PEGASUS, AN INTERACTIVE COMPUTER PROGRAM FOR ELICITING A KELLY REPERTORY GRID

by

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PEGASUS or 'Program Elicits a Grid and Sorts Using Similarities' is an interactive computer program for eliciting a person's model of the world, using a grid structure.

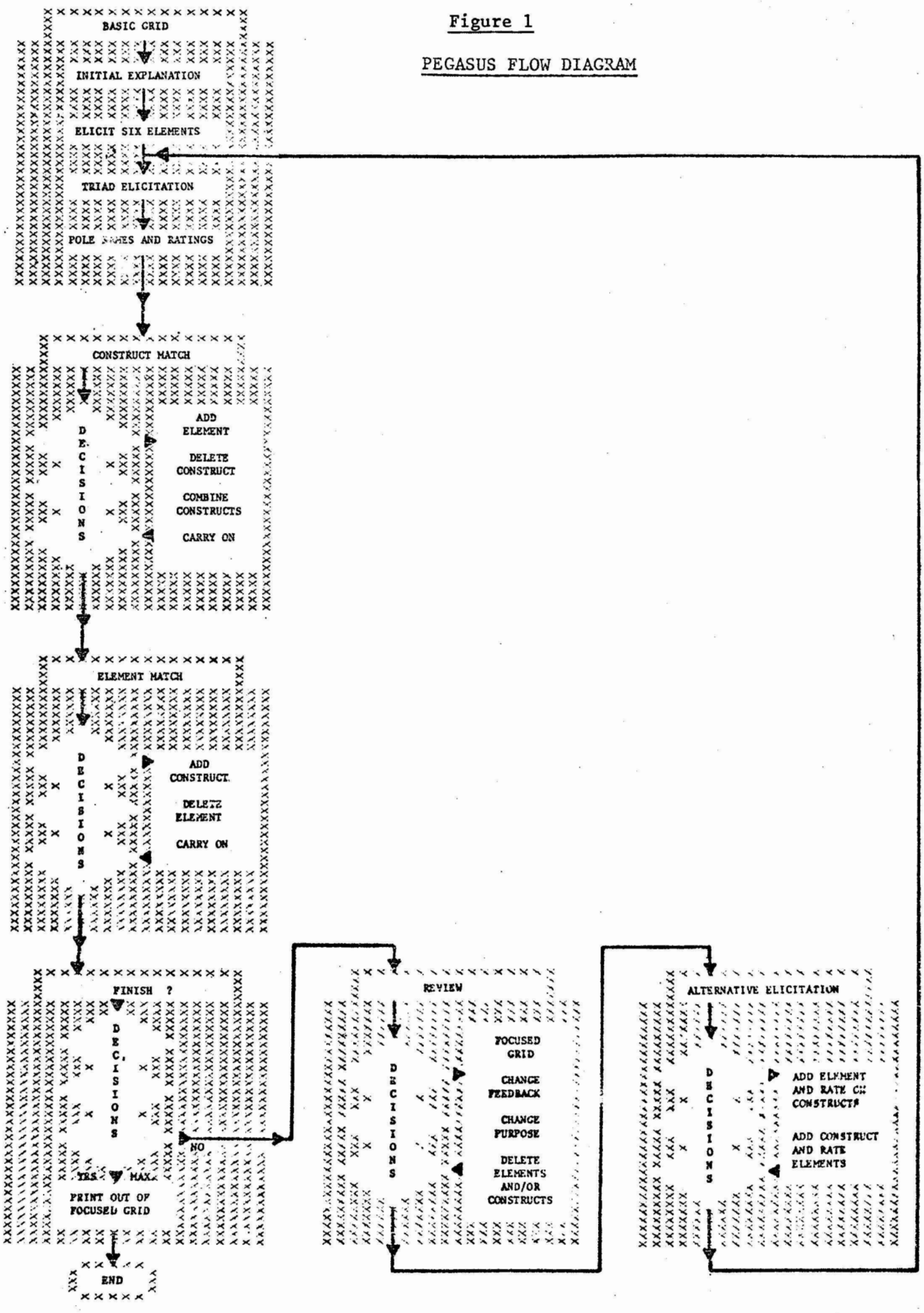
The following diagram demonstrates the interaction rather than the structure of the program and indicates the six main sections.

Insert Figure 1.

The first section is the Basic Grid in which explanations of Kelly Repertory Grids and the use of the terminal are given, and the first four constructs are elicited. Before the user chooses his elements he is asked to think about his purpose which defines the universe of discourse and enables him to choose elements which are relevant and representative of the topic area. The choice of elements largely determines the depth of interaction which can be achieved. The conventional method is then used to elicit the first few constructs, that is to present a triad of elements to be divided into a pair and a singleton indicating the poles of the construct. After the user

Figure 1

PEGASUS FLOW DIAGRAM



has named the poles the computer assigns a 1 to the pair and a 5 to the singleton, and he then has to assign ratings from 1 to 5 to each of the other elements. These are then retyped in groups to highlight the relative position of each element with respect to the others.

Insert Figure 2

The second section, Construct Match, provides feedback when two constructs are highly related. The user is first asked to add an element which is either at pole 1 on the first construct and pole 5 on the second or vice versa. If he can add a new element it must then be rated on all the constructs so far elicited, but if he cannot split the two constructs this way he is asked if he would like to delete a construct, combine two constructs into one, or just carry on.

When four constructs have been entered, the program moves into the third section and begins to calculate matching scores between elements. Each element is correlated with every other on the basis of the ratings used, and a comment is made on the highest match if it meets the set criterion. The first choice offered is to add a new construct on which the two elements are placed

Figure 2

POLE 1--ONLY SEE IN THIS GROUP

2	ROBERT	1
3	BILL	1
4	JOHN	3
1	RAY	4
5	NEIL	5
6	LYNN	5

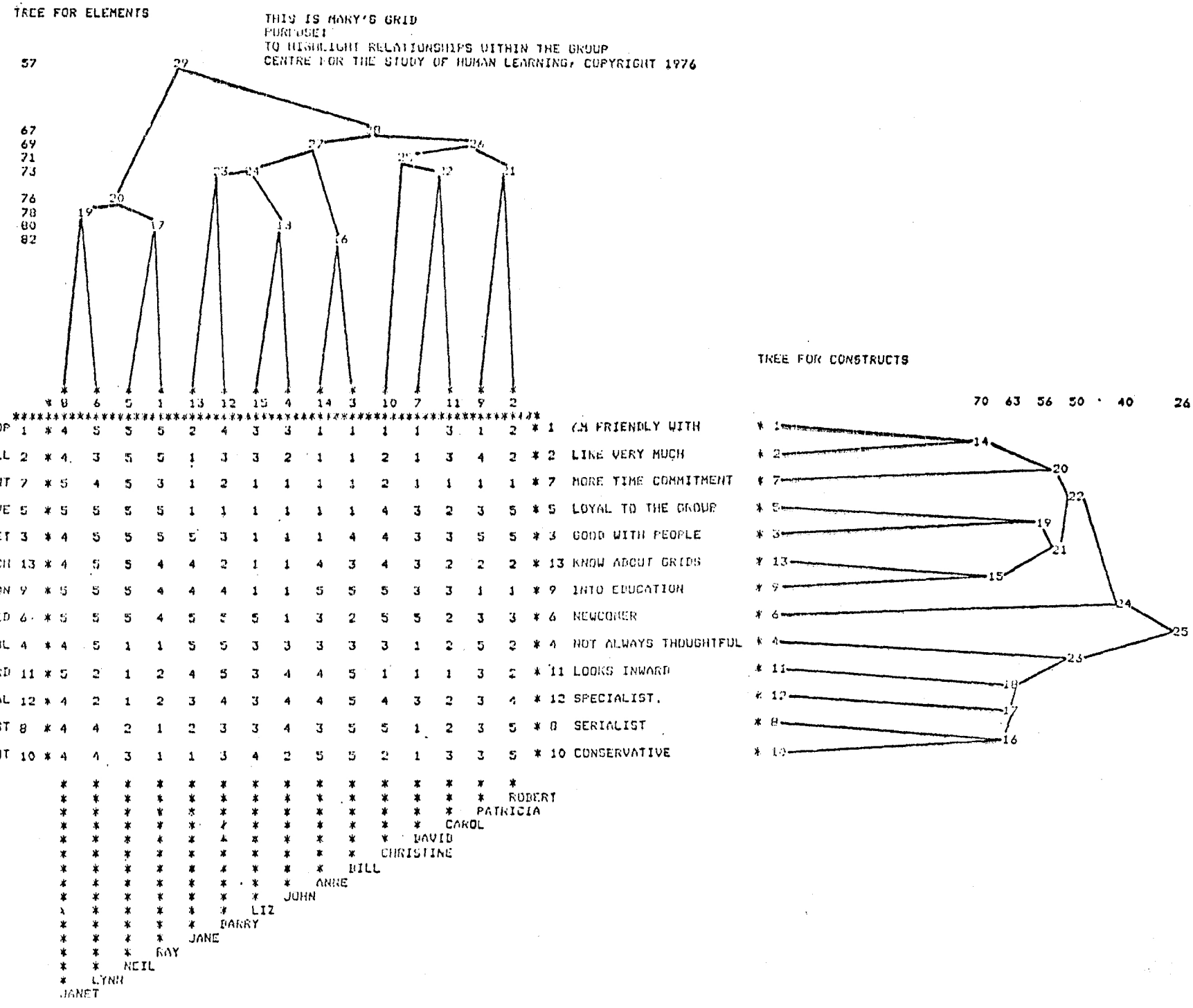
POLE 5--AM FRIENDLY WITH

at opposite poles, and all the elements must be rated in the usual way. Alternatively an element may be deleted, or no action may be taken. Section four allows the user to finish at this stage during each cycle. Section five, Review, gives the choice of adjusting or redefining the purpose, and altering the level of match on which feedback commentary is given. There is an opportunity to see a focused version of the grid to date, and to delete any element or construct which is felt to be unsatisfactory. In the sixth section, Alternative Elicitation, the user is given the freedom to add an element or to add a construct without using a triad if he so wishes.

When the grid reaches the maximum size allowed, or if the user chooses to finish before that, the results are analysed using the FOCUS procedure. This is a two-way hierarchical cluster analytic technique which systematically reorders the rows of constructs and columns of elements to produce a focused grid which shows the least variation between adjacent constructs and adjacent elements. The printout shows the element and construct matching scores matrices, and the trees for the elements and constructs as well as the focused grid with the element and construct labels. This is then assembled in the following form.

Insert Figure 3.

Figure 3


TREE FOR ELEMENTS
THIS IS MARY'S GRID
PURPOSE:
TO HIGHLIGHT RELATIONSHIPS WITHIN THE GROUP
CENTRE FOR THE STUDY OF HUMAN LEARNING, COPYRIGHT 1976
TREE FOR CONSTRUCTS
ONLY SEE IN THIS GROUP
DON'T KNOW, WELL
LESS TIME COMMITMENT
OBJECTIVE
QUIET
NOT SO MUCH
LESS INTO EDUCATION
WELL ESTABLISHED
THOUGHTFUL
LOOKS OUTWARD
MORE GENERAL
HOLIST
WAY OUT
(M FRIENDLY WITH
LIKE VERY MUCH
MORE TIME COMMITMENT
LOYAL TO THE GROUP
GOOD WITH PEOPLE
KNOW ABOUT GRIDS
INTO EDUCATION
NEWCOMER
NOT ALWAYS THOUGHTFUL
LOOKS INWARD
SPECIALIST.
SERIALIST
CONSERVATIVE
ROBERT
PATRICIA
CAROL
DAVID
CHRISTINE
BILL
ANNE
JOHN
LIZ
BARRY
JANE
RAY
NEIL
LYNN
JANET

Educationalists, therapists, and trainers who use the Kelly Repertory Grid will see this program as a useful grid elicitation package which extends the use and application of the grid by using the real-time data processing of the computer to provide feedback during the elicitation, and the analysis of the results immediately on completion. Although this 'grid-centred' point of view construes the program as convenient and unbiassed, it misses the full potential of the 'learning-centred' approach of the cognitive model. Kelly saw Man as modelling reality to anticipate events, and the quality of a person's models undoubtably determine the level of competence and creativity he is able to achieve. There is considerable potential in programs such as PEGASUS to enable a person to become aware of his models, and to revise them in order to increase his capacity for anticipation. Learning is often measured by the level of achievement of certain behavioural objectives, but for the learner it is a change in construing and a revision of his cognitive model. This 'learning-centred' approach has recommended PEGASUS to teachers and trainers, industrial inspectors and maintenance engineers, managers and appraisers, in addition to researchers and psychotherapists.

Another version of the program is PEGASUS-bank. This allows a grid to be stored in the computer representing an area of public knowledge. The user elicits a grid in the

usual PEGASUS way, but the feedback is given not only in terms of how the user's constructs map onto each other, but how they map onto the 'expert' view. This can also be used to initiate a user into the views and culture of a group, and help him to understand the words and terms used by the experts. This technique, therefore, offers a useful starting point for assessment and training.

There are several other programs written with the same philosophy. FOCUS is the two-way cluster analysis program, and FOCI is FOCUS with Interpretation and explanations as to the use of the printout given. SOCIO-GRIDS is a program which examines the commonality of construing in a small group. A grid is elicited from each member of the group on a negiotiated set of elements well known to all the members, and these are then FOCUSed in pairs. A set of 'socionets' is produced showing where in the group commonality of construing exists. The content of the group commonality is then displayed in the 'mode grid' which is made up of original constructs from individuals which are most frequently used by the whole group. The 'mode grid' is then used as a common referent with which each individual is compared.

ARGUS elicits a set of grids simultaneously from one person from several roles or points of view. These may then be processed on SOCIO-GRIDS. CORE is an interactive program to

determine the core grid from two grids in which the same elements and constructs were used. These may be grids done by the same person at different times to chart change over time, or by different people using 'exchange grids'.

In conclusion, then, PEGASUS offers a grid elicitation package and an opportunity for the user to examine and revise his cognitive modelling facility. Although the analysis and the feedback of the results is central to the elicitation, the process of the PEGASUS procedure is both stimulating and demanding. The computer acts as a cognitive mirror in which the user sees himself, and with PEGASUS-bank the external world.

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