

It is in this context of democratic endeavour that qualitative psychology of whatever tendency should be judged. For, usually, it is only qualitative research that has a proper awareness of the diverse experiences of individuals – and will, in particular, provide a hearing for the voices of the excluded.

### Chapter 3

## Phenomenology

Amedeo Giorgi and Barbro Giorgi

Phenomenology is a philosophy initiated by Edmund Husserl (1900/1970) at the beginning of the twentieth century. One key aim of phenomenology was to ground radically the foundations of knowledge so that sceptical attacks on rationality and its procedures could be overcome. To build a secure basis for knowledge, Husserl decided to start with the problem of how objects and events appeared to consciousness since nothing could be even spoken about or witnessed if it did not come through someone's consciousness. It is to be noted here, however, that consciousness is not to be understood as limited to awareness, but in a much broader sense which would also include pre-conscious and unconscious processes. Husserl (1913/1983) also detailed a method for carrying out this project. Since psychology was also being founded about the same time as phenomenology, and since it, too, began as the 'study of consciousness', it was only natural that interaction between the two disciplines should take place. Unfortunately, the history of these interactions is filled with misunderstandings, and the reader is referred to other sources for details about this history (e.g., Cloonan, 1995; Merleau-Ponty, 1964; Spiegelberg, 1972). In this chapter, we will limit ourselves to an exposition of how the phenomenological method, adapted for scientific purposes, can help psychology make discoveries about the experiential world in psychologically significant ways.

How to determine precise psychological knowledge has been an issue for psychology ever since its founding as a modern discipline. When modern psychology was founded in the late nineteenth century, it began to seek secure knowledge according to the most prestigious criterion of that era, which was the experimental laboratory. Mainstream psychology has worked within this set of criteria with minor variations ever since. To be sure, some legitimate knowledge has been gained, but only in limited regions of the whole field of psychology, since most early studies focused primarily on sensory/perceptual experience or experiences tied to physiology because phenomena of that sort were highly amenable to the acceptable procedures and strategies of those times. Even when the so-called 'higher processes' were investigated, the idea of the natural science laboratory was still dominant

since Ebbinghaus (1885/1964) invented an instrument for presenting nonsense material, and measured the time for learning and counted errors.

The advent of behaviourism and Gestalt theory were still laboratory centred, but at least some few differences, in concession to the unique nature of psychological reality, were introduced by those theoretical movements. Radical behaviourism, in addition to focusing on behaviour, developed in such a way that it preferred work in depth with a few subjects, within a functionalist perspective, and it was more descriptive than quantitative in orientation (Day, 1976). Gestalt research was also almost exclusively laboratory based, but it introduced the idea of phenomenal presences and behavioural environments, in addition to physical reality, and it tried to tie the experience of them to the conditions of experimentation. In addition, Gestalt experiments often relied more upon careful descriptions than precise measurements (Koffka, 1935).

On the clinical side of the ledger, psychoanalysis established itself by 1900, but the setting for psychological knowledge was the therapist's room rather than the laboratory. The shift in setting led to a different type of knowledge. Psychoanalytic theoretical constructions were all based upon clinical case studies and the meanings that could be deduced from the observations and interpretations made by the clinician. However, psychoanalysis always suffered from the fact that it was not laboratory-based and, hence, not a true science in the eyes of mainstream psychology. Psychology is extremely conservative in its interpretation of science, and one departs from conventional criteria at great risk.

This chapter assumes not only that qualitative research yields useful knowledge but also that it is as legitimate a form of science as any other set of procedures acceptable to science. This is not the place to argue such a position, but we will demonstrate it by accepting certain generic operational criteria of scientific research and showing how the specific approach to qualitative research that we endorse, the phenomenological approach and method, can satisfy those criteria. While the perspective of science applied to human beings and human relationships is not identical to science as applied to things and processes, the strategies used are not oppositional. It is simply that strategic modifications are introduced because of the qualitative difference in subject matter. Many of the scientific issues concerning qualitative research are taken up by Giorgi (1986; 1989a; 1989b; 1992; 1994; 1997; 2000).

In general, phenomenological psychological research aims to clarify situations lived through by persons in everyday life. Rather than attempting to reduce a phenomenon to a convenient number of identifiable variables and control the context in which the phenomenon will be studied, phenomenology aims to remain as faithful as possible to the phenomenon and to the context in which it appears in the world. This means that to study a particular phenomenon, a situation is sought in which individuals have

first-hand experiences that they can describe as they actually look place in their life. The aim is to capture as closely as possible the way in which the phenomenon is experienced within the context in which the experience takes place. From this rich contextual example of the phenomenon as lived by the participant, phenomenological analysis attempts to discern the psychological essence of the phenomenon. In other words, phenomenology seeks the psychological meanings that constitute the phenomenon through investigating and analysing lived examples of the phenomenon within the context of the participants' lives. While persons' awarenesses are concomitant with these lived experiences, they are hardly ever totally coincident to what is being experienced by them. Usually, the capacity to live through events or respond to different situations greatly exceeds the capacity to know exactly what we do or why we do what we do. Consequently, an analysis of the meanings being lived by persons from a psychological perspective can be highly revealing. However, because phenomenology deals with experiences and meanings, its scientific status is often suspect. We intend to show, however, that phenomenological research can follow the general dictates of science.

### Toward a Manageable Project

Most psychologists have issues or problems they would like to have the opportunity to research, but these are usually unformulated, vague and too impractical to carry out. It takes a careful honing and a disciplined attitude to convert an interest into a feasible research project. It takes a great use of knowledge and imagination to eliminate certain variables, control others and realize how to concretize still others in acceptable ways. In general, the more limited and more precise the research question is, the better the research is.

Since the primary purpose of this chapter is to demonstrate a specific type of qualitative research, we shall not dwell long on this first point. In order to test the method as it was developing, we used the phenomenon of learning as the vehicle for research because participants usually found it easy to describe, and they had few inhibitions about picking situations they did not mind sharing with others. In addition, for at least a half-century, learning was a key phenomenon for psychological research because of behaviourism and the verbal learning tradition. Thus, if phenomenological research could throw new light on learning, its usefulness could be demonstrated because of the long history of psychological research on learning.

However, in order to get as many perspectives on learning as possible, we also began to gather descriptions of failures to learn. Consequently, this phenomenon will be used to demonstrate the scientific phenomenological method. While the question may seem to be too general for precise research,

It is not so from the phenomenological perspective that seeks the meanings of experiences; moreover, it parallels rather precisely the original questions dealing with descriptions of learning.

### The Lifeworld of Learning

If one wants to understand a phenomenon in a better way than one can do spontaneously in everyday life, one, of course, has to study it more thoroughly. However, the way that such a phenomenon appears in everyday life – which phenomenologists call the lifeworld – should still serve as a model or guide, or else the research situation may transform the original situation beyond recognition. This is an especially important problem when phenomena are so diverse that they can occur practically in any setting whatever, as is true of learning or failing to learn. One way around this difficulty is to have individuals describe situations in which they have learned or failed to learn, instead of trying to set up a specific laboratory situation in expectation that subjects will encounter the hoped-for experience. Instead of the researcher's trying to come up with one alleged constant situation (alleged because different individuals bring different meanings to the one situation anyway), we decided to go to the participants and have them describe how they experienced situations in which they learned. Even though it is assumed that every situation, as well as the experiences, will be different, the various experienced situations can become the basis for higher-level invariable relationships between the persons and the situations in order to account for the phenomenon of learning.

The request made of the participants, after a general introduction about the purposes of the research, was this: 'Please describe for me a situation in which you failed to learn.' As mentioned, this parallels the original request, 'Please describe for me a situation in which you learned,' most directly. Consequently, the psychological interest has to do with a better understanding of learning, and the specific research project is to contrast the experiences of failures to learn with the experiences of successful learning previously acquired.

The descriptions of two participants will be used in this chapter, and both sets of data represent original descriptive data rather than transcribed interviews. The data being used in this chapter came from workshops conducted by the authors. We try to limit workshop data to a page or two, because the analysis is usually a lengthy procedure, and the method is holistic in orientation, so it is practically impossible to select only a portion of data collected in published articles or dissertations. Sometimes MA theses data are amenable, but Ph.D. dissertation data are consistently far too long to be used in a chapter of this size. (For other examples, see Giorgi, 1985.) The verbatim descriptions received from two participants are given in Box 3.1.

### Box 3.1 Descriptions by participants

#### Participant no. 1

I learned how to copy a key several days before I actually had to make one./ Now, a customer had requested several copies of a round key. He was waiting. The person that usually cut the keys was not available, so I had to do it./ Material prepared, I placed the master key and the blank in their proper positions on the key machine (a small unit). I made sure both the keys were lined up just as I had observed when I was being taught to use the machine. I turned the unit on and began the process of duplication./ As I was turning the master key to each groove, I realized that the drill, which etches an identical groove onto the blank, was taking more time than seemed necessary to cut each edge. I was accustomed to the noise of the machine. I had observed the key-making process several times, but had listened to the process more often. It just did not sound right to me./ By the time I had finished the first duplicate, I realized that I was doing something wrong./ I removed the copied key from its slot and compared it to the master. The grooves were not identical. The copied key had much longer and wider grooves./ I started over. I tried several more blanks. Each time I tried, I adjusted the blank's position a bit differently. I tried to remember exactly what position the blank had to be in. (There is a small spring which keeps the blank at a proper distance from the drill.) I was sure that the spring was to be left in a loosely coiled position. But the keys I kept making were not the same as the master./ I kept trying, each time adjusting the key so that the spring was a bit more tightly coiled./ By the time I was on my third try and blank, I was getting nervous. Someone was waiting for the copies I was trying to make./ I finally produced a duplicate that seemed to be like the master key. I gave the key to the customer and explained that it should be tested as I was not sure it would work./ Back at my desk, I felt miserable./ I had watched the key-making process so carefully; it was explained to me. Still, I had not learned. I wondered what I had done wrong./ (I found out later that the spring did in fact have to be coiled very tightly.) Had I not gotten nervous I might have figured this out myself eventually./

#### Participant no. 2

I was about 10 years old when I first attempted to ride a bike. We had only one./ My older brothers had learned long before, so I thought I would. We had a large backyard where I lived with small hills or grades in it, so you'd think it would be easy for me to learn but for me it was disaster./ I'd try and fall over. I'd try again and use the brake too soon. Always something, and between fear of getting hurt and not catching on at how to do it, it was very frustrating./ A couple of times I thought I was learning or at least getting over the fear when the family would say, 'Boy you must really be stupid; anyone can ride a bike, it doesn't take brains to do that./ But I just couldn't and the more I failed and the more ridicule I got, but I had no success./ The bike got a flat tyre, we never did get it fixed and it was the only bike we had. I don't know if I was glad or sad. I was glad at times because I could use the

continued

flat tyre as an excuse, but I was sad also because then I was left feeling dumb and stupid./

Well, many years later, after being married and all, I tried again to ride a bike here where I live now. The kids thought everyone should know how to ride a bike, 'what's your problem, Mom?' Well, I did try, still without success, still the fear of getting hurt and the frustration of not being able to learn something that everyone says is so simple. I know all my children ride a bike and I do feel dumb not knowing how / but this is just a small failure in my life, I have bigger ones. / But failure is very frustrating and when you try over and over and still fail, you wonder. / But I think, in the case of the bike, fear and lack of confidence play a big part in it. Because if you fear and don't have confidence you won't succeed, but this comes a lot from the way you're brought up. / And maybe someday I'll try again and just maybe I'll succeed./

### Determination of Data and Method

While these two procedures could be separated artificially, they are so intimately connected that it is better to treat them together. The first point to observe is that they both imply a certain slippage or contingency. That is, there are more methods available than the one actually chosen and more happens within a research setting than is recorded by 'data'. For example, if one chooses the phenomenological method, one cannot use grounded theory, and vice versa. Nor can one simply combine them. One has to accept the limits of the chosen method, and often this choice cannot be fully justified. Similarly, collecting verbal data means that non-verbal interactions are not accounted for. Collecting only non-verbal data through videotape still implies that only one perspective was utilized. In a face-to-face interview, some non-verbal data can also be noted in addition to the verbal account, but one can never catch up with the totality of what was 'lived through', and this kind of limitation must be weighed in all analyses. Consequently, all research requires that the researcher be ever mindful of co-determining contextual factors even if they are not blatantly manifest.

The intimate reciprocity between method and data should be obvious. If one wants to record behaviour, one needs instruments that will do so; if one wants voice registration, one would need different appropriate instruments. If one wants behaviour observation to be the basis of data, one must situate oneself accordingly; and if one wants to use statistical procedures, one must respect the assumptions of the procedure chosen and be sure that appropriate numbers are obtained. Since what is key for phenomenology is how persons actually lived through and interpreted situations, the database often becomes retrospective descriptions. Moreover, since what drives the analysis of the descriptive data more than anything else is the search for psychological meaning as lived by the participant, the description of what it

was like for the participant is an excellent database. Thus, there is a harmony among the raw data that is obtained, the method of analysis and the outcomes that are sought.

Perhaps this is a good place to clear up a possible misunderstanding. While retrospective descriptions are often the source of phenomenological data because of their convenience, they are not the only source. It is possible to obtain ongoing descriptions from participants by using the 'talking aloud' method (Aarstoes, 1985), and it is even possible to obtain descriptions of behaviour from others, so long as they are good descriptions from the perspective of everyday life rather than technical descriptions. Indeed, it is even possible to videotape the behaviour of others and then replay it and establish behavioural meaning units rather than verbal ones. Commentary can also be recorded while watching the videotapes, either by the recorder of the video, another researcher, or the participants themselves. These options are mentioned so that the reader knows that phenomenological analyses of data are not limited to retrospective descriptions.

The data presentation in Box 3.1 actually includes the first two steps of the method. It can do this because the first two steps of the method are straightforward and basically noninterventional with respect to the raw data. Consequently, before speaking about the first two steps of the procedure, we will pause momentarily to articulate some necessary concepts belonging to the phenomenological perspective.

A key notion of phenomenology is the idea of intentionality, which is not to be confused with our everyday sense of being 'goal-oriented' or 'deliberate'. Intentionality is the essence of consciousness, rather than awareness, and it means that consciousness is always directed toward some world or other (the real world, an imaginary world, the dream world, etc.). Strictly, intentionality means that all acts of consciousness are directed to objects that transcend the acts themselves (a perceptual act perceives a perceptual object; loving is directed towards a loved object, etc.). Moreover, phenomenologists insist that it is the object itself that is grasped by consciousness, not some representation of it. Representations in the ordinary sense exist, of course, but they are derived acts. Husserl upholds a presentational theory of consciousness. Most generically, what every person is present to is the world or some aspect of it. Consequently, if acts of consciousness grasp objects in the world, how is one to communicate these objects of consciousness or experience? Husserl's basic answer is 'by careful description'. However, Husserl was aware that description is a tricky matter. Achieving careful descriptions is much harder to do than to say. Unexpected biases lurk everywhere, especially in everyday life or with the 'common-sense' attitude.

Thus, to obtain the most precise data from descriptive practices, Husserl introduced certain attitudinal modifications, but, of course, they are not guarantees. One attitudinal shift is called 'epoché', or 'bracketing', and the other is called the phenomenological reduction, although sometimes both



attitudinal shifts are discussed under the heading of the 'reduction'. Husserl was aware that a common error in description is simply to substitute later experiences under the rubrics of earlier ones. If one has been to one party, one has been to all of them, or if one can drive one car, one can drive them all. There is a grain of truth in this, but it is also obviously too sweeping a generalization. In order to help researchers be fresh and maximally open to the concrete experiences being researched, he recommended that one bracket knowledge about the phenomenon being researched that comes from other instances or indirect sources. To bracket does not mean to be unconscious of these other sources but rather not to engage them so that there can be no influence from them on the instance being considered. In addition, bracketing other instances of the same phenomenon possibly helps the researcher to notice different nuances or new dimensions of the phenomenon.

The second methodological aid that Husserl suggested was the phenomenological reduction. Husserl posited several types and levels of reduction, but there is only space to consider the one most relevant to the method under discussion. The one we will employ is the one that Husserl called the phenomenological psychological reduction, but which we prefer to call the scientific phenomenological reduction. The reduction that Husserl wanted philosophers to use he called the transcendental phenomenological reduction, and this reduction requires an attitude whereby one considers everything that is given to consciousness from the perspective of consciousness as such, that is, any creature's consciousness, and not specifically a human mode of consciousness. What we call the scientific phenomenological reduction also requires the consideration of the given from the viewpoint of consciousness, but this consciousness is considered to be a human consciousness that is engaged with the world. The only difference that the scientific reduction introduces is the fact that the objects or states of affairs being considered are taken to be presences, not realities. They are taken to be exactly as they present themselves to be, but no claim is made that they actually *are* the way they present themselves to be.

Psychologists should be familiar with such phenomena, since we constantly deal with them. For example, we encounter hallucinations, images, dreams, false memories and so on that we recognize as experiential givens, but not as phenomena of the external world. This step helps us to resist the common error whereby we state that reality is just the way it presented itself to us. In other words, the epistemological claim reaches only as far as presence, not to actual existence.

#### Data Analysis: Four Basic Steps

We are now ready to confront the raw data of our research. The procedure basically involves four steps, and, as noted above, the first two are relatively straightforward.

The first is that the researcher must assume a psychological perspective, get within the attitude of the scientific phenomenological reduction, and be mindful of the phenomenon being studied (in this case, the failure to learn). Then the first actual step is to read the entire description written by the participant. This is an obvious step, but it needs to be made explicit because certain other methods analysing verbal data do not impose this requirement. The phenomenological perspective is a holistic one, and so one does need to know the global sense of the description before proceeding farther. Nothing more needs to be done here because the subsequent steps continue the work of the clarification of sense.

The second step of the method is the constitution of the parts of the description. This step is a bit of a luxury with the brief, demonstrative examples chosen for this chapter but it is absolutely necessary when the original raw data cover over 100 pages. But even with small sets of data, the constitution of parts is helpful because one can clarify implicit matters to an extent far beyond what would have been possible from a holistic perspective. Since we are doing psychological analyses, we would want to use the criteria most relevant to a psychological perspective, and since it is ultimately meanings that the analysis aims to discover, we use the criteria of meaning transitions to constitute the parts. Operationally, the 'meaning units' (the name applied to the parts) are formed by a careful rereading of the description, and every time the researchers experience a transition in meaning based upon the attitude we initially described, they place a slash in the text. That is why the original descriptions in Box 3.1 contain slashes.

It is important to note that there are no 'objective' meaning units in the texts as such; rather, they are correlated with the attitude of the researcher. Nor is it important that different researchers may constitute different meaning units. The making of meaning units is a practical step that will help the achievement of the subsequent step. Ultimately, what matters is how the meaning units are transformed, not their size or their comparison with other researchers.

Perhaps the third step is the time to say a word about the transformations that follow. Colleagues are often surprised to see what they consider to be active transformations of sense by the researcher in the method we are advocating. However, science almost always demands transformations or modifications of original data. What makes this difficult to comprehend very often is the laboratory tradition. It seems as though one goes into the laboratory and gets data rather directly. However, what is often overlooked is the fact that the laboratory itself is not a natural setting. It is a highly artificial environment constructed precisely in order to improve upon naturalistic settings. There are darkrooms, soundproof rooms, instruments for controlling stimulus intensity and quality, and other instruments for controlling participant responses, whether human or animal. In other words, the transformations take place initially in the situation so the data can be

collected straightforwardly. With our method, the data are collected from an everyday perspective, but in order to make the raw data most relevant to psychology (or any other discipline), the transformations have to take place after the raw data are collected.

Why this difference between the laboratory tradition and experiential research? Basically, the difference depends on whether variables or factors are independent of each other and externally related, or interdependent and intrinsically related. The laboratory tradition began with research on 'things' or other phenomena that were fundamentally independent, and so the manipulation of variables was relatively easy. However, in so far as experiences belong to a given individual, they tend to be interdependent and intrinsically related. One can abstractly isolate experiential variables or factors, but one cannot do that actually without simultaneously modifying the structure of the experience. Where human beings are concerned, relationships are so primary that a person cannot be defined without referring to relationships. Consequently, by beginning with a description from the perspective of the lifeworld, one is picking up contextual and referential issues as they appear important to the participant. Since meanings are also basically relational, one begins to see how different dimensions of the experience relate to each other actually rather than hypothetically. Finally, the special relevance of these connections to psychology have to be made explicit, since it is obvious that the same set of raw data can be the basis for several disciplinary analyses.

The type of transformations being sought can be specified a bit more. One goal is to transform what is implicit to the explicit, especially with respect to psychological meaning. This aspect of the transformation is what allows the analysis to reveal meanings that are lived but not necessarily clearly articulated or in full awareness. A second aim is to generalize somewhat so that the analyses are not so situation specific. Seeking the psychological meaning of a situation in part means to go from the concrete lived situation as an example of something and clarify what it is an example of. Thirdly, where possible, one is to describe what took place in ways that are psychologically sensitive. This does not mean 'labeling' meanings in terms of psychological jargon so much as genuinely articulating and rendering visible the psychological meanings that play a role in the experience.

Let us now turn to the analyses. For both participants 1 and 2 in Boxes 3.2 and 3.3, the left-hand column presents in their own words their description of a situation in which they failed to learn. The two right-hand columns represent the transformations performed by the researcher. (There is no fixed number of transformations; one does whatever is necessary.) The difference between the two right-hand columns is simply synthesis and highlighting of the psychological dimension.

Normally, one would not try to write a structure for a single case, but since the purpose here is demonstrative, we have done so anyway. Writing a

Box 3.2 Analysis of participant 1's (P1) data

Participant no. 1		
1. I learned how to copy a key several days before I actually had to make one.	1. P1 states that he had apparently acquired a certain skill several days before he actually had to produce a product that required the skill.	1 + 2. P1 found himself in a situation where he had to execute a recently acquired skill, on his own, that is, without instructor guidance, in a 'real' situation with the potential user waiting. It is clearly among his first attempts to execute the skill in such a situation and participant 1 feels the pressure.
2. Now, a customer had requested several copies of a round key. He was waiting. The person that usually cut the keys was not available, so I had to do it.	2. P1 states that he had to exercise the recently acquired skill on his own because a potential user had requested the product that involved the skill and the potential user was waiting for the product. Since the person who ordinarily operates the machine that produced that product was not around, P1 reluctantly recognized that he had to do it.	
3. Material prepared, I placed the master key and the blank in their proper positions on the key machine (a small unit). I made sure both the keys were lined up just as I had observed when I was being taught to use the machine. I turned the unit on and began the process of duplication.	3. P1 states that he got the material prepared, and since making the product involved an original and a duplicate, and a precise relationship between them, P1 claims that he lined up the relationship between the original and the duplicate as he remembered seeing them when being instructed. P1 says that he turned on the machine and began the process of making the product.	3. P1 relates that there was no apparent difficulty in getting the materials assembled, but, although not yet clear to P1, the first trouble point for P1 was the precise relationship between the original and the duplicate, which in the absence of the teacher who could have told him the answer, P1 relied on his memory of the relationship as he observed it when he was first acquiring the skill. It is very likely that the

continued

relationship as originally lived and perceived was not as focused as P1 needed it to be in his present circumstances. P1 nevertheless began the process by turning on the machine.

4. As I was turning the master key to each groove, I realized that the drill, which etches an identical groove onto the blank, was taking more time than seemed necessary to cut each edge. I was accustomed to the noise of the machine. I had observed the key making process several times, but had listened to the process more often. It just did not sound right to me.

4. P1 states that as the process started and continued, he observed that one part seemed to be taking longer than seemed necessary and that the noise that the machine made did not seem right to him. P1 noted that while he had observed the process several times before, he had 'heard' it more frequently, and this attempt did not sound right to his ears.

4. P1 states that during the time that the process ensued and that he was operating the machine, he observed what appeared to be visual and auditory discrepancies, but he could not pinpoint just what the trouble was. The present experience of the process was contrasted to several previous observations now given memorably, and even more audibly prior instances also memorably contrasted, and all that he knew at this time was that the production process neither looked nor sounded right to him. The process also seemed longer than necessary to P1.

5. By the time I had finished the first duplicate, I realized that I was doing something wrong.

5. P1 states that by the time he finished his first attempt at making the product, he knew that he was doing something wrong.

6. I removed the copied key from its slot and compared it to the master. The grooves were not identical. The

6. P1 states that he removed the product from the machine and compared it to the original and saw that the two

5 + 6. When P1 finished the product, he felt it was wrong and this was precisely confirmed when P1 compared his product with the original. The construction of his product implied more time (grooves longer and wider) just as his perception of the process had indicated and had

continued

copied key had much longer and wider grooves.

were not identical. The product he produced was off in a way that corresponded to his visual and auditory perception.

given P1 a feeling of not performing correctly. Now he could confirm that the duplicate was indeed not a perfect match.

7. I started over. I tried several more blanks. Each time I tried I adjusted the blank's position a bit differently. I tried to remember exactly what position the blank had to be in. (There is a small spring which keeps the blank at a proper distance from the drill.)

7. P1 states that he started the process again and tried several more duplicates. With each attempt, P1 states that he used a different initial position as he groped in memory for the exact position the duplicate was supposed to be in. P1 then explains that there is a part of the machine which keeps the duplicate at a proper distance.

7. P1 then states that he started the process over again with different duplicates and each time he used random trial and error as the principle guiding the initial position of the duplicate since his memory, which was the reference point in the absence of precise knowledge or of a knowledgeable other, was only vague. P1 then explained that the concern was how to set the machine so that the relationship between the original and duplicate was correct.

8. I was sure that the spring was to be left in a loosely coiled position. But the keys I kept making were not the same as the master.

8. P1 states that he was sure that one device was meant to be loose, but the products he made were not the same as the original.

8 + 9. P1 states that one point of certitude for him was that a certain piece of the machine was meant to be loose; nevertheless, in contradiction of this alleged certitude, P1 varied the 'looseness' of this part of the machine as part of his experimental trial and error process.

9. I kept trying, each time adjusting the key so that the spring was a bit more tightly coiled.

9. Nevertheless, P1 states that he kept trying and one difference that he introduced each time was to tighten the device that he had kept loose a little bit more.

continued

10. By the time I was on my third try and third blank, I was getting nervous. Someone was waiting for the copies I was trying to make.

10. P1 states that when he was on his third attempt and third duplicate, he began to get nervous. P1 became more conscious of the person waiting for his products.

10. P1 states that by his third attempt at making what he felt that he should have been able to do in the eyes of the other, who was waiting, he began to get nervous and he kept the tension in his phenomenal field between the task and awareness of the expectant, waiting other.

11. I finally produced a duplicate that seemed to be like the master key. I gave the key to the customer and explained that it should be tested as I was not sure it would work.

11. P1 states that he finally produced a duplicate that seemed like the original, but he wasn't sure. He gave the duplicate to the potential user with a sense of insecurity and explained to him that it should be tested since he was not sure it would work.

11. P1 states that he finally produced an apparently acceptable duplicate but gave it to the waiting other with a sense of insecurity and with warning that the product might not be functional.

12. Back at my desk, I felt miserable.

12. P1 then states that he returned to his own place at work and felt miserable.

12 + 13. P1 then went to his own place in the work environment feeling miserable about his attempts to make the duplicate. P1 was aware that he had observed the process apparently

13. I had watched the key-making process so carefully. It had been explained to me. Still, I had not learned. I wondered what I had done wrong.

13. P1 reflects on the process he just lived through. He was aware that he had watched the process of making the product carefully; the process had been explained to him. But he concluded that he had not learned despite the fact that he made a product and he wondered what was wrong with the

process apparently carefully and had had it explained to him, but apparently he had not truly appropriated the process in an embodied, self-directed way and even though he had produced a duplicate, P1 knew he was not master of the process and

continued

process he had just lived through.

wondered what there was about this living through of the procedure that was not correct.

14. (I found out later that the spring did in fact have to be coiled very tightly.) Had I not gotten nervous I might have figured this out myself eventually.

14. P1 later found out that what he thought he was 'sure' about was precisely opposite to what the case was meant to be. The device had to be tight. P1 states that had he not become nervous, there was a chance that he could have figured that fact out on his own eventually.

14. P1 states that he later found out where the error was. He became aware that it was precisely what he was 'sure' about, and therefore explicitly not questioned, that was the source of the trouble since his remembered 'certainly' was the opposite of what it should have been. P1 reflects that had he not become nervous, and thus entered into a tense phenomenal field, he might have figured out the correct procedure on his own. That is, he might have also, in a knowing way, submitted to trial and error testing even the aspect that he thought he was sure about, and might possibly have discovered the correct procedure on his own.

structure based upon a single example is the most difficult condition since there is minimal variation to help the researcher intuit what is common. (For an example of where two descriptions fit under one structure, see Giorgi and Giorgi, in press.) We mentioned above some of the specific reasons for transformation of the raw data. One of the points we made was that a certain degree of generalization should take place. Thus, in meaning unit 1 of Box 3.2, we see that 'making a key' was replaced by 'acquiring a skill', and we spoke about making a product that required the skill instead of a key. In meaning unit 7, participant 1 talked about 'blank keys' and how he adjusted their position differently, and we spoke about the 'process' that participant 1



## Box 3.3 Analysis of participant 2's (P2) data

## Participant no. 2

1. I was about 10 years old when I first attempted to ride a bike. We had only one.

1. P2 was a child when she first attempted to acquire a skill that many children seem to acquire easily (ride a bike). P2 states that her family had only one such object.

2. My older brothers had learned long before so I thought I would. We had a large backyard where I lived with small hills or grades in it, so you'd think it would be easy for me to learn, but for me it was disaster.

2. P2 states that her older siblings had learned the skill long before she did and so she thought that she would try. P2 described the environment for acquiring the skill as an apparently suitable one and one favourable for her efforts, but she says that the actual attempts were disasters.

3. I'd try and fall over, I'd try again and use the brake too soon. Always something.

3. P2 states that she would try and fail. She would try again and make one type of error or other, always something that prevented her from succeeding.

4. and between fear of getting hurt and not catching on at how to do it was very frustrating.

4. P2 states that between fear of getting hurt in trying to acquire the skill and not ever being able to do it successfully, she found the experience to be frustrating. (She apparently does not relate the fear to the failure.)

continued

5. A couple of times I thought I was learning or at least getting over the fear when the family would say, 'Boy, you must really be stupid; anyone can ride a bike; it doesn't take brains to do that'.

5. P2 states that there were a couple of times when she was on the threshold of overcoming her fear of being hurt or 'catching on' to the correct performance, when P2's significant others would make derisive remarks regarding her in relation to her attempts to acquire the skill.

6. But I just couldn't, and the more I tried the more I failed and the more ridicule I got, but without success.

6. P2 states that for some reason she just could not acquire the skill, and the more she tried (performed?) the more she failed, and the more she failed, the more ridicule she got from significant others – but without success.

7. The bike got a flat tyre, and it was the only bike we had. I don't know if I was glad or sad. I was glad at times because I could use the flat tyre as an excuse, but I was sad also because then I was left feeling dumb and stupid.

7. P2 states that the object became non-functional, and so she could no longer attempt to acquire the skill without repairing the object. The actual state of the object left her in a state of ambivalence – alternately glad and sad. P2 was glad because the object as dysfunctional was an excuse for her not to make new attempts (before ridiculing significant others). But P2 was sad because she realized that the state of

continued

7. P2 seemed not motivated to bring her relation to the task to closure, and avoided confrontation with closure with excuses. However, the lack of closure of the experience left P2 with unresolved ambivalent feelings (relief from further challenge, but dissatisfaction in not the completing task).

affairs at the time the object became dysfunctional was one in which she felt 'dumb' for never succeeding in acquiring an apparently easy skill.

8. Well, many years later after being married and all I tried again to ride a bike here where I live now. The kids thought everyone should know how to ride a bike, 'What's your problem, Mom?'

8. P2 states that many years later, as an adult with children of her own, P2 attempted to acquire the skill again because of the attitude of her children that anyone should be able to acquire the skill because it was perceived to be easy.

9. Well, I did try still without success, still the fear of getting hurt and the frustration of not being able to learn something that everyone says is so simple. I know all my children ride a bike and I do feel dumb not knowing how.

9. P2 states that she attempted once again to acquire the skill, but didn't succeed, acknowledged that she still had the fear of getting hurt and still experienced a frustration in not being able to perform a skill that relatives and acquaintances perceived as simple.

10. But this is just a small failure in my life. I have bigger ones.

10. However, P2 acknowledges that the failure to acquire the skill is merely a single failure in her life. She admits to having bigger ones.

10. P2 accepts this failure because she can point to others that overshadow it, thus creating a situation where there is no motive to change.

11. But failure is very frustrating, and when you try over and over and still fail, you wonder.

11. Nevertheless, P2 acknowledges that failure is very frustrating for her, and that failure alter

continued

repeated attempts make her wonder (about herself).

12. But I think that in the case of the bike, fear and lack of confidence play a big part. Because if you fear and don't have confidence you won't succeed, but this comes a lot from the way you're brought up.

12. P2 offers an interpretation of her failure to acquire the skill by suggesting that her fear of being hurt and lack of confidence in herself played big parts in her experience of failure. P2 then theorizes (generalizes) that if one does not have confidence and if one is afraid of possibly being hurt when trying to perform adequately on a task, one does not succeed.

12. The failure experience seems in line with familiar self-interpretations on the part of P2 that seem to make it acceptable. Maybe that's why greater motivation to succeed is lacking.

However, P2 relates this generalization to the way in which one is brought up, implying that it applies to her.

13. And maybe someday I'll try again and just maybe I'll succeed.

13. Finally, P2 suggests that sometime in the future she could possibly be motivated to try to acquire the skill again, and expresses the (wishful?) hope that she may succeed the next time.

was trying to achieve. In Box 3.3, for participant 2, in meaning unit 1 again, 'learning to ride a bike' becomes 'an attempt to acquire a skill' and in meaning unit 7, participant 2 states that 'the bike got a flat tyre', and we express that point by saying 'the object became non-functional'. By our calling 'learning to make a key' and 'learning to ride a bike' 'skill acquisitions', the reader can see the potential for synthesis if all other constituents would fall into place as well. Yet, the claim is made that the psychological