Think Again

Personal Decision-Making and Problem-Solving

Mildred L.G. Shaw
and
Cliff McKnight

Centre for Person-Computer Studies, revised 1992

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PERSONAL PROBLEM-SOLVING
AND DECISION-MAKING

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To Brian and Denise

Contents

Preface

This book is about a very powerful technique—a tool to investigate human thinking—developed by the clinical psychologist George Kelly a quarter of a century ago. In recent years it has also been applied extensively in industrial management and education.

However, the tool itself—the **grid**—is very simple to elicit and can readily be applied to everyday problems of personal decision-making by ordinary people. We demonstrate this through a series of real-life case histories which introduce important applications of the grid.

The main chapters of the book are independent of one another and may be used to learn, through example, a particular application of the grid to a common problem. After reading the book you may be more aware of the different bases for decision-making and how they change

with different background, viewpoints, and personalities. There is never a single answer to any problem, and usually your solution would be different from that of someone else.

This book helps you to **think again** in every sense of the term. You can usually take apart and reconstruct your problem so that you can see many aspects of it at once. A reasonable solution is usually easier to find then.

Good luck. **Think again**, and enjoy.

The examples used in this book are fictitious in the sense that they do not refer to individuals living or dead. However, they are real in that they are based on the authors' many experiences in the practical application of Personal Construct Theory and the associated repertory grid techniques.

We would like to thank our friends, too numerous to mention individually, who have offered helpful comments during the preparation of this book.

1

Introduction

Before we launch into the main part of this book, we would like you to read the following sketches. Each concerns a person in a particular situation.

Dan is a teenage boy who is often in trouble. He has been to court several times for petty offenses, and if his counselor hadn't been so sympathetic he could well have been taken away from his family and put in a home where he would live and be taught with other boys in similar circumstances. He does not get along well in school either. He has been truant quite often and has paid several visits to the principal's office. To make matters worse, his home life is a bit unsettled. Sometimes he just thinks *everyone* is against him, but he would like to know why he gets into trouble so much.

Jim is a student who wants to buy a car. As usual, he would like something that will cruise at 120 mph, give 50 mpg, convert to an estate car when he has to move out of his dormitory each term, and still look sporty enough to impress girls! But that's not all: he also has ideas about reliability, type of drive, number of doors, handling, and a whole host of other things. To make matters worse, he also has a "feel" about cars which he can't put into words, let alone keep all the other ideas in his head at once.

Julie is a lecturer at a junior college. She teaches geography to students who failed the subject in high school but who still need to take the subject for one reason or another. Julie feels frustrated because she thinks that most of her students have the ability to pass the exam but that their attitude towards learning is holding them back. She would like to explore this with her students in a way that is meaningful to them and that does not simply involve her "lecturing at them."

Carol is a middle-aged housewife who is in a rut. The worst part is, she knows she is in a rut but can't think clearly enough to get out of it. Her husband works long hours as a successful self-employed businessman and her son has gone away to school, so she sits at home thinking, and her thoughts seem to go round and round in circles.

These are just a few of the sorts of people and situations that you may encounter every day. You may even be (or have been) in similar situations yourself. What do they have in common, and what do they have to do with this book?

In fact, all the people in the examples are in need of a method for coming to grips with thinking. The problem of "thinking about thinking" is not a simple one. In particular, this book looks at one way of thinking about thinking called the Repertory Grid. It was invented by American psychologist George Kelly as a method of displaying how people thought about certain things. For Kelly, the grid was simply a tool which was developed out of his work as a

therapist. However, as with most tools, it can be used without a knowledge of the underlying theory. If a knowledge of Newtonian mechanics were required in order to use a pair of pliers, sales of pliers would plummet!

The only requirement necessary before constructing a grid is that you (or whoever is doing the exercise) should list the things you want to think about. They may be things like books, or they may be things like different aspects of a particular situation. They form the elementary parts around which you will build your thoughts. For example, in Jim's case the elements are cars: the Hyundai Excel, Honda Civic, Subaru Justy, and so forth.

In Julie's case, she is interested in how her students think and feel, so she must ask them to break down the situation. She could begin by asking each of them to list some events, not necessarily connected with formal education, from which they have learned (for example, a geography field trip, reading a particular book, meeting a famous person, and so forth).

Since Carol is in a muddle, the grid may very well help her clarify her thoughts, and in so doing, help her to get out of her rut. Indeed, different courses of action are possible elements in her grid.

The important thing about all these lists of elements is that they should come from the person whose thinking we are trying to understand. One of the easiest ways to understand people is to try (with their help) to see the world through their eyes, since it is on their view of the world that their behavior is based. If we want to understand vandals, we must talk to them, not to their parents, or probation officers, or psychologists. When we say "I don't understand him" we should mean "I haven't asked him why he acts like he does."

If you are to set up a grid then, you must first list the elements that you will use. You can add to the list or remove things from it later, but you need something to start with.

Once you have listed your elements, you are ready to explore your thinking by using the grid. The next chapter gives you step-by-step guidelines on how to do this.

2

Eliciting a grid

In this chapter, we give an example of a grid elicited from Dan, a teenage boy who is often in trouble. The last time he was in court, the judge told him that he ought to "take stock of himself," and for some inexplicable reason this stuck in the boy's mind. Dan wanted to find out what it was that seemed to make him get into trouble and what he thought about people who were an influence on him. His counselor suggested that he use a grid to help him think. For the elements of his grid Dan drew up a list of the people he wanted to think about. The terms in which he describes these people are called "constructs." A construct is made up of two opposite descriptions like "tall—short" or "blue-eyed—not blue-eyed." If Dan used the word "tall" to describe some of the people in his grid, it would be in contrast to others who

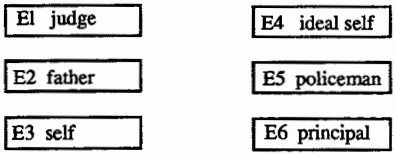
were "short." If it had been *your* grid, you might have described the people who were not tall as stocky. The opposite of tall is a purely personal choice where constructs are concerned.

Think of some of the people you meet during the day. Are some of them friendly? How would you describe the ones who you could not say were friendly? Perhaps they are:

unfriendly
quite unfriendly
not very friendly
aggressive
hateful
hostile
cool
cold
horrible
reserved
quiet

In different circumstances, you might have used any of these or other words to express the opposite of friendly.

Dan has chosen six people with whom he regularly comes into contact: the judge, his father, himself, a policeman he knows well, the principal, and his "ideal self," which is his view of himself as he would like to be, rather than the person he sees himself to be at present. (His counselor suggested that he should include his ideal self in order to find out what it was about himself that he might want to change.) These six names were written one on each of six cards. Dan used the names of the people, but to make it more understandable to everyone, we have written down their job names as they are known to Dan.

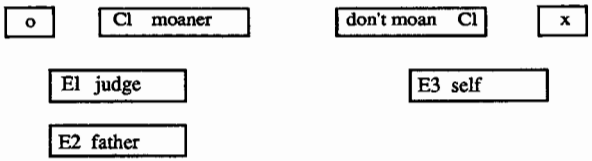


Two extra cards are made with just

o and x on them.

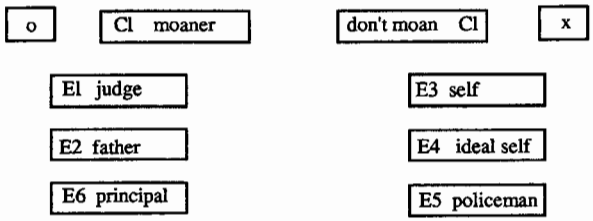
To begin eliciting a grid from Dan, three of these people are selected (for example, the judge, his father, and himself). He is asked: "Now if you consider each of them as people that you know well and who influence your life, which two seem most alike, and which one seems most different from the other two?" Dan thinks about this for some time and then replies, "The judge and father are similar, and I am different." Asked what it is about these two that makes them similar, he replies, "They are moaners." Then Dan is asked what it is about himself that makes him different, and he says, "Oh, I don't moan." Now Dan has revealed his first construct, C1, which is written as shown on the next two cards.

The person eliciting the grid faithfully records Dan's own words. The grid and each construct in it are taken to be samples of how Dan thinks and feels about these people *in his own terms*. The three cards are now put under the appropriate side of the construct, "o" for "moaner" and "x" for "don't moan."



There is no special significance in using o's and x's. They are simply two symbols to represent the two ends of the construct. If this book were printed in color we could use red blobs and green blobs, and the meaning would be the same. Now Dan is asked to place the three remaining cards—ideal self, policeman, and principal—to one or the other side of the construct.

He then has:



The grid form is ruled up and filled in as shown in Figure 2.1. The o's and x's are copied according to the side the element card was placed on, those on the left being represented by o, and those on the right by x. The original three elements that were used to elicit the construct (judge, father, and self) are known as the "triad." On the grid form in Figure 2.1 a box has been drawn around each of the responses assigned to the triad. This is done for each construct so that we can see easily which elements have been used in triads and so we'll know that all elements have been used an equal amount.

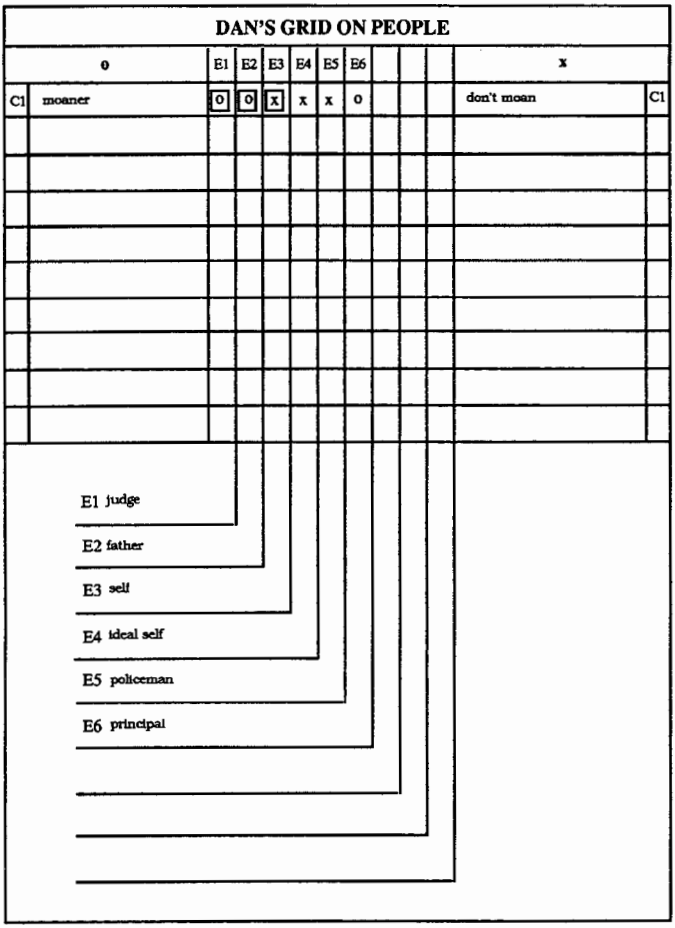
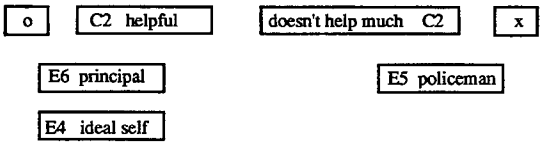
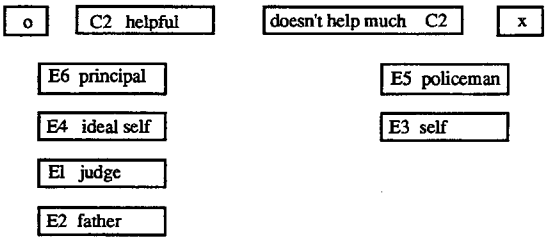


FIGURE 2.1 *Dan's first construct*

The second construct is elicited in the same way. The ideal self E4, policeman E5, and principal E6 are used as the second triad. Dan puts principal and ideal self together as "helpful," but says that the policeman "doesn't help much."



As before, the other three cards are placed under o or x, and the results are recorded on the grid form.



As you can see, it is not necessary to have exactly the same number of elements in each column.

Four more constructs are elicited and each time all the elements are assigned an o or an x. In this case, the list of triads used for the constructs C1 to C6 were:

C1—E1, E2, E3
C2—E4, E5, E6
C3—E1, E4, E5
C4—E1, E3, E4
C5—E2, E5, E6
C6—E2, E3, E6

Each person has been equally represented in the triads (each occurs three times in all). The completed grid form is shown in Figure 2.2.

At this stage, Dan was asked if there was another person he had omitted who should be included as E7. Similarly, he was asked if any important construct sprang to mind that should be included in the grid. Space was left on the grid form for more elements and constructs, but Dan chose not to add to his grid. If he had put in a new element (E7), he would have gone down the column, assigning it an o or x on each of his existing constructs. A new construct would have been copied onto cards in the usual way and the element cards placed beneath the o or x.

To summarize, the basic steps in eliciting a grid are as follows:

1. *Draw up a list of elements.*
2. *Choose three elements (a triad).*
3. *Decide in which way two members of the triad are similar.*
4. *Decide in which way the other member is different.*
5. *Assign each element an o or x depending on whether it is like the pair, or the other single member.*
6. *Enter results on the grid form, and go back to step 2 until a good sample of constructs has been elicited.*

In later chapters we show you different ways of processing the grid that provide additional information to the description shown on the grid in its present form.

There are a number of different methods of eliciting constructs. The triad method has certain advantages, but some of the possible variations are as follows:

1. *Simply write down the constructs as the ideas occur to you.*
2. *Divide the set of element cards into two groups, then write down the construct according to what the one group has in common, while differing from the other group.*

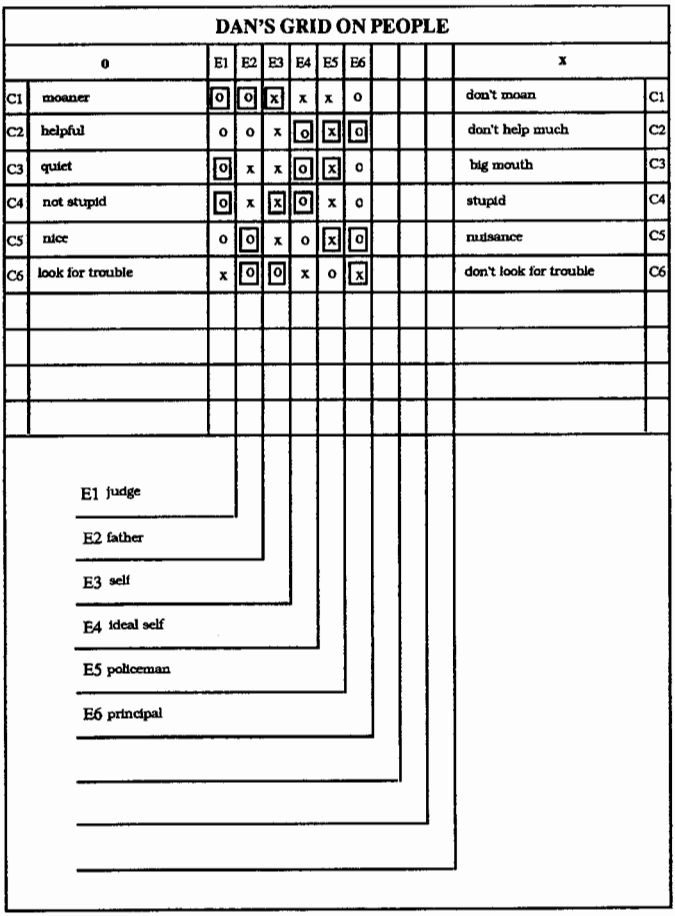
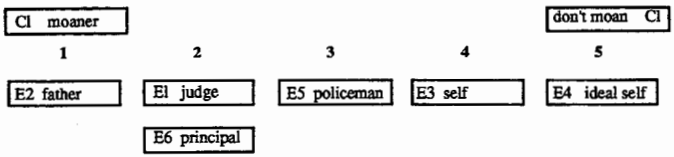


FIGURE 2.2 *Dan's first grid*

3. *Choose the two most different elements and describe the difference.*
4. *Choose the two most similar elements, and describe how they are similar and why the others are different.*
5. *Choose any two elements and describe what they have in common.*
6. *Choose any two elements and describe what it is that makes them different.*

Most people find that a mixture of these methods helps them discover a wide range of different constructs. Dan only had six in his grid, but with a little more time, he may have produced ten or fifteen different ways of discriminating those people, perhaps adding another element or two as his grid progressed.

Using o's and x's allows for only basic yes-or-no discrimination. However, Dan could have used what is called a rating scale in order to make more sensitive discriminations between the people. Using a 1 to 5 scale, he might have placed the elements as follows:



This would mean that his father is more of a moaner than the principal and judge, whereas the policeman moans only sometimes; Dan does not moan much but his ideal self does not moan at all. These ratings would then be copied onto the grid form in the place of the o's and x's.

1		E1	E2	E3	E4	E5	E6				5	
C1	moaner	2	1	4	5	3	2				don't moan	C1

Now it is your turn to elicit a grid from yourself. Draw out a grid form like the one in Figure 2.1 (or use one from Appendix B), and prepare a small stack of cards, each about the size of half a postcard. One purpose of this grid could be to explore ways in which you think about people close to you. Write on each of the first six cards the names of friends, family, co-workers, neighbors, anyone you know well. Label these cards with the element numbers E1, E2, and so forth. You also need o- and x-cards. (You could have cards numbered one through five, but you may prefer to start with the o-and-x method and to practice that first.) Now, using the list of triads on page 10, elicit your constructs one at a time as we did with Dan, writing each on a pair of cards, then recording the final result on your grid form. If you have never done this before you may be amazed at some of the ideas that come into your head. But write them down—nobody need see them but you! Continue adding more constructs until you feel your grid is complete. You may add one or two more elements if you wish. If you make it too large, it will be more difficult to process (unless you are very good at arithmetic). For now, the suggested maximum is eight elements and eight constructs.

When you have done this by yourself, you can try it on someone else. You must be very careful not to prompt the other person, and you must write down faithfully what they say in their own words. It is unlikely that their way of seeing things is the same as yours, but here is an opportunity to try to understand how things would look if you were in their place. Just accept whatever is said to you, giving a little positive encouragement now and then.

There are one or two points to note. It is easy to put nonsense into a grid, but that is a waste of time. If you put

meaningless information in, your results will be meaningless. If you find yourself doing this, think carefully about why you wanted to elicit a grid in the first place. Each grid elicitation should be preceded by a statement of purpose. Why do you want to elicit this grid? What do you expect to find out that you do not know now? Which elements are you going to choose to suit your stated purpose best? Do you know all of them well enough? Is there one that you have left out, either purposely or accidentally? If so, include it. Are the elements all of the same type? For example, if you want to think about reading materials it would be unsuitable to have as elements the *New York Times,* the *Washington Post,* the *Boston Globe,* the *Kansas City Star,* the *Calgary Herald,* and books. The inclusion of an extremely general category such as "books" would make it very difficult for you to get meaningful constructs about real similarities and differences. Some sets of elements related to specific problems are given as examples:

1. *The investigation of relationships in the family—mother, father, brother, self, grandfather, grandmother, cousin.*
2. *The choice of a future career—farmer, miner, railway engineer, soldier, banker, psychologist.*
3. *Exploring difficulties in learning—reading, writing, thinking, understanding, talking, listening.*
4. *Opinions of television programs—the evening news, L.A. Law, Hunter, The World at War, Sesame Street, The Cosby Show.*
5. *Reading for a train journey—Mademoiselle, Playboy, Watership Down, Holocaust, The Wildest Heart, Think Again.*
6. *Roles in my life—husband, boss, subordinate, father, hockey fan, car driver.*
7. *Helping decide whether to diet—hips, legs, bust, waist, face, arms.*
8. *Investigating health foods—honey, bran, eggs, yogurt, cottage cheese, fruit.*

9. *Analysis of a work situation—my boss, my boss's boss, successful colleague, unsuccessful colleague, liked subordinate, disliked subordinate.*
10. *To decide which pieces of music accompany different activities—Fur Elise, Sabre Dance, Water Music, Hall of the Mountain King, Capriccio Espagnol, Fugue in D minor.*

Naturally, these examples are only given as a guide. Yours will be different. Many examples are given later in the book, but you will always find that both your purpose and your set of elements will be different from those given. This difference is important to the grid: you must contribute part of yourself if it is to be truly representative of yourself.

The next chapter tells you how to process your grid in order to get more insight into its contents, but even at this stage you will probably find that you are more aware of your own thoughts and feelings than you were before.

3

Using a grid

Eliciting a grid is useful in sorting out your thoughts about a topic or an important decision. Listing the elements encourages you to find all the relevant items (for example, all the actions open to you). Thinking out the constructs which apply helps you to find out how many different ways you view the items (for example, how many different factors might affect your decision).

After you have elicited a grid there are a variety of ways in which you may use it—it is, after all, a representation of your thoughts about a topic or decision—and you may use the grid to explore the different implications of the different actions you might take. Using a grid is similar to asking yourself questions. Normally, this is not an easy process. You will find that it is difficult to be both the questioner and

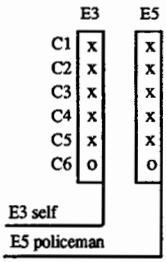
the answerer, particularly if you are trying to think out the implications of the answers at the same time. By putting your thoughts in the form of a grid you have "frozen" them for a while. Then, it is easier to question yourself in detail and think out the meaning of the replies as you do it.

This chapter will deal with some of the ways in which you can look at the grid itself to see how you think about the elements and constructs. In later chapters we will show you how to use the grid for other purposes, such as coming to a decision where there is no clear cut "best" choice, or helping someone else to choose in a similar situation. In the second part of the book we use the grid methods in a slightly different way to help you understand other people's points of view and learn to see the world through *their* eyes.

There are many different questions that can be answered just through the use of your own grid. For example, in a grid about members of the family, you might want to see who is most like you, or if any two people are like each other. It is possible to see this by looking at the patterns of o's and x's down the columns of elements which represent those particular people on all the constructs. Considering Dan's grid shown in Figure 2.2, element E3 was "self" and had the pattern:

	E3
C1	x
C2	x
C3	x
C4	x
C5	x
C6	o
E3 self	

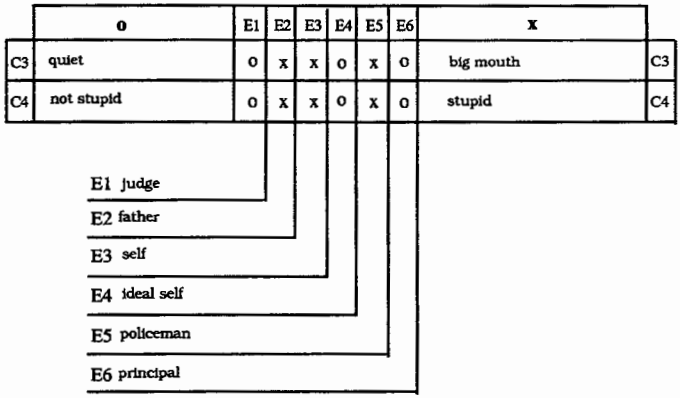
If we look down all the columns in turn, we find one with exactly the same pattern:



In this context Dan sees himself to be very much like the policeman. We can go back to the grid and see which side (or pole) he actually used to rate these elements. For himself, E3, and the policeman, E5, the right hand side of the first five constructs were used and the left hand side of C6. He is, therefore, seeing both himself and the policeman as people who don't moan, don't help much, are big mouths, stupid, nuisances, and look for trouble. Dan was surprised and horrified to see this result. He said that he really thought of himself as quite different from the policeman, although he could see why he had rated them both in the same way. This gave him a new perspective and forced him to think again about what he really meant.

In a similar way, we might try to find a cluster of constructs in a grid with the same pattern. The most obvious pair in Dan's grid in Figure 2.2 is C3 and C4. In other words, everyone he has marked as quiet he has marked also as not stupid, and everyone he has marked as a big mouth he thinks is stupid also. This could be explained in a number of ways. It could be that every big mouth he happens to have included in his grid is also stupid; or it could be that he *always* associates these two characteristics, and that consequently he will mark everyone the same on one as the other, whomever they are. On the other hand, the

two characteristics could be totally unrelated, and occur in this instance by chance. (This would be more apparent if the constructs were: has blue eyes—has brown eyes; quiet—big mouth.)



You can now see that more information can be gleaned from the grid by sorting out the elements and constructs into clusters that have the same characteristics and by presenting the same data in a form that makes it easier to understand the full meaning of the responses.

There are several methods of processing a grid to achieve a more meaningful representation, two of which are discussed in detail in the next chapter so that you can carry out the process for yourself. Then, in later chapters, alternative ways are explained and used. Each of these many ways is used in a particular context, and you will see why it is the most appropriate method for that problem. There is no *correct* way of processing a grid, but only a more appropriate way for the type of information you are seeking as a clarification or partial solution of your problem.

4

Processing a grid

This chapter gives step-by-step details of two different ways of processing a grid to find the patterns of similarity that may help you see in what ways elements and constructs are alike or different. This will be especially useful when you process your own grids. Until then, if you prefer, you can read quickly through the first part of the chapter to get an impression of what can be done, and then skip on to Chapter 5. Later on, when the main points have been discussed, you will be reminded to return to this chapter and reread it in more detail, working through the example of Dan's grid, shown in Figure 2.2 and again in Figure 4.1.

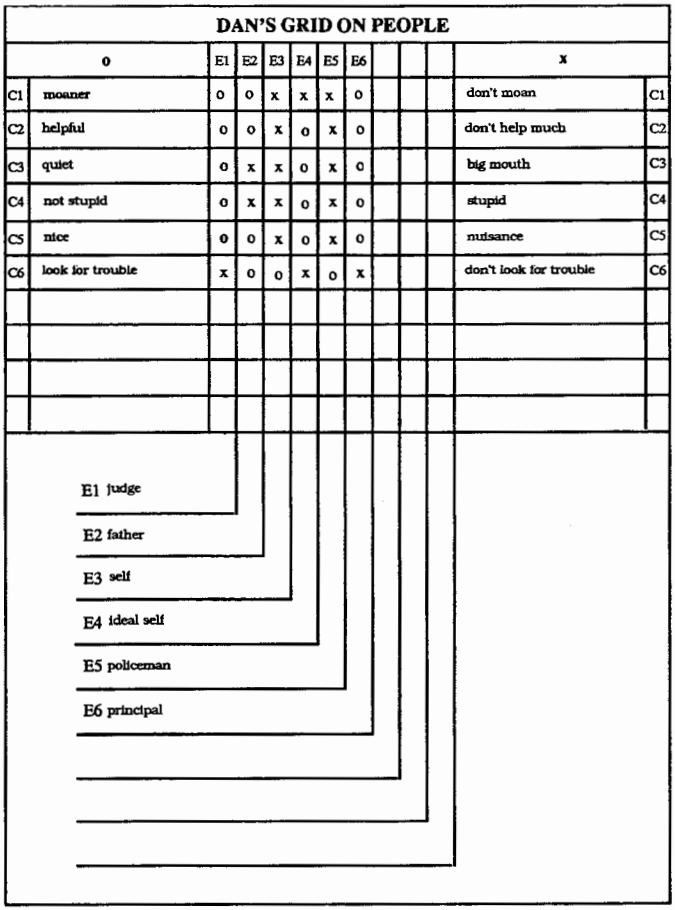
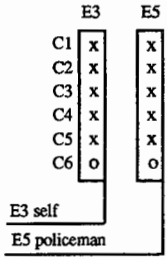


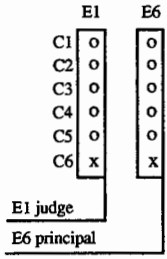
FIGURE 2.2 *Dan's first grid*

METHOD 1

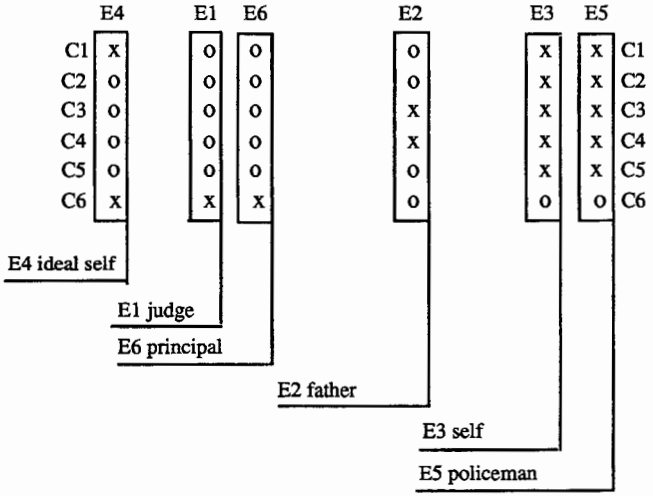
We start here as we did in Chapter 3 by looking down the columns of *elements* to see if there are any identical patterns of o's and x's. We have already seen one pair:



There is also another pair of matching elements involving the judge, El, and the principal, E6:



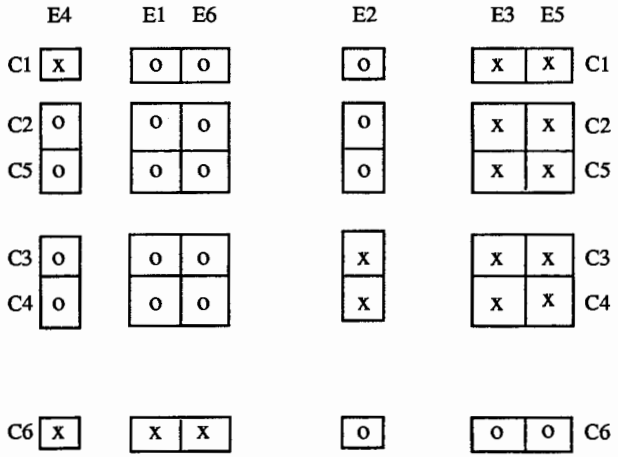
In fact, the pattern for E3 and E5 is exactly opposite to that of El and E6, indicating that these two groups or clusters (El, E6) and (E3, E5) are at opposite ends of every construct. Now, by reordering the elements you can begin to see how Dan is classifying these people.



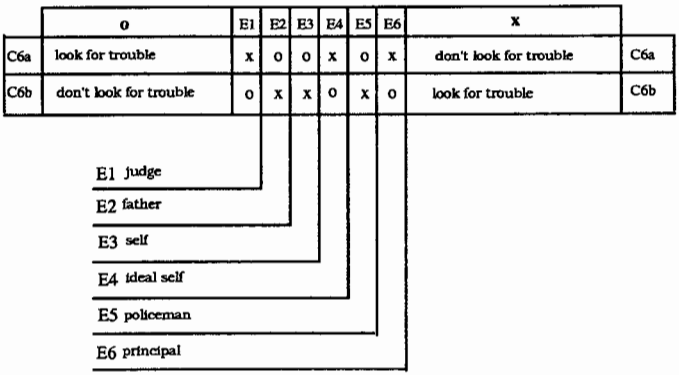
There is only one difference in the ratings between E4 and E1 (on C1), but three differences between E6 and E2, and three between E2 and E3. The number of differences cannot be reduced by changing the order of the elements, so this is one way of reordering the elements to minimize the number of differences between them. You can now see the clusters clearly: (E4, E1, E6), (E2), (E3, E5).

Now we can do the same with the constructs in Dan's grid. You can see that constructs C2 and C5 contain an identical pattern of responses, and that C3 and C4 are the same.

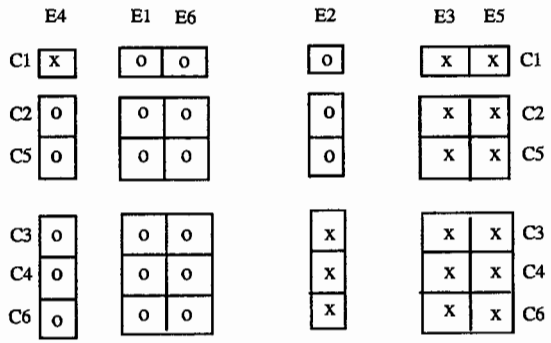
The reordered constructs are:



There is a difference only on element E4 between C1 and C2, and a difference only on E2 between C5 and C3. Construct C6 is quite different from all the others. However, since constructs are "bipolar"—having two ends or poles—these pole descriptions and the associated o and x codings can be changed over without changing the assignment of any element to a particular side of the construct. (In fact, it is not important that we used o's and x's—we could have used hearts and diamonds, or 1 and 2, or two triangles, as we do later in the book.)



Take the judge, E1. On construct C6a he is rated "x" on the right side, meaning "don't look for trouble." However, we could rewrite the construct as C6b. On construct C6b he is rated "o" on the left side, meaning "don't look for trouble." You will see that this is true for all the other elements as well. You can now see that C6b has the same ratings pattern as C3 and C4. We call this *reversing* the construct.



Thus, in this example, E1 and E6 now have all o's, and E3 and E5 have all x's. Since what we are doing here is making the picture clearer, we will call this process *focusing.* Focusing gives us the *focused grid.* This focused grid shows more clearly the meaning contained in the original responses, and reveals where the similarities and differences lie. The "R" next to C6 on the grid form in Figure 4.2 shows that we are using the reversed form.

The focused grid shows that Dan sees himself and the policeman as people who don't moan but who are stupid, bigmouthed nuisances who look for trouble and don't help much. On the other hand, he sees his ideal self, the judge, and the principal as nice, quiet, helpful people who are not stupid and don't look for trouble. We can describe Dan as seeing some good and some bad characteristics in his father. However, the grid itself cannot show "good" and "bad"; it reveals only differences. Dan is the only person in this case who can arrive at this interpretation of the results, just as you will be the only person who could interpret what your grid means to you. Dan included his ideal self as element E4 in his grid and this gave him a reference point against which to compare other people. You can see from the patterns in the columns of the grid in Figure 4.2 that the people who most closely resembled his ideal self were the judge and the principal. The people with the most different characteristics were himself and the policeman, while his father was only partly like his ideal self.

Note that the grid reveals more about Dan than it does about the people he comes into contact with. It shows the terms by which he thinks and feels about these people, and how his different thoughts and feelings relate to each other. For example, on the evidence of these six constructs, Dan feels that (1) nice people are helpful, whereas nuisances don't help much, and (2) quiet people are not stupid and don't look for trouble, whereas stupid big mouths do look for trouble.

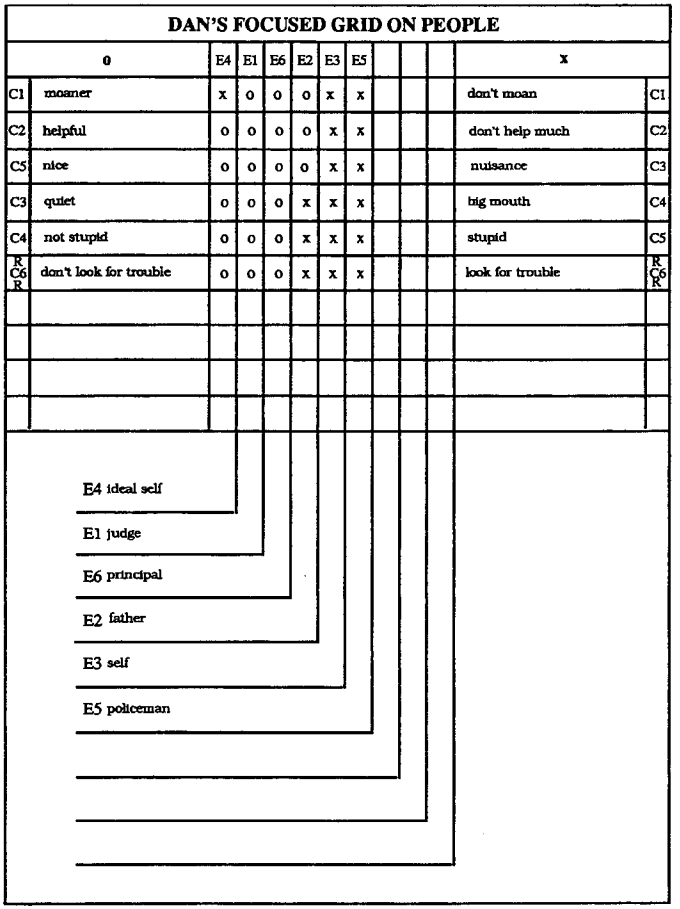


FIGURE 4.2 *Dan's focused grid on people*

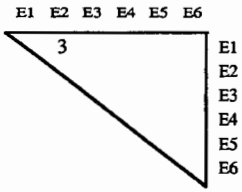
These meanings in Dan's grid can be discussed with him. When you look back through the grid and determine the patterns it reveals it is often possible to see relationships that could not have been pointed out beforehand, but which can now be seen as significant. Even though you might not be aware of these relationships, they will still influence how you think and act. For instance, you may not know why you dislike someone, or why you cannot stop yourself from doing something in particular, until you think again, using the grid.

If you have found this chapter a little difficult and would rather move toward other problems, then skip the rest of the chapter and turn to Chapter 5.

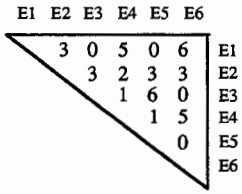
METHOD 2

This is a method of processing the grid in order to produce clusters of elements and constructs. It is more systematic than the previous method and involves some calculation, rather than a selection of what appears similar to you. The method begins with the operation of calculating a table of matching scores between the elements and another table of matching scores between the constructs.

The element matching scores table is derived from the original grid (Figure 4.1). Look down the first two columns and count the number of times the same symbol (o or x) appears on the same line. In this case the number is 3 (on C1, C2 and C5). Draw a form as shown, and put a 3 in the place under E2 and in line with E1.



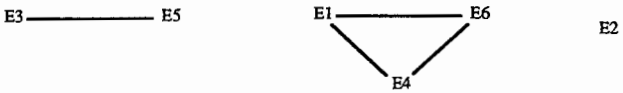
Now continue with columns E1 and E3. Use a ruler or strip of paper to help you see the right columns. Since there are no repetitions of the same sign here enter a zero in the right place opposite E3 and E1. Can you see where the other numbers came from? After matching E1 with E2, E3, E4, E5, E6, match E2 with E3, E4, E5, E6, and so on until the end. You now have the table of element matching scores.



Now to start forming the clusters, pick out the largest number. In this case we have a 6 at (E1, E6) and at (E3, E5). Draw a diagram of the two clusters:

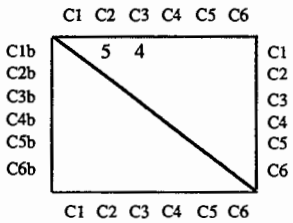
Cross out the two 6's then look for the next highest number. There is a 5 at (E1, E4) and at (E6, E4). Connect this element to the (E1, E6) cluster already formed:

Since we have included five of the six elements we must look to see which element is not present, and then put it in a new cluster by itself. This element is E2. The final clusters are, therefore:



If there were more than six elements, we might have formed more clusters by continuing to pick the numbers out of the table in descending order.

Having found the clusters of elements, we can turn to the constructs. The table of construct matching scores is calculated in two halves, the first half being calculated in a similar way to that of the element table. Look again at the grid in Figure 4.1, this time considering the rows C1 to C6. C1 and C2 have five symbols (o or x) that are the same; C1 and C3 have four symbols the same. (Symbols count as the same only if they are on the same element.) We can insert these scores in the table:

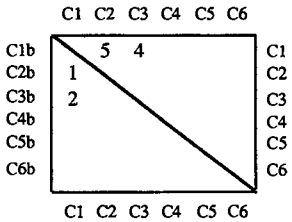


To calculate the other half of the table we must take account of "reversed" constructs as explained in Method 1. If we reverse C2 to get C2b we get

	E1	E2	E3	E4	E5	E6	
C2b	x	x	o	x	o	x	C2b

and C1 and C2b have one symbol that is the same. The match value of C1 with C2, and that of C1 and C2b, add up to six. (5+1=6). Or, we could get the 1 by figuring out that this equaled 6-5. (This quick method can be used with all the constructs in turn, but it works only on this scale with just two rating values, in this case o and x).

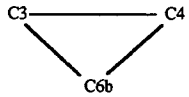
Let's try the next one, C1 and C3. The number of matching symbols is four, so C1 and C3b will be 6-4 = 2. Check by reversing C3 to make sure it works. We drew out the following matrix for the construct matching scores and put the numbers in the correct places. The first (not reversed) is on the top right side and the second (b, reversed) is on the bottom left side.



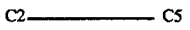
Now you can fill in the rest of the matrix. Check to make sure you know where the numbers came from.

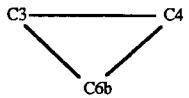
	C1	C2	C3	C4	C5	C6	
C1b		5	4	4	5	2	C1
C2b	1		5	5	6	1	C2
C3b	2	1		6	5	0	C3
C4b	2	1	0		5	0	C4
C5b	1	0	1	1		1	C5
C6b	4	5	6	6	5		C6
	C1	C2	C3	C4	C5	C6	

The clusters are formed in exactly the same way as before. Choose the largest number, in this case 6. We have (C2, C5), (C3, C4), (C3, C6b), (C4, C6b), all with the value of 6. So the clusters we get are:



Now when you cross out each "6" you must also cross out the value on the other side since we are looking for the version of the construct (original or reversed) that is most matched with another construct. That is, we cross through both C2 and C5, and through C5b and C2. As with the elements, we look for the remaining construct that is used to form a new cluster: construct C1.



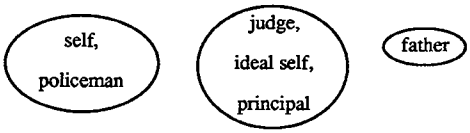


C1

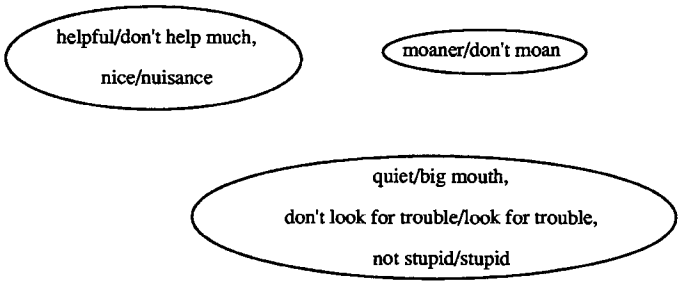
It is possible then to look back at the descriptions of these constructs to see which of the names are being used in a similar way and which ones are being used in reversed form;

the reversed ones have the letter "b" after them. So C6 is reversed, and the others remain in their original form.

So the overall results are, for the elements:



and for the constructs:



There are various other ways of analyzing a grid, but they need either a computer or a good head for arithmetic. If you use a rating scale as suggested in Chapter 2 and demonstrated in later chapters, you can use Method 2, but the rules are more complicated. Method 2 is explained in detail in Appendix A. The FOCUS computer program described in Appendix B (The RepGrid Computer Program) calculates and prints the two tables of matching scores to show the percentage similarity, and plots the clusters in graphical form.

5

Carol's life crisis

In Chapter 2 we saw how Dan's view of himself and important people in his life could be explored in a grid. In Chapter 4 we showed how this grid could be analyzed to reveal his thoughts about people and the type of constructs that he used to describe the people. Doing this has thrown some light on Dan's view of the world and his relation to it. Let's go back to one of the other problems that we outlined in Chapter 1 and see how a grid can help in understanding it.

As we saw in Chapter 1, Carol has arrived at what we might call a crisis point in her life. She feels it is time for a change, but is not sure in which direction she ought to go. One day, Carol's thoughts and feelings are so pressing that she decides she cannot continue without sorting them out. Her mind is so jumbled that she cannot just sit down and

think out her problems. She decides to try using a grid so that she can at least look at her problem objectively. She hopes that the exercise may help break her out of her rut.

Carol's rut is one born of habit, but it has not always been that way. Before Carol and her husband John were married, Carol had a job as personal assistant to the director of an engineering firm. Her job meant long hours. But every day was different, and often she was taken to dinner by her boss on business occasions. Indeed, it was on one such occasion that she met John who, at the time, was starting his own business.

After a brief romance, Carol and John were married. A year later their son was born. Carol had given up her job shortly after they were married, and once their son was born, she found that mothering was a full-time job. John spent all his waking hours working to build up his business.

Now, eighteen years later, Carol's son has just left home for university and Carol now realizes that she has spent all that time serving her family's needs. John is still working all day, every day, even though his business is now thriving. Work has become a habit to John; he fears his business would collapse if he worked less. Now the only times Carol meets people are either when she shops or when John brings business associates home for dinner.

Carol feels that there is not a "mental" solution to her problem—she must do something. The trouble is she doesn't know what to do. For this reason, she decides to list possible courses of action as elements in a grid.

The first possibility that occurs to Carol is that she could get a job again. Her typing and shorthand used to be very good, and she is sure it would take her very little time to brush up on them. The local university often has vacancies for secretarial staff, so she is fairly sure she could get a job.

Upon reflection, Carol decides that she really has two possibilities here. She knows that there are often part-time secretarial jobs available at the university, so she lists her

first two elements as "Take a full-time job" and "Take a part-time job." Any job would give her some money that she could spend as she wished. Obviously, a full-time job would give her more money than a part-time job, but a part-time job would leave her with more free time.

Thinking about the university leads Carol to another possibility. Although she is now middle-aged she knows that it might be possible for her to become a student. She had always encouraged her son to get as good an education as possible because she felt that she had not been given such an opportunity. However, when she took her son to one of his college interviews, she was surprised to find that a few of his fellow interviewees were closer to her age than his! Talking to them while she waited for her son, she discovered that it was not uncommon for social science departments to accept mature students. Her son was majoring in sociology, but she thought that she would prefer psychology, having always maintained an interest in people and their behavior. She would like to study the subject formally, although she now finds the idea of a full-time program a little daunting. As her third element she lists "Take a psychology course."

The doubt Carol feels about taking such a course leads her to her fourth element. She knows there are many night school classes that she could attend. They could involve not only academic but leisure interests, for example, guitar playing, dress making, and so forth. Rather than make her mind up now, Carol simply lists "Take an evening class" as her fourth element.

Carol misses the daily contact with her son, something she has had for the past eighteen years. With John working such long hours, she sometimes does not see another human being from one day to the next. In short, she is often lonely. Two particular ways to counteract this loneliness occur to her, one which relates to loss of contact with her son, and the other to lack of contact with her husband.

At her age, Carol knows that she is a little old to have another baby. She is still physiologically able to give birth, but she knows that the risk of having a handicapped child is greater at her age. However, she could easily foster a child. This would give her contact with a child again, but it would also mean continuing in a serving role. She has not discussed the idea with her husband yet, but the idea is appealing enough for her to include it as her fifth element.

The other way she can think of to counteract her loneliness relates to the lack of contact she has with her husband. A few weeks ago, John brought Mike, a business associate, home to dinner. During the course of the evening, Mike (a single man) was very flattering to Carol, particularly when John was out of the room. On the basis of this encounter, Carol is fairly confident that she could at least have an affair with Mike if she wanted to. She is not sure whether such an involvement would be only a temporary answer to her problem. She has no way of knowing at this stage whether Mike would be interested in a permanent relationship and is not sure herself whether she wants to leave her husband, but she decides to include "Have an affair" as her sixth element. Because of her uncertainty about staying with John, she decides to include "Leave husband" as her seventh element.

Carol decides to include the possibility of emigrating as her eighth element. She has a married sister in England and has enjoyed holidays there without John. She knows John would not leave the United States, so going to England would mean leaving him. However, it would be a different type of separation than if she simply moved out of their house and stayed in the same neighborhood. The latter would be a possibility if Mike were interested in a long-term relationship.

As a final element, Carol decides to include "Carry on as before." She is prepared to believe that her present worries may just fade away, that she is just overreacting to small

changes and that she will adapt to her new situation. However, she is not very confident that she can adapt. The pressure she feels seems to demand action, but she doesn't want to rush into any action she might later regret.

This leaves Carol with the following list of elements:

1. *Take a full-time job.*
2. *Take a part-time job.*
3. *Take a psychology course.*
4. *Take an evening class.*
5. *Foster a child.*
6. *Have an affair.*
7. *Leave husband.*
8. *Emigrate.*
9. *Carry on as before.*

Carol begins to elicit constructs by considering triads. The first triad she looks at is "Take a full-time job," "Take a part-time job," and "Take a psychology course." The first thing that occurs to her is that both the job possibilities would provide her with some money, but taking the course would actually cost her money. She illustrates this construct as a rating scale (see Figure 5.1).

The next triad Carol considers is "Take an evening class," "Foster a child," and "Have an affair." In this case, the evening class and the affair possibilities seem similar because Carol knows that she could stop them both if she found that they were not what she wanted. On the other hand, fostering seems irreversible. It would be emotionally unfair to the fostered child to change her mind once the process had begun. Carol uses this construct in Figure 5.2.

The next triad Carol considers is "Leave husband," "Emigrate," and "Carry on as before." She knows that both leaving her husband and emigrating would disrupt John's life, but if she simply carries on as before, she is fairly sure that he will do the same. She rates the elements on this construct in Figure 5.3.

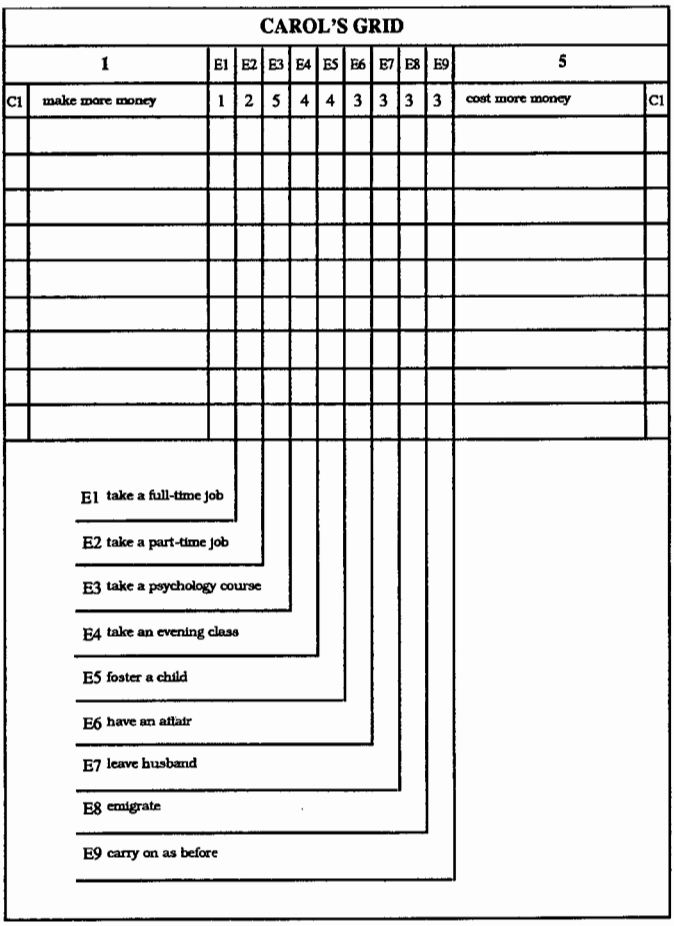


FIGURE 5.1 *Carol's first construct*

CAROL'S GRID

	1	E1	E2	E3	E4	E5	E6	E7	E8	E9	5	
C1	make more money	1	2	5	4	4	3	3	3	3	cost more money	C1
C2	reversible	2	1	2	1	5	1	4	3	3	irreversible	C2

E1 take a full-time job
E2 take a part-time job
E3 take a psychology course
E4 take an evening class
E5 foster a child
E6 have an affair
E7 leave husband
E8 emigrate
E9 carry on as before

FIGURE 5.2 *Carol's second construct*

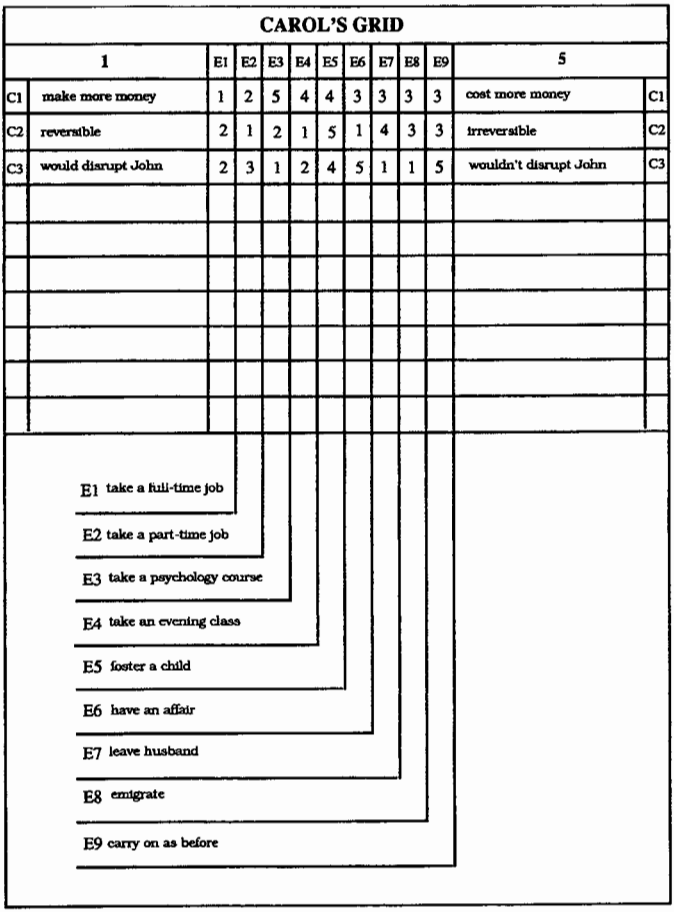


FIGURE 5.3 *Carol's third construct*

Carol has now used each of the elements once in a triad. Rather than risk coming up with the same ideas again, she decides to choose triads that do not repeat any pair of elements. This means that since elements E1, E2, and E3 have been used in a triad, she will try to avoid using E1 and E2 together in a triad again. The same avoidance will be observed with E1 and E3 and with E2 and E3. With nine elements, this is not difficult to arrange for up to nine triads. With fewer elements it is obviously more difficult.

The fourth triad Carol considers is "Take a full-time job," "Foster a child," and "Carry on as before." When she remembers all the work involved in raising a child and considers that some of the excitement she felt over her own child might be missing in the case of a foster child, she decides that "Foster a child" and "Carry on as before" are likely to be less exciting than taking a job. In fact, carrying on as before would be positively humdrum! She uses this construct in Figure 5.4.

The fifth triad Carol considers is "Take a psychology course," "Take an evening class," and "Emigrate." She thinks that emigrating would involve a great deal of emotional strain, whereas either of the courses would involve some degree of physical strain. She uses this construct in Figure 5.5.

The sixth triad Carol considers is "Take a part-time job," "Have an affair," and "Leave husband." Both leaving her husband and taking a part-time job would increase her independence. At first glance, having an affair seems like an independent thing to do but Carol realizes that since she would not want John to know of it, she wouldn't really gain any independence. She would still have to live as John expected her to live, and in that sense she certainly would not be gaining any independence. She uses the construct in Figure 5.6.

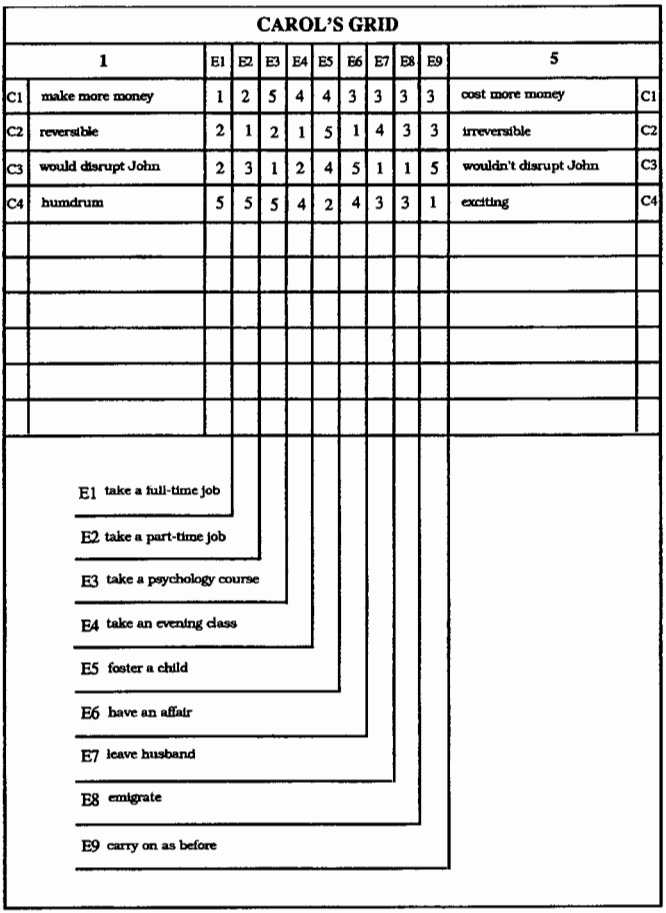


FIGURE 5.4 *Carol's fourth construct*

CAROL'S GRID

	1	E1	E2	E3	E4	E5	E6	E7	E8	E9	5	
C1	make more money	1	2	5	4	4	3	3	3	3	cost more money	C1
C2	reversible	2	1	2	1	5	1	4	3	3	irreversible	C2
C3	would disrupt John	2	3	1	2	4	5	1	1	5	wouldn't disrupt John	C3
C4	humdrum	5	5	5	4	2	4	3	3	1	exciting	C4

E1 take a full-time job
E2 take a part-time job
E3 take a psychology course
E4 take an evening class
E5 foster a child
E6 have an affair
E7 leave husband
E8 emigrate
E9 carry on as before

FIGURE 5.5 *Carol's fifth construct*

CAROL'S GRID

	1	E1	E2	E3	E4	E5	E6	E7	E8	E9	5	
C1	make more money	1	2	5	4	4	3	3	3	3	cost more money	C1
C2	reversible	2	1	2	1	5	1	4	3	3	irreversible	C2
C3	would disrupt John	2	3	1	2	4	5	1	1	5	wouldn't disrupt John	C3
C4	humdrum	5	5	5	4	2	4	3	3	1	exciting	C4
C5	physical strain	1	2	1	2	3	4	5	5	4	emotional strain	C5
C6	no gain in independence	5	4	5	4	1	2	5	4	1	gain in independence	C6

E1 take a full-time job
E2 take a part-time job
E3 take a psychology course
E4 take an evening class
E5 foster a child
E6 have an affair
E7 leave husband
E8 emigrate
E9 carry on as before

FIGURE 5.6 *Carol's sixth construct*

By the time she has reached this point, Carol feels that she is really getting somewhere. Rather than go on eliciting constructs, she decides to go back and look at each construct in turn and make some decisions on that basis. However, when she looks back at the first construct "make more money—cost more money," she decides that it is not really an important idea. She doesn't feel that her present predicament would be solved by gaining money or that an alternative should be ruled out because it would cost money.

Looking at the second construct "reversible—irreversible" Carol decides that she does not want to do anything irreversible. She knows that she is going through a hard time, but she doesn't want to overreact and do something she might regret later. Therefore, she removes the elements "Foster a child" and "Leave husband."

Looking at her third construct "would disrupt John—wouldn't disrupt John," Carol feels that she would not mind if John were slightly disrupted. After all, why should she be the only one to suffer all the time? But she doesn't want John to be greatly disrupted because he has worked so hard to give them both a high standard of living. With this in mind she decides to remove the elements "Emigrate" and "Take a Psychology course."

Looking at her fourth construct "humdrum—exciting" Carol realizes that the only really humdrum element left is "Carry on as before." The element "Foster a child" has already been removed. She is fairly sure that she does not want to carry on as before, so Carol removes this element.

In terms of her fifth construct "physical strain—emotional strain," Carol is fairly sure that she does not want any more emotional strain, although physical strain does not worry her much. As a result she removes the element "Have an affair."

Carol is left with the elements "Take a full-time job," "Take a part-time job," and "Take an evening class." Looking at these three elements in terms of her sixth construct "no

gain in independence—gain in independence" Carol realizes that all three are roughly equivalent. She could continue her interpretation but decides that she already has clarified many of her thoughts and feelings and has reduced her possible courses of action. Rather than carry on with the exercise, Carol decides that she would like to talk to John about the three possibilities. It is possible that he is so wrapped up in his work that he simply is not aware of her problems, so talking about these things would be a good way of introducing him to the problems.

Brimming with optimism and clear-headed, Carol feels that if she decides to take an evening class, perhaps she could take a psychology course and pursue her interest in people and their problems.

6

Buying a car

In this chapter we return to Jim's problem which was outlined in Chapter 1. Jim's problem concerned cars. In particular, he was having difficulty holding many different thoughts about cars together, so we will consider how the grid could help him. Potentially, there are hundreds of cars Jim could choose but in real terms his choice will probably be severely restricted by a single factor: money. Hence, if Jim is realistic, he will admit that a Rolls-Royce is not a possible choice. However, there are still enough cars within his field of choice to make the decision complicated.

After browsing through various automotive magazines, Jim can list several cars he is prepared to consider. They are: Ford Festiva, Honda Civic, Volkswagen Golf, Subaru Justy, Toyota Tercel, Nissan Sentra, and Hyundai Excel.

As we have seen, Jim is not only concerned with his own view of cars. He wants to take into account the informed opinion of consumer organizations. So, he may be able to start his grid without considering triads as we did with Dan's grid. For example, one idea he wants to explore is that of fuel consumption. Rather than simply guess at fuel consumption figures, he can consult the published facts in order to obtain such information.

Suppose he consults various magazines and collects information about fuel consumption, running cost, engine reliability, and brake reliability. This may yield the initial grid shown in Figure 6.1.

This represents some of the well-known facts about the cars. But Jim also has various personal opinions about cars that he wants to influence his decision. It is at this point that he might begin to use triads in order to help him focus his thoughts. Suppose he considers Honda Civic, Toyota Tercel, and Ford Festiva. The first thing that occurs to him is that the Honda seems a bit "dull and boring," whereas he feels the Toyota and Ford have a certain "stylishness." He can use this as a construct on which to rate the cars, adding it to the other constructs. Jim rates the cars in Figure 6.2.

Remember, you may not agree with Jim's opinions. You may think the Honda Civic is the most stylish car on the market. It does not matter, because this is Jim's grid and we therefore want it to represent Jim's views. And it is precisely because we all have different opinions that car manufacturers produce so many different models; they are simply catering to our different tastes. Also, if you could talk to Jim about what each of you meant by the term 'stylish' you might find that you both had widely differing views. This point will be dealt with in more depth in Chapter 10.

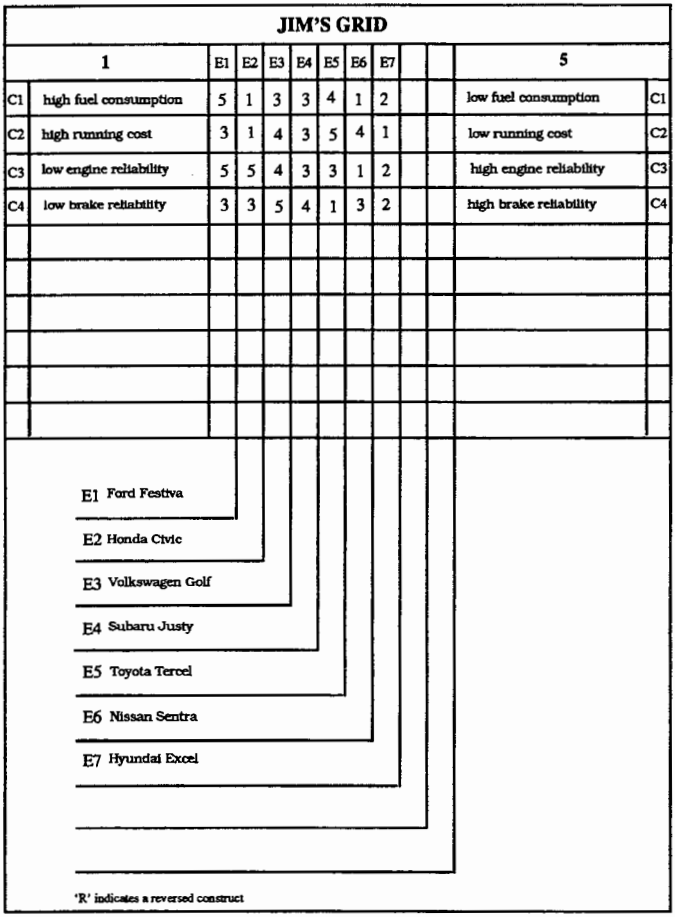


FIGURE 6.1 *Jim's initial grid*

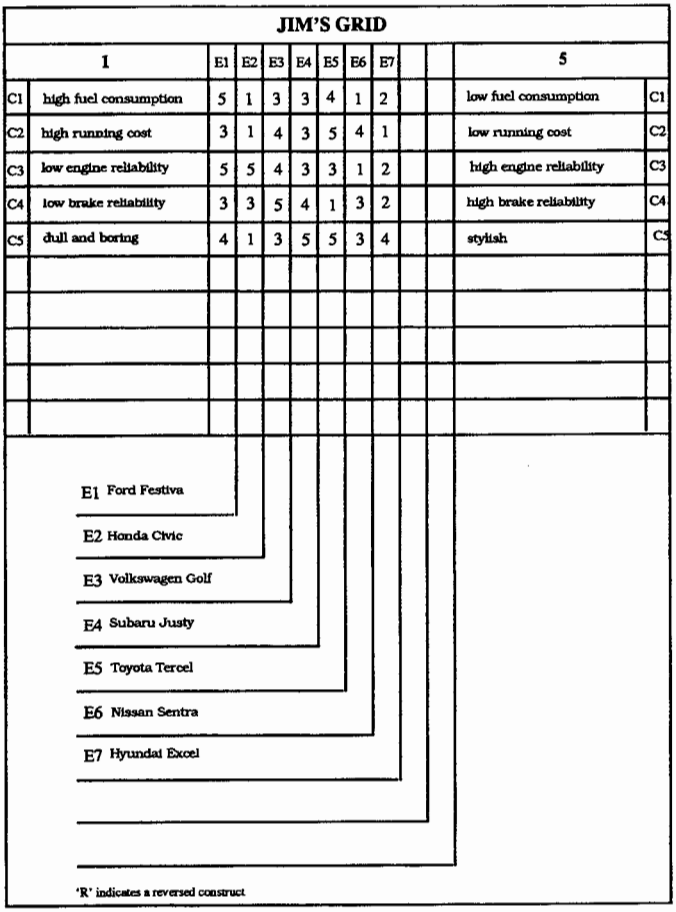


FIGURE 6.2 *Jim's construct*

Similarly, you may think Jim has been a little shortsighted in choosing not to include information on soundness of bodywork in his research and decision. However, Jim may have decided that he only wants the car for two years while he finishes his degree. After graduation, he probably will be able to afford a different car. His requirements will change. The general point is that we can only begin to judge a person's behavior as rational if we know his or her assumptions and the bases on which the person is acting (even if these bases and assumptions don't make sense to us).

Jim might also wish to collect further evidence based on his own judgment. For example, he may visit several garages and arrange to test drive various models. This may give him information on such factors as seating comfort, noise, comfort of ride, and so forth. Obviously, a judgment about seating comfort will be purely personal and will depend on personal preferences. Someone who likes firm seating may find many soft seats uncomfortable. Similarly, style of seating is a matter of taste. The bucket seats some drivers like because they hold the driver in place leave other drivers feeling claustrophobic.

Suppose, then, that by these various methods Jim arrives at the grid in Figure 6.3. As far as Jim is concerned, this represents all the thoughts, information, and feelings on which he would like his decision to be based. He is left with the problem of actually making a decision, and this is the problem we will now address.

The problem Jim faces is a common one that confronts many people, not only those interested in a car purchase. For example, you might be thinking of buying a house or choosing a vacation. In both these cases your grid might contain a combination of both factual information and personal opinion: "number of rooms" and "friendly feel" in relation to houses, "annual rainfall data" and "opportunity for adventure" in relation to vacations. In all these cases,

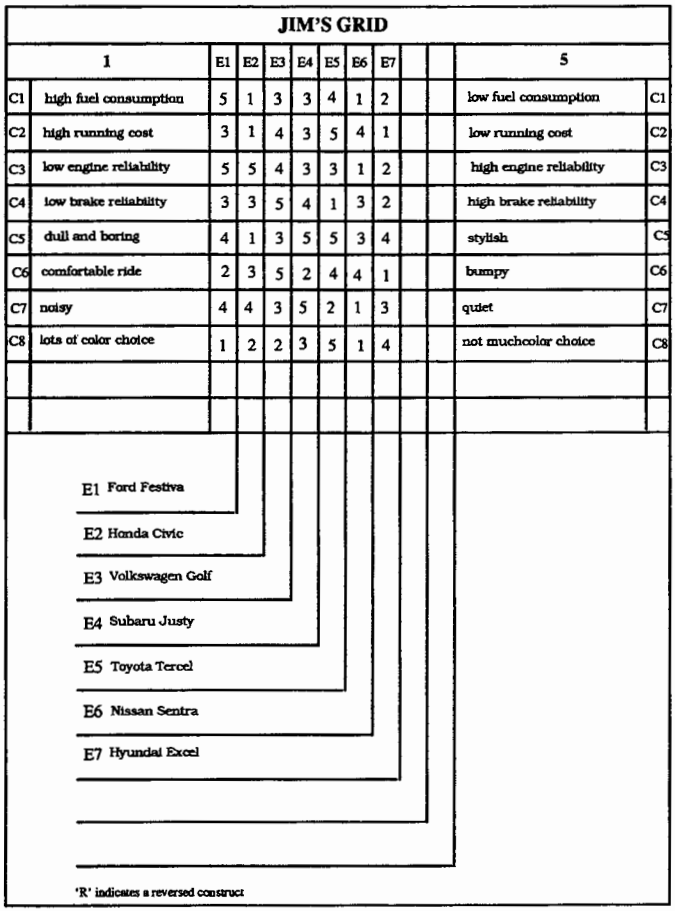


FIGURE 6.3 *Jim's completed grid*

the grid may be a useful way of bringing together the information. The methods we now describe as aids to decision making can be applied to any situation when a choice is derived from a set of possibilities.

If we are to use Jim's grid to help him choose a car, the first thing we must consider is the relationship between constructs and preference. What do Jim's constructs tell us about what he *wants* as opposed to what he *thinks?* As the grid stands, we cannot be sure of this relationship, so we need to consider each construct in turn, making sure that each construct has the same relationship with preference.

Let us take a simple case first. Consider the construct "high running cost—low running cost." When Jim used this construct, he did so by using a 1-5 scale where 1 represented high running cost and 5 represented low running cost. From what we know about Jim, we can see that he would prefer a car with low running costs. Hence, in this case, the construct has a direct relationship with preference. High numbers are preferred to low numbers.

Because constructs are not elicited with preference in mind, it is quite likely that they do not have this direct relationship. For example, consider the construct "lots of color choice—not much color choice." When Jim used this construct, he used a 1 to indicate lots of choice and a 5 to indicate little choice. As far as the grid was concerned, this was reasonable because we were interested in the relationship between elements. These should be the same no matter in which direction the scale runs. However, from what we know about Jim we could guess that, as it stands, this construct has an inverse relationship with preference. This means that since Jim would prefer lots of color choice, low numbers are preferred to high numbers.

If we are to use this "color choice" construct in conjunction with the "running cost" construct, it is important that they have the same relationship with preference. Since the ratings will be used like points, we will use the

convention that high numbers are to be preferred to low numbers: a score of 5 is better than a score of 1. What we must do is reverse the ratings on the color choice construct. That is, if the car was rated 1, it becomes a 5, and vice versa; a 2 becomes a 4, and vice versa; and a 3 stays as it is. Hence, we now have a construct that has a direct relationship with preference, and we have achieved this without altering relationships between elements. The difference in rating between any pair of elements is the same as it was before we reversed the scale.

Suppose we take each of Jim's constructs in turn and arrange them so that they have a direct relationship with Jim's preferences. This yields a grid as in Figure 6.4.

How might we use this in order to help Jim choose? Jim obviously wants the best he can get, so we could look for the car that is rated 5 on every construct. A brief look at the grid shows us that such a car is the ad man's dream. It doesn't exist in Jim's real world! Perhaps we could suggest that Jim choose the car with the most 5's; but is a car with two 5's and the remainder 1's better than a car with all 4's? We can get around this by adding up the column that represents each car. This gives us a single number for each car (Figure 6.5). Hence, we could now advise Jim to buy the car with the biggest number of "points," the Ford Festiva.

This might be a reasonable first approximation, but it has one major disadvantage. The problem is that by simply taking a sum we assume that each construct has equal importance. We assume, for instance, that Jim thinks fuel economy is no more important than choice of color.

From what we know about Jim, this is not the case. Therefore, we need some way of including the idea of importance in our calculations. There are many ways in which we could do this, but for present purposes we will consider a method that will not involve too much math. Suppose we have a 10-point scale where "1" is labeled "not important" and "10" is labeled "extremely important."

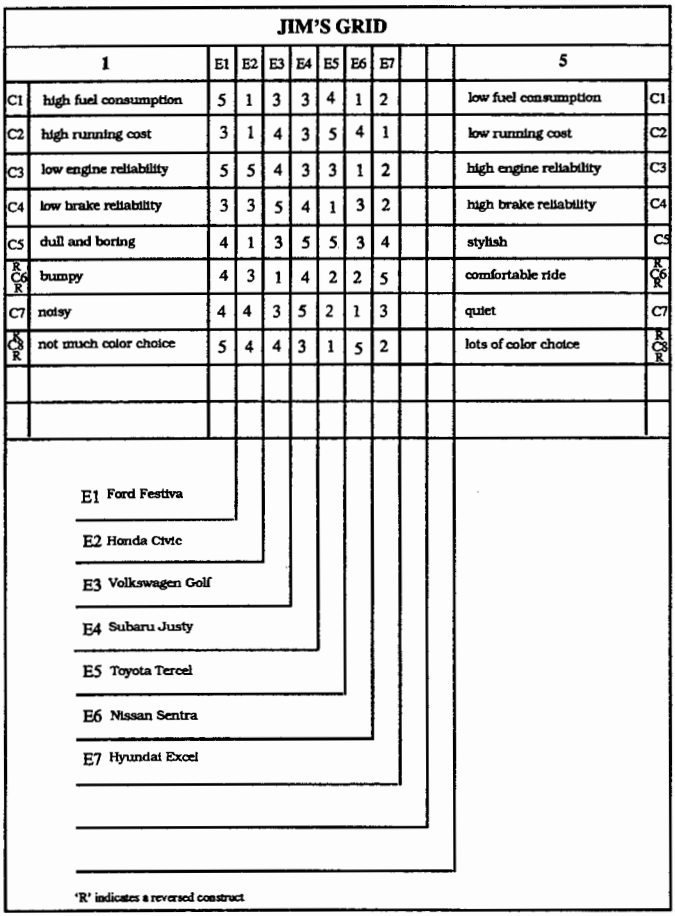


FIGURE 6.4 *Jim's preference grid*

Ford Festiva	33
Honda Civic	23
Volkswagen Golf	27
Subaru Justy	32
Toyota Tercel	23
Nissan Sentra	20
Hyundai Excel	21

FIGURE 6.5 *Simple sums for each car*

Jim could consider each of his constructs in turn and assign it a number from 1 to 10, depending on how important he felt it was. Suppose he does this as follows:

C1	C2	C3	C4	C5	C6	C7	C8
8	9	6	10	5	6	4	2

These numbers represent the importance of each construct from Jim's point of view. We can now use these numbers as a way of basing each construct's contribution to the decision on its importance. To do this, we multiply the ratings on each construct by that construct's importance. For example, Construct 1 has an importance of 8. We therefore multiply all the ratings on this construct from the preference grid by 8, as shown:

		E1	E2	E3	E4	E5	E6	E7				
C1	high fuel consumption	40	8	24	24	32	8	16			low fuel consumption	C1

Similarly, since Construct 8 has an importance of 2, this gives us the following "weighted ratings" for this construct:

		E1	E2	E3	E4	E5	E6	E7				
C8	not much color choice	10	8	8	6	2	10	4			lots of color choice	C8

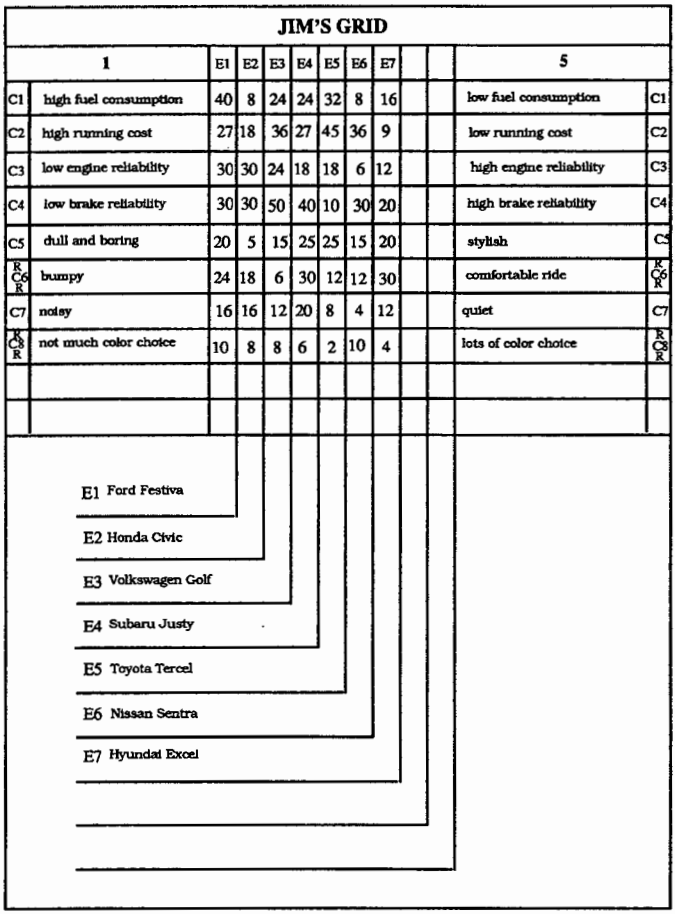


FIGURE 6.6 *Jim's weighted grid*

By doing this for all constructs, we now have a revised grid that not only contains information about preference but also contains information about importance (see Figure 6.6).

Once again, we can add the columns and arrive at a single number for each car, thus:

Ford Festiva	197
Honda Civic	133
Volkswagen Golf	175
Subaru Justy	200
Toyota Tercel	152
Nissan Sentra	121
Hyundai Excel	123

FIGURE 6.7 *Weighted sum for each car*

We can now advise Jim to buy the car with the largest number, which is the Subaru Justy. The weighting in terms of importance has produced a different decision, although in both cases there is only a small difference in points between the first and second cars.

In going through this weighting process we still have made many assumptions about constructs, and the way they can be used. These assumptions may or may not be valid in any particular situation. Even so, in practice, the procedure we have described does seem to provide a useful guide for making many decisions.

It is important to realize that the decision arrived at by using these methods is not "right" in any special sense. The methods simply give us a way of combining various pieces of information in a coherent way. There is no guarantee that

Jim will be happy with the car, but he should stand a better chance of being happy than if he had not used the methods.

The same is true of most people's real-life decisions: there is no "right" or "wrong," we simply do our best using whatever resources we have available at the time. There may be many factors to be considered, each factor pulling or pushing us in a different direction. Indeed, life's decisions are so complex and interrelated that, for many people, no two decisions are the same. In view of this fact it would seem impossible to propose a method which is suitable for looking at all decisions. However, the rating-and-weighting method described in this chapter is one that many people have found useful.

7

Learning and teaching

Julie's problem, outlined in Chapter 1, is a problem that many teachers experience. The phrase "could do better," commonplace on many school reports, suggests that the student has ability but does not use it. Although there may be many possible reasons for such a state of affairs (such as laziness or distractibility), the basic reason is that the student is not interested in either the topic in particular or school in general.

In the case of Julie's students, a certain amount of motivation is provided by the fact that they need to pass the State Examination for one reason or another, usually as a specific requirement for a future course. If they did not have this motivation, Julie feels that many of her students would

drop out. This frustrates her because she feels that they have the ability to pass the exam.

As we suggested in Chapter 1, Julie feels that it is the attitude of the students toward learning that holds them back. However, she cannot simply ask students to explain their attitude toward learning because (1) the student may not have thought about the problem or may not be able to formulate the problem verbally, and (2) if she is right about their attitude, then making such demands will probably make matters worse.

As we said earlier, in order to understand someone we should find out how that person sees things, and a grid is a useful way of exploring a person's view of the world. In order to investigate attitudes toward learning with her students, Julie decides to use grid methods. Since the grid allows the students to use their own terms, they should not feel that Julie is imposing any restrictions on them.

The first problem that Julie faces is in the selection of elements. She obviously cannot tell the students which particular elements to use, but she does want them to explore attitudes toward learning. She decides that she will ask the students to use "learning events" in their lives. However, she anticipates that these will be different for each student, so she simply asks each student to list about eight instances in which the student felt he or she learned something.

Although Julie is not specifying the *content* of the elements, she might wish to guide the choice so that each student has a good range of elements. Since constructs are elicited by using elements, a good range of elements provides the best chance of eliciting a good range of constructs; this in turn provides the best chance for understanding. Hence, Julie might suggest that the students include:

1. *an event that occurred in school or college*
2. *an event that occurred outside school or college*
3. *a book or movie that influenced them*
4. *an event involving their family*
5. *an event where learning did not take place*

and so forth.

We won't consider all the students' grids here. In Chapter 12 we will illustrate a method that could be used to compare all the grids and investigate overlapping areas, but in this chapter we will look at a particular student who shows most of the characteristics that typify Julie's students.

Bill is such a student. He hates being in college and would much rather be out in the "real world." Indeed, he tried to join the army but was rejected on medical grounds. Now he is trying to pass the geography examination so that he can pursue a career as a surveyor. He hopes to get a job with an oil company, which means that he will travel extensively, but first he must learn to concentrate on geography in college!

As a learning event that occurred in school, Bill chose "learning physics." He had not enjoyed physics as a subject until a new teacher was appointed at school. This new teacher was very enthusiastic and was able to convey his enthusiasm to the pupils. Also, he used to spend part of each lesson showing how the theories and concepts presented could be applied to everyday life.

As an event that occurred outside school, Bill immediately chose "failing the army medical." The experience was still very fresh in his mind and, although it involved failure, he was sure it was a very significant event in his life. Since Bill had specifically mentioned the failure aspect of this element, Julie asked if he could think of a learning event that occurred outside school and *did not* involve failure. Bill chose "learning to canoe" as such an event.

As a significant book, Bill chose Orwell's *1984*. Apart from saying it was the best book he had ever read, he found it difficult to say what he felt about it. However, since Julie had said that the grid exercise was about clarifying feelings, he thought he might benefit by including it.

As an event involving the family, Bill chose "sister getting married." Bill was reluctant to talk about family life until Julie assured him that the grid was private in the sense that it would not be shown to the class without Bill's consent. He explained that his sister had been pregnant when she got married, and the family had been involved in a whole series of arguments surrounding the marriage. Bill felt this had been a very significant event in his life because of the behavior it had produced in the family.

As an example of an event in which learning did not take place, Bill immediately said "learning history at school." By "learning history" he meant merely attending history classes because he had not learned anything at all. He considered it the biggest waste of time in his life and had failed all exams in the subject miserably, despite the school's threats about the dire consequences that would befall him if he failed.

In addition to these elements Bill felt he should include "being in Julie's class" because it felt different from other school classes. Certainly, Bill felt that Julie treated him and his classmates more as adults than his other school teachers had ever done.

This gave Bill the following list of elements:

1. *learning physics*
2. *failing the army medical*
3. *learning to canoe*
4. *reading Orwell's 1984*
5. *sister getting married*
6. *learning history*
7. *being in Julie's class*

With this list of elements, Julie began to elicit a grid from Bill in the way we described in Chapter 2. She began by offering Bill the three elements "failing army medical," "reading *1984*," and "learning history," and asking him to describe a way in which two of them seemed similar.

Bill thought that "reading *1984*" and "learning history" were similar because they were "fantasy" events, while "failing the army medical" was a "real world" event. This is Bill's first construct. Using a 5-point rating scale, Bill rated the elements in Figure 7.1. We can see from the way Bill uses this construct that experiences tend to be *either* real world *or* fantasy: most of his ratings are 1 or 5. In two cases, however, he used a rating of 3. His first reaction had been to class these elements as fantasy also, but later decided that the two elements could be described by *both* poles of the construct to some degree. He could see now the practical application of his physics work despite the fact that it was largely taught as "fantasy." He found also that he needed to pass the geography examination in order to get the job he wanted.

The next triad Julie offered Bill was "learning physics," "learning to canoe," and "sister getting married." Here Julie encountered a difficulty because Bill had retained his first construct firmly in mind and kept thinking about the elements in that way. Since "learning to canoe" and "sister getting married" had both been rated 5, Julie suggested that Bill might think about just those two elements for the time being. "How do they differ from each other?" she asked Bill. "Oh, that's easy!" he said, "Learning to canoe was a very individual thing, but my sister's marriage involved me in a social way."

In this case, Julie has helped Bill to break out of his previous way of thinking about his first construct by giving him two similar elements in that construct. Or, she could have taken two dissimilar elements (such as one element rated 1 and one rated 5) and asked Bill how they were alike.

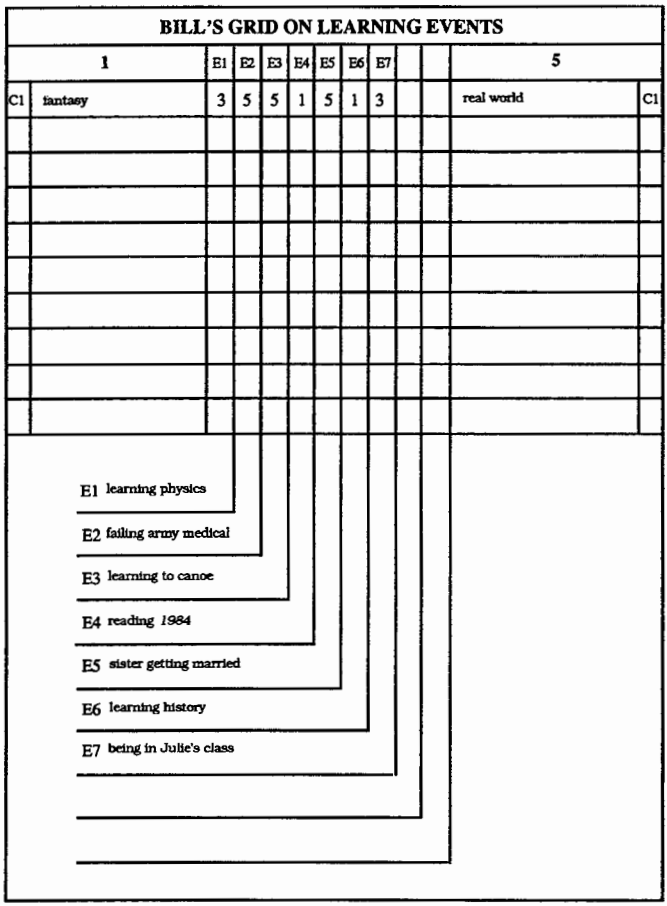


FIGURE 7.1 *Bill's first construct*

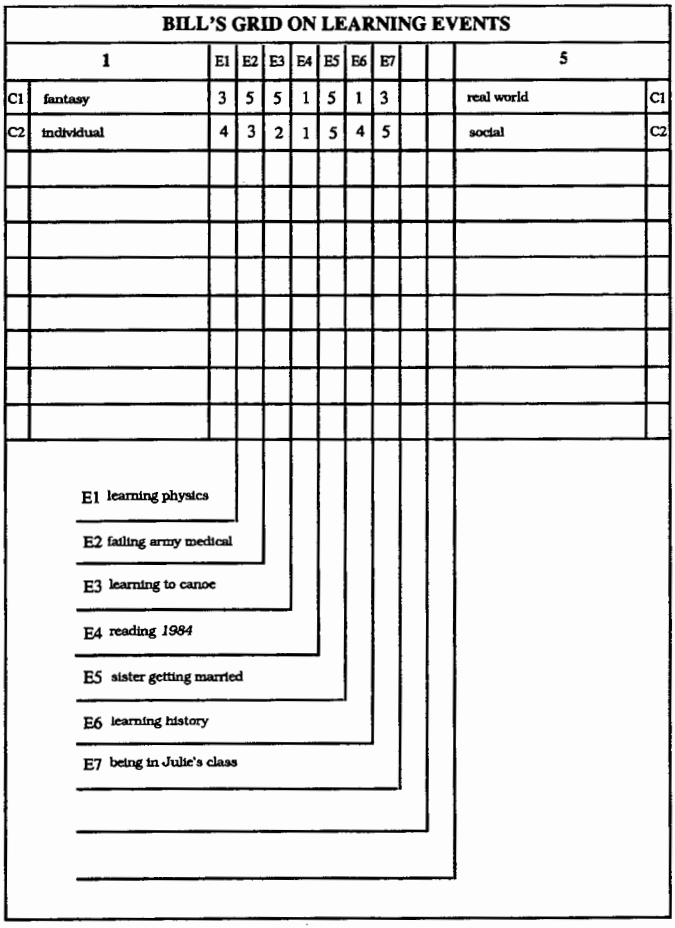


FIGURE 7.2 *Bill's second construct*

BILL'S GRID ON LEARNING EVENTS

	1	E1	E2	E3	E4	E5	E6	E7			5	
C1	fantasy	1	3	3	5	5	5	1			real world	C1
C2	individual	1	3	4	5	5	5	3			social	C2
C3	opened up possibilities	1	2	3	5	5	4	3			closed in possibilities	C3
C4	ought to do it	3	5	2	3	5	1	2			wanted to do it	C4
C5	trivial	5	5	3	3	5	1	2			heavily emotional	C5
C6	me controlling	4	3	3	3	3	1	2			me being controlled	C6
C7	meaningful	4	3	5	5	3	2	1			not meaningful	C7

E1 learning physics
E2 failing army medical
E3 learning to canoe
E4 reading *1984*
E5 sister getting married
E6 learning history
E7 being in Julie's class

FIGURE 7.3 *Bill's grid on learning events*

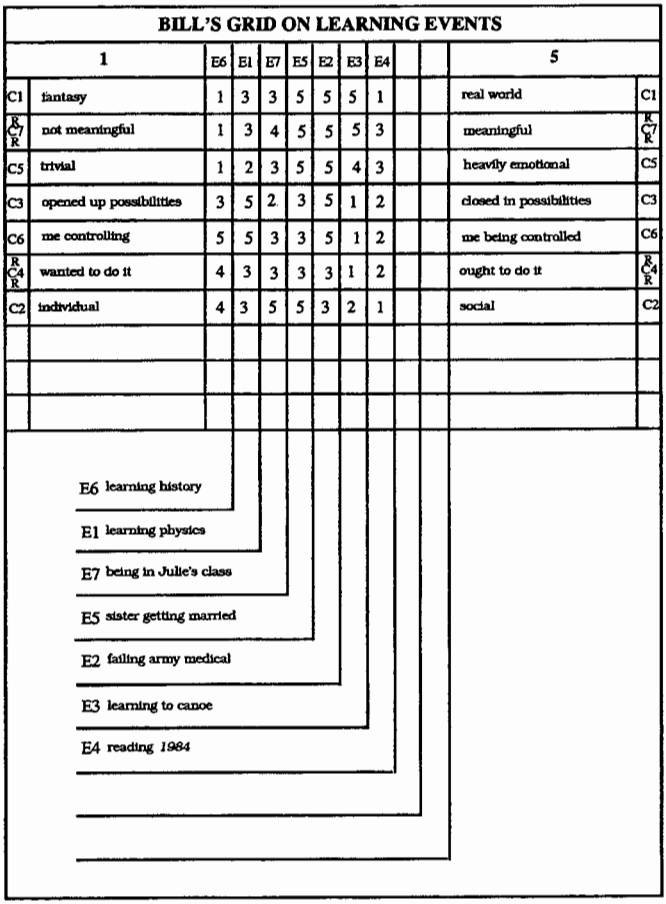


FIGURE 7.4 *Bill's focused grid*

Such a technique simply helps the person construing the elements avoid stagnation.

Bill rated the elements on his second construct as shown in Figure 7.2.

In this way, Julie elicited five more constructs from Bill. Rather than go through each in turn, we simply present Bill's total grid (Figure 7.3) and pick up the conversation at the end of the elicitation.

Before analyzing the grid (see Chapter 4), Julie and Bill looked at it. Julie was pleased to observe that being in her class was not rated on the same level as learning history! Bill remarked that he would not have thought of 1984 as opening up possibilities, but it had given him new ideas. Bill also said that he had enjoyed doing the grid in a funny sort of way. Because Julie had guided his choice of elements, he found himself thinking about a group of experiences that ordinarily he would not have grouped together.

Once focused, Bill's grid looked like Figure 7.4. The first thing to notice is that Constructs 4 and 7 have both been reversed. As we have seen in previous chapters, it is possible to do this without altering the meaning of the construct because it still treats the elements in the same way. That is, Bill could have used the lower end of the scale to mean "wanted to do it" and the higher end to mean "ought to do it."

Although Julie used the grid as the basis for an extended conversation with Bill, we need only eavesdrop on them for a moment longer. Bill noticed that the two school events were adjacent, which didn't surprise him. However, he was surprised to see "learning to canoe" and "reading 1984" associated. In order to explore the relationships more, Julie suggested that they look at how the constructs were ordered by the analysis.

Julie began by pointing out that the constructs seemed to fall into two groups. The group formed by constructs C1, C7, and C5 show that when Bill says "real world," he also says

"meaningful" and "emotional"; and that, similarly, when he says "fantasy," he also says "not meaningful" and "trivial". The relationships in the second group of constructs (C3, C6, C4, and C2) are not as strong as those in the first group. However, the relationship between constructs C6 and C4 is quite strong. This reveals that events Bill controls tend to be events he wants to do. Julie also pointed out the "solid block" in the grid that stood out. This block is the section formed by the ratings of elements E5, E2, and E3 on constructs C1, C7, and C5. Of these nine ratings, all except one are 5's, the exception being a 4, which is still extremely close to the others. This block means that "sister getting married," "failing army medical" and "learning to canoe" were all "real world," "meaningful," and "heavily emotional." Although this might not be surprising, it highlights the division in Bill's mind between school events (including reading the book 1984) and events that have some meaning for him.

Similarly, the ambiguity Bill feels towards being in Julie's class is indicated by the fact that on only one construct is this element rated extremely and that on four of the seven constructs is it rated 3, the middle of the scale. The only other element that has four 3 ratings is "learning physics," and we heard during element elicitation that Bill had mixed feelings about this particular learning event.

Leaving aside the specific content of Bill's grid, what has the *process* achieved? Certainly, Bill feels that it has clarified some of his ideas; but more than that, he appreciates Julie taking an interest in trying to enter his world rather than simply in "teaching" him. From Julie's point of view, she has certainly gained some insight into Bill's thoughts and feelings. She now knows that in order to teach geography successfully (to Bill at least), she must make it meaningful.

Bill's grid has been used as an example, and Julie must repeat the exercise with each member of her class. If all

agree, it would probably prove useful for everyone in the class to look at one another's grids. The grids can then form the basis for a group discussion about Julie's original problem with motivating her students. In Chapter 12 we present a method that can be used to compare a number of grids and then extract their common ideas.

We end this chapter by raising a problem Julie might have faced with some students. It is only possible to extract meaningful information from a grid if the person making the grid takes the process seriously. If the person does not want to get involved in the process there is no point in forcing him or her. We will be unable to understand the person without his or her help. He or she may set up something resembling a grid, but without their involvement nothing meaningful will emerge from it. In practice, such a situation is not difficult to recognize. For example, if a person is construing other people and using constructs like "name begins with a P—name doesn't begin with a P," then it is fairly clear that they are not deeply involved in the exercise. However, even such an occurrence can be used constructively to begin a dialogue. In a sense, a grid is simply a way of guiding a conversation.

8

Personality

In previous chapters we have concentrated on cases in which an individual uses the grid in a specific situation. We have seen that the grid may be useful in a wide range of situations and in Chapters 10, 11, and 12 we will explore cases where we have more than one grid. The present chapter differs from the others insofar as it is concerned not with the particular problems of people but with their general approaches to problems and to living. This corresponds to what we generally call their "personality."

The idea we would like to explore in this chapter is that in many differing situations a person will adopt an approach that is characteristic of him. On the other hand, faced with the same situation, different people may adopt widely differing approaches. Our behavior is only partly determined by the situation. The way we view the situation

and the approach we take in responding to it, both expressions of our personality, also influence the way we act. We are not suggesting that a person does the same thing over and over again in different situations, but rather that he or she has a "style" of behaving. It is this behavioral style that many psychologists point to as the expression of personality. We don't have personality inside us like we have a heart and a liver inside us. The word personality is simply a convenient label for the fact that our ways of behaving tend to be fairly stable. Personality tests are attempts to describe behavioral style in various ways.

Most people have encountered a personality test at some time, whether it be in the pages of Mademoiselle, Playboy, or in a psychologist's office. They are not tests like math tests where right and wrong answers are strictly evaluated. Rather they are attempts to place people in various categories such as extrovert or introvert, stable or neurotic, convergent or divergent. However, these categories can be seen as the tester's constructs.

Let's take some common features of the environment and consider how we interact with them. For example, how do you relate to colors? A popular personality test asks you to choose which colors you prefer, but let's take it a bit further and use colors as elements in a grid.

1. *red*
2. *yellow*
3. *blue*
4. *green*
5. *black*
6. *white*
7. *brown*
8. *orange*
9. *purple*

Using these colors as elements, consider some triads and elicit a few constructs before looking at Figure 8.1.

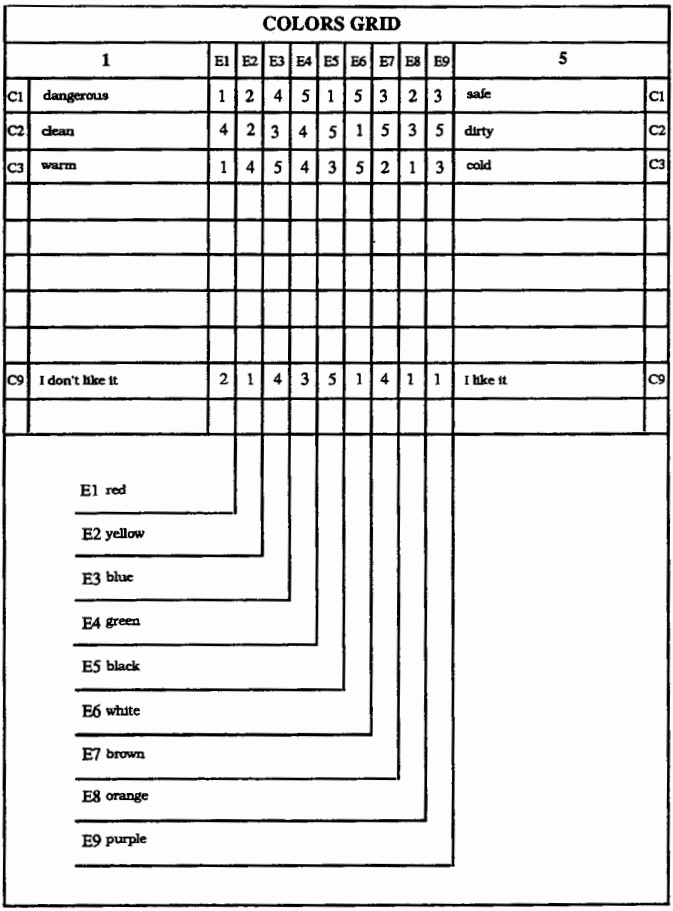


FIGURE 8.1 *Sample colors grid*

If you don't want to work with the color words, try coloring your element cards with paints or crayons and judging the colors directly!

You should have a grid of your own now, but your constructs will probably be different from those shown here. Before exploring the grid, add one more construct (unless you already have it) that goes from "I don't like it" at the "1" end to "I like it" at the "5" end. For example, we might add the ratings as shown at the bottom of Figure 8.1.

This construct indicates your preference. You can look now at how similar your other constructs are in relation to your preference. The methods given in Chapter 6 show you how to do this in more detail, but for now just look at how similar or different each construct is to the preference construct. What you will see is what "preference" means in your own terms. For example, black is rated as most preferred (5) in the sample grid. The other constructs tell us that black is also "dangerous" and "dirty," which means that the preferences of this person may be related to such ideas. What we are doing here is eliciting preference information about colors. Instead of taking just this information and using it to make guesses about a particular personality, we are looking at what the color preferences mean to the person and how they relate to some of his of her other ideas and feelings.

Earlier we said that the categories used by personality testers are simply their own constructs. To demonstrate this point, here is an exercise in which you can generate your own "model of personality." Write down some of the terms you might use to describe people. For example, you might say "Oh, Bert is very out-going" or "Jean is always on edge," in which case you should write down "outgoing" and "on edge." It probably will not take you very long to list several words or phrases, such as outgoing, on edge, active, humorous, generous, and so forth. Now, take each word in

turn and write how you would describe someone who was the opposite. For example:

outgoing	—	*keep to themselves*
on edge	—	*relaxed*
active	—	*lethargic*
humorous	—	*dour*
generous	—	*mean*

If you use each of these constructs as a 5-point rating scale, you can draw a personality profile for any person by rating them on each construct (see Figure 8.2). If you have ensured that your model will be sensitive by using enough constructs, you will probably find that very few people are exactly the same. There are even slight differences between similar people. All of us are unique individuals.

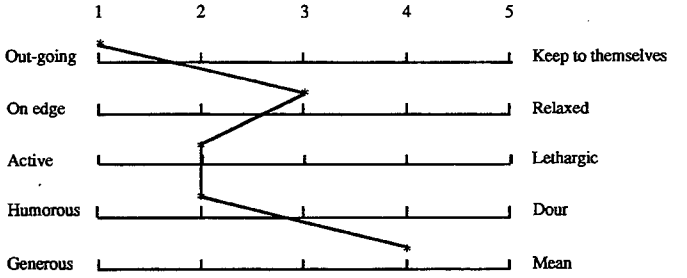


FIGURE 8.2 *Personality profile of Bert*

There are several potential problems involved in such an exercise. For example, given the opportunity, Bert might deny that he was "fairly mean." He may make this denial either because he believes it or because he does not like to be thought of as mean. A personality theorist would not simply rate Bert but would probably describe several situations in which there was an opportunity to be mean or generous in

varying degrees. Bert would then be asked to say how he would behave in these situations, and the extent of his meanness would be inferred from his responses. Of course, the reliability of the test rests on Bert's honesty. It is for this reason that psychologists sometimes try to conceal the purpose of their questions in the hope that people will answer truthfully.

We can sidestep problems like this by accepting that what we have is not an objective picture of Bert but rather our subjective view of Bert. While a scientific psychologist might not be very satisfied with this, it could lead to several useful dialogues. For example, suppose we ask Bert to rate himself on these constructs and then compare them with our ratings. The comparison will enable us to discuss any differences between our views and will throw some light on our patterns of interaction. This process is explored in more detail in Chapter 10.

However, suppose Bert has carried out the exercise himself and has found that he could now draw up one profile of "how he is now" and one of "how he would like to be." Such an exercise would highlight areas of dissatisfaction and compare them with areas of his personality in which he is satisfied. This is similar to Dan's inclusion of an "ideal self" in his grid, which we saw in Chapter 2.

In recent years it has become increasingly common to hear a person's behavior explained with phrases like "Oh, he only acts like that because he's a Scorpio," or "She's a typical Pisces." What do such phrases mean? Astrology, like personality theory, is concerned with patterns of human behavior. However, to an astrologer, a personality is largely determined at birth. If you consult a popular astrology book and your birthday is between April 21 and May 22, you may find yourself described as:

practical
reliable
patient
adept in business
having strong powers of endurance
a firm sense of values, especially in relation to the arts
lover of luxury and good foods
persistent
solid
determined
strong-willed
affectionate
warm-hearted
trustworthy

but

possessive
lazy
self-indulgent
a potential bore
static in his opinions
lacking flexibility and originality
greedy
stubborn
resentful
obsessed with routines

By now, you will recognize such terms as constructs. Whose constructs are they? Do they provide an objective picture of you or someone's view of you? If you consider your own constructs and the profiles you drew of other people, do you find that any of them look similar? If so, do the people have the same sun sign?

There are several ways in which you could explore the relationship between astrology and constructs. However, many of these ways depend on your having a very large

circle of friends. For example, if you know that several of your friends were born under the sign of Taurus, you could use these friends as elements in a grid. When you had completed the grid, you could then look for similar or overlapping areas between people using the technique described in Chapter 12. Such areas could then be considered as typical Taurean properties (or, more properly, ascriptions). In this way, you could build up your own set of astrological findings.

In a similar way, it would be possible to administer a personality test to a large number of people and then use statistical techniques to pick out those items that discriminate between groups but not within groups. If the groups were chosen on the basis of sun signs, such items would presumably describe the characteristics of each group. If this were done by a scientific psychologist, he or she would then want to check that the items did discriminate between people of different sun signs. The psychologist would do this by administering his or her items to another different large group of people. He or she would then assign them to their predicted sun sign on the basis of their answers and, finally, ascertain their actual sun sign. The ability of the items to discriminate could then be measured in terms of how many people had been assigned correctly to their actual sun sign.

9

Extensions

Before going any further with the grid, let's take stock of what we have learned so far.

Purpose. Grids are not completed in some sort of vacuum. The person completing a grid has a purpose for doing so and this purpose will determine the particular form the grid will take. Therefore, it is best for this purpose to be clearly stated before starting the grid.

Elements. The choice of elements is related to the purpose of the grid. The elements must be appropriate to the purpose. Selection of elements should cover the complete range of things appropriate to the purpose.

Constructs. The elicitation of constructs usually is done by considering elements in various groupings. Hence, a wide range of elements is needed in order to improve the chance of eliciting an appropriate range of constructs. If triads of elements are used, it is helpful to arrange them in as many different combinations as possible. This gives greater opportunity for differing constructs to be elicited. There is no single best method for eliciting constructs. If the person completing the grid gets stuck, a different elicitation method will often break the deadlock.

Processing/Analysis. What is to be done with the grid depends on the purpose behind the grid being completed. In some cases, simply completing the grid will be enough, the process of formulating constructs satisfying the purpose. Decisions may be made on the basis of individual constructs (as Carol did in Chapter 5) or on the basis of a total grid of weighted constructs (as Jim did in Chapter 6). Similarities between elements or between constructs may be calculated and the grid reorganized on the basis of these similarities (as Bill's grid was in Chapter 7).

We began Chapter 1 by looking at some problems that confronted people, and before moving on to the second section of the book we would like to illustrate some more situations and problems that may be approached with the use of a grid.

For example, *Hamish* is a whisky-taster—the man whose job it is to inspect the quality of whisky before it is bottled. He has been doing this job for thirty-four years and is due to retire next year, so he must train someone to take his place. Hamish still remembers the agonies he went through in learning the job and would like to make things easier for his successor. But how can he begin to distill (!) his experience into a comprehensible form?

After doing the job for so long, everything has become so familiar to Hamish that he finds it difficult to explain the

process. In fact, all he can say is that he does not need to think about it any more. What is needed is a method of getting him to think about the job and to articulate his thoughts. It is here that the repertory grid could prove useful. But what could Hamish use as elements?

In fact, Hamish has a ready-made set of elements in the exhibits in his "museum of horrors." These exhibits are samples of whisky that have been awful for one reason or another. He has never been sure why he keeps them, but they could certainly prove useful now. In addition to the horrors, it would probably be advantageous for Hamish to include various examples of good whisky, so all the constructs will not be about negative elements.

By using the samples as elements, Hamish will possess a way of coming to grips with his thoughts. The constructs he arrives at can form the basis for his instruction of his successor. In addition, the method shown in the second half of Chapter 10 can be used by Hamish's successor himself as a means of testing his understanding of Hamish's tasting.

Brenda feels that she is in a difficult position at work, but she is unable to say why. She is a quality controller who has to deal with both management and shop floor, and both groups would like to think she is on their side. She is successful in her job, but sometimes wonders if the situation would be so if she were a man. Also, she is interested in a promotion but has noticed that her present employer does not have any female managers.

Brenda could use people who occupy different roles as elements. For example, she could use "a successful male quality controller," "a manager with whom she finds it easy to deal," "a manager with whom she finds it difficult to deal," and so forth. This method is similar to the way in which Julie guided her students' choices of elements in Chapter 7. It ensures that a good range of elements is used.

By using such people as elements, Brenda will be able to see the qualities that are the makeup of those people she considers successful. With herself as an element she may see how close she comes to being like the successful people around her. The grid might be more useful if Brenda could get her superior to construe the same elements, since his view of success may be totally different from hers.

Many more problems and situations could be outlined. The grid is a very flexible tool, so its usefulness is limited only by the inventiveness of its users. Although we have described grids in pencil and paper terms, it is the ideas behind the grid that matter. It is possible to use the ideas to organize your thoughts without resorting immediately to writing them down. To illustrate this, let us consider the case of Mr. Harris, a personnel manager who is about to interview five candidates for the job of sales representative.

The five candidates have been chosen from the larger group of original applicants, so many decisions already have been made to arrive at this final stage. However, let us ignore what has preceded this stage and concentrate on the task facing Mr. Harris. He has the application forms in front of him, but all five candidates are qualified to do the job, and all have approximately equal amounts of relevant experience. In addition, none has a present salary in excess of what Mr. Harris's company can offer, so each applicant seems a likely choice. It is the interview that will provide the information needed to choose among them.

Mr. Harris presses the intercom to his secretary. "Send in Mr. A, please." A few seconds later there is a polite knock on his door and Mr. A. enters. He offers his hand to Mr. Harris and says "How do you do. I'm Mr. A." "How do you do. Please sit down," replies Mr. Harris, indicating a chair opposite the desk. While the interview is proceeding, Mr. Harris is making mental notes. He doesn't actually write anything down during the interview because he says that he

likes to appear to be giving the candidate all his attention. Once the interview with Mr. A. has finished, Mr. Harris has a few minutes to collect his thoughts. "Well," he thinks, "Mr. A. was certainly very polite. He had a nice, firm handshake and spoke very clearly. He answered the questions reasonably well, although he seemed a bit evasive about why he wanted to leave his present job. His answers to the technical questions were certainly adequate, though."

He might not realize it, but Mr. Harris has the beginnings of a grid. What he has is a list of constructs (literally, ways in which he has construed Mr. A.) and a single element. We are more familiar with generating a grid row by row, but Mr. Harris is effectively doing so column by column. He presses his intercom again. "Send in Mr. B, please."

Almost before he has taken his finger off the button, the door opens and in walks Mr. B. "Hi," says Mr. B, "shall I sit down here?" and he moves towards the chair. By the time Mr. Harris has said "Yes, please do" Mr. B. has sat down. The interview proceeds at this pace, and by the time it is over Mr. Harris is exhausted. "Well," he thinks, "Mr. B. certainly keeps things moving along. Mr. A. was much more relaxed and easygoing by comparison. Mr. B. also asked a lot more questions about the company, although he sometimes gave the impression that he wasn't really listening to the answer but simply was waiting for me to finish before he asked the next question."

Effectively, Mr. Harris has just added two more constructs to his grid ("easygoing" and "asks questions"), and has compared his two elements (Mr. A. and Mr. B.) on these constructs. "Now," he thinks, "how was Mr. B. on the points I noticed about Mr. A? Well, he was a little less polite, didn't knock, had a *very* firm handshake when he shook hands at the end of the interview, spoke quite clearly, if a little fast, answered the questions as though he had been expecting

them, and already had answers prepared." He presses his intercom again. "Send in Mr. C, please."

Mr. C. knocks and enters, and the first thing Mr. Harris notices is how smartly dressed he is. It is not that Mr. A. and Mr. B. were not well-dressed, but Mr. C. by comparison looks as though he has stepped out of the pages of a fashion magazine. Once again, Mr. Harris has added a construct to his grid. When the interview with Mr. C. is over, he will have to consider Mr. A. and Mr. B. in terms of this new construct. In addition he will also consider Mr. C. in the terms that arose from the earlier interviews.

We need not follow Mr. Harris through the remaining interviews, since we have seen enough for our present purposes. By the time he finishes, Mr. Harris will have a grid containing five elements (the five candidates) and however many constructs he has used. He has generated the grid one column at a time, although as we have seen, he has occasionally needed to return to earlier elements when he has added a construct. We need not concern ourselves here with how Mr. Harris chooses between the candidates. To do so, he will have to decide which constructs are the important ones, and possibly how important they are, in the same way Jim chose a car in Chapter 6. For present purposes we are merely interested in the fact that Mr. Harris can generate a grid without resorting to pencil and paper. To be fair, Mr. Harris would probably have written down his impressions after each interview. However, there are many situations in which we need to marshal our thoughts without writing them down, and we have seen how this might be done. In fact, researchers in the field of memory tell us that organizing our thoughts about something helps us to remember, so using the grid may help your memory, too!

Up until now, we have been concerned chiefly with problems relating to individuals or single grids, although we have suggested that the grid has wider applications. We now turn to problems involving more than one grid. Many of

our everyday problems concern not just ourselves but sometimes one other person or sometimes a whole group. Once again, we would like to begin by sketching some characteristic situations that confront people.

Philip and Marian are a married couple who have made friends together, but each of them has friends from before their marriage. Many times they seem to have differing opinions on some of these people and argue over their personal qualities. For example, not long ago they were arguing about Peter, Marian's brother. Philip does not like him very much because he is quiet and shy and difficult to get to know and understand. In Chapter 10 we will show how to use the repertory grid and the technique of exchanging constructs to help Philip and Marian see their friends through each other's eyes. By comparing their ratings of these people on constructs used by them both, it is easy to see where any differences of opinion are located.

Gillian was confused about dieting. Some diets said she must cut down on calories, and others said it would be better to reduce her intake of carbohydrates. How could she compare these methods? Chapter 10 will show how the grid was used to discover the ways Gillian thinks about food; we will then ask an expert to evaluate the same foods in terms of their various nutritional values. By comparing the patterning of the food ratings on different constructs, we show how Gillian's system of construing foods matched the expert's value system.

Dan learned about his relationships with some authority figures in Chapter 2. He wondered how his feelings about these people would alter as different events occurred in his life. In Chapter 11 his first grid will be used as a base from which to compare how his views changed over six-week intervals during his last couple of terms at high school and to see how these changes were related to his own

development and his deepening understanding of himself and his situation.

Finally, in Chapter 12 we will look at an industrial company that is made up of individual people and individual viewpoints, interacting to produce a stereotypical "company person." Here the grids will be used to elicit the ways that company people evaluate effectiveness, and to amalgamate these individual points of view into a questionnaire that could be used to assess existing staff, and to recruit more staff into the management team. This is done by looking for common opinions between pairs of people in the team in order to find groups consisting of people who see matters in the same way, and then, to discover what ideas or ways of thinking that they actually have in common.

Each of the preceding situations may be similar in some way to a situation in which you find yourself. In Chapters 10, 11, and 12 we will describe in detail how you can use the grid in these particular cases, in the hope that you will understand not only the procedure but also how you can adapt our methods to your own situation.

10

People in pairs

The way different people elicit grids about the same topics may vary considerably. Take the couple mentioned in the previous chapter. Philip and Marian have been married for two years and have built up a mutual group of friends whom they see both separately and together. They were asked to decide together on six of these people whom they both know well. Grids were then elicited from each of them in private. Philip's grid is shown in Figure 10.1 and Marian's in Figure 10.2. We have used blocked triangles in this chapter instead of o's and x's. That is, if John is "fun to be with," we fill in the top left of the block ◩ or if he is "boring" we fill in the bottom right of the block ◪. You will see later how much easier it is to compare grids using this method.

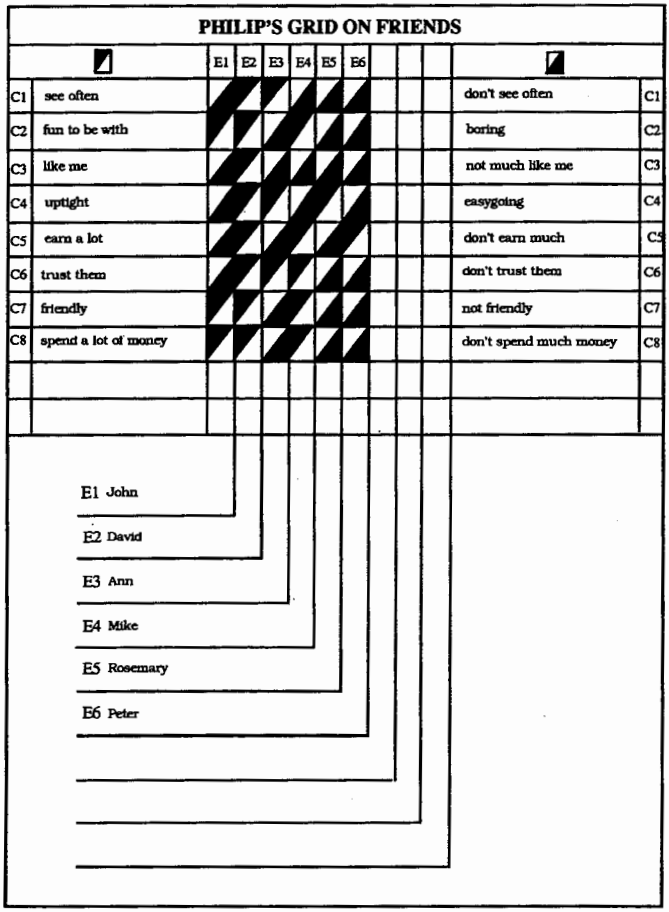


FIGURE 10.1 *Philip's grid*

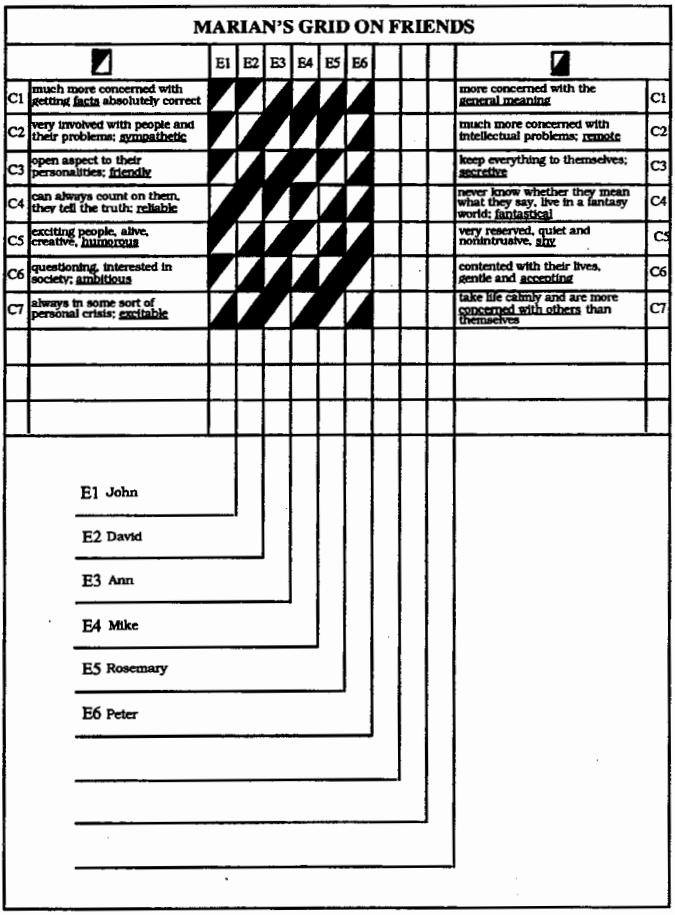


FIGURE 10.2 *Marian's grid*

What similarities and differences do you notice in these two grids? One obvious difference is the way that they express their constructs and choose the pole names. Philip is very terse, while Marian tends to explain more what she means. She has underlined one or two words to summarize each pole. Now look at the constructs themselves. Philip has several relating to himself: "see often—don't see often," "fun to be with—boring," "like me—not much like me," "trust them—don't trust them," whereas Marian's constructs are more removed from herself and tend to be about the people in their own lives. For example, Marian says "exciting people, alive, creative, humorous—very reserved, quiet, nonintrusive, shy." Philip is saying almost the same with "fun to be with—boring," but this tells us more about himself.

In many cases, too, where Philip uses an almost exact opposite, such as "see often—don't see often," "earn a lot—don't earn much," Marian uses much more personal and complex opposites, such as "sympathetic—remote." She never uses the standard negation type of opposite in the way that Philip does. Although Philip has more constructs than Marian, hers are all different, while his include three that are identical:

fun to be with		boring
friendly		not friendly
spend a lot of money		don't spend much money

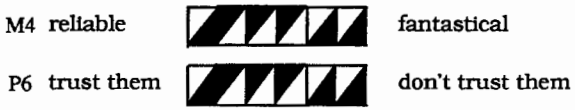
Maybe Philip thinks that people who spend a lot of money are friendly and fun to be with, and those who do not spend much money are not friendly and are boring.

Another interesting thing to note is whether Philip and Marian use the same words when they mean the same thing.

If we liken Marian's "friendly—secretive" (Construct 3) to Philip's "friendly—not friendly" (Construct 7), we can put the two lines on top of one another and see by the white triangles how often they agree.

When these are superimposed  we can see that they agree on the friendliness of only four of their six friends since on four of the blocks their triangles overlap, and on the other two they join together to fill in the entire block.

On the other hand, we can see that they agree on all six when Marian says "reliable—fantastical" (Construct 4), and Philip says "trust them—don't trust them" (Construct 6).



When these are superimposed  we can see that they are using the two different descriptions to mean the same thing. It often happens that people use different words to describe the same events, and the same words can have very different meanings when used by different people.

A useful technique for investigating how much you understand someone else and how much you agree with that person is to take on his or her construct perspectives in order to see through his or her eyes. When Philip and Marian tried this they discovered how well they knew each other,

and how much they agreed about the same people. Marian was the first to try it. She was given a copy of Philip's grid with all the ratings ◪ or ◪ removed. Then she was asked whether she could fill in the ratings *as she thought Philip had done.* Her grid is shown in Figure 10.3. The two grids, Philip's (Figure 10.1) and Marian's, as if she were Philip, (Figure 10.3) were then superimposed. The white triangles show the places where Marian understood Philip, and the black rectangles show where she did not. This is shown in Figure 10.4. She clearly understood Construct 1, or more probably, she knew herself how often Philip had met these people. She also understood how Philip had used Constructs 2, 3, 5, and 7, except now she realized that she did not share Philip's view of Peter. She did not do as well at rating the people on Constructs 4, 6, and 8, matching Philip's ratings only about half the time. On the whole, she understood his point of view and his constructs very well.

Marian repeated the process, this time rating *as she herself would use those constructs on the elements.* Then she superimposed her new grid on Philip's original grid. The two are shown together in Figure 10.5, which shows the extent of agreement between them with white triangles. One interesting point Marian made after discussion with Philip was that she was using construct 8 in a different sense from his. She knew that John did not earn much money so, in her opinion, he did not spend much, while Philip said that since John spends most of what he earns he should be rated as spending a lot. Similarly Marian said that David does not spend much money, that he usually even waits for someone else to pay for the coffee if he can. Philip said that he spends enormous amounts of money on his collection of rare porcelain so he placed him on the "spends a lot of money" pole.

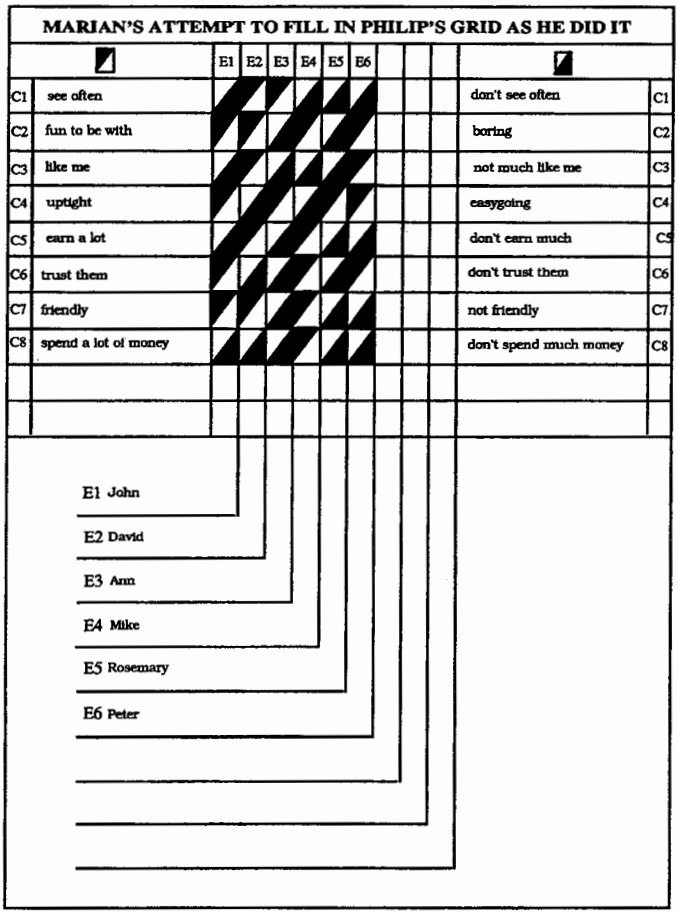


FIGURE 10.3 *Marian's grid as if she were Philip*

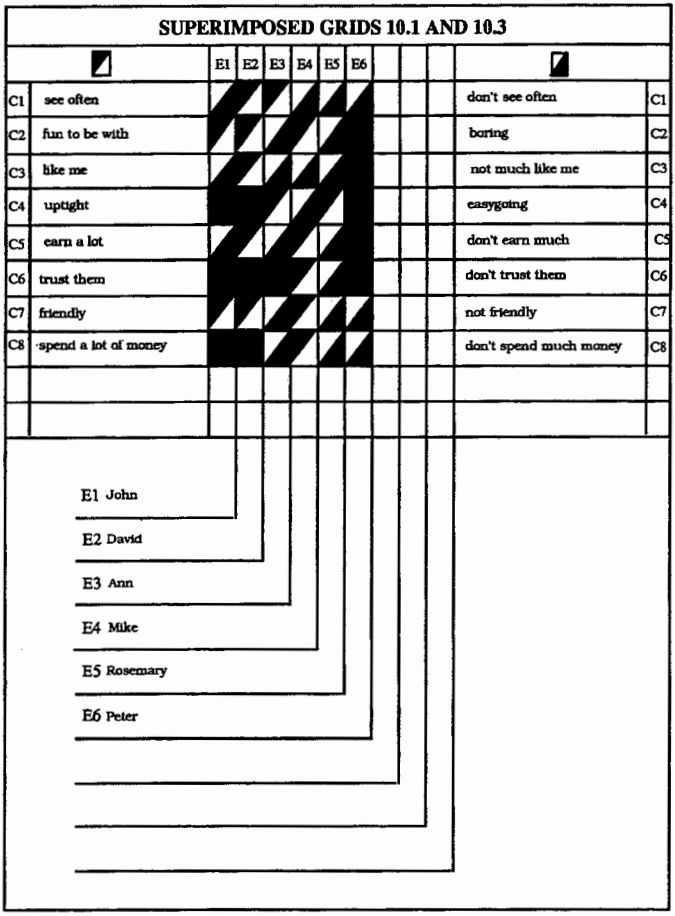


FIGURE 10.4 *Superimposed grids of Philip and Marian as if she were Philip*

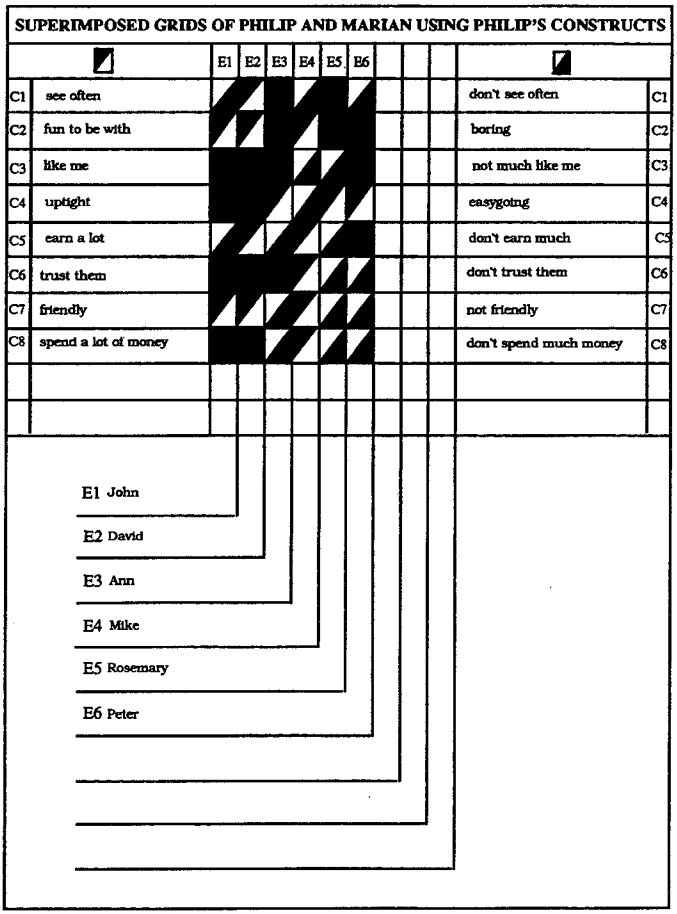


FIGURE 10.5 *Superimposed grids of Philip and Marian using Philip's constructs*

These points of discussion and many others are brought to light after this sort of exercise. Philip did the same things with Marian's constructs (elicited a grid the way he thought Marian would and superimposed his grid over hers) and found that, although they both agreed on most things, she understood him much more than he understood her.

There is another interesting use of this technique, and that is to compare your own grid with one elicited from an expert, using the same elements. In this case the constructs need not be the same, but one can look for similar patterns to see if the expert way of construing can help your own understanding of a topic.

An example of this is Gillian's grid on food. Gillian was not overweight but thought that she was pudgy in places and that she should be eating less fattening foods. However when she went to the library, the first two books she looked at told opposite stories. One suggested cutting out all carbohydrates, and the other suggested cutting down on calories. But she was not exactly sure which foods were high in carbohydrates and which were high in calories.

We asked her to choose nine items that she considered everyday types of food and to elicit a grid about them. We also asked an expert to do the same, using Gillian's elements. The first thing the expert said was that she would not have grouped the elements the way Gillian had. For instance, red meat is very different from poultry and fish, being high in iron. Similarly, milk, butter, and cheese are very different because milk is much lower in fat and higher in water than the other two. Swiss roll is much higher in water and a better diet food than rich fruit cake, which contains much more fat. The two grids are shown in Figures 10.6 and 10.7. As you can see, this time we used a 5-point scale.

GILLIAN'S GRID ON FOOD

	1	E1	E2	E3	E4	E5	E6	E7	E8	E9	5	
C1	good for you	1	2	1	1	5	5	3	5	1	not so good	C1
C2	basic foods	2	1	5	2	5	5	2	5	1	extras	C2
C3	main meals	3	1	4	1	5	4	4	5	4	snacks	C3
C4	filling	3	3	2	2	5	4	2	5	3	not very filling	C4
C5	like it	3	1	4	5	4	1	3	3	2	not so much	C5
C6	sweet	4	5	2	4	1	1	3	3	4	savory	C6
C7	usually cooked	1	1	2	1	5	4	3	5	2	eat as it is	C7
C8	costs more	2	1	4	5	4	2	4	1	3	relatively cheap	C8

E1 eggs
E2 meat, poultry, fish
E3 fruit
E4 vegetables and salad
E5 jam and other preserves
E6 cakes and cookies
E7 bread and cereals
E8 alcoholic drinks
E9 milk, butter, cheese

FIGURE 10.6 *Gillian's grid on food*

EXPERT'S GRID ON FOOD

	1	E1	E2	E3	E4	E5	E6	E7	E8	E9	5	
C1	high in fibre	5	5	2	2	4	4	1	5	5	zero fiber	C1
C2	high in calories	3	1	4	5	4	1	3	3	2	low in calories	C2
C3	high in carbohydrate	5	5	2	3	3	1	2	3	4	low carbohydrate	C3
C4	high in protein	2	1	5	4	5	4	3	5	1	low protein	C4
C5	high fat content	1	2	5	5	5	1	5	5	1	low fat content	C5
C6	high iron content	1	2	5	3	5	3	2	5	3	low iron content	C6
C7	high vitamin C content	5	5	1	1	2	4	4	5	4	low vitamin C content	C7
C8	high water content	2	2	1	1	4	5	3	3	2	low water content	C8

E1 eggs
E2 meat, poultry, fish
E3 fruit
E4 vegetables and salad
E5 jam and other preserves
E6 cakes and cookies
E7 bread and cereals
E8 alcoholic drinks
E9 milk, butter, cheese

FIGURE 10.7 *Expert's grid on food*

We compared each construct in the expert grid with all the constructs in Gillian's grid and found two identical constructs. X shows an expert construct, and G a construct from Gillian:

X2	high in calories	3 1 4 5 4 1 3 3 2	low in calories
G5	like it	3 1 4 5 4 1 3 3 2	not so much

The result indicates a discouraging start for Gillian's diet!

We then found three constructs that were quite similar:

G1	good for you	1 2 1 1 5 5 3 5 1	not so good
G7	usually cooked	1 1 2 1 5 4 3 5 2	eat as it is
X8	high water content	2 2 1 1 4 5 3 3 2	low water content

Although it can be seen that foods Gillian thinks are "good for you" have "high water content," which the expert says is good for slimming, Gillian "usually cooks" them, and thus evaporates some of the water.

Two more pairs of constructs emerge:

X4	high in protein	2 1 5 4 5 4 3 5 1	low protein
G5	basic foods	2 1 5 2 5 5 2 5 1	extras

and

X2	high in carbohydrates	5 5 2 3 3 1 2 3 4	low carbohydrate
G5	sweet	4 5 2 4 1 1 3 3 4	savory

These pairs show Gillian that she groups the foods in almost the same way as the expert, but uses different terms to describe them.

After seeing these patterns Gillian decided not to go on a diet, but to make sure that her whole family eats more sensibly in the future. She also decided to give up alcoholic drinks, which contain calories and carbohydrates.

There are other methods in use for the comparison of grids elicited by different people. Appendix B describes some of these. In the next chapter we will show how a method similar to the one we used with Philip and Marian can be used to help Dan monitor changes in his own feelings during the three months prior to his departure from school.

11

Dan's progress

In Chapter 2 the counselor elicited a grid from Dan to find out what he thought about the people he came into contact with and who he thought had influenced him. Dan decided to repeat this process every six weeks to find out how he was progressing. If Dan had been particularly interested in his progress at school, he might have taken school subjects as the set of elements, but he particularly wanted to see how his personal relationships developed and changed over time, so the same elements as before were used. His first grid is shown again in Figure 11.1.

During the first six-week interval, various events had taken place in Dan's life. First of all, his father had left home. Dan had expected this to happen, but it was still quite a shock, especially since his father had seemed to be the only member of his family who was not against him.

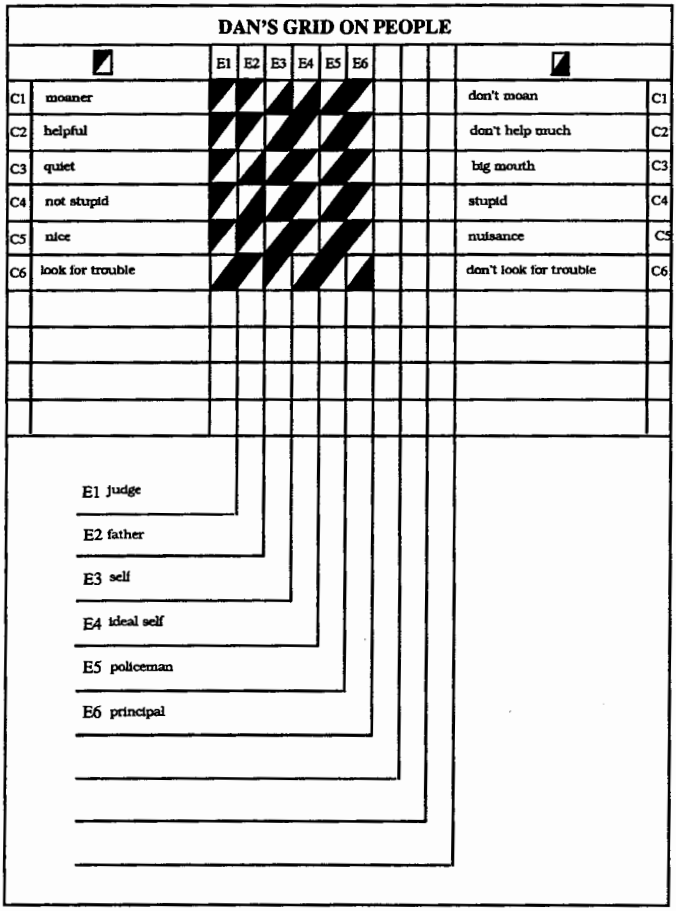


FIGURE 11.1 *Dan's first grid*

Shortly after this event, Dan was caught stealing from a supermarket during a school lunch break and was taken back to school by the supermarket manager. The principal decided to keep Dan in his office every lunch break from then on. However, Dan was relieved that the incident was not reported to the police.

When the second grid was elicited, Dan was given the outline of his old grid, showing only names of the elements and constructs and not the ratings, and was asked to fill in all the ratings as if it were a new grid. When asked if he wanted to add any new elements or constructs, he added one of each. The new element was a stray cat his mother had adopted a few weeks ago that had become attached to Dan. The second grid in Figure 11.2 suggests that Dan found the cat good company. The new construct is "understands—don't understand."

The two grids were superimposed as described in Chapter 10, without the new elements and constructs in the second grid (Figure 11.3). (The areas of change are indicated by a black rectangle.) Dan has changed the positive ratings he gave to his father in the previous constructs from "helpful" to "don't help much," and from "nice" to "nuisance." He has also changed his mind about the helpfulness of his principal. He says that the policeman and the principal do not understand and that the cat does.

Before Dan did his third grid, a boy named Rick moved nearby, and into his grade at school. Soon he became very friendly with Rick, and the two boys went everywhere together. However, unlike his other friends, Rick was far more quiet and considerate, and turned out to be a good influence on Dan. After a little while the boys began visiting Rick's uncle and cousin who lived a few miles away. Rick's uncle was very good at table tennis, and the four of them played together when they could. Dan had always liked playing table tennis, and now, with coaching, he was becoming a good player.

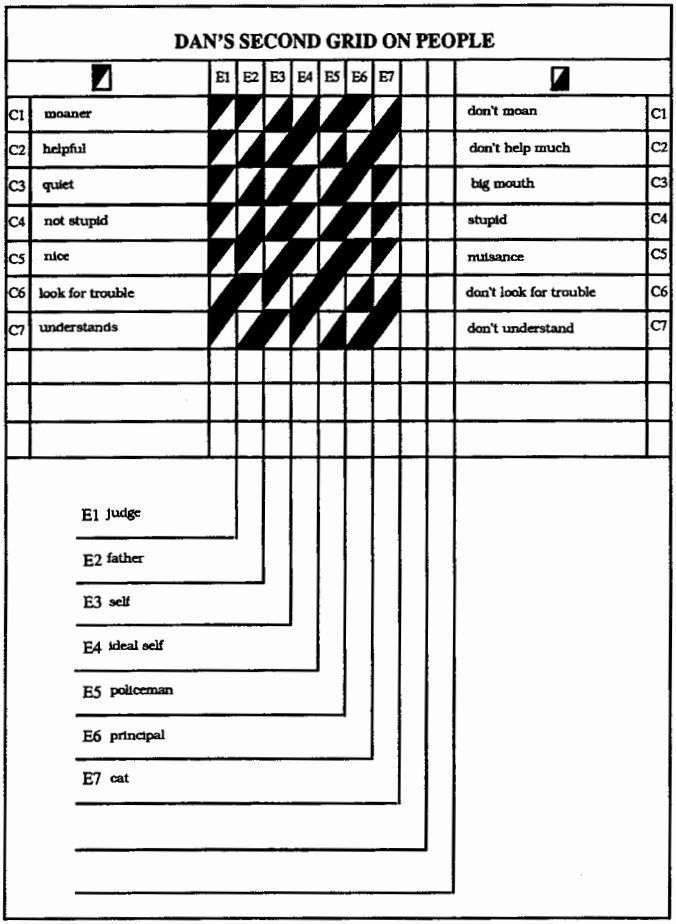


FIGURE 11.2 *Dan's second grid*

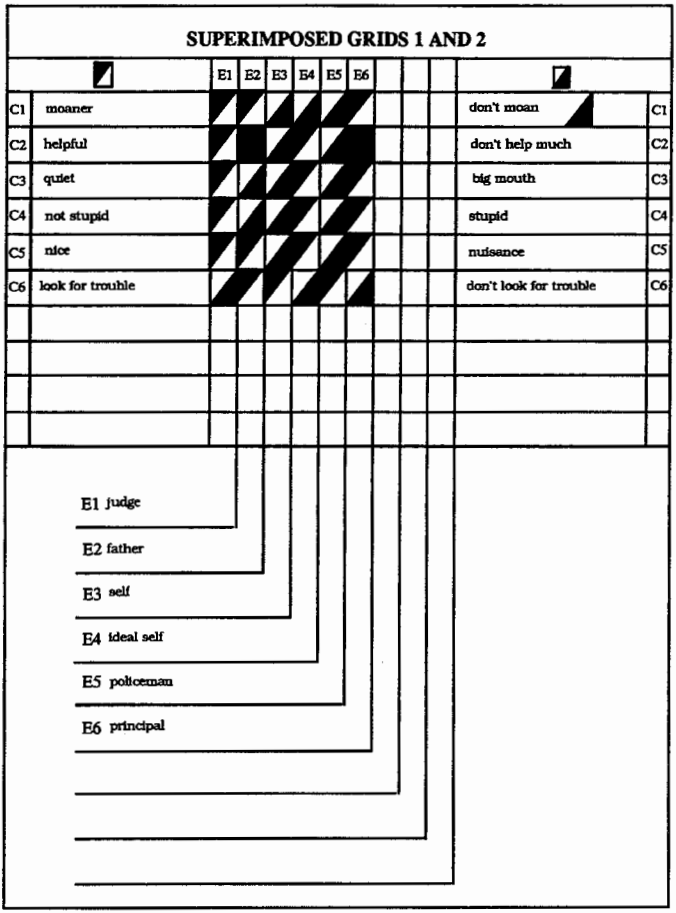


FIGURE 11.3 *Dan's grids (1 and 2)*

One day Dan and Rick arrived to find his uncle just leaving for work. Dan was horrified. He had never known that his best friend's uncle was a policeman. How could he have been so friendly with someone like that? When Dan got home he spent a long time thinking about it. Eventually, he became used to the idea, and began to talk to Rick's uncle about himself, and about the policeman who had arrested him. Gradually, Dan began to see things from a policeman's point of view and saw that the man who arrested him may have understood him after all and may have been trying to help.

By the time the third grid was elicited, shown in Figure 11.4, Dan had completely changed his view of the policeman. He added his friend Rick as element E8, but this new element is left out of the superimposed grids shown in Figure 11.5. This figure also shows two changes that suggest that Dan again views the principal as he did in his first grid (Figure 11.1).

By the time Dan's fourth grid was elicited, he was only a few weeks away from leaving school. Many of his schoolmates did not have jobs to go to, and Dan had feared that he would not have one either. To his amazement, when he and Rick applied for jobs as apprentice plumbers, they were accepted. Dan was overjoyed. He thought that being a plumber was a good, well-paying job demanding steady work. Such a job would enable him to contribute to the family income, and this fact made him feel very satisfied with his achievement.

Dan's fourth grid is shown in Figure 11.6, and the superimposed grids 3 and 4 are shown in Figure 11.7. The changes mainly appear to be in Dan's view of himself. Figure 11.6 shows how much more similar Dan's view of himself and his ideal self have become compared with the views in his other three grids. He has also moderated his exaggerated opinion of the cat now that he has more

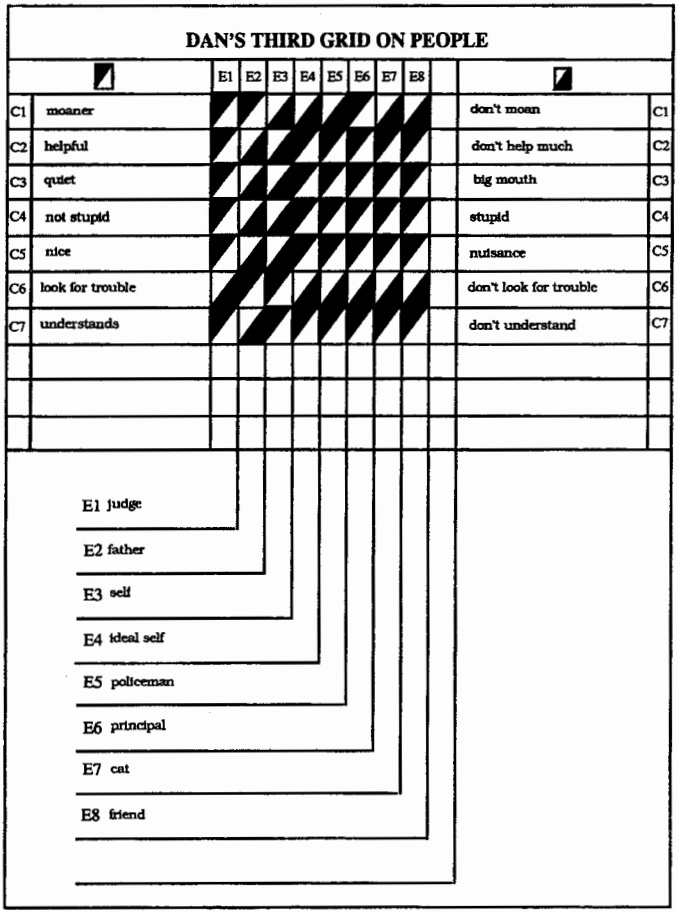


FIGURE 11.4 *Dan's third grid*

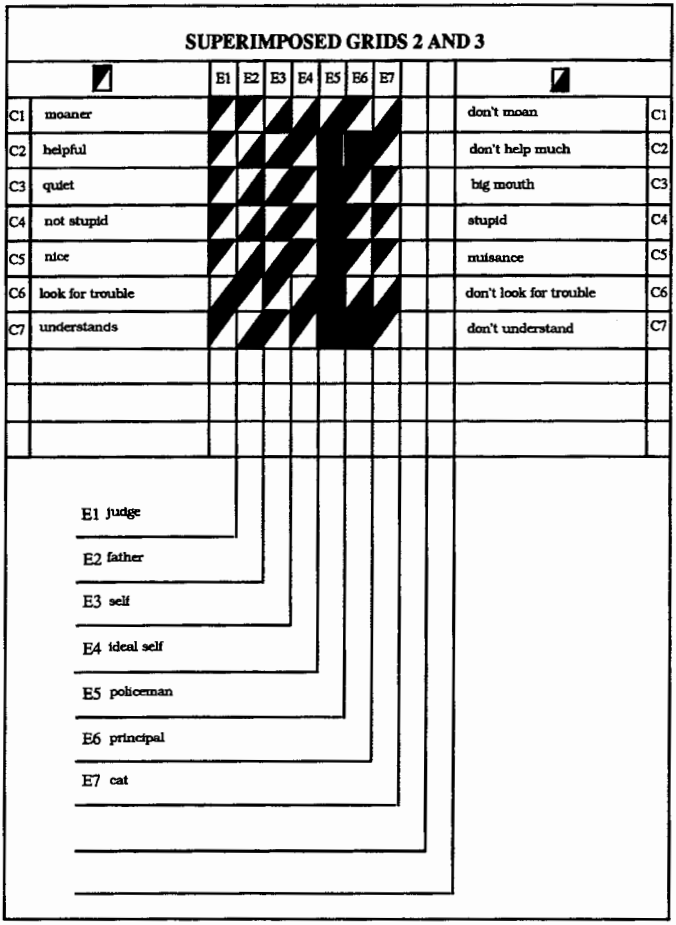


FIGURE 11.5 *Grids 2 and 3*

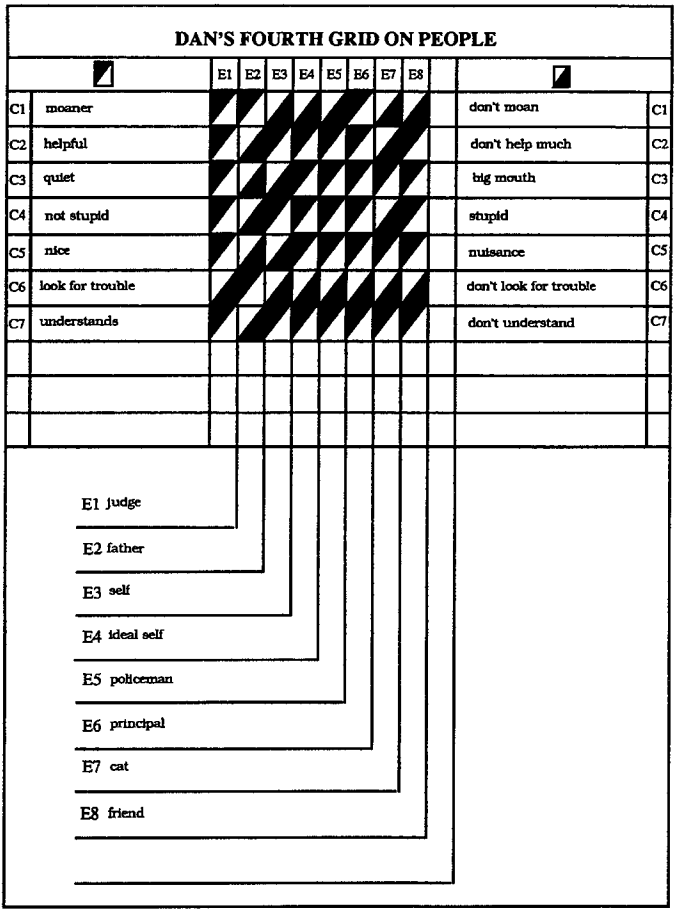


FIGURE 11.6 *Dan's fourth grid*

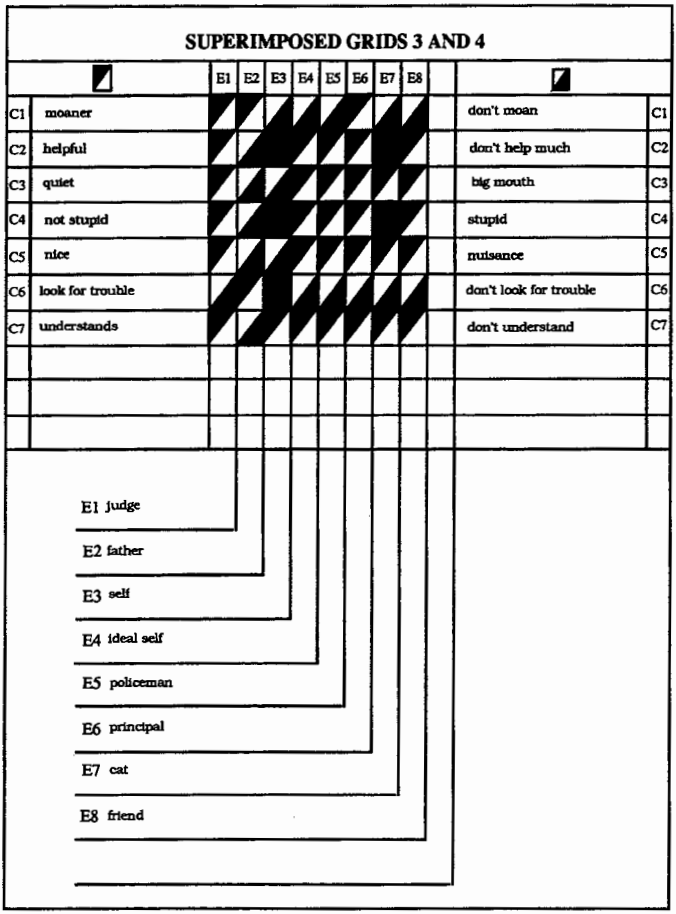


FIGURE 11.7 *Grids 3 and 4*

confidence in himself and has achieved acceptance from a close friend and the employment community.

Dan was immensely pleased with how things had turned out for him. He felt that the regular grid elicitation exercise had helped him become more aware of how he fit into the world around him and understand the causes of his troubles. He also felt that he was now more able to see himself as he looked to other people and, therefore, was better able to take account of both their good and bad qualities rather than seeing them as only good or only bad. He still sees himself as a big mouth and a nuisance (Figure 11.6), but no longer stupid. This meaningful change might enable him to improve his behavior in the future when difficult circumstances arise. He is no longer trapped in corners of his own devising.

12 Evaluation of effectiveness

Often large firms and organizations have policies or values that represent the views of groups within them. Usually there is an executive group of people at the top of the company hierarchy that decides on these policies. These executives may have meetings and write reports stating an individual opinion about the problem and then take some consensus view. The policy then filters down through the organization, and must be supported by every employee, even though it may not be consistent with everybody's point of view. If it were possible to take into account all individual viewpoints, each person could feel more personally committed to the public statement made by the organization.

In many such cases, there is an obvious choice of policy from a set of alternatives, such as maximizing profit or minimizing costs, but it sometimes happens that even the

alternatives are not clear, let alone the desired outcome. In such circumstances some of the techniques described in this book can be used as powerful tools to construct organizational policies, statements, or evaluative instruments, such as performance questionnaires.

In the following case, the executive board of a company wanted to develop a questionnaire they could use to assess the effectiveness of managers and to evaluate the company recruiting policy for managers. Six managers (whom we will call A, B, C, D, E, and F) each had a group of subordinates working with him or her on a particular project. Every so often the manager was required to write a report on each person in his or her group indicating to the subordinate how well he or she was doing the job. If it was found that the employee had been placed in the wrong position, the report should indicate a better position in the company. This was an important exercise both in terms of the company's desire for effective management and the individual's interest in taking advantage of the company's opportunities.

Each manager chose a set of subordinates as elements for a grid, and as many constructs as possible were elicited from the manager using triads. (The purpose of this procedure was to get the managers to think about the terms in which they normally evaluated people.) After eliciting a grid from each manager, we chose a set of subordinates who were well known to all of them as elements in a second grid. This set of elements spanned a wide variety of employees in the section, giving full scope to all the likely ways of grouping them in any situation.

When each manager completed a second grid, we had six grids, all using the same set of employees as elements, but each one having constructs personal to the individual. Using the focusing procedure described in Chapter 4 we could process the grids from manager A and manager B, as if they were from one person, to see what the two people had in common. To explain this more carefully, we need the grids

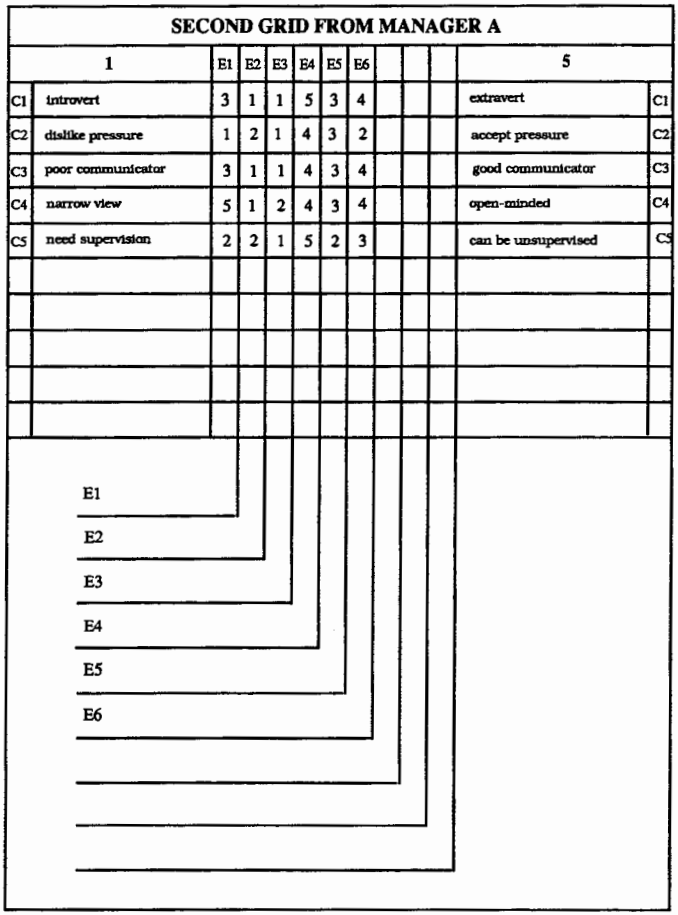


FIGURE 12.1 *Second grid from manager A*

SECOND GRID FROM MANAGER B

	1	E1	E2	E3	E4	E5	E6				5	
C1	lack judgment	2	4	1	3	4	2				has good judgment	C1
C2	need supervision	2	2	1	4	2	3				work independently	C2
C3	no responsibilities	3	4	2	5	3	4				has responsibilities	C3
C4	follower	1	2	1	5	2	3				leader	C4
C5	lack of determination	2	2	2	5	3	3				persistent	C5

E1
E2
E3
E4
E5
E6

FIGURE 12.2 *Second grid from manager B*

RAW DOUBLE GRID FROM A AND B

	1	E1	E2	E3	E4	E5	E6				5	
C1	introvert	3	1	1	5	3	4				extravert	C1
C2	dislike pressure	1	2	1	4	3	2				accept pressure	C2
C3	poor communicator	3	1	1	4	3	4				good communicator	C3
C4	narrow view	5	1	2	4	3	4				open-minded	C4
C5	need supervision	2	2	1	5	2	3				can be unsupervised	C5
(C6)	lack judgment	2	4	1	3	4	2				has good judgment	(C6)
(C7)	need supervision	2	2	1	4	2	3				work independently	(C7)
(C8)	no responsibilities	3	4	2	5	3	4				has responsibilities	(C8)
(C9)	follower	1	2	1	5	2	3				leader	(C9)
(C10)	lack of determination	2	2	2	5	3	3				persistent	(C10)

E1
E2
E3
E4
E5
E6

FIGURE 12.3 *Amalgamated grids of A and B, B's constructs are circled*

from the two managers shown in Figures 12.1 and 12.2. When they are combined in Figure 12.3 we can see that Constructs 1 to 5 are from manager A and Constructs 6 to 10 are given by manager B. (Constructs 6 to 10 are actually Constructs 1 to 5 in Figure 12.2.) Figure 12.4 shows the focused version of Figure 12.3 and the extent of the two managers' similarities.

The intermingling of constructs from A and B forms a cluster of constructs that are very similar: C9, C5, C7, and C2. In fact, C5 and C7 use almost the same words, indicating that A and B agreed on the meaning of "needs supervision," although they have different descriptions of the other pole and use it slightly differently in rating E4. A cluster consisting of the two constructs C3 and C1 are both from manager A, and show that this manager associates "poor communicator" with "introvert," and "good communicator" with "extrovert." The first three constructs in the focused grid are all from A, whereas manager B never forms more than two adjacent constructs.

By examining every possible combination of two grids in this way, we can measure how much any two people have in common. The simplest way is to count the number of groups of constructs from A and from B by scanning the constructs of the focused grid. For example, in Figure 12.4 there are six groups:

C4, C3, C1,	C10, C9,	C5,	C7,	C2,	C6, C8
1(A)	2(B)	3(A)	4(B)	5(A)	6(B)

(The *Socio* computer program has a more accurate and faster way of measuring the extent of the commonality. This program is described briefly in Appendix B.)

This process is repeated for every pair of grids, and the pairs are then listed in the order of most-in-common (greatest number of groups) to least-in-common (only two

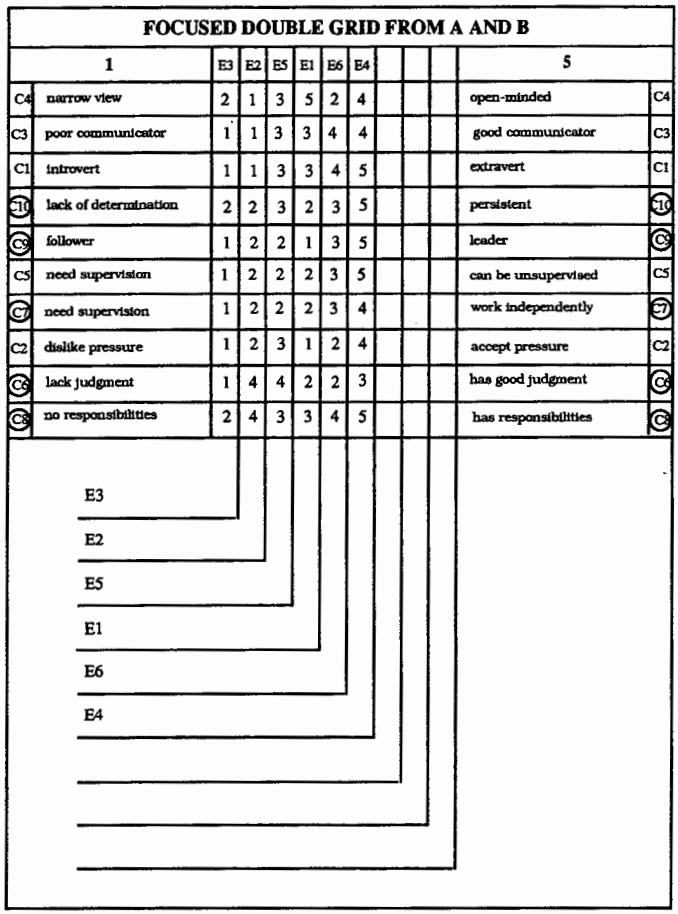


FIGURE 12.4 *Amalgamated grids of A and B focused, B's constructs are circled*

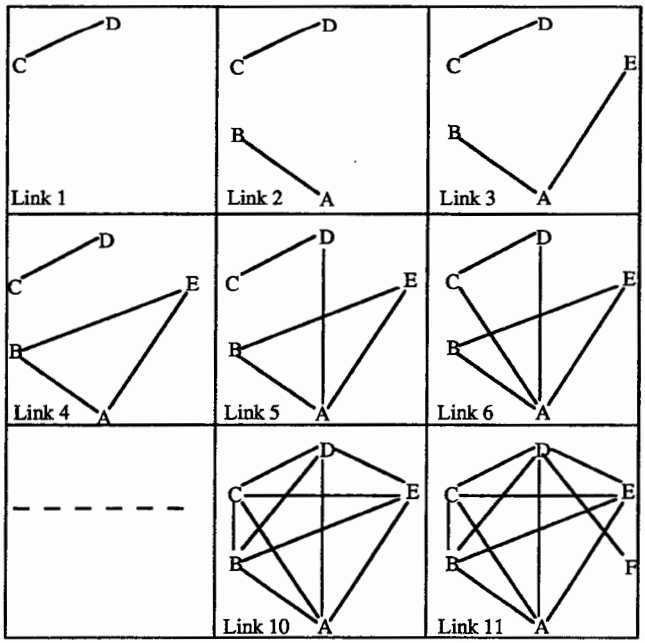
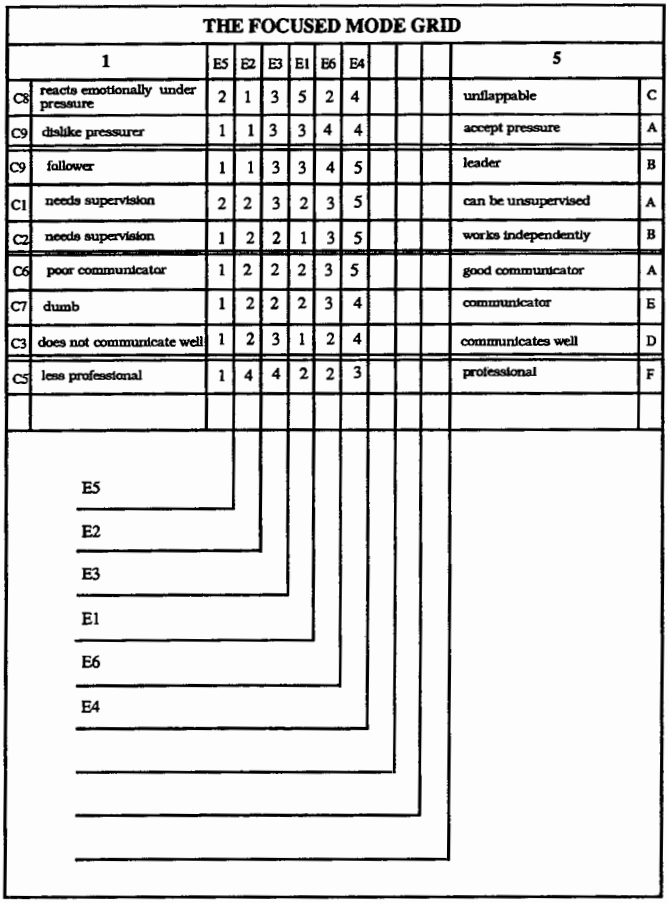


FIGURE 12.5 *The set of socionets for the managers*

groups—all of one set then all the other). These links are then drawn, one being added on each diagram as in Figure 12.5. In this case manager C and manager D had the most in common, shown in link 1, followed in link 2 by A and B. Gradually, A is revealed as the person having most in common with all the others. By link 10, all possible pairs are linked with the exception of manager F, who seems to be in a world of his own, having very little in common with any of his peers. These diagrams are called *socionets*.



THE FOCUSED MODE GRID

	1	E5	E2	E3	E1	E6	E4				5	
C8	reacts emotionally under pressure	2	1	3	5	2	4				unflappable	C
C9	dislike pressurer	1	1	3	3	4	4				accept pressure	A
C9	follower	1	1	3	3	4	5				leader	B
C1	needs supervision	2	2	3	2	3	5				can be unsupervised	A
C2	needs supervision	1	2	2	1	3	5				works independently	B
C6	poor communicator	1	2	2	2	3	5				good communicator	A
C7	dumb	1	2	2	2	3	4				communicator	E
C3	does not communicate well	1	2	3	1	2	4				communicates well	D
C5	less professional	1	4	4	2	2	3				professional	F

FIGURE 12.6 *The mode grid in focused form*

In order to find constructs that would be clustered if all the grids were focused together, each construct is matched in turn against all the other constructs in all the grids. As this is done, a note is made of the number of times constructs from different grids are found to be similar. (Again, the *Socio* program does this automatically.) When this procedure has been carried out for every construct, the results can be listed in order of the number of appearances a pattern makes. By taking a suitable number of the most highly related constructs, a *mode grid* of the most frequently used constructs is extracted from the list of individual constructs. This number is usually comparable to the number of constructs in the individual grids. The focused mode grid from the managers is shown in Figure 12.6, with the manager who provided each construct identified on the right. This mode grid, then, shows the terms that the majority of the managers use to understand their subordinates.

There are four main clusters in the mode grid, and it is interesting to look at the names of the constructs in these clusters. The far right-hand column in Figure 12.6 shows which manager contributed that particular construct. The first cluster has two constructs, one from manager C and one from manager A:

reacts emotionally under pressure	—	*unflappable*
dislike pressure	—	*accept pressure*

Both of these managers seem to evaluate an individual's reaction to pressure. This idea is used by the majority of the managers, or it would not appear in the mode grid. The second cluster

follower	—	*leader*
needs supervision	—	*can be unsupervised*
needs supervision	—	*works independently*

contains one construct from A and two from B. Again, the same idea is expressed in slightly different ways. The third cluster is

poor communicator	—	*good communicator*
dumb	—	*communicator*
does not communicate well	—	*communicates well*

which has clusters from three different managers—A, E, and D—all concerned with the ability to communicate. The last cluster contains only one construct

less professional	—	*professional*

which is provided by manager F. This is a different sort of construct from the others, being less behavioral or specifically observable, and more theoretically deduced than other activities. In other words, how do you notice whether someone is or is not "professional?" It is interesting that this is provided by F who was the manager having the least in common with anyone else in the socionets analysis. It now seems possible that manager F is evaluating his subordinates on a different level than the other managers. At this stage it might be interesting to look back at his two grids to verify this suspicion.

Finally, we want to use the information we have gathered from this exercise to develop a performance questionnaire that the whole company can use to evaluate effectiveness as it applies to particular employees and their situation. One thing that the managers felt was especially interesting was that all the constructs had been general enough to apply to people in any department. None of them had used specialized or technical constructs to discriminate among their subordinates. In order to compile the questionnaire it was necessary to go back to the managers and ask them to add to their second grids the construct "effective—ineffective."

PERFORMANCE QUESTIONNAIRE

Check the most appropriate description of the subordinate's work over the last year.

	Not applicable	No evidence	Always true	Usually true	Sometimes true	Rarely true
1. *His or her work improves under stress.*						
2. *He or she plans several steps ahead.*						
3. *He or she puts priorities on what needs to be done.*						
4. *He or she uses authority when necessary.*						
5. *He or she communicates effectively with both the boss and with colleagues.*						
6. *He or she learns from mistakes.*						
7. *He or she can work independently and without supervision.*						
8. *He or she meets objectives on time.*						
9. *He or she works well in groups.*						
10. *He or she appears at ease when dealing with people.*						
11. *He or she is well organized and tidy.*						
12. *He or she asks for guidance when necessary.*						
13. *He or she makes clear oral and written reports.*						
14. *He or she contributes towards good morale in the section.*						
15. *He or she gives clear instructions.*						
16. *He or she generates useful ideas.*						
17. *He or she delegates work effectively.*						
18. *He or she monitors his or her own performance.*						
19. *He or she is willing to work outside normal hours.*						
20. *He or she is technically competent.*						

This construct was then incorporated in the analysis of the grids to see which of the existing constructs were related to effectiveness. It might have been useful to ask each manager at this stage to add two new elements "the most effective manager I know personally" and "the most ineffective manager I know personally." If it happened that both of those elements fell at the same pole of any construct, then that construct would not differentiate between them and, therefore, would be irrelevant to that manager's view of effectiveness. For example, one manager used the construct "married—not married," and it happened that the most effective and the most ineffective persons were both married. In this case, one can deduce that marital status has nothing to do with job effectiveness.

The final questionnaire uses those constructs from the six managers that discriminate between effective and ineffective people.

13

Think again

By now we have seen many ways in which grids may be used. First we described the use of grids by individuals: Carol's choice of a course of action; Jim's choice of the right car; Bill's grid as part of Julie's group; and a way of using the grid to think about what we mean by "personality." Second, we showed how grids can be used with more than one person in order to increase communication and understanding: Philip and Marian's investigation of how they viewed their friends and how each thought the other viewed them; Gillian's attempt to understand nutrition in the way an expert dietitian does; Dan's self-observation using a grid over a period of time; and the managers' views of effectiveness. We ended the first part by outlining some other ways in

which the grid could be used. We would now like to do the same thing using the ideas from the second part.

We usually think of *art* as something personal and intuitive. It is not unusual to hear artists say that to attempt to analyze art is to destroy it. How, then, do we teach art? The answer to this question often differs depending on whether one asks an art student or art teacher. Art teachers often say that they are interested in fostering self-expression, but at the same time, insist upon the necessity of grading student work. The students ask how self-expression can be right or wrong.

There are at least four ways in which grid methods could be used in such an area. First of all, an art student could use the grid to investigate how he or she views art in order to focus his self-expression. This is what we called "using the grid" in Chapter 3. The student can process his or her grid like we did with Dan's in Chapter 4, to see what clusters appear, and what elements seem to be associated.

Secondly, the student and teacher could both construe some art objects, thus enabling the student to see how the teacher thinks about art and how his or her own view compares with the teacher's view. This is precisely what Gillian did in Chapter 10 with her expert dietitian. Each of them elicited individual grids using the same elements, and compared them one construct at a time to see if they were categorizing things in the same ways even when they were referring to them differently.

Thirdly, an entire class can construe the same art objects and explore relationships, areas of overlap, and differences between them. This is what we did in Chapter 12 with the managers. Having chosen the set of art objects to use as elements, each individual elicits a grid. The final set of grids is then processed by comparing every two grids out of the total group and noting the extent of the commonality between the two. From all these results we can see which people in the group are like each other and, moreover, which

views they have in common, as well as those views unique to a particular individual. In this way, the students can share ideas and insight more effectively.

The fourth method may be the most important since it goes some way toward resolving the problem of how to evaluate art. If a student construes various art objects, his constructs then represent his or her view of art. Suppose the student is then asked to consider the piece of work he or she is about to do. The student could be asked to describe what he or she *wants* it to be in terms of his or her own personal constructs. Once the student has produced the piece of work, the work can then be evaluated in terms of what the student wanted it to be. If the student is honest he or she will be able to say how successful he or she has been in doing what he set out to do. This would not rule out the possibility of producing a great work of art spontaneously, but it would go some way towards showing how one might arrive at a valid set of criteria for judgment.

Many of us tend to think of *industry* as being a precise world where products are made to exact standards. Further, we assume that these standards can be specified quantitatively and that the success or failure of a product can be measured in terms of these standards. However, it is not uncommon in industry for inspection of products to involve a great deal of subjective opinion. The example of Hamish the whisky-taster in Chapter 9 is an obvious case in point, but the practice of using subjective judgment is far more common than this example might suggest. In the clothing industry, various branches of engineering, the pharmaceutical industry, and so forth, inspectors are involved in judging whether products are fit to be put on the market.

Leaving aside questions about the accuracy of a particular inspector's judgment, various other problems often arise in such situations. Such problems usually arise because different people in a particular business have

different views of the product they manufacture. For example, a product that is acceptable to a production manager because it satisfies engineering criteria may be rejected as unsuitable by an inspector using aesthetic criteria. Furthermore, a sales manager may decide that the same product is acceptable for one customer but not for another. Three people could easily find themselves arguing about a product because their viewpoints arise from differing situations. The production manager wants to see as few rejects as possible, otherwise the production department will look inefficient. The inspector does not really mind how many products are rejected as long as no faulty ones slip through to the marketplace. The sales manager, ideally, would like a warehouse full of excellent products that will fill the necessary orders. The sales manager does not want too many rejects because that will increase the product's cost, but he knows that many customers would not object to some of the products the inspector might reject. The sales manager could probably sell them at a reduced rate as a promotional strategy.

If each of these three people were to complete a grid individually, using various acceptable and unacceptable products as elements, they would become more aware of their own criteria for judgment. Secondly, they could look at the other grids in order to see how their associates think. Using the exchange grid technique as we did with Philip and Marian would give them even greater insights into some of the other ways of thinking. Not only could they share views, but with a little work they could also negotiate a common core of constructs that would form the criteria on which products were judged in the future. As a result of using this procedure all three people might be happier and, subsequently, work together more effectively.

We have produced many examples of how the grid can help clarify problems. However, there are many more problems to which the grid can be applied. Appendix B

shows you RepGrid, a program that will elicit and analyze a grid automatically.

The breadth of examples we have shown should suggest that the grid is a flexible tool. We hope that you will be able to use it to **think again** about your problems, and about topics that interest you. Often we hear people say, "I've never been able to do math" or "play the piano" or "learn French". Expert teachers of math, piano, French, and other subjects will tell you that you can be successful, but your past failures in a given area and your present attitude are your biggest handicaps. We hope that when you have practiced using the grid, you can make it a useful tool to help you **think again** and learn some of the things you have always wanted to learn and do.

Appendix A

CLUSTERING A GRID WITH A RATING SCALE

Appendix A relates to Chapter 4. You may need to go back and make sure you understand Method 2. When your grid uses a rating scale like 1-5 or 1-7, Method 1 is too difficult because you have to judge visually which rows and columns are similar. However, Method 2 can still be used, to get results similar to those obtained with Method 1, providing the best of both worlds.

First, calculate the tables of matching scores for both elements and constructs. Instead of counting the number of times the same symbol occurs to find the relationships between elements or between constructs, the sum of differences must be calculated.

For example, between

1 2 2 4 5 5	and
5 4 2 2 3 4	there are
4+2+0+2+2+1	= 11 differences.

These results are entered in the boxes in the usual way and then, in the case of elements, are picked out from the smallest to the largest to obtain the clusters. In the case of constructs, a large difference is as significant as a small one, because the construct could be reversed. For example, on a 1-5 scale with seven elements, the maximum difference that could occur is (5-1) x 7, or 28. In this case, scores of 0 or 28 should be selected first, followed by 1's and 27's, and so on.

An example may make it clearer. We will take Bill's grid on learning events in Figure 7.3 as an example and show how it may be processed to produce the result given in Figure 7.4 (see page 70). First, form the tables of matching scores. For elements:

	E1	E2	E3	E4	E5	E6	E7	
E1		13	17	12	13	7	7	E1
E2			12	17	6	16	12	E2
E3				11	10	22	12	E3
E4					15	13	9	E4
E5						16	6	E5
E6							12	E6
E7								E7

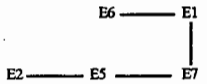
For constructs:

	C1	C2	C3	C4	C5	C6	C7	
C1b		11	11	10	4	13	19	C1
C2b	15		12	15	13	10	14	C2
C3b	13	12		11	9	6	10	C3
C4b	14	7	7		8	15	15	C4
C5b	18	11	13	14		13	17	C5
C6b	11	18	14	13	9		10	C6
C7b	3	12	12	9	3	14		C7
	C1	C2	C3	C4	C5	C6	C7	

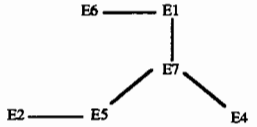
(The bottom left half is found by reversing one of the constructs in each pair).

To form the clusters we must pick out the numbers from the table of element matching scores, starting with the smallest. We have two 6's:

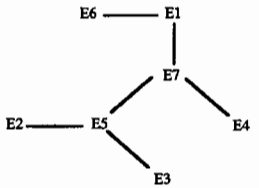
Then, considering the 7's we get:



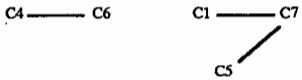
Next comes a 9:



Now, the only one missing is E3, so we have:



For the constructs we must consider high and low values equally, such as 0 and 28, 1 and 27, 2 and 26, and so on. The first ones we find are 3's (there are no 25's that would be equivalent):

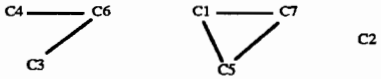


Although the link between C7 and C5 was taken from the bottom of the table, we will not write "C5b" this time because we will look at all the reversals more closely in a moment.

The next value we find is a 4, which does not add to the clusters:

Next, a 6 gives:

And now only C2 is to be added:



These are the final results from Method 2.

If we want to obtain the grid in Figure 7.4, we merely form a line instead of clusters. This time we can either form a new part of the chain or add a link to one of the elements at the end of a chain. We start again with elements. The 6's give us:

E7—E5—E2

Now the 7's add E6—E1 to E7:

E6—E1—E7—E5—E2

The 9 adds E4 to E7, but this cannot be included since E7 is not on the end of the line. The same applies to the 10, which gives E3—E5. The 11 gives us E3—E4, so we have two parts to the line now:

E6—E1—E7—E5—E2 and E3—E4

We must continue choosing numbers from the table until we are able to join these together. A 12 joins E2 and E3, producing the final line:

E6—El—E7—E5—E2—E3—E4

This method is repeated for the constructs, bearing in mind the two possible choices of number 0 and 28 and so on. Starting with the 3's, we get two parts of the line:

C1—C7—C5 C4—C6

Then C3 joins to C6 giving:

C1—C7—C5 C4—C6—C3

Now C2 joins to C4:

C1—C7—C5 C2—C4—C6—C3

Continuing until they come together we get:

C1—C7—C5—C3—C6—C4—C2

We now have reordered the elements and the constructs, but still must check which constructs have been reversed. To do this we must look back at the table of construct matching scores and see which numbers have been crossed through. Take the first link in the line of reordered constructs and see whether it comes from the top right half (in which case leave it alone) or the bottom left half (in which case add a prime). Note that C7' is a more compact way of writing what in Chapter 4 we called C7b. C1—C7 is matched on the bottom, so place a prime after C7:

C1—C7'

This part of the line cannot be changed now. We must then add a prime to one construct in every adjacent pair in the line, if and only if the match came from the bottom half. If the match comes from the top half, they must be in the same form. Either they both must have primes or neither must have a prime.

The next match C7—C5 is from the bottom, so we need one prime. But there is already one on C7 so we get:

C1—C7'—C5

We can continue to build up the picture of primes going down the line. The pair C5—C3 comes from the top half, so it must be in the same form as C5, giving us:

C1—C7'—C5—C3

Next, C3—C6 is from the top half, so C6 must be like C3:

C1—C7'—C5—C3—C6

But C6—C4 is from the bottom half, so just one of them must have a prime. Since we cannot change the line so far, we add the prime to C4:

C1—C7'—C5—C3—C6—C4'

Next, C4—C2 comes from the bottom. One only must have a prime, and it is already present on C4. So the final line is:

C1—C7'—C5—C3—C6—C4'—C2

The final focused grid in Figure 7.4 is constructed as follows:

1. *Write the new order of elements along the top line of a grid form. (Some grid forms are printed later in Appendix B.)*
2. *Write the new order of constructs down the far left and far right columns.*
3. *Write in the words for the constructs, reversing those that have a prime. (Compare the words in Figures 7.3 and 7.4.) Put R's on those that have been reversed.*
4. *Write in the words for the elements on the lines towards the bottom of the form, in their new order.*
5. *For those constructs that have* **not** *been reversed, carefully copy the ratings from the original grid for each line in the new element order.*
6. *For those constructs that have been reversed, instead of writing down the appropriate rating as in item 5 above, each rating must also be reversed. That is, 1 becomes 5, 2 becomes 4, 3 is*

still in the middle at 3, 4 becomes 2, and 5 becomes 1. (This is similar to changing the o's and x's that we explained in Chapter 4 when constructing C6b from C6a.) For example, on C7 we had:

	E1	E2	E3	E4	E5	E6	E7	
C7	3	1	1	3	1	5	2	C7

The new order gives us:

	E6	E1	E7	E5	E2	E3	E4	
C7	5	3	2	1	1	1	3	C7

and reversing the ratings we get:

	E6	E1	E7	E5	E2	E3	E4	
C7'	1	3	4	5	5	5	3	C7'

A quick way to do this is to note that each rating and its reverse adds up to 6 (1+5=6, 2+4=6, 3+3=6, 4+2=6, and 5+1=6), so we could have subtracted each value from 6 to get the reversed form. If we had used a 7-point scale

1 2 3 4 5 6 7

becomes

7 6 5 4 3 2 1

and we note that each rating and its reverse adds up to 8. Here we could subtract each value from 8 to get the reversed form. This quick method can be applied to any rating scale. The number to use is one more than the highest rating allowed in each case.

Now you have the final grid as displayed in Figure 7.4. If you have followed diligently up to this point, you may be relieved to know that the FOCUS program (described in Appendix B) does this whole process automatically for you.

Appendix B

THE REPGRID COMPUTER PROGRAM

RepGrid is an integrated suite of programs for the Apple Macintosh computer that provides facilities for the interactive elicitation and analysis of repertory grid data from one or more people. It is based on the Personal Construct Psychology of George Kelly made operational through the personal computer. Repertory grids are used in personal construct psychology to elicit and analyze the cognitive structures of clients.

RepGrid is a conversational tool for investigating the basis of the thinking of yourself and others, and offers alternative approaches to grid analysis and presentation. It may be used in a wide variety of applications ranging from

personal decision making through psychiatric help to the study of cultures.

RepGrid offers flexible forms of conversational computer interactions for both naive and professional users, and has been designed for power combined with flexibility and ease of use.

What can you do with RepGrid?

- You can elicit a conventional repertory grid with on-going display of similar constructs and elements.
- You can start to elicit a new grid or continue one previously started.
- You can choose a rating bar with any number of positions from 2 to 199.
- You can choose triadic, pairwise and match-breaking elicitation.
- You have continuous display of highest matches, and easy access to any other match values.
- You can edit element and construct names, and rating values at all times.
- You can choose automatic elicitation sequence generation.
- You have all options continuously available for user choice.
- You can choose to see a rapid interactive analysis and display anytime during the elicitation.
- You can copy and paste RepGrid graphic and text output to other programs.
- You can process individual grids by cluster analysis, *FOCUS*, or principal component analysis, *PrinCom*.
- You can see the results of the analysis in textual or graphical form, with either the full intermediate values or full graphic presentation on screen and printer.

- You can choose the automatic tinting of rating values in *Display* and *FOCUS* output to show structure.
- You can click and drag the element and construct labels in *PrinCom* output.
- You can elicit an exchange grid using a grid from another person, to explore your agreement or understanding of the other's point of view.
- You can compare grids from two or more people, either with the same or different constructs.
- You can see help buttons at all times showing current matches and options available.
- You can see the control panel for data management, and the Status data at any time.
- You can automatically log all activities, dates and times.
- You can customize all fonts, sizes and weights in output.

Figure B.1 shows the main tools in RepGrid:

- *Elicit* accepts specifications of elements within a domain and provides an interactive graphical elicitation environment within which you can distinguish elements to derive constructs. The resultant construct system is continuously analyzed to provide feedback prompting you to enter further elements and constructs.
- *FOCUS* is a clustering method for the analysis and display of the construct systems elicited showing the system as a hierarchical structure.
- *PrinCom* is a clustering method for the analysis and display of the construct systems elicited showing the system as a spatial map.
- *Socio* compares elicited and exchanged grids in a variety of ways, and provides comparison of terminology, difference grids, socionets, and mode constructs.

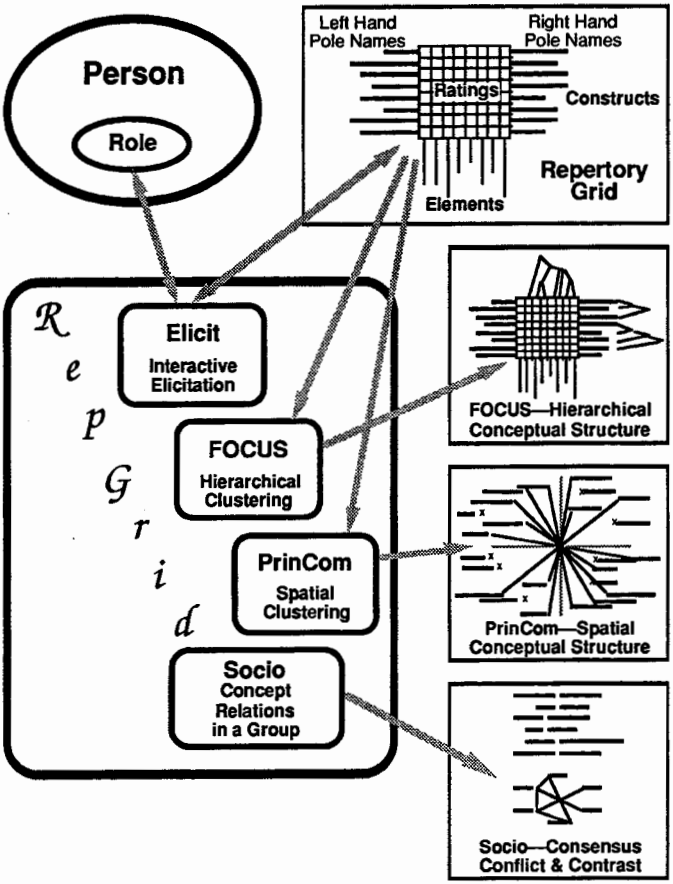


FIGURE B.1 *The RepGrid system*

Elicitation in RepGrid

When starting up the RepGrid system, a double click on the RepGrid *icon* shown in the top left corner of Figure B.2 will yield the initial screen which asks the user for a *Name and description* which is used to monitor the user's interaction and stored in the *Log* file.

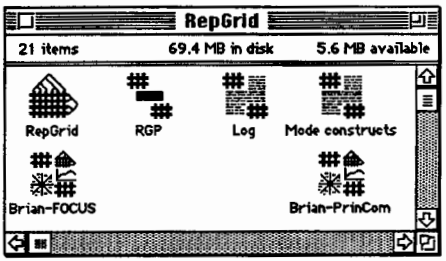


FIGURE B.2 *The RepGrid desktop showing the icons*

As an example, we use Philip from Chapter 10 who wants to explore his thoughts and feelings of friends. After he clicks on the RepGrid icon a *Welcome to RepGrid* screen comes up where he has to enter his name and a session description, the context or purpose for eliciting the grid, and other preferences such as the number of rating points. The default value is 1 to 9 but Philip chooses to change it to 1 to 5. When he has finished he clicks on *Done* and goes to the next screen where new elements can be added.

Here he is asked to think of about six elements that are relevant to his purpose which he said was my view of friends. He knows that at least six is the best number to start with, and that less than three will make triadic elicitation impossible. He can think of at least six.

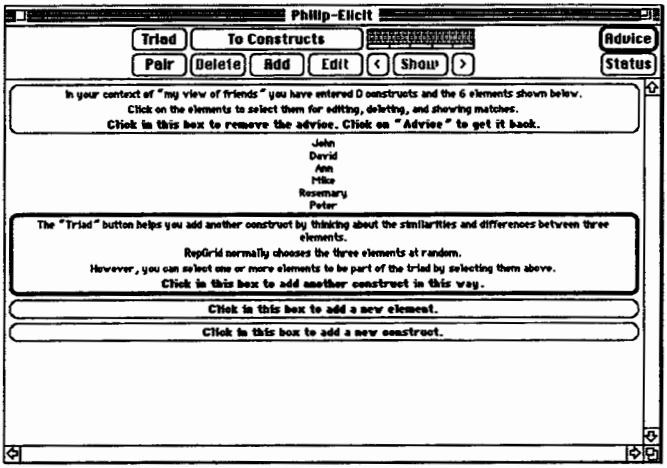


FIGURE B.3 *Philip's list of elements*

He types in the names of his six friends that were used in Chapter 10. This results in the screen shown in Figure B.3. If a typing error is made, or he wants to change an element he can go back and correct it at any time just by highlighting it and clicking on the *Edit* button.

As Philip is just starting his grid, he decides to elicit a construct from a triad, so he clicks on the *Triad* button which bring up the screen shown in Figure B.4.

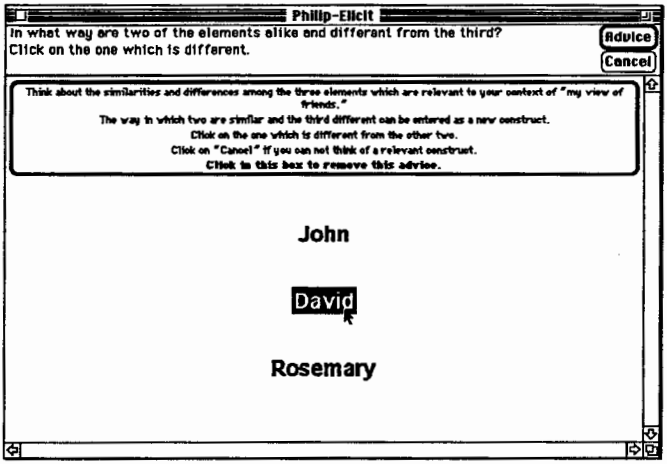


FIGURE B.4 *Philip's first triad*

He sees the three element names in the triad, and decides that David is the one who is different from John and Rosemary, so he clicks on that one.

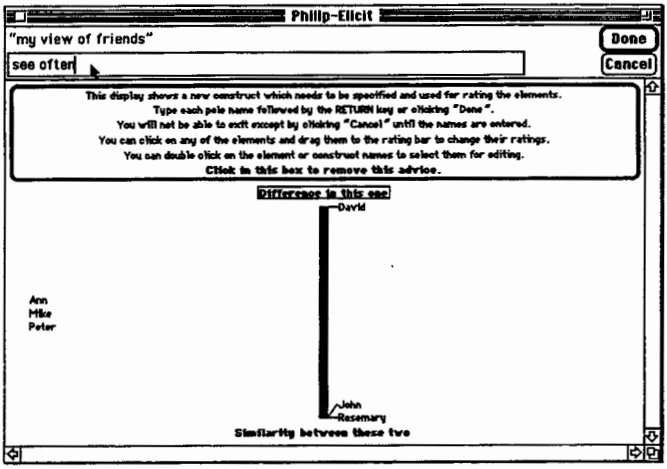


FIGURE B.5 *Philip's first construct pole name*

Now Philip has to decide why he thinks John and Rosemary are alike and different from David. He types in the *Difference in this one* as "see often" as shown in Figure B.5 on one pole of the construct, then he names the other end of the construct. The *Similarity between these two* is that they are "don't see often".

Philip now has to rate all the other elements on this scale. If he finds that the original triad John, David and Rosemary need to be moved to accommodate the others he can do that.

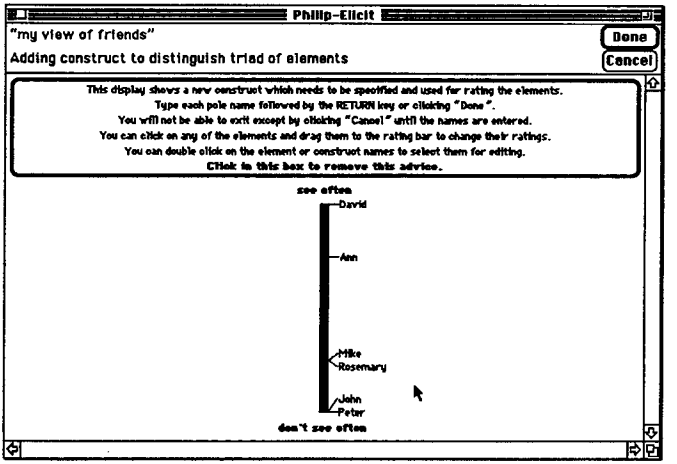


FIGURE B.6 *Philip's first construct*

Figure B.6 shows that he moved Rosemary up one place towards the middle of the scale, and put Peter at the bottom. It also shows how he placed each of his other friends on this construct.

Now he has got his first construct, and continues by adding four more constructs from triads. After this, Philip notices that the bar in the top right of the screen in Figure B.3 is showing a high match between two of his friends. He clicks in the bar to find out what it is, then chooses to *Show* it by clicking on that button, and can see in Figure B.7 why they are matched.

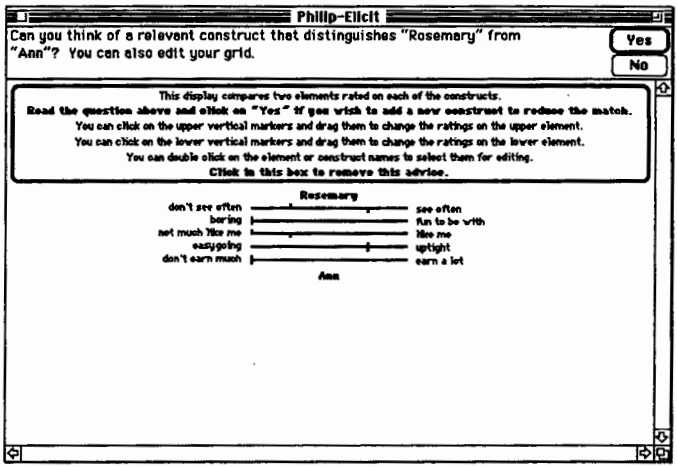


FIGURE B.7 *An element match*

The line pointing up indicates the placing of Rosemary, and the line pointing down that of Ann. If he wanted to change any of these values at this time, he could pick up the marker by pointing to it, clicking on the mouse, and dragging it to a new position on the bar.

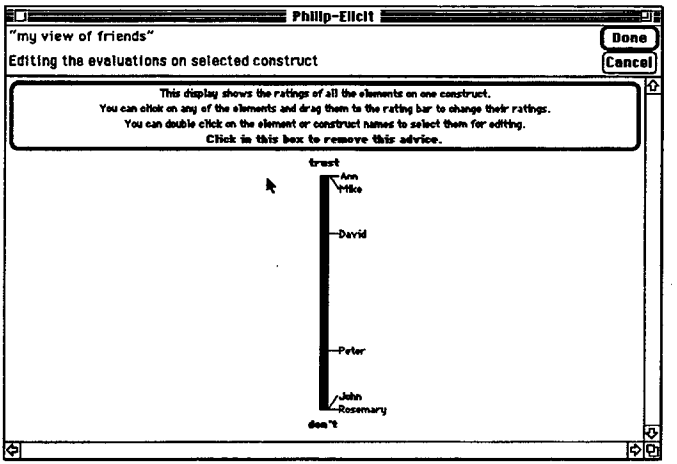


FIGURE B.8 *Splitting an element match*

He decides to break the match by adding a new construct which distinguishes between them. This takes him to a new screen placing the matched elements at either end of the construct bar. This is very like the screen that appeared after Philip had chosen a triad, and is shown in Figure B.8 with the other elements also rated. Later, he comes back to this construct by selecting *Edit*, and changes the pole names to "trust them—don't trust them."

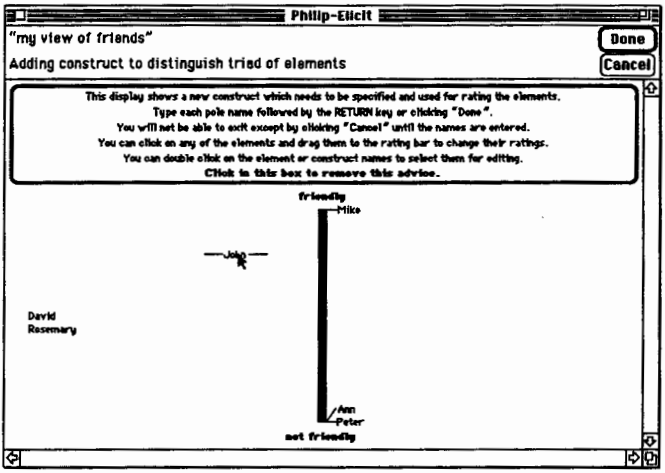


FIGURE B.9 *Dragging an element on to the construct bar*

Figure B.9 shows an element being dragged on to the rating bar from its anchor point on the left of the screen.

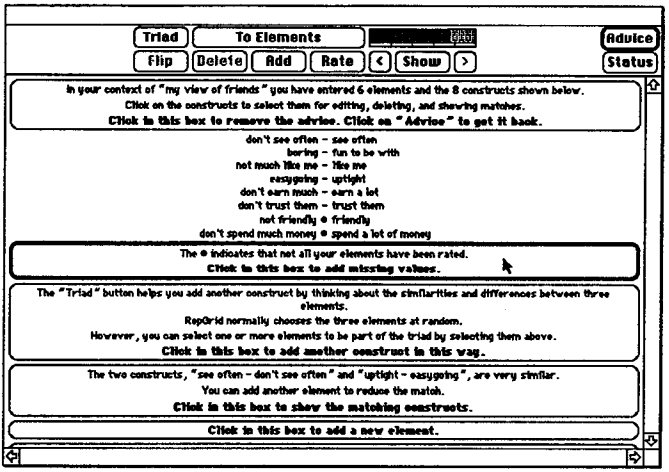


FIGURE B.10 *The construct screen with some unrated constructs*

Philip then decides to add several construct names before rating all the elements on them. Constructs with unrated elements are shown by a bullet mark (•) between the pole names as in Figure B.10. These constructs can then have all the elements rated on them by clicking on the pole name to appear at the top of the screen, then on *Edit*, or by clicking on the first help box under the list of constructs. Any of the help boxes could be clicked on if Philip wanted to choose one of those options.

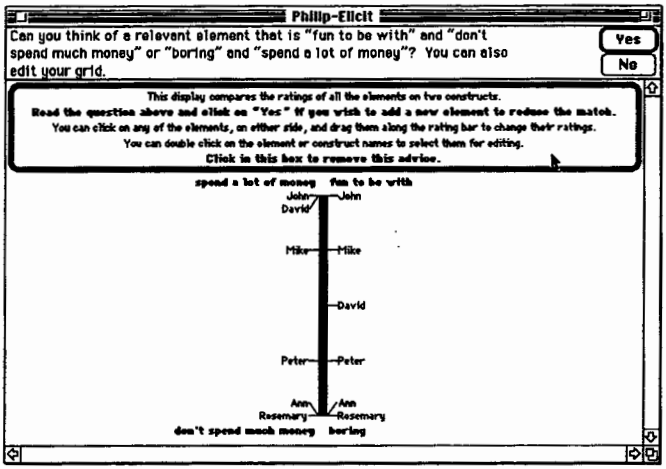


FIGURE B.11 *A construct match*

Philip then looks at the high matching constructs by clicking on the match bar (shown in Figure B.10 in the top center-right), then on the less-than (<) to step down one level at a time, or the more-than (>) to step back up. He decides to *Show* the highest one, and this takes him to a new screen showing how the constructs are matched, in Figure B.11.

This shows the two matched constructs side by side, so that the ratings of individual elements can be compared. In this case Philip can see that most of the elements are in the same positions on both constructs, only David is construed differently. This means that with this one exception, Philip is saying that his friends who "spend a lot of money" are also "fun to be with," and those who "don't spend much money" are "boring."

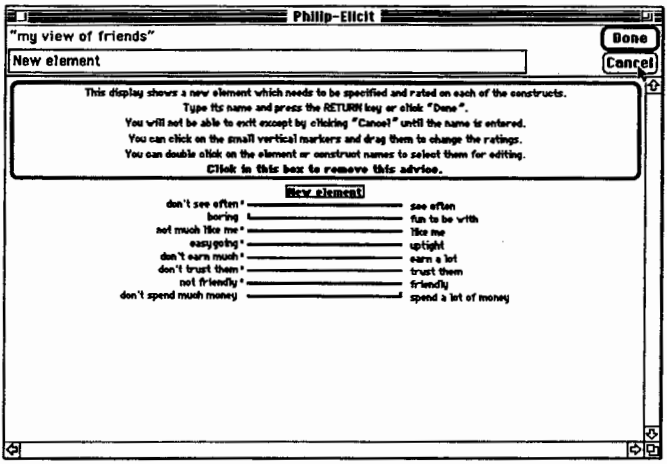


FIGURE B.12 *A construct match*

Philip decides that he does not think that this is always the case, so he decides to add another element. He clicks on *Yes* to get to the screen in Figure B.12. He could then type in a new friend who would be rated on all his constructs so far, by dragging the marker to the appropriate place on each. However, he cannot think of one who would split this match, so clicks on *Cancel*.

Philip can continue to elicit his grid with the options available as described. At any time he can add or delete elements or constructs, use triads or pairs, or just type in names and ratings. He can see the *Status* screen at any time and change it if he wishes; for example, adjust the purpose to be more relevant to what he is doing. When he chooses, he can *Display* his grid, or analyze it using *FOCUS* or *PrinCom* and then continue with the elicitation.

All the facilities in the elicitation system are also present in the exchange elicitation. If the user wishes to use offered elements and/or offered constructs then the procedure for setting up the exchange elicitation should be followed, as described in the next section, but only the *Elements* and/or *Constructs* boxes should be checked respectively.

Exchange Grid Elicitation

As we saw in Chapter 10, Marian decides to use Philip's grid for an exchange procedure where *she* has to rate *his* elements on *his* constructs as she feels that *he* would have done. She could have chosen to rate his elements on his constructs as she would have done. These two procedures enable Marian to compare her understanding of Philip's perspective of the topic, and her agreement with him. Whichever is selected, the same procedure will be followed.

In either case, Marian has first to *Copy* Philip's grid with which she wishes to exchange and compare his knowledge or ideas. She must remember not to copy his ratings!

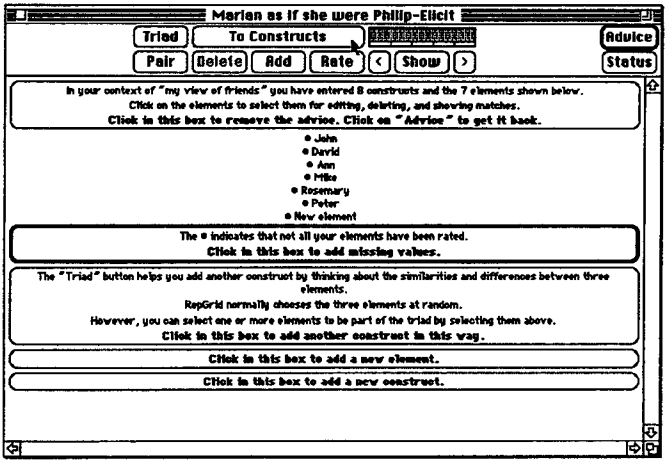


FIGURE B.13 *Marian's element screen*

Marian starts the elicitation in the same way as she did with her own grid, but the elements and constructs already exist. She can see the list of elements used in Philip's original grid, shown in Figure B.13, and choose to *Delete* some if she wishes by selecting the one(s) to delete, then clicking on the *Delete* button.

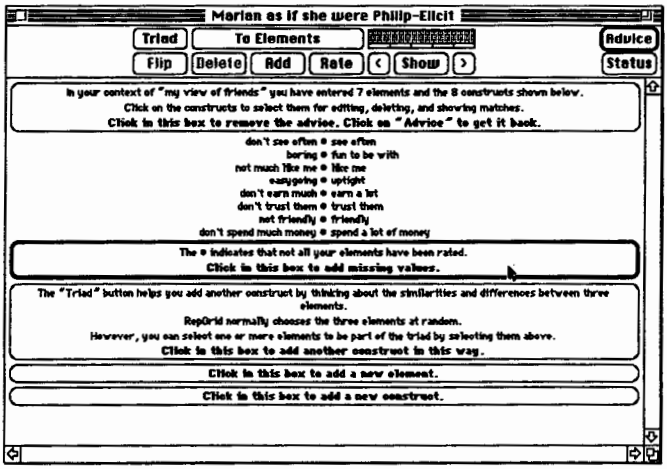


FIGURE B.14 *Marian's construct screen*

This is also true of the constructs which she can see by clicking on the *To Constructs* button to take her to the list of constructs shown in Figure B.14. When the elicitation starts all the elements and constructs will be unrated as shown by the bullet marks.

Clicking on the top box under the list of constructs will take Marian to each unrated construct in turn. Alternatively, she can choose each construct, in any order, and rate all the elements on it in the usual way. They will be listed on the left of the screen as usual. When all the elements have been rated on a construct, that construct is marked in the construct list so that Marian can see at a glance which ones she still has to do.

By comparing pairs of these exchange grids it is possible to map the extent of overlap of the agreement and understanding between Marian and Philip. Since Marian's

views of Philip, and Philip's views of Marian are unrelated, this must be done both ways round, with Philip exchanging with Marian's original grid. This will help them in coming to understand their agreements and disagreements with the way the other perceives the world, and to help them to understand and use the constructs of the other. This can easily be done for all pairs of individuals in a group, giving a basis for explicitly seeing the content of any disagreement or misunderstanding of the topic in question.

Processing in RepGrid

The currently selected grid can be processed with the options of *Display*, *FOCUS* and *PrinCom*. For each of these choices, there are many options as to the form of the data produced. For example, Philip chose to have the element names placed in the center below the grid as shown in Figure B.15.

Display: Philip
Elements: 6, Constructs: 8, Range: 1 to 5, Context: my view of friends

		1	2	3	4	5	6		
don't see often	1	1	5	4	2	2	1	1	see often
boring	2	5	3	1	4	1	2	2	fun to be with
not much like me	3	1	5	2	2	1	2	3	like me
easygoing	4	1	5	4	2	4	2	4	uptight
don't earn much	5	2	5	1	5	1	4	5	earn a lot
don't trust them	6	1	4	5	5	1	2	6	trust them
not friendly	7	5	4	2	5	2	1	7	friendly
don't spend much money	8	5	5	1	4	1	2	8	spend a lot of money
		1	2	3	4	5	6		
		John	David	Ann	Mike	Rosemary	Peter		

FIGURE B.15 *Philip's displayed grid*

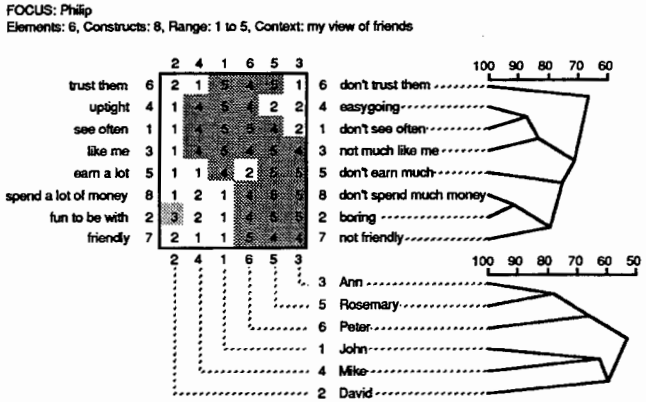


FIGURE B.16 *Philip's FOCUSed grid*

A *FOCUS* analysis can be produced with clusters exhibited up to certain levels of match, the element tree above or to the right of the grid and shading and/or values indicating the ratings. If *Text* is selected, element and construct matching score values will be produced, and put into the *Log* file or some other file of the user's choice.

In this case, Philip chose to have the element tree on the right with cut off values of 50 for elements and 60 for constructs, both values and shading are displayed, and element and construct numbers. Both scales for the two trees were also selected. The *FOCUS* analysis output is shown in Figure B.16.

Looking at the *FOCUS* output, we can see friends who are seen in a similar way by looking at the clusters at the bottom right. There are two main clusters here, Ann, Rosemary and Peter; then John, Mike and David. There are three main construct clusters shown at the top right, the single one at the top, and two larger clusters below.

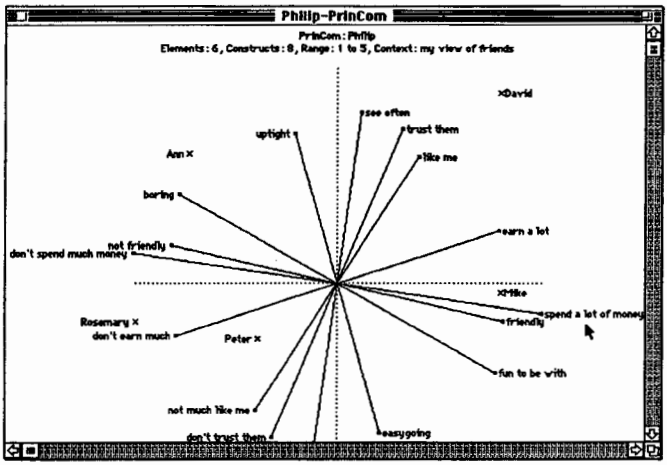


FIGURE B.17 *Philip's PrinCom output*

With *PrinCom* any two components can be chosen and, as with *FOCUS*, the actual values in the calculations can be printed out if the user wishes. In this case Philip just wanted to see the first two components, shown in Figure B.17. This can be scrolled and the names moved to make the output more readable.

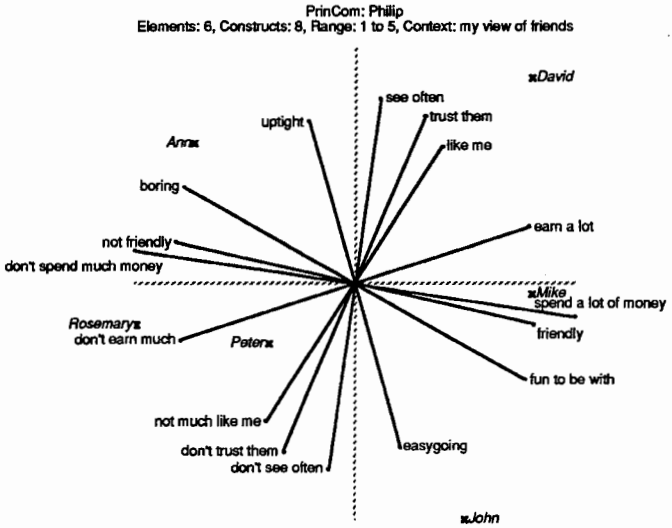


FIGURE B.18 *Philip's PrinCom output in MacDraw*

This, or any other, picture can be saved as a *RepGrid* or *MacDraw* file in the usual way.

Display: Marian as if she were Philip
Elements: 6, Constructs: 8, Range: 1 to 5, Context: my view of friends

		1	2	3	4	5	6		
don't see often	1	1	5	4	2	2	1	1	see often
boring	2	5	3	1	4	1	4	2	fun to be with
not much like me	3	1	5	2	2	1	4	3	like me
easygoing	4	4	1	4	2	4	5	4	uptight
don't earn much	5	2	4	1	5	1	1	5	earn a lot
don't trust them	6	4	1	2	5	1	5	6	trust them
not friendly	7	5	4	2	5	2	1	7	friendly
don't spend much money	8	1	2	1	4	1	2	8	spend a lot of money
		1	2	3	4	5	6		
		John	David	Ann	Mike	Rosemary	Peter		

FIGURE B.19 *Marian's grid as if she were Philip*

Figure B.19 shows the grid elicited from Marian in her role as Philip. We can now use the *Socio* program to compare the two. The example we will give here is to show the *difference grid* which is computed by subtracting one set of ratings from the other. These are then ordered to put the most similar constructs at the top, and the most similar elements at the right.

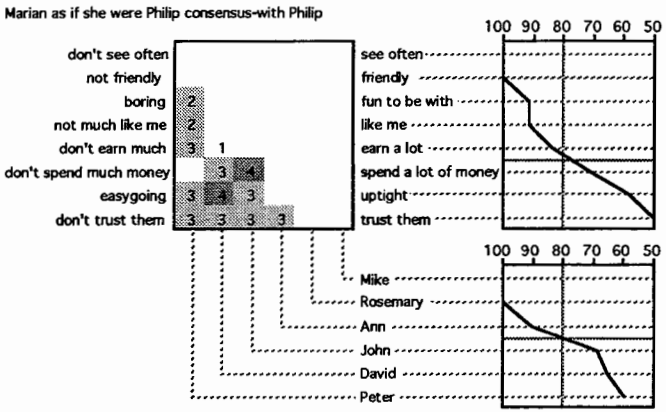


FIGURE B.20 *The difference grid of Philip and Marian as if she were Philip*

In Figure B.20, we can see that most of the difference grid is empty. This shows all the places that Marian understands how Philip rated their friends. For example, the top two constructs "don't see often—see often," and "not friendly—friendly" consist only of agreements, as do the two elements on the right side Rosemary and Mike. They disagree the most about Peter (in the left-most column), and who they "trust" (on the bottom row).

Here, the numbers indicate the *differences* in the two ratings, not the actual ratings. So if we want to know which of Philip or Marian think David is one of their friends who "don't spend much money" we must look back at the individual grids shown in Figures B.15 and B.19.

Carol

To finish this Appendix on RepGrid, we will look at the *FOCUS* and *PrinCom* analyses of the final grid from Carol in Chapter 5.

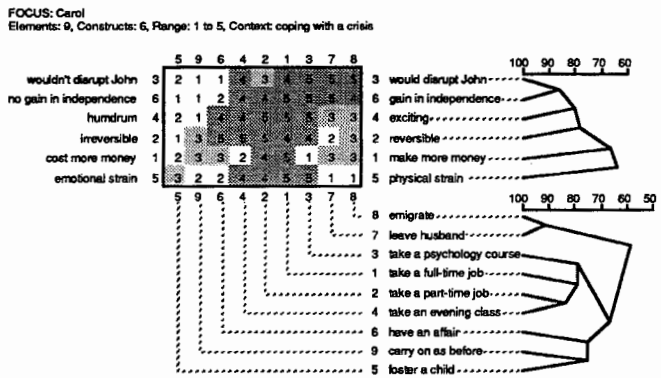


FIGURE B.21 *Carol's FOCUSed grid*

From *FOCUS* in Figure B.21, it is clear to see that the columns with the most dark gray ratings, which are described by the right hand pole names are the middle cluster on the bottom right, 3, 1, 2 and 4. This gives the same results as the hand analysis we did in Chapter 5.

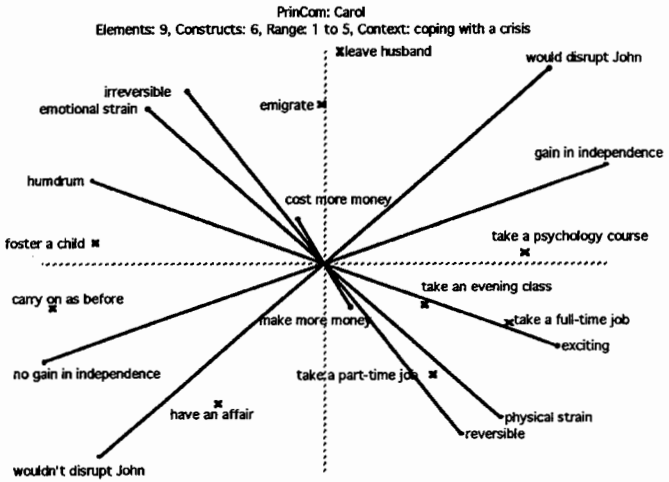


FIGURE B.22 *Carol's PrinCom*

From Figure B.22 we can immediately see that the construct "make more money—cost more money" is very short. This indicates that it is not well represented in these two components, and hence is somewhat different from the others. Again the desired elements are together on the bottom right side of the plot, with the pole names that best represent them.

It would now be a good exercise to go back to Chapter 5 and review the discussion in the light of these two analyses.

What do you need to run RepGrid?

RepGrid will run on a Macintosh Plus, SE, II, or later models with 2 Megabytes or more of memory operating under the latest official release of the operating system (System 6.0.5 or 7.0, or later).

It will *not* operate on early Macintosh machines with less than 2 Megabytes of memory, having the 64K roms, or operating under older releases of the operating system.

RepGrid can take full advantage of memory above 2 Megabytes and of hard disks.

RepGrid will operate under MultiFinder. Running it together with other programs usually requires more than 2 Megabytes of memory.

The preferred printer for RepGrid is the LaserWriter which renders the graphic analyses at publication quality. The ImageWriter is supported for draft output.

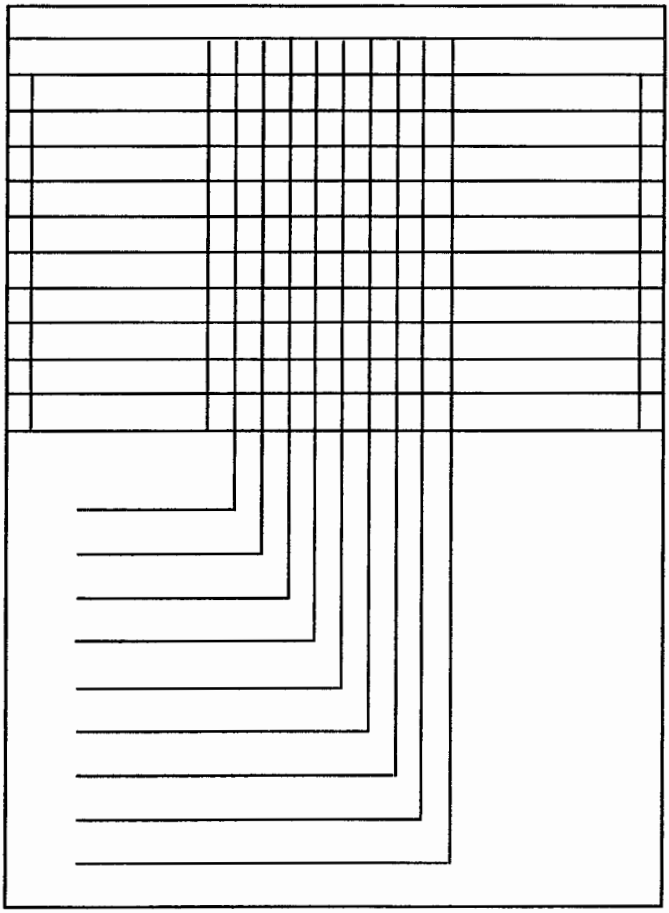
Text and graphic import and export are fully supported in RepGrid, both through files and through the clipboard.

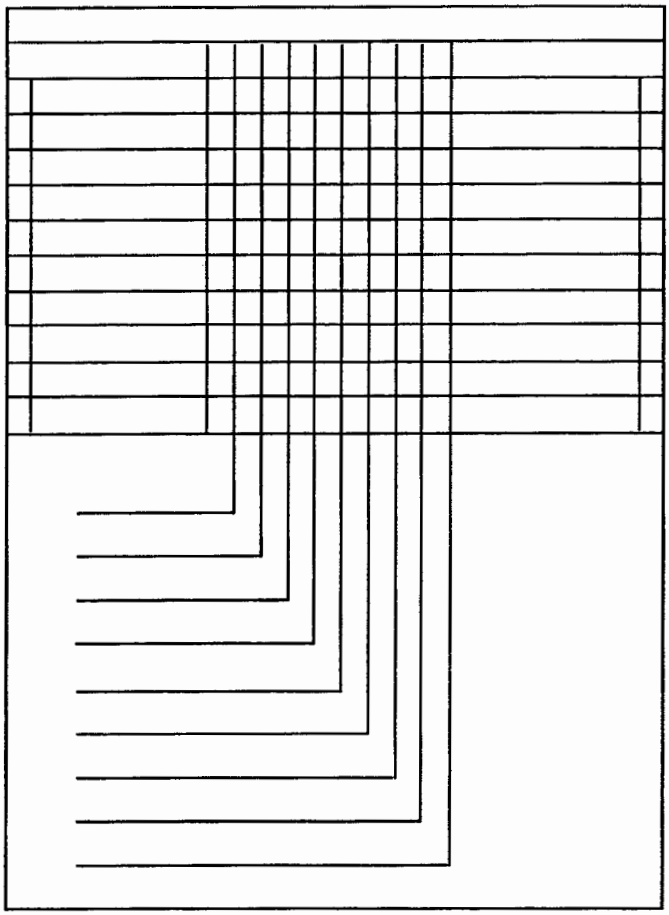
RepGrid is available from:

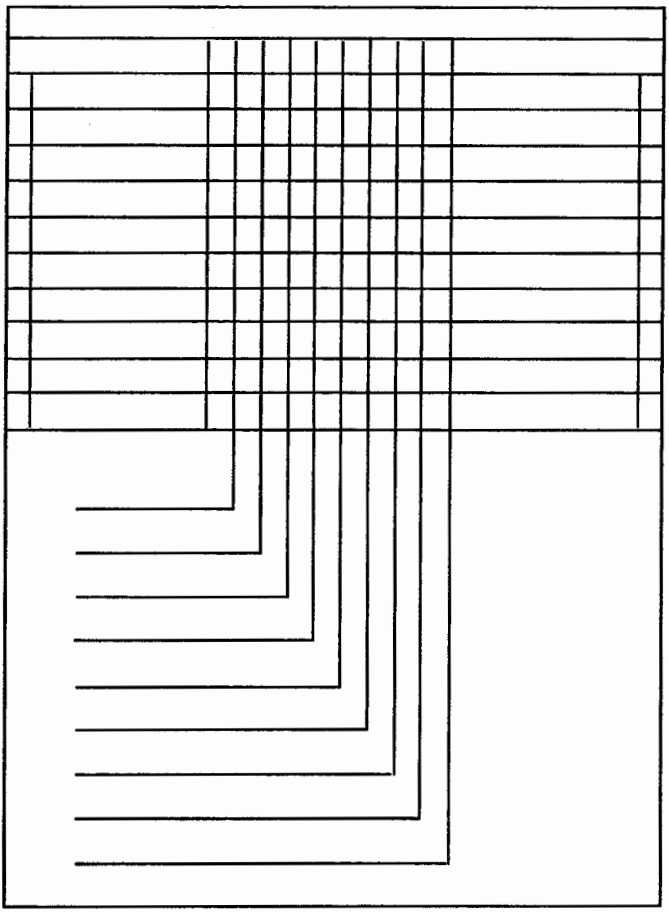
Centre for Person-Computer Studies
3019 Underhill Drive NW
Calgary
Alberta
CANADA T2N 4E4

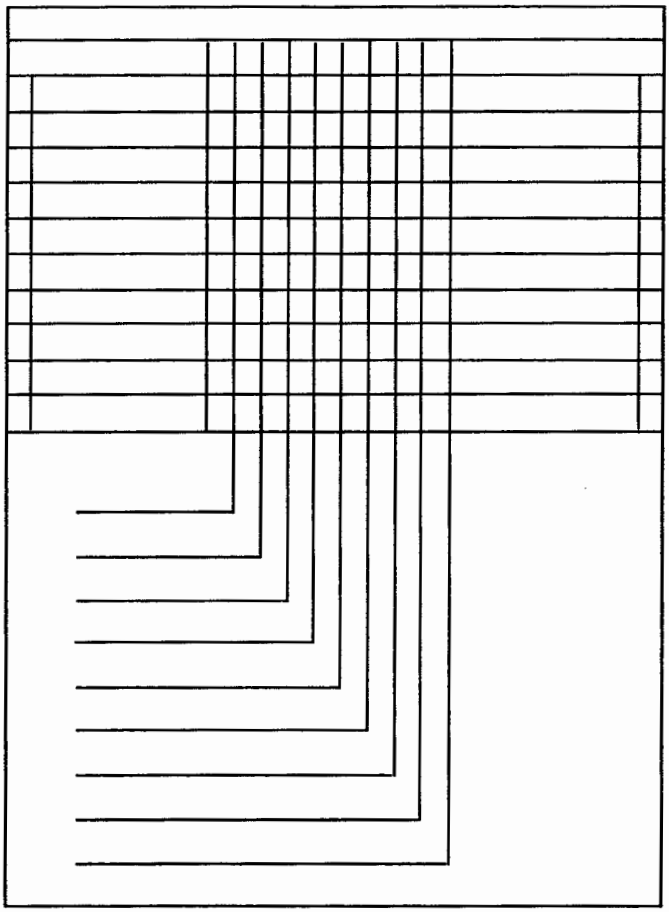
GRID FORMS

Now it is your turn. We have provided you with some forms on the following pages and have given detailed instructions in Chapters 2, 3, and 4, on how to elicit and process your grid. Just one warning: you will need to practice two or three times on yourself and close friends before you can expect to use the grid for serious problems. Like many other things it is a skill that will improve with sensitive and careful practice.









Further reading

There is a wide range of published material on personal construct psychology, repertory grids and their applications. The list below covers some key works that are relevant background to the theory or to grid elicitation techniques.

Personal Construct Psychology

Kelly, G.A. (1955). **The Psychology of Personal Constructs**. New York: Norton. Reprinted by Routledge.

The two-volume work that first developed personal construct psychology and repertory grid techniques has been out of print for many years. It was reprinted by Routledge in 1991.

Kelly, G.A. (1963). **A Theory of Personality**. New York: Norton.

This is the first three chapters of Kelly's 1955 book published as a paperback.

Mancuso, J.R. & Adams-Webber, J.R., Eds. (1982). **The Construing Person**. New York: Praeger.

A thoughtful introduction to personal construct psychology, discussing Kelly's fundamental postulate and each of his corollaries.

Bannister, D. & Fransella, F. (1980). **Inquiring Man: The Theory of Personal Constructs,** 2nd ed. Middlesex: Penguin.

This paperback is a good introduction to Kelly's ideas and to the repertory grid.

Repertory Grids

Fransella, F. & Bannister, D. (1977). **A Manual for Repertory Grid Technique**. London: Academic Press.

An introduction to repertory grid elicitation, analysis and applications in clinical psychology.

Computer-Based Elicitation and Analysis

* Shaw, M.L.G. (1980). **On Becoming a Personal Scientist**. London: Academic Press.

A detailed description of some of the early elicitation and analysis programs and their applications with many sample runs.

* Shaw, M.L.G., Ed. (1981). **Recent Advances in Personal Construct Technology**. London: Academic Press.

Papers from a range of users of repertory grid techniques on computers covering applications and new developments.

* Mancuso, J.C. & Shaw, M.L.G., Eds. (1988). **Cognition and Personal Structure: Computer Access and Analysis**. New York: Praeger Press.

Papers from a range of developers of computer programs for the elicitation and analysis of construct systems, using a variety of techniques originating from personal construct psychology.

Principal Components Analysis

Slater, P., Ed. (1976). **Explorations of Intrapersonal Space: Volume 1**. London: John Wiley.

Applications of principal components analysis of repertory grids .

Slater, P., Ed. (1977). **Dimensions of Intrapersonal Space: Volume 2**. London: John Wiley.

Papers from a range of users of repertory grid techniques on computers covering applications and new developments.

Journals

The **International Journal of Personal Construct Psychology** covers a wide range of studies and theoretical issues of personal construct psychology and some applications of repertory grids .

* Available from: **Centre for Person-Computer Studies** (see page 166).

Index

NOTES

Think Again

Now here is a clear explanation of how to use a proven scientific technique to solve everyday problems and make shrewd decisions. Based on professional scientific research, Think Again demonstrates how repertory grids can be used in even the most confusing private situations.

The method is simple. All anyone needs is a pencil and the will to explore a problem before making a reasonable decision. The grid organizes your thoughts and reveals your answer, logically.

The grid has been used effectively in industry, management, and education. In this guide, the authors present real-life case histories in an approach to personal and group applications of the grid. A Macintosh computer program for grid elicitation and analysis is also described in this introduction to a powerful, personal tool.

Mildred L.G. Shaw and Cliff McKnight

Centre for Person-Computer Studies, Calgary.
Revised 1992.