, in this kind of work, the question of stereotypes, both at regional and national levels should be discussed.

other studies

Equally fascinating work could be done in the local area by having students draw up factual questions and opinions about their home area to explore what their town or suburb means to people. Tilley, Bishop, Spencer and Lloyd⁹ are among those who have written in detail on the use of the semantic differential in such contexts. Another article by Duder¹⁰ contains a description of procedures for exploring the meaning which the immediate environment has for people. Subjects can be asked to (1) draw a quick sketch map of a node or district or (2) describe a well known feature of a given place. An exercise based on the selection of photographs can also be used. In a small town, the main street might serve as the focus for the study. Different groups of people can be interviewed and their responses compared as in the exercise Walford¹¹ outlines. These

exercises are close to the ideas pioneered by Lynch¹³ in his study of images of cities. Simplified versions of his interviewing techniques are appropriate for the classroom. A very simple procedure would be to ascertain the approximate age, mode of travel and place of residence of an interviewee and to put the question, "What are the first ten things you think of in relation to your town?"

On a different scale, Forrest¹³ suggests that the concept of neighborhood can be explored by presenting householders with a street plan of their city and asking them to delimit their neighborhood. Its size may be seen to vary with age, length of residence, design of street pattern, etc. This line of investigation is closely allied to studies in action space or the area with which individuals perceive themselves to be familiar. To have each student map his/her action space and then pool and compare information in groups is a possible exercise. What is the general shape and direction of one's action space in a town or city? Why? Is there a difference between the students' action space and that of their parents or neighbors? Here, we are approaching the whole field of mental mapping developed by Gould¹⁴ and others.

An article by Gillmor¹⁵ is one of the most useful to which teachers can refer for a clearly explained method of the rank ordering of preferences — students could readily grasp the procedure and replicate it for themselves. Some of the exercises outlined by J. P. Cole¹⁶ in a recent publication enable one to use mental mapping exercises to seek reasons for general patterns. For example, Cole puts forward ideas for exploring the role of the media in building up our perceptions of places. Finally, cloze procedure¹⁷ should be mentioned as a means of investigating spatial knowledge. Several articles giving a general overview of perception studies are listed in the references.¹⁸

the repertory grid

The final technique to be discussed for investigating people's perceptions and evaluations of their environment is less well known and, as yet, less widely used in perception studies than mental mapping or questionnaires.¹⁹ It is considered to be a difficult device to explain but simple enough to operate. The repertory grid is the investigative tool which G. A. Kelly²⁰ devised to put his personal construct theory into operation. Kelly's theory holds that we create our own model of the world in order to make sense of it. Use of Kelly's technique should enable one to explore and discover the perceptions and conceptions individuals have formed of themselves and other people.

One should also be able to use this method to probe others' perceptions of their environment.

Kelly was a psychoanalyst and the repertory grid technique was used by him in an attempt to understand his patients. From Kelly's model, it follows that an individual's actions can be understood only according to his/her own construction of the world. Kelly "got at" the individual's construction of the world in the following way. The patient would be asked to write down the names of people important in his life. The list might include his mother, father, wife, boss, the woman he did not marry, son, friend. The clinician would then select three of these elements at a time and ask the patient in what ways any two were alike and how they contrasted with the third. The grid would be complete when all possible combinations had been made and the patient's responses recorded. The technique rests on the ability of the patient to make distinctions. In this example, the mother and wife may be seen as loving, the father as harsh. The persons named form the elements of the grid, the distinctions elicited begin to form the constructs. Diagrammatically, the repertory grid may be presented thus:

Table I

INDIVIDUAL'S PERCEPTION OF RELATIONSHIPS					
Constructs	Elements				
	mother	father	wife	friend	boss
loving/harsh	1	0	1		
answers questions/tells you to find out for yourself	0	1			1
holds the same values as myself/does not hold the same values			1	1	0
believes success is the most important goal in life/does not believe success to be the most important goal		1		0	1
is very like me in character/is not like me in character	1	0		1	
generous/not generous	1	0	1		

Gradually (for most people the matrix expands into twenty or thirty rows), the clinician comes to understand how the patient construes

his interpersonal environment. The grid can then be factor analysed.

It is not difficult for a geographer or a town planner to see that this technique can be used to explore environmental perceptions and attitudes. One example must suffice. A group of Post Graduate Certificate in Education students at the London Institute of Education had been using, with a class of difficult fourth year boys and girls, a section of *Geography for the Young School Leaver*.²¹

The lessons had been centred on new towns. A student who had research experience with the technique thought that a repertory grid type of exercise might be used as an introduction to having the class design a new town. She simplified the exercise by imposing the elements of the grid on the class. The elements selected are shown in *Table II*.

The first three elements (or triad) were named and an individual asked which she considered to be the most important and why.

Table II

Designing a New Town: What is Important and Why?*									
churches	community centre	factories	health centre	libraries	shopping centres	schools	sports centre	parks or open spaces	
		X							needed for jobs
					X				needed for food, clothes and furniture
						X			needed for learning
			X						needed for good health
									needed for information
									needed for leisure and relaxation

*After Elizabeth Allen

From "churches," "community centre" and "factories," the latter was selected as the most important element because it provided jobs. There was general agreement with this reason. "Needed for jobs" was recorded in the constructs column, and a mark placed in the column headed "factories." The next triad ("health centre," "libraries" and "shopping centres") was presented and a second class member chose "shopping centres," the construct elicited being the fact that such centres are required for food, clothes and furniture. In the third triad, "schools" were considered most important, the respondent affirming that there is a need to learn! "Good health" proved to be the priority when a choice among "church," "health" and "libraries" was requested. The elements were presented in triads until a dozen constructs had been drawn up. No attempt was made to present all possible combinations. The constructs were then used to dig more deeply into the functions performed by the elements. The class was asked to consider if other elements also provided jobs or were needed for food, clothes and furniture, for learning or for good health. Further marks were placed in columns. Lively, constructive discussion and argument took place. Kelly might not recognise this application of his repertory grid technique but our vulgarising procedure proved successful in that classroom.



Justifications for taking up the concept of perception and suggesting classroom exercises were made at the beginning of the paper. The final vindication rests on whether or not teachers judge perception to be a concept around which to organise some of their work so as to deepen their students' understanding of human responses to the environment.

footnotes

1. J. Wolpert, "The Decision-making Process in a Spatial Context," *Annals of the Association of American Geographers*, Vol. 54 (1964), pp. 536-558.
2. High School Geography Project, "Culture Change: A Trend Towards Uniformity," (Activity 5), *Cultural Geography*, Toronto: Collier Macmillan, 1966.
3. For a fuller discussion, see M. Eliot Hurst, *A Geography of Economic Behaviour*, London: Prentice-Hall International, 1974, pp. 42-50.
4. W. Kirk, "Problems in Geography," *Geography*, Vol. 48, No. 4 (1963), pp. 357-371.

5. J. Bishop, personal communication.
6. Louis Hamelin, "Image mentale et connaissance réelle: l'exemple du Nord," in W. P. Adams and F. M. Helleiner, eds., *International Geography*, Toronto: Toronto University Press, 1972, pp. 1048-1050; "Aspects d'une conception du Nord dans une Commission Internationale d'Education, résultat d'un test," *Revue de Géographie de Montréal*, Vol. 28, No. 2 (1974), pp. 188-191.
7. M. Shadbolt, *Strangers and Journeys*, London: Hodder and Stoughton, 1971.
8. R. Pring, "Objectives and Innovation: The Irrelevance of Theory," *London Educational Review*, Vol. 2, No. 3 (Autumn 1973), pp. 46-54.
9. a. R. G. Tilley, "The Application of Semantic Differentiation in the Classroom," *Profile*, Vol. 7, No. 19, Part 1 (November 1974), pp. 29-43.
b. Jeff Bishop and Jan Burney, *Old School Versus New School*, Architectural Psychology Research Unit, Kingston Polytechnic School of Architecture, Research Report 1, 1975.
c. Jeff Bishop, *Environmental Education for Schoolchildren*, Architectural Psychology Research Unit, Kingston Polytechnic School of Architecture, Research Report 5, 1975.
d. David Spencer and John Lloyd, *A Child's Eye View of Small Heath Birmingham: Perception Studies for Environmental Education*, Research Memorandum 34, Birmingham: University of Birmingham Centre for Urban and Regional Studies, 1974.
10. B. Duder and W. J. Watt, "Town Planning and Geography," in F. Slater and T. J. Hearn, eds., *Research Techniques in Geography*, Dunedin: Department of University Extension, University of Otago, 1974, pp. 81-97.
11. R. A. Walford, "Perception of a Local Environment," in R. Walford, ed., *New Directions in Geography Teaching*, London: Longman, 1973, pp. 29-33.
12. K. Lynch, *The Image of the City*, Boston: MIT Press, 1960; see Appendix B, pp. 140-142.
13. J. Forrest, "Field Work in Urban Geography," in F. Slater and T. J. Hearn, eds., *Field Techniques in Geography*, Dunedin: Department of University Extension, University of Otago, 1972, pp. 49-60.
14. P. Gould, *On Mental Maps*, Discussion Paper 9, Ann Arbor, Michigan: Inter-University Community of Mathematical Geographers, 1966; P. Gould and R. White, *Mental Maps*, Harmondsworth: Penguin Books, 1974.
15. D. A. Gillmor, "Mental Maps in Geographic Education: Spatial Preferences of Some Leinster School Leavers," *Geographical Viewpoint*, Vol. 3 (1974), pp. 46-66.
16. J. P. Cole, *Situations in Human Geography*, Oxford: Blackwell, 1975, pp. 18-46.
17. M. E. Robinson, "Cloze Procedure and Spatial Comprehension Tests," *Area*, Vol. 6, No. 2 (1974), pp. 137-142; J. Porter, G. Hart and J. Machin, "Cloze Procedure Tests in Hampshire," *Area*, Vol. 7, No. 3 (1975), pp. 196-198.

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III Viewing of a slide showing an Eskimo wearing spectacles. Comment more on what the picture calls to mind than on what it really shows.

IV Informative question with a yes-or-no type of answer. Put an X at the place chosen.

	affirmative	negative
“Eskimo people live on marine water shores.”	_____	_____
“The Far North is a paradise for fishing and hunting.”	_____	_____
“In the Arctic, snowfalls are abundant.”	_____	_____
“I like (or I would like) living in the North.”	_____	_____

V Put an x in the column best suited to your choice. “How do you see the northern adventurer?”

FEATURES	A	B	C	D	E	
	most; high	between A/C	average; medium	between C/E	most; high	
drunkard						abstemious
social						introverted
hard-working						lazy
lively						dull
single						married
quarrelsome						tolerant
dirty						clean
godfearing						godless
born in the country						born outside
unlearned						literate
queer person						ordinary
inconstant						steady
imaginative						little imagination
chaste						immoral
non-scrupulous						correct
outlaw						good citizen