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ARGUS: a program to explore intra-personal personalities†

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This paper is based on the idea that we each have several "personalities" within us. An interactive computer program (ARGUS) is described which allows the user to explore his several personalities and the relationships between them. The program is seen as having a wide range of application, and two particular areas are developed in the present paper:
(a) the different roles which the individual adopts, and
(b) the part played by "significant others" in the individual's construing.
The paper concludes with some suggested developments and applications.

Introduction

Unlike physical science, research in the social sciences changes the subject matter involved in the research. For instance, an experimenter and subject involved in work in the psychological field each interpret the situation as a special occasion where certain types of behaviour are acceptable. If this is not recognized and taken into account in the experiment, the results may be merely reflecting the experimental situation. Kelly (1955) suggested that each individual acts in the world in a similar way to a scientist, in that he builds theories of the world and validates or accommodates them in the light of his experiences of reality. Each personal scientist uses himself as participative subject matter and construes and interprets the results in a personally meaningful way. To do this effectively a conversational method must be used. A number of people have put forward models of "conversations". Luft (1961) used the "Johari Window" Fig. 1, which is a model of interpersonal awareness demonstrating the interaction of two variables "known/not known to self" and "known/not known to others".

Pask suggests that participants in a conversation cannot be regarded simply as distinct processors, but recognises an "M-Individual" or "mechanically characterized individual" which may be regarded as a biologically self-replicating system and is consequently a hardware distinction; and a "P-Individual" or "psychologically characterized individual" which "has many of the properties ascribed by anthropologists to a role" (Pask, 1975, p. 302), and is also a procedure executed in some M-Individual or processor and is therefore a software distinction.

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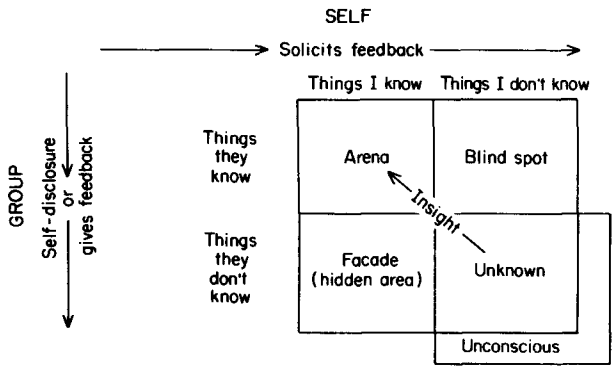

FIG. 1. The Johari Window.

Three aspects of conversation are therefore identified:

I. A conversation with oneself which may be generalized to a conversation between several P-Individuals each representing an important aspect of self.
II. A conversation between two P-Individuals in two distinct M-Individuals or processors.
III. A conversation in a group of M-Individuals which constitutes one or more P-Individual (see Shaw, 1980).

Type I Conversations

PEGASUS (*P*rogram *E*licits *G*rids *A*nd *S*orts *U*sing *S*imilarities) is an interactive computer program which elicits a repertory grid from an individual, simultaneously acting as a psychological reflector by heightening his awareness and deepening his understanding of himself and his processes. This is done by the provision of continual real-time feedback commentary on highly related elements or constructs, together with the encouragement to differentiate between them (see Shaw, 1978). ARGUS (*A*lternative *R*oles *G*rids *U*sing *S*ociogrids) is a development of PEGASUS in which the conversational domain is articulated through the computer within which a group of P-Individuals in one M-Individual can interact.

Gurdjieff (1975) said that we contain dozens of "I's", and Ouspensky (1957) recognized the variety of personalities in your head, as have many novelists (for example, Hesse, 1965). Ouspensky says (Ouspensky, 1957, pp 165–166):

> "I" is elusive and very small; it exists only as a potentiality; if it does not grow, false personality will continue to control everything. Many people make the mistake of thinking that they know which is which. They say "this is I", when in reality it is false personality. This is generally connected with our capacity to play roles. It is a very limited capacity; we generally have about five or six roles, whether we observe it or not. We may notice a certain, quite misleading, similarity between these roles and then, consciously or unconsciously, come to the conclusion that behind them there stands a "permanent individuality". We call it "I" and think that it is behind all manifestations, when in reality it is an imaginary picture of ourselves. This picture has to be studied.

Many schools of psychotherapy recognize the existence of different influences within one person, acted out in sometimes apparently inconsistent behaviours. Each of us knows from experience that we act as different people in different environments. The parent of the quiet, withdrawn child is amazed to hear what a noisy, aggressive child he is at school; that charming man who is always pleasant and attentive makes the life of his family miserable at home.

Communicating P-Individuals

It seems reasonable to hypothesis that a well-adjusted individual has recognized the existence of the personalities in his head, and allowed each a place to operate where it can be valued and made use of in the context of the whole person. People who seek psychotherapy may hold an inadequately communicating group of P-Individuals, therapy consisting in the creation of a conversation between these P-Individuals in which each may be recognized and valued. Such P-Individuals may be roles, purposes, or centres of attention, but all are significant points from which to view the world. In extreme cases these P-Individuals may not share any constructs in certain areas. This may be due to variations in the ranges of convenience of the constructs used, or perhaps distinct and disjoint P-Individuals are brought into operation in different universes of discourse. Lewin (1936) uses the phrase "plurality of separate spaces" to express this same idea. Wilson (1967) talks about "robots" which take over skilled activities such as typing which are so familiar and rigidly structured that they have become non-conscious, and has recently developed a theory of a "ladder of selves" (Wilson, 1978). Perhaps these robots are also P-Individuals. Another example might be to consider the lack of structure and the low test–retest reliability scores found in the grid performance of thought-disordered schizophrenics (Bannister, 1960, 1962; Bannister & Fransella, 1966) as due to the lack of enduring P-Individuals even over a short span of time.

This theory offers a possible explanation as to why we act differently on different occasions in apparently identical situations, which seems to concur with Kelly's general position. Psychotherapy offers the chance to set up a negotiation among one's own system of P-Individuals, and the P-Individuals introduced by the therapist. It enables the person to recognize that he can take different points of view and offers a meta-language in which to talk about the points of view. Different schools of psychotherapy tackle this in different ways. It would be interesting to explore the conversational ploys and techniques implicit in the psychotherapy of Rogers (1951), Perls (1969*b*) or Freud (1937) for example, in the terms of the development of both P-Individuals and the conversation between P-Individuals.

How can one identify such a system of P-Individuals in one brain? Ruesch refers to this type of system as "intrapersonal communication" (Ruesch & Bateson, 1951, p. 15):

> The consideration of intrapersonal events becomes a special case of interpersonal communication. An imaginary entity made up of condensed traces of past experiences represents within an individual the missing outside person.

One version of the ARGUS program is based on the assumption that if the concept of "ego ideal" or "superego" in the widest sense of interpretation has any validity, some of those P-Individuals are likely to be significant others in the past life of the person. A cathartic conversation can be initiated between "you as you are now" and the

P-Individuals which are the results of the influence of the significant others. By eliciting grids about the different P-Individuals more coherence may be achieved. These may be used as elements, the constructs describing the relationships of the P-Individuals, one to another. However, a more powerful tool involves the assignment of each construct to a perspective of one or more of these P-Individuals representing the influence of the significant others. So the P-Individuals are used both as elements in each grid, and as points of view from which each grid is elicited. Consequently, a grid is developed for each of the P-Individuals in the system, and the SOCIOGRIDS package maps out the commonality of construing between them. In this way the potential for conversation between the P-Individuals is made explicit and areas of concern uncovered. The movement towards a more coherent or actualized self is the aim of successful psychotherapy.

The grid elicitation is based on the MIN-PEGASUS version where no feedback is given on high matches during the process. Each construct is viewed from each point of view in turn and the elements rated as the elicitee thinks that person/role would have responded. Simultaneously, constructs are added which are felt to be important to each viewpoint. The final grids have the same element and construct names, but responses in the grid represent different perspectives and hence are not necessarily the same.

Analysis and interpretation

As previously noted (Shaw, 1979), Kelly's commonality corollary states that: "to the extent that one person employs a construction of experience which is similar to that employed by another, his processes are psychologically similar to those of the other person". This does not imply that this similarity is necessarily the totality of his psychological processing. Imagine an extreme case. In construing a certain topic individual *A* habitually uses four constructs while individual *B* habitually uses two. The constructs used by *B* are identical to two of *A*'s constructs. Now, when in conversation about this topic, *A* may be able to empathize totally with *B*, as *B* is using exactly the same construing as *A*, but *B* may not be able to empathize with *A* when *A* is using those constructs not common to *B*. The measure of commonality used in SOCIOGRIDS is sensitive to this situation; the mapping of grid *A* onto grid *B* produces a different degree of similarity from that of grid *B* onto grid *A*. Clearly if *A* and *B* are using constructs in the same way to order the elements then this will be revealed despite the verbal labels which have been attached to them. This technique can then be extended to investigate the commonality in a group of individuals by considering the overlap between every possible pair of grids. This is the basis of the SOCIOGRIDS program.

Each set of personal constructs represents that individual's thoughts and feelings about the universe of discourse. As these are expressions of the individual's construct system played out in this domain, ideas are tapped which the individual is bringing to bear on the subject.

A "mode" grid of the most commonly used constructs by all the individuals in the group is extracted and focused, exhibiting the content of the shared construing in the group. Each construct in the mode grid has been obtained from one individual in the group and is in no way changed when used in the mode. The mode order of the constructs is found from the previous calculations simply by looking, say, at construct 1

in grid 1 and finding the construct in grid 2 most like it, the construct in grid 3 most like it, and so on. An average of the match values found in this way gives a measure of the use of construct 1 in grid 1 by all the other people. This process is carried out for each construct in grid 1, then each construct in grid 2, until all the measures of use have been obtained. These are then ordered to produce the mode order of constructs, and the mode grid obtained by taking a suitable number of these off the top of the list. (This number is usually comparable to the number of constructs in the individual grids.) This grid then is not a consensus grid which averages out the individuality to produce a pale imitation of the group, but is strongly weighted towards the commonality or intersection of construing within the group. Due to this format the constructs tend to be highly clustered in the mode grid, and generally these clusters display a high degree of both literal and conceptual similarity in the construct labels as denoted by Duck (1973). In a field where more technical language is used it would be impossible for the non-expert to rely on his own judgement of what constituted literal and conceptual similarity. This seems a powerful technique for identifying such similarity by a more reliable process than has been used in the past (see Shaw, 1980). The mode grid can then be used as a common referent for the group with which each individual may be compared.

A sequence of sociometric diagrams designated "socionets" is produced from the matrix of similarity measures between pairs of individual grids. The highest related pair is picked out initially as a subgroup where commonality of construing occurs, followed by the subgroups defined by the rank ordering of all the similarity measures. This set of socionets shows those individuals in the group who have the most in common and those with unique viewpoints. The resulting six grids are therefore FOCUSed and processed on SOCIOGRIDS. The program maps out the relationships in the group, identifying the point of view which is central to the construing, and any subgroups which develop in the socionets sequence. The possible situations which have commonly been found to occur are the identification of an "isolate", and the development of two disjoint groups of P-Individuals. If a person splits his P-Individuals into two disjoint sets he may be increasing a tendency to schizoid thinking. This will inevitably add stress and discomfort to his ability to build adequate models and operate effectively in all aspects of his life.

Thus far, we have concerned ourselves with P-Individuals co-existing within a single person's head. Such a framework would seem to be readily applicable to the concept of "role" in psychology, and so it is to this concept that we now turn.

It is not unusual in the Social Psychology literature for the concept of role to be defined without reference to the individual who occupies the role. That is, a commonly-used definition of role sees it as a set of expectations held by other people about how the role incumbent will act. However, Personal Construct Theory sees behaviour as based on the person's own expectations (or constructs). Hence, from within Personal Construct Theory, a role implies a particular way of construing.

Given this, there are various ways we could proceed to investigate role behaviour. For example, McKnight (1977) has defined a particular role in terms of importance weights on a set of relevant constructs; in this view, constructs may be used identically (i.e. treat the elements in the same way) between different roles, but their relative importance changes with respect to each role.

For present purposes, however, there are two ways in which the ARGUS program can be seen to embody the concept of role. Firstly, we could use as elements the roles adopted by the elicitee in his everyday life. The constructs he uses whilst operating these

roles are then elicited with respect to the roles themselves. Alternatively, in order to avoid the "closed-loop" nature of this exercise, elements could be chosen which lead to a wider sample of constructs, e.g. people known to the elicitee, other roles with which the elicitee interacts, interpersonal situations, and so forth.

Each of these two versions of ARGUS, that is, using "significant others" and roles as perspectives, since they use the same structure, involve only the contents of one brain, and the P-Individuals or personalities co-existing within that person. These two versions are merely examples of the many sets of P-Individuals which might be important to a person. The negotiation of a particular set for a particular occasion may be significant.

Applications

So far this technique has only been used for self-counselling with healthy, "normal", interested people, not with the seriously disturbed. It seems to be identifying areas of concern and possible past or future difficulties. If it were to be widely used in psychotherapy to assess the problems a client was experiencing, and to identify a possible starting point for conversation between the client and therapist, much more development might ensue. It may have applications in social work such as investigations into reasons for juvenile crime or misconduct. The roles could take the form of the youngster in different situations such as:

me when I'm with my friends
me at school
me at home with my parents
me at a football match.

Another application could be in areas of self-concept and self-esteem, or to investigate how a young person thinks the world expects him to be; or to help in the personal adjustment of discharged prisoners, long-stay hospital patients, or others moving into a new type of living. In industry, aspects of staff promotion and staff development may be made easier by using this technique to make explicit how a worker sees his future career, or to help him to cope with early retirement or redundancy.

An example of the use of this program was with a friend and colleague who was "normal" and well-adjusted, and not known to be suffering from any mental disorder. He was required to choose six (not necessarily distinct) roles in his life which were:(1) student, (2) teacher, (3) scientist, (4) therapist, (5) father, (6) son. The six grids were then elicited simultaneously from these six viewpoints respectively, and using these six roles as elements. The full results are shown in Shaw (1980).

The first 12 socionets are shown in Fig. 2, highlighting the problem the subject had with the role of "son". All other internal links are drawn in the group excluding "son" before any link brings in this role. The subject later commented that he had difficulty distinguishing between "son at the present time" and "adolescent son" making this perspective constantly shifting and unstable. From the various methods used to process these six grids, much data was produced which yielded a wealth of information. There was a high similarity between the grids from the different roles, indicating a well-adjusted and colloquially "together" person. The element "son" could have been usefully split into the two elements "son at the present time" and "adolescent son" so reducing the ambiguity of this position. Data from a psychotherapeutic patient may well

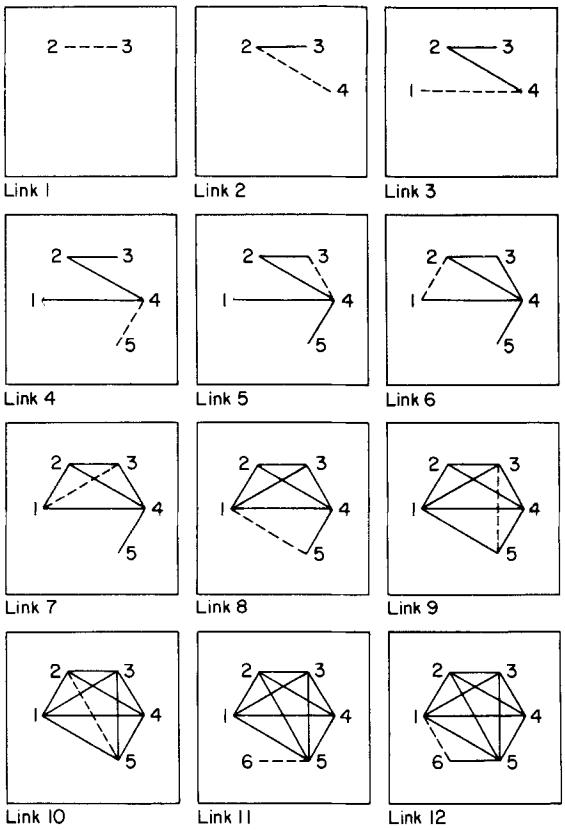

FIG. 2. The socionets.

reveal some more interesting aspects of this analysis and could exhibit explicitly the set of personally significant realities which would enable movement to be generated to allow him to operate more effectively in the world. Each of the six grids captures an important personal perspective for the elicitee. The patterning of the socionets offers him a frame of reference in which he can see himself and the relationship of the viewpoints which are significant in his life. It may then be possible to adjust slightly those relationships with which he has previously been unable to come to terms, and by using the Delphi technique (Pill, 1971) of iterating on the set of elicitations a more comfortable position may be attained from where he is better able to operate. Often a feeling of temporary maladjustment causes a person to become "out-of-sorts" or have "one of those days", when a review of his "self" and its constituent P-Individuals may be all that is needed. This technique offers that facility.

Agency and communion

Bakan has identified two aspects of living in the world both of which need to be satisfied (Bakan, 1966, pp. 14–15):

> I have adopted the terms "agency" and "communion" to characterize two fundamental modalities in the existence of living forms, agency for the existence of an

> organism as an individual, and communion for the participation of the individual in some larger organism of which the individual is a part .... Agency manifests itself in the formation of separations; communion in the lack of separations.

Salmon extends this distinction to child development (Salmon, 1977, p. 6):

> Agency involves purpose, separateness, control, activity, responsibility; communion involves sharing, widening personal boundaries, acceptance of things, love .... To me they offer interesting terms of comparison between the social realities in which children grow up .... When it comes to communion, it is important to know how far those close to a child share their inner experience with him, and expect him to share his with them.

In the Western society of business and commerce where timekeeping rules our lives, we crave for the communion of the Eastern religions. Relationships are struck and heavily invested in to provide the communion from which we feel deprived. However, they so often fail to satisfy the need, because the need is for a whole self, the self-actualized individual.

Luft describes relationships of "trust" and "tolerance" in terms of his Johari Window model, a feeling of trust being in Quadrant 1 but an attitude of tolerance being in Quadrant 2 (Luft, 1969, p. 138):

> If it is true that you can become more of what you potentially can become only in relationship with others, then we can understand how universal is the trust-relationship hunger. Trust means to be in a state of mutual and reciprocal interest and to be free to become. It is the sine qua non for self-actualization.

Maslow describes at length the characteristics of the self-actualizing person (Maslow, 1967, p. 67):

> Self-actualizing people do not for any length of time feel anxiety-ridden, insecure, unsafe; do not feel alone, ostracized, rootless, or isolated; do not feel unlovable, rejected, or unwanted; do not feel despised and looked down upon; and do not feel unworthy nor do they have crippling feelings of inferiority or worthlessness.

It would be interesting to see one of Maslow's self-actualizing persons run on the ARGUS program. One might expect a coherent map of relationships between the constituent P-Individuals in the conversation. Adequate communion is dependent on the recognition and acceptance of difference both within and between people. Perls (1969*a*) exhorts people to be aware that one person can never be part of someone else nor can someone else become a part of him/her. This seems to be the same as saying that communion takes place between accepted, distinct P-Individuals. The ARGUS program together with the SOCIOGRIDS processing of the results deepens the insight of a self by raising the awareness of the value of the "you's", enabling them to be recognized and accepted, and allowing the individual to overcome any feelings of resentment from past interactions.

Self-actualization may be the end-point of the solution to a space/time allocation problem of the P-Individuals sharing the M-Individual which is bounded by the skin; perhaps psychotherapy is the problem-solving procedure needed to achieve this state. Pask says (Pask, 1975, p. 303):

> The dual characterisations (M-Individual, P-Individual) . . . give rise to the notion that P-Individuals (cultural entities, minds) inhabit M-Individuals (processors able to interpret these procedures, and a fortiori, brains). It is legitimate though at first sight bizarre, to remark that developmental psychology is a study of how a P-Individual comes to be correlated with a vehicle which is a developing M-Individual. Odd though it sounds, this concept turns out to be useful, though it has not yet been properly exploited.

Psychotherapy may be seen as the initiation of a process of entering into communication with the significant others from one's past. Education may be seen as being concerned with the introduction of new P-Individuals, or the process of making existing P-Individuals more explicit and coherent. Industrial training may be seen as the introduction of new roles into the system of P-Individuals which are specific to the purpose and organization of the enterprise. ARGUS therefore has possible applications in other areas of human management in addition to psychotherapy. Rogers (1971) calls it learning to "become a person".

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