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Book review

Recent Advances in Personal Construct Technology

Edited by Mildred L. G. Shaw, 1981. Academic Press, London, pp. xii+232. Price: £12.60, $29.00.

The reason why personal construct psychology is still not very popular among research psychologists is that it is an uncomfortable theory. The first, and most fundamental, difference with "normal psychology" is the basic assumption with respect to the very nature of psychological processes. With a little exaggeration most psychological theories are essentially mechanistic: persons are modelled as stimulus–response-connecting automata, as drive reducing phenomena, etc. The fundamental assumption in personal construct theory is that an individual must be seen as a scientist, anticipating events by creating theories about the world around him, testing these theories against reality and adjusting them according to his experiences.

Consequently, there is a major distinction in methodology. Whereas normal psychology either seeks data that allow for aggregation over as many different subjects as possible, in order to make statistical inferences about psychological processes in general, or resorts to interview techniques hardly leading to generalizable conclusions, personal construct psychology tries to make compatible descriptions of the unique dimensions of the thought processes of persons. This compatibility of descriptions means that it allows for negotiations between persons, rather than for aggregation of the data.

Up to a few years ago, personal construct psychology was mainly applied in clinical, or otherwise strictly individual, contexts. An explanation of this may be that the administration and interpretation of the most commonly used instrument in personal construct psychology, the repertory grid, is very cumbersome.

The use of (micro-)computers for these administrative tasks, and especially their capacity to give immediate feedback on results of analysis, broadens the potential of the technique considerably.

Of course, the first publications were mainly about the design and development of interactive computer programs for eliciting repertory grids. In *Recent Advances in Personal Construct Technology*, Mildred Shaw has collected a number of papers, mostly dealing with the natural next stage: further computer analysis of repertory grids and the assistance of computers in the comparison of different grids to facilitate negotiations on the basis of these grids in order to reach shared understanding if the grids originate from different individuals, or to learn from past experience if the grids originate from the same person at different points in time.

A rather simple example of this second application is Estelle Phillips' paper on the changing constructs of postgraduate students. At the same time it is a good illustration of the way in which repertory grids could be used in negotiations of the investigator with his research subjects. Instead of imposing a model of "research skills" upon the subjects by, for instance, designing a test for research skills and measuring changes in test scores over time in order to conclude how research skills have developed, Phillips investigates the development of research skills by discussing the changes in the way these skills are construed by the subjects during their research period. Thus, the theories about what research skills really are, and about what is learned during postgraduate education, are provided by the subjects themselves.

That the results are, however, a little disappointing may be due to the underestimated importance of the selection of the elements that constitute the domain of conversation. The choice of a set of elements in order to define a common area of interest between the investigator and the research subject must, in cases like this, be subject to extensive preliminary negotiations.

This point leads me to Mark Easterby-Smith's contribution: the design, analysis and interpretation of repertory grids. This paper provides the inexperienced grid administrator with a large number of highly practicable "directions for use". Easterby-Smith made this paper very

surveyable by taking the epistemological background for granted and putting concrete application aside.

The repertory grid as a tool in negotiation between persons about their "theories of the world" is applied in several papers. Mildred Shaw (conversational heuristics for eliciting shared understanding) gives a short description and an instructive application of a suite of interactive computer programs: PEGASUS, CORE and SOCIOGRIDS, already more extensively described in her former book [M. L. G. Shaw, *On Becoming a Personal Scientist*, London: Academic Press 1980]. Maureen Pope and Mildred Shaw use these programs in an educational context (Personal construct psychology in education and learning). There is a rather old tradition in educational research to try to reveal teachers' theories-in-use about the effectiveness of teaching procedures, eventually in order to formalize these theories. Up to now, this idea has nearly always been elaborated in the form of correlational studies of teaching characteristics and learning outcome, almost always with very little result. To me, this paper raised the suggestion that repertory grids, analysed by SOCIOGRIDS, constitute a much more powerful tool to reveal these theories-in-use. It is useful to emphasize the point that the way in which learning situations are construed by teachers can play a role on the same level as the construction of these situations by the students. Thus, teaching procedures can be evaluated, not only in terms of attainment of pursued objectives, but also in terms of learning effects not explicitly intentioned in the subject matter.

A more specific contribution to the use of grid techniques in learning situations is given by Philip Boxer in his paper on reflective learning in management contexts. He gives an example of the application of this technique in the analysis of past experience in managerial decision procedures and confrontation of the results with the results of colleagues, in order to develop common viewpoints on criteria to apply in future decision procedures.

In all the papers up to here where repertory grids are used in negotiations, a preliminary agreement of the participants about the elements that constitute the conversational domain was presupposed. In conflictuous situations, however, the parties in the dispute are likely to persevere in using different, incompatible terms. Patrick Slater (construct systems in conflict) proposes a technique to deal with these situations wherein two repertory grids may have no constructs and no elements in common. This technique pretends to reveal the most controversial issues in the dispute, thus reducing the conflict to its nucleus. The procedure is still highly speculative, but the idea seems very promising.

With respect to single grids there are several refinements, additions or alternatives to existing procedures of elicitation and analysis. Terry Keen and Richard Bell describe an extremely simple procedure for elicitation of a grid, which in some cases may be preferred over the more sophisticated triad method. The same authors propose, in another paper, an optimal stopping criterion in generating constructs, which might be built-in in existing elicitation programs in the form of additional feedback. Although there is no proof for optimality, it has a good face validity. Fred Eshragh describes a program that uses fuzzy hedges in completing a grid and shows an application in a personal multi-criteria decision making process. Chris Leach proposes a method for grid analysis which may be seen as a refinement of Shaw & Thomas' FOCUS-algorithm. The results of this method are, however, as easy to comprehend for inexperienced users as the results of the FOCUS-algorithm.

Especially the two papers using personal construct theory in decision-making processes (Boxer's and Eshragh's), made me think of Kelly's original Organization Corollary, that postulates a structure in the set of constructs, consisting of ordinal relations between constructs. Taking a decision is psychologically not the same as merely adding scores of the alternative options on the diverse criteria (or constructs): some criteria are more important than others, and at least a partial ordering or lattice structure may be supposed. However, most of the algorithms for grid analysis only deal with similarities or, complementarily, distances of constructs. Thus all construct structures resulting from these analyses take the form of clusterings.

A first, and very promising, attempt to deal with asymmetric construct relationships is made by Brian Gaines and Mildred Shaw: New directions in the analysis and interactive elicitation of personal construct systems. They present an algorithm producing a construct structure taking the form of (fuzzy) logical implications if the constructs are interpreted as (fuzzy) compound propositions. This paper is very inspiring because it suggests an extensive program for further research into the application of fuzzy logic and fuzzy sets in structural analyses of repertory grids.

A different approach to structural grid analysis is given by Ranulph Glanville (construct heterarchies) where relationships between constructs take the character of derivations. Although this kind of structure seems to be more in line with Kelly's Organization Corollary, the utilization of this idea is much more complicated than Gaines & Shaw's implication principle because additional information about derivations is needed from the subject, whereas in Gaines & Shaw's algorithm all information can be extracted from the grids alone. Glanville is quite unclear on this point.

As the title indicates, this book is not an introduction into personal construct theory. Although there is an introductory paper wherein Jack Adams-Webber nicely describes how George Kelly's constructive alternativism was consistent with the manner in which he dealt with his research assistants, the book is mainly about technologies based on personal construct theory. Basic knowledge of this theory is presupposed. With this restriction, this book is indispensable for research workers in this field, and very valuable for psychologists, educationalists and management trainers using personal construct theory in practice.

ADRI VAN DER MEER
Department of Applied Mathematics
Twente University of Technology
P.O. Box 217, 7500 AE Enschede
The Netherlands