

THE ECOLOGY OF STRESS IN WORK-RELATED HUMAN SYSTEMS

by

JULIA DIENES JACOBSON

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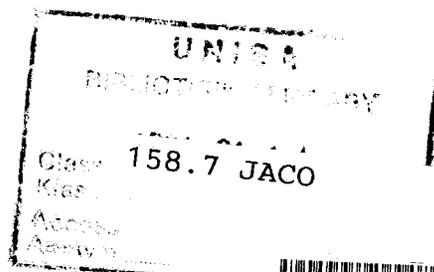
PROMOTER: PROFESSOR F J A SNYDERS

JUNE 1994

I declare that "The ecology of stress in work-related human systems" is my own work and that all the sources that I have used or quoted, have been indicated and acknowledged by means of complete references.

J D JACOBSON

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SUMMARY

Individual distress in the work-place has been cited as the cause of enormous loss of productivity and income, and has therefore attracted much attention from researchers and therapists alike. However, an extensive literature study reveals that in the field of work-related distress and its management, there appears to be discontinuity, a diversity of opinion and even confusion with regard to definitions, causes and possible remedies for the problem.

It is suggested that this situation has been brought about and is being perpetuated by the Newtonian/Cartesian epistemological foundation on which most thinking in the field is based. It is further suggested that an epistemology informed by ecosystemic, constructivist principles could facilitate a way of thinking which would be more useful in this context. A case study was done in accordance with the above-mentioned ideas, which served as an investigation of their usefulness in a situation of reported work-related stress.

On the basis of the information which emerged from the study, it is concluded that an ecosystemic approach can indeed provide a useful basis for understanding such situations. Furthermore, it is suggested that there are certain commonalities between such situations which are primarily founded in contexts in which the individual finds himself faced with contradictory demands which are not acknowledged as such.

Finally, the point is made that if, in accordance with a constructivist viewpoint, "stress" is understood to be a social construction rather than an absolute condition, then the traditional way of thinking provides us with descriptions of man, society and the relationship between them, which are negative and may also be reflexively destructive. However, since constructivism allows for a different construction to be brought forth, we may utilise ecosystemic thinking to provide a more optimistic view.

Key terms:

Stress; Work stress; Stress diagnosis; Stress management; Ecology of stress; Work-related systems; Ecosystemic epistemology; Social construction of stress; Symptoms.

CHAPTER 1

INTRODUCTION

The aim of this study is to develop a way of investigating, describing and understanding work-related human systems in distress which will acknowledge and address as many of the ecological dimensions of those systems as possible, thereby helping to create contexts for change.

When a person develops physiological symptoms which the medical practitioner cannot explain by referring to organic states, trauma or infections, and at the same time or before there is some dissonance occurring between him and his environment, we have become accustomed to linking the two domains via a consensually arrived at concept called stress. This serves both as an explanation for and a description of the problem.

Because of the negative economic impact of the symptoms ascribed to stress, since the mid 1930s, when interest in the physical response of human beings to environmental demands first arose, there has been an increased awareness of and involvement by companies world-wide in programs dealing with the subject.

Researchers in many and diverse fields have focused on the problem, ranging from medical practitioners to communications experts, and many models, measuring instruments and intervention strategies have been developed. In the course of this, much speculation has taken place and information or misinformation has been added to the popular and scientific knowledge about stress.

The popularly accepted definitions of stress are easy to understand, very well publicised, often repeated, embedded in folk wisdom, scientific explanation and popular psychology, and easily used (since they are vague and generally applicable while appearing to be specific). They provide convenient and apparently simple explanations for any and all symptoms. Historically stress has grown and evolved as a concept to encompass many kinds of physiological and psychological symptoms and to be attributed to a myriad different kinds of causes.

However, this seems to have confused rather than clarified the issue, and at present anyone seriously attempting to understand the phenomenon comes up against as many models for describing it and methods for managing or coping with it as there are researchers writing about it.

It would seem that in the course of time the explanatory concept of stress has been reified to the point where researchers have lost sight of its origins as a metaphor, and treat it as an illness, with clearly definable and describable causes and outcomes. Instruments have been and are being devised for measuring stress as if it were a simple and observable phenomenon. Furthermore, the definitions which have been developed tend to perpetuate themselves through repetition and elaboration. By finding interventions for the alleviation of stress, a reality is created where symptoms are being sought, and of course found, which exactly fit the diagnoses and therefore also the interventions devised (Keeney, 1983). Thus, calling the phenomenon "stress" locks the researcher into a linear, mechanistic, cause and effect, economics-orientated way of thinking. Like any other label, stress endows the person it is attached to with immutable attributes while simultaneously trapping the researcher conceptually into an adversary position vis a vis something which is perceived as universal and powerful. Research has shown that this way of drawing distinctions about stress is limited in its usefulness.

A review of the current literature on stress and stress- management programs shows the following:

1. There appears to be no consensus amongst researchers about the definition of what they mean when they refer to stress. At best there has been a grouping together of a number of physiological and behavioural symptoms which, when occurring together, have been labelled (and there is some consensus but by no means universal consensus about this) as stress, and a number of work and life-related factors which are considered to cause these symptoms.

2. None of the programs appear to be explicitly based on any particular psychological theory, and there seems to be no theoretical continuity between models for diagnosing and/or measuring stress and models for intervening to alleviate it or its symptoms.

3. Each of the diagnostic methods and the intervention strategies tend to deal with delimited sections of the overall problem, rather than dealing with or addressing its complexity. In this way the results obtained are also limited to specific situations or areas. Perhaps partly for this reason, the measuring instruments and intervention strategies which exist show inconsistent and sometimes inexplicable results.

4. The programs devised for managing stress have been generally found to yield positive results in the short-term (Murphy, 1984; Bernier, 1989). However, most writers question the long-term benefit of stress-management programs.

Judging from the amount of work that has been done on the subject, the volumes written, and the current interest being shown in it, it would appear that there still exists a strong need for a relevant understanding of distress and its symptoms in the work place, and useful ways to cope with these. This is borne out by the high cost to society and particularly to industry of the symptoms which appear to result from this distress.

However, a fresh approach to the subject appears to be called for which utilises but is not blinded or restricted by, what has gone before - one which respects the complexity of human behaviour, takes into account the individual's part in creating the reality he perceives, and acknowledges his context and ecology.

This leads to the question: How can a different epistemology provide a useful way of describing and intervening in work-orientated human systems? According to this thesis, it may provide new hypotheses about the nature and ecology of stress, and insight into the conditions under which stress-attributions manifest themselves in an organization. In doing so it may facilitate better understanding of human behaviour within organizations, and may also generate ideas for the development of ecologically-aware interventions aimed at bringing about positive change.

CHAPTER 2

ORIGINS AND DEVELOPMENT OF THE CONCEPT OF STRESS

The word stress derives from the Latin word "stringere", which means to draw tight. Ivancevich and Matteson (1980) tell us that the word was probably first used, in its present form, around the fourteenth century. The Concise Oxford Dictionary (Fowler & Fowler, 1964, p. 1275) defines stress as: "a constraining or impelling force", "effort, demand upon energy", "emphasis", and "(mech.) force exerted between contiguous bodies or parts of a body". All these meanings are present in our modern understanding of the word, both literally and metaphorically.

Historically there is evidence that people have long been aware of the positive and negative impact of environmental stimuli on the human being. Archeological findings show that even in prehistoric times stress-producing practices such as ceremonies, rituals and drugs were used in an attempt to produce psychological and somatic change in individuals for religious, healing and other purposes. Sometimes these practices were to the physical detriment of the individual himself, such as in cases of ritualistic human sacrifice. Even today various groups use rites and rituals of a stressful nature for purposes of initiation or to mark the passage of a person from one state or stage to another.

Winter (1983) writes:

The observation that in humans, the head can influence the heart is hardly new. Almost 2000 years ago, a first-century Roman physician, Celsus, recognised that "fear and anger and any other state of mind may often be apt to excite the pulse" (p. 59).

In 1628, William Harvey, discoverer of the fact that blood circulates in the body, reaffirmed Celsus' observation by noting that "every affection of the mind that is attended with either pain or pleasure, hope or fear, is the cause of an agitation whose influence extends to the heart" (Winter, 1983, p. 59).

Later, the interrelationship between psyche and heart was noted by the eighteenth-century Scottish physician and physiologist John Hunter. He wrote: "My life is at the mercy of any scoundrel who chooses to put me in a passion" (Winter, 1983, p. 59).

From the time of Hippocrates (c. 460 - c. 375 B. C.), who ascribed illness to a wrong proportion in the body of the humours (phlegm, blood and black and yellow bile), as well as right through the middle ages, medical practice has included various invasive and often traumatic "treatments" - stressful experiences intended to cure physical and mental ailments.

Throughout the eighteenth and much of the nineteenth centuries, illness was ascribed, rather vaguely, to mental states like despair and melancholy. Then, in the second half of the nineteenth century, Louis Pasteur, through his research, showed that bacteria can cause various diseases, and modern scientific medicine was born.

Pioneers and Important Contributors

Claude Bernard

Around the middle of the nineteenth century a French physiologist, Claude Bernard, suggested that external changes in the environment can cause a disruption in a living organism, and that in order to properly adjust to these changes, it is important that the organism should achieve stability of the "milieu interieur", that is, of its internal functioning (Ivancevich & Matteson, 1980). Bernard appears to be one of the earliest researchers to recognise the human body as a system, and to understand the potential dysfunctional consequences of upsetting the balance of, or stressing, the organism.

Walter Cannon

The American physiologist, Walter Cannon, further developed the ideas of Bernard in the 1920s. He introduced the term homeostasis to designate the maintenance of the "milieu interieur" (Ivancevich & Matteson, 1980). What was meant by this is that the living being is stable and maintains its physiological equilibrium throughout its life in many different ways, for example, by heat dissipation. Homeostasis of the different systems of the body is also maintained

in this way. This is necessary in order for the organism to survive in the face of environmental changes.

The flight or fight response has been one of the natural defences of the body which humans have used to survive over the centuries. The regulating mechanism is the sympathetic nervous system which perceives the need for adjustment and immediately sets into motion those processes needed to counteract the perceived change. Cannon maintained that arousal of the sympathetic branch of the Autonomic Nervous System, mediated by the secretion of adrenaline, is a basic expression of stress. Increased respiration, increased heart rate and other related changes prepare the organism to act on a challenge or danger, either by fleeing or fighting. We now know that psychological dangers or emotional distress can also trigger this system.

During Cannon's time, there was recognition of the idea that the human body reacts with the arousal response not only to perceived external stimuli, but also to internal, for example emotional, stimuli. However, there was little mention made of the possible harmful effects that this might have on the general health of the individual. In his early work Cannon introduced the idea that emotional states could have possible detrimental physical effects on human organisms. He later modified the use of the term stress to describe physical stimuli and used the term strain to describe the organism's response. He then defined "critical stress levels" as those which could bring about a collapse of the homeostatic mechanisms in the body.

Hans Selye

Hans Selye, an endocrinologist at the University of Montreal is referred to as the "father of stress", indicating that the modern use of the term is associated primarily with him. He published his first paper on stress in 1936 and thereafter went on to do much of the research on stress which provided the foundation for the work done after him right to the present time.

Initially Selye refrained from using the term stress, which at that time had come to mean "nervous strain" and implied a psychological rather than a physical state (Ivancevich & Ganster, 1987). However, ten years later he did introduce the word stress in his work, to mean the wearing down effect of everyday life on the body (Ivancevich & Matteson, 1980). He later changed this definition to mean

an internal condition of the organism that results in the General Adaptation Syndrome (G.A.S.) response to stimuli, and he suggested that these stimuli should be called stressors.

In his research, Selye observed that identical damage to living tissue can be brought about by diverse, often dissimilar agents. He came to the conclusion that this tissue damage represents a non-specific response to virtually all noxious stimuli, and it was this response which he called the General Adaption Syndrome. He wrote:

Experiments on rats show that if the organism is severely damaged by acute non-specific nocuous agents such as exposure to cold, surgical injury, production of spinal shock ... , excessive muscular exercise, or intoxications with sublethal doses of diverse drugs ... , a typical syndrome appears, the symptoms of which are independent of the nature of the damaging agent or the pharmacological type of the drug employed, and represent rather a response to damage as such.

Since the syndrome as a whole seems to represent a generalised effort of the organism to adapt itself to new conditions, it might be termed the "general adaptation syndrome". (Selye, 1936, p. 32)

The General Adaptation Syndrome is activated to cope with stimuli which threaten either the maintenance of internal stability (homeostasis) or the preservation of life. It triggers certain physiological mechanisms in the body (for example the flight or fight response) in order to prepare it to defend itself. Selye (1936) divided the physiological response of the individual to environmental stressors into three phases:

General alarm reaction - the organism preparing to deal with the stressor.

Resistance - the organism coping with and adapting to the stressor.

Exhaustion - after depletion of resources by repetitive or prolonged stress. At this stage the organism is at risk for illness.

An important point made by Selye throughout his work is that activation of the General Adaptation Syndrome places extraordinary demands on the body. The more frequently it is activated and the longer it remains in operation, the more

wear and tear the body is subject to, and the more it depletes its limited resources for adaptation.

Therefore, frequent arousal results in increased susceptibility to fatigue, illness, aging and death. Also, in the process of attempting to resist a particular stressor, the body is left vulnerable to attack by other, unrelated stressors.

Later Selye introduced the idea that repetitive or prolonged stress can lead to what he called diseases of adaptation. These diseases cannot be attributed to any particular stressor, but rather to a faulty adaptive response to stressors by a damaged response system.

According to Selye the connection between stressor and symptom is not a simple one. The same stressor can produce very different symptoms in different people, or different stressors can produce similar or the same symptoms in different people. Selye attributed the differences in individual response to stressful events to conditioning. This can take the form of either internal factors such as genetic predisposition, age, sex, and so on, or external factors, for example diet or drug treatments. These conditioning factors would determine how much stress an individual is able to tolerate and what kind of diseases would emerge if this tolerance level were exceeded.

Selye saw the human system very much as a machine. This is borne out by his idea about exhaustion:

One would think that once adaptation has occurred and ample energy is available, resistance should go on indefinitely. But just as any inanimate machine gradually wears out, so does the human machine sooner or later become the victim of wear and tear. (Selye, 1973, p. 695)

The implication here is that it is this exhaustion, as well as faulty adaptation, which brings about the negative and destructive changes in behaviour, emotion and physical health which we usually attribute to stress.

Based on the work of Yerkes and Dodson (1908), who discovered that performance improved with increasing amounts of stress up to an optimum point, and that beyond that point additional stress resulted in a decline in performance, Selye introduced the idea of Eustress as opposed to Distress. Eustress refers to

that stress which is good and produces a positive outcome - something which we all need in varying degrees to keep us functioning and motivated. He supported the idea of an optimum stress level which is different for each individual. Selye also said that because stress can be associated with pleasant or unpleasant experiences, it should be seen as an inevitable part of human life which, if mismanaged, can result in distress (Brief, Schuler & Van Sell, 1981).

Adolph Meyer

Early in the century a physician, Adolph Meyer, at John Hopkins University, kept life charts on his patients (Winter, 1983). He found that they tended to become ill when clusters of major changes occurred in their lives. Building on Meyer's work, Thomas H. Holmes and Richard H. Rahe developed the Life-Event Stress Scale which has been used extensively to ascertain the level of risk of stress to which a person is exposed at a particular time (Winter, 1983).

Harold Wolff

In the early 1940s, at Cornell University, Harold Wolff and Stewart Wolf studied the response of the human stomach to a range of emotions precipitated by a variety of stressful events in everyday life. In 1953 Wolff wrote "Stress and Disease", in which he published the results of this work (Winter, 1983).

Wolff defined stressful stimuli as being any influences that produce responses from such tissues as muscles, nerves or glands or that increase any body function or process. He felt that certain stimuli are "noxious", that is, that they can have physiologically damaging effects. Physical factors can be considered noxious stimuli, as well as any social/relational factors which are perceived as a threat. Wolff also noted that what may be a noxious stimulus for one person may not be that for another, thus emphasising the important mediating role of perception in the relationship between stimulus and response. Wolff appears to have been the first to recognise perception as being important (Winter, 1983).

Friedman and Roseman

The idea that different people with different personality characteristics might respond differently to stressful situations was introduced by Friedman and Roseman towards the end of the 1950s. They described and labelled two

personality types, A and B which they claimed respond differently (Ivancevich & Ganster, 1987). Briefly, these researchers found that people who displayed competitiveness, aggression, hostility and a heightened sense of time urgency were more likely to suffer from coronary heart disease than those who did not show these characteristics.

Friedman and Roseman felt that this was due to a heightened physiological reactivity in situations which involve demand, challenge and loss of personal control. Chronic exposure to such situations, which these persons would seek out, leads to a state of constant physiological arousal, which in turn causes physiological damage to the coronary arteries. This work and the resulting typology is the foundation for much of the research and intervention projects which have been and are being done on stress - particularly work related stress.

Cox

Since Selye, writers have suggested other (non-physiological) consequences of contact with stressors. Cox (1978) listed all the consequences under the following groupings: subjective effects (for example aggression, apathy, boredom); behavioural effects (for example drug use, emotional outbursts, eating disorders); cognitive effects (concentration problems, forgetfulness, mental blocks); physiological effects (for example, increased heart rate and blood pressure, breathing difficulties, hot and cold flushes); and organisational effects (for example absenteeism, high labour turnover, high accident rate).

This is not a comprehensive list but does represent those kinds of symptoms which over the years have been attributed to stress.

Various Definitions and Views of Stress

Stress as Response to the Environment

The original view, introduced by Selye, of stress as a state of physiological arousal in response to a stressor has been elaborated on by various researchers, but in essence has remained in place as an important facet in the understanding of the concept.

Parker and de Cotiis (1983, p. 164) see stress as " a deviation from normal psychological and physiological functioning caused by exigencies in the individual's immediate environment."

Quick and Quick (1984, p. 10) define stress as: " ... an adaptive response, moderated by individual differences, that is a consequence of any action, situation or event that places special demands upon a person."

Greenhaus and Parasuraman, (1987, p. 38) see stress as "a psychological state experienced by an individual when faced with demands, constraints, and /or opportunities that have important but uncertain outcomes." This idea of the function of the uncertainty of outcomes is supported by Sager (1990) who feels that risk and uncertainty are important contributing factors to stress.

Parker and de Cotiis (in Elsass & Ralston, 1989) further separate individual response into two levels. They see the first level outcome of stress as being the awareness of personal dysfunction (a transient response), and second-level outcomes as being behavioural responses (also seen as a coping response) which may or may not be positive. Often a behavioural outcome can take the form of a symptom, such as depression.

Stress as Environmental Pressure

According to this view, stress is pressure for change from the outside. Eden (1990) sees objective stress as role demands and factors in the environment which can be observed and measured, and verified outside the person's consciousness. Subjective stress on the other hand is described as representations of the demands of the objective environment in the conscious and the unconscious.

Perrewe and Vickory (1988, p. 84) define stress as "stimulus overload", and go on to explain that too much or too intense stimulation can lead to physiological symptoms which are associated with psychological stress, such as increased heart rate and cholesterol levels.

Stress as Interaction Between the Individual and his Environment

Some writers describe stress in terms of the the interaction between the person and his environment, and psychological stress is seen as a set of interactions between the person and the environment that result in an unpleasant emotional state, such as anxiety, tension, guilt or shame.

Psychological stress then is not defined solely in terms of the stimulus condition or solely in terms of the response variable but rather in terms of the transaction between the person and the environment. (Cohen, Evans, Stokols & Krantz, 1986, p. 5).

An important element in most of the relational definitions of stress is that of the balance between supply and demand - there is more demand from the environment or from within the person himself (psychological demand) than he has the resources to supply. When this balance goes out, stress results.

Lazarus' (1981) cognitive theory describes stress as an internal state of the individual who perceives threats to his physical and/or psychic well-being. This use of the term emphasises the organism's perception and evaluation of potentially harmful stimuli, and considers the perception of threat to arise from a comparison between the demands imposed on the individual and the individual's ability to cope with those demands. A perceived imbalance in this mechanism gives rise to the experience of stress and to the stress response, which may be physiological and/or behavioural. There is an acknowledgement of the difference between something that is and something which is perceived to be. Here again the idea of supply and demand comes in, but here it can be a real imbalance or a perceived imbalance.

Stress as Illness

The physical link between stressful situations and physiological changes has been well researched and documented over the years, and there seems to be no doubt that such a connection exists. Danilewitz (1987, p. 9), for example, tells us that:

Physiological responses to stress include neural and endocrine activity which, in turn, can influence bodily processes including metabolic rate, cardiovascular and Autonomic Nervous System functioning and immune reactions. Short-term stress responses include hormonal and cardiovascular reactions (increased heart rate and blood pressure) which may precipitate clinical disorders (for example, cardiac instabilities, psychosomatic symptoms) in predisposed individuals. If stimulation becomes pronounced, prolonged or repetitive, the result may be chronic dysfunction of one or more systems, for example cardiovascular.

The medical fraternity has continued to investigate the phenomenon of stress. Most recently a group of symptoms known as Chronic Fatigue Syndrome have been linked to a modern, stressful lifestyle. Although the underlying viral infections, namely the Cocksackie virus and the Epstein-Barr virus have been known about for many years, it is only recently that popular interest in the phenomenon has brought it into the limelight. There appears to have been almost no research done to date on the relationship between stress and Chronic Fatigue Syndrome, but in spite of this most medical practitioners prescribe a reduction in "stressful" activities for patients positively diagnosed as suffering from the disease.

It can be seen from the above that practically all of the original work on stress was done by medical researchers who were primarily interested in physical stimuli and their physiological consequences. In the past thirty years or so there has been a move away from this medical/health emphasis, and more recently interest in stress has continued to be pursued by researchers in many different disciplines, including biology, medicine, psychology, sociology, endocrinology and anthropology. It was also relatively recently that stress has entered the domain of the behavioural sciences. The basic model, however, has remained the same, with psychological stressors taking the place of physical ones, and physiological symptoms often being attributed to psychological causes.

Terminology

It would seem that there has been and still is much confusion with regard to the meaning attributed to the various terms in writings about the subject. Lately some consensus has been arrived at, but still not all writers use the terms in the same way or to mean the same things. Apparently in a search for clarity, two additional terms, namely "stressor" and "strain" have been added along the way:

- Stressor refers to the environmental condition or conditions that lead a person to perceive a potential demand, challenge or threat.
- Stress denotes the actual physiological arousal response of the person (the fight or flight response).
- Strain refers to one of the outcomes of stress which occurs if the stressor has not been successfully coped with. Persons who are required to cope with excessive demands may respond with varying kinds and degrees of strain. Eden (1990) feels that this refers to any deviation from normal responses in the person. Some examples given of strain are frustration, negative self-evaluations, muscle tension, and elevated blood pressure, which in the longer term can lead to serious physical and psychological illness. Quick, Schkade and Eakin (1986, p. 44) also see strain as undesirable: "Strain refers to the adverse effects of stress on a person's mind, body and actions."

The Time Factor

Different authors have different time frames in mind when writing about stress, that is, some talk of stress as a transient phenomenon (Cohen, 1980), others as something of long duration which wears down the individual.

There seem to be two schools of thought which are relevant to this question. The first describes stress as a transient arousal response to environmental stimuli which can be positive or negative, depending on the level of stress. (Too much can be damaging.) The other describes stress as wear and tear which happens when there is a non-fit in terms of abilities/skills and demands - this is of long duration and is considered to be always negative.

Cohen (in Danilewitz, 1987, p. 7) combines these ideas and proposes four types of environmental stressors, namely:

1. Acute and time limited;
2. Stressor sequences (a series of events, resulting from an initiating event, such as divorce);

3. Chronic intermittent stressors, for example, repeated conflicts with one's employer;
4. Chronic stressors, for example, long-lasting parental discord.

Stress and Eustress

Many writers have retained Selye's original distinction between stress and eustress. For example: A "(h)ealthful stress response ... can be an asset ... : it results in a sequence of mind-body changes that provide energy and resources for successful coping" (Quick et al., 1986, p. 44). These writers also differentiate between stress, which may be desirable, and strain, which is always undesirable.

Based on these definitions of stress and related concepts, different models of stress and its relationship to life, work and illness have emerged.

Models of Stress

Some of the models of stress which have resulted from all this work have been the Biochemical or Medical Model, the Psychosomatic Model, the Psychological Model, the Transactional or Interactional Model and the Systems Model.

The Biochemical Model

This model is based on the work of Selye, and as described previously, its focus is the physiological and biochemical response of the human organism to stress. It is also called the medical model by some writers. It assumes that there is or can be, a direct causal relationship between the physiological changes resulting from stress and certain forms of illness.

The Psychosomatic Model

This model is based on the premise that physiological changes due to stress in one system of the body can adversely effect other bodily systems (Ivancevich & Matteson, 1980).

The Psychological Model

The psychological model of stress emphasises the organism's perception and evaluation of the potential harm posed by the stimulus.

The perception of threat arises when the demands imposed upon an individual are perceived to exceed his or her felt ability to cope with those demands. This imbalance gives rise to the experience of stress and to a stress response that may be physiological and/or behavioral in nature.

(Cohen et al., 1986, p. 5)

The Systems Model

This model is based on systems theory, and views an individual as a member of a system within an interrelated set of systems within systems, which all interact with each other constantly through various channels of feedback (Riley & Zaccaro, 1987). For example the organisation to which he may belong itself operates within the larger social, cultural, political and economic systems of the country in which it exists, and maintains itself through its interactions with this larger system as well as its internal interactions.

Stress in this model is seen as an individual reaction to perceived demand which is either coped with successfully or not. If the coping is successful, the feedback to the individual is positive, and his resources for meeting future demands are increased. If the coping is unsuccessful, the feedback to the individual is negative, and as a result his resources are decreased. This is seen as strain.

Integrated Models

Some researchers have moved beyond the limitations of one particular field and have attempted, with varying degrees of success, to describe and understand stress by looking wider for reasons for it and for related factors. One such researcher is J.S. House.

House

According to House's model (1974), the experience of stress is seen as a subjective response of the individual to social conditions, which is determined by his perception of the situation, which in turn is determined by both his personal characteristics and by the nature of the social situation at that time. (There is an element of the idea of feedback here.) It can be seen that although House's focus of interest is still on the physiological effects of stress on the human body, he has integrated this with social as well as psychological concepts.

Van Harrison

Van Harrison (in Cooper & Payne, 1978) criticises psychologists' emphasis on either the person or the environment when studying any phenomenon, including that of job stress. He writes: "Human behaviour ... is not understood in terms of either the environment or the person alone, but in terms of the interrelationship between the two" (p. 175). He then presents his theory of stress which describes the interrelationship of the person and the environment in terms of their "fit" or "congruence" with each other.

Schuler

Schuler (1980, p. 189) gives us the following definition:

Stress is a dynamic condition in which an individual is:

- a. confronted with an opportunity for being/having/doing what (s)he desires and/or
- b. confronted with a constraint on being/having/doing what (s)he desires and/or
- c. confronted with a demand on being/having/doing what (s)he desires and for which the resolution of is perceived to have uncertainty but which will lead (upon resolution) to important outcomes.

This definition incorporates the idea of individual differences in values and perception. It also includes the importance and uncertainty factors previously mentioned.

Lazarus, De Longis, Folkman and Gruen

Lazarus et al. (1985) write:

Like emotion, stress is best regarded as a complex rubric consisting of many interrelated variables and processes rather than as a simple variable that can be readily measured and correlated with adaptational outcomes. (p. 770)

Our view is that stress lies not in the environmental input but in the person's appraisal of the relationship between that input and its demands and the person's agendas (eg. beliefs, commitments, goals) and capabilities to meet, mitigate, or alter these demands in the interests of well-being. (p. 770)

and

Stress is just a handy term to refer to the operation of many variables and processes in situations in which the demands tax the person's resources, and the person appraises the encounter as relevant to well-being, engages in coping processes, and responds cognitively, affectively and behaviourally to feedback about what is happening. (p. 777)

This model emphasises the individual's perception and his evaluation of the potential harm posed by the stimulus.

Work Stress as a Separate Domain

Having determined that stress is a phenomenon that could have a negative impact on the quality of human life and, more importantly in this context, on the profitability of companies (Brief et al. [1981, p. 21] write that "employees under excessive stress may be expected to psychologically or physically withdraw from their jobs, and thereby, to reduce their contributions to the organisation."), researchers began to investigate possible ways of diagnosing and measuring it, and trying to find ways of alleviating it where it did show up as a problem.

There are some researchers who maintain that certain kinds of stress can be beneficial to productivity under certain circumstances. Most agree, however, that stress is detrimental to performance, since it decreases job satisfaction and commitment to the organisation, and this results in increased absenteeism, labour turnover, and psychological withdrawal behaviour (Beehr & Newman, 1978; Cohen, 1980; Jamal, 1984; Van Sell, Brief & Schuler, 1981). In the United States organisations are being urged by researchers to try to control the stress levels of their employees by whatever means possible, not only to enable them to increase their productivity, and thereby their profitability, but also to avoid expensive lawsuits resulting from their liability in cases where employees bring charges against them for perpetrating a stressful and potentially damaging working environment (Ivancevich & Matteson, 1983).

Researchers from all the above mentioned fields and more have focused on the problem, ranging from medical practitioners to communications experts. They have attributed individual job dissatisfaction and stress to diverse causes, depending on their own points of view and field of expertise, and some have developed interventions based on their findings.

The first researchers to focus specifically on occupational or work stress were Kahn, Wolfe, Quinn, Snoek and Rosenthal (1964). They were social and organisational psychology researchers, and they estimated that at least one-third of employees in their national (North American) sample were experiencing some occupational stress.

Meanwhile, experimental and engineering psychologists were looking at occupational stress from a different perspective. They were studying the effects of physical stressors such as noise on physiological responses and on job performance in a number of different settings.

As with the definition of stress itself, many writers have attempted to define work stress:

Work Stress as an Environmental Factor

Caplan (in Schuler, 1980) refers to work stress as any characteristic of the job environment which poses a threat to the individual. Cooper and Marshall (1976) consider it to be negative environmental factors or to be associated with a particular job.

Work Stress as a Subjective Psychological State

According to Parker and de Cotiis (1983, p. 161), "Job stress is an individual's awareness or feeling of personal dysfunction as a result of perceived conditions or happenings in the work setting."

Work Stress as Interaction Between the Individual and his Work Environment

Margolis (in Schuler, 1980) considers work stress to be an interaction between the conditions in which a person works and his personal characteristics, which disrupts his psychological or physiological homeostasis.

Beehr and Newman (in Brief et al., 1981) see job stress as a condition which arises from the interaction of people and their jobs and is characterised by changes within people that force them to deviate from their normal functioning. They consider that the body and mind of a person are in a state of equilibrium at the outset of a job experience, but that as a result of an occurrence related to work, the person's equilibrium is disrupted. In attempting to recover from this disturbance or imbalance, the person functions differently.

Some writers see an equilibrium between a person's abilities and resources and the demands of his job as being necessary for there to be a good fit between the two. For example French, Rogers and Cobb (in Schuler, 1980, p. 187) write that "(Stress is) ... a misfit between a person's skills and abilities and demands of the job and a misfit in terms of a person's needs supplied by the job environment." Jamal (1984, p. 2) agrees with this view by writing that

Stress can be viewed as the individual's reactions to the characteristics of his work environment which appear threatening. It points to a poor fit between individuals' capabilities and their work environment, in which either excessive demands are made upon the individuals or the individuals are not fully equipped to handle a particular work situation.

Others are moving towards greater complexity by bringing in issues such as the agency of the employee as well as the employer in helping to create the situations they encounter. For example, Brief et al. (1981, p. 3) write:

Employees are not viewed as passive agents; rather, they are seen as active agents who can influence their own destinies through the selection of the stressors to which they expose themselves, and through control of their reactions to stress. Similarly, employers are active agents in terms of both creating stressful working conditions and, if they choose, acting to alleviate these conditions.

Organisational Stress Model

Matteson and Ivancevich (1987) have evolved a complicated and comprehensive model of organisational stress which is based on their conviction that stress is part of a complex and dynamic system of transactions between the person and his or her work and non-work environment. This model acknowledges the importance of the interrelationship between stressors and outcomes, and emphasises the role of individual perception as being particularly important.

Burnout

Burnout is another concept, derived from the fields of professional athletics and the performing arts, which has been added to that of occupational stress since the 1970s. It most commonly refers to physical, emotional, spiritual, intellectual and interpersonal exhaustion. This is a further extension of the idea originated by Selye that a human being has only a limited amount of resources and when these are depleted, he is exhausted or "burned out". By implication, this places burnout at the end of a process of increasing debilitation of an individual by stressful circumstances. Veninga and Spradley (1981) give five stages through which an individual progresses on his way to burnout: the honeymoon stage (the beginning of energy depletion); fuel shortage (job dissatisfaction, overuse of alcohol); chronic symptoms (exhaustion, physical illness, anger and depression); crisis (deep pessimism and self-doubt, an escape mentality); and hitting the wall (where career and life may be endangered).

Researchers focussing on burnout have had a difficult time distinguishing it from stress as a concept and as a syndrome, since the definitions and criteria of the two terms frequently overlap.

In an attempt to solve this difficulty, at the First National Conference on Burnout held in Philadelphia in 1981, the two terms were merged into one, namely Burnout Stress Syndromes (BOSS) (Paine, 1982).

Maslach (in Paine, 1982, p. 33) tells us that: "burnout is job stress, not just a particular subcategory of it". She also goes on to write:

Finally, burnout is being used as a metaphor for some fundamental problems facing our society. The overwhelming stresses of life and the difficulties in coping with them, the failure to achieve one's goals, the dissatisfaction and malaise of the worker, the search for personal fulfilment and meaning in life - these are the sorts of global issues that have been included in the ever-broadening concept of burnout. (p. 34)

The same can certainly also be said of the ever-broadening concept of stress.

The Role of Social Support

Social support has been considered by many researchers to be an important element in an individual's ability to cope with stressful environmental circumstances (Billings & Moos, 1980; Cohen & Wills, 1985; Coyne & DeLongis, 1986). Some have focussed in particular on the effect of social support on job stress (Dignam & West, 1988; Orpen, 1982; Williams & House, 1985).

Although their findings as to the efficacy of social support in serving as either a buffer between the individual and job stressors or to increase coping resources, are inconclusive, their interest does attest to a perception that social factors can and do have an important part to play in whether an individual succumbs to stress-related illness or not.

Williams and House (1985) describe three ways in which social support has been found to have a beneficial effect in stressful situations:

1. Social support can enhance the health of the individual by supplying affection, approval, social contact and security - all of which are seen as basic human needs.

2. Social support can reduce interpersonal tensions in the work place and can have a positive effect on the work environment, thereby directly reducing levels of stress and indirectly improving health.

3. Social support can act as a buffer, modifying the relationship between stress and health and thus protecting the individual from the negative consequences of stress.

They then go on to conclude that: "The overall body of evidence supports the existence of major and important main and buffering effects of support on occupational stress and health" (Williams & House, 1985, p. 213).

Many other researchers in various fields have come to similar conclusions, inter alia Dignam and West (1988, p. 721): "There is some evidence that social support from co-workers and supervisors directly reduces or prevents burnout symptoms, and indirectly reduces or prevents illness symptoms." La Rocco, House and French (1980, p. 211) write that "the results have supported the conclusion that (work related sources of) support can buffer the relationship of perceived job stress and job strain to general mental health effects."

Cohen and Wills (1985) describe the results of studies done by various researchers, which show that "mortality from all causes was greater among persons with relatively low levels of social support" (p. 311). This points to a link between social support and physical health. They go on to write that "it is clear from the present review that embeddedness in a social network and social resources that are responsive to stressful events have beneficial effects on well-being" (Cohen and Wills, 1985, p. 351).

More recently, the rather simplistic view of social support as a cushion or a prop is slowly giving way to a more complex view. For example, Orpen (1982) writes that

the present findings suggest that it is how support from these sources (peers and leaders) is regarded by individuals that may be important in determining whether such support will moderate or fail to moderate the effects of job stress on satisfaction and performance (p. 383),

and Coyne and de Cotiis (1986) write that:

there are undoubtedly profound connections between having good relationships and well-being, but they are likely to be complex, reciprocal and contingent (p. 454),.... The concept (of support) becomes systematically misleading when it is accepted in place of a more elaborate understanding of people's involvement with others (p. 458).

Ganster and Victor (1988) assert that:

At this time the literature has not resolved several fundamental questions of the relationship between social support and health.... We would encourage investigators to pay closer attention to the context and meaning of social support. That is, exploring how social support is perceived as a function of the person and the timing of delivery might be a fruitful course of enquiry (p. 33).

The Work - Non-work Interface

Whereas most writers and researchers have tended to focus on the phenomenon of stress either in the work context, or in the non-work (private and social) context of the individual, there is an acknowledgement by some that this is an artificial distinction, and that there must inevitably be a connection of some kind between these contexts in terms of stress. Some call this connection an interaction (Greenhaus & Parasuraman, 1987), some call it spillover or compensation (Staines, 1980). Obviously what one calls it depends on the type of relationship envisaged. However, most of these writers agree that events and stressors that originate in the work domain are capable of producing stressful experiences in the non-work domain, and vice versa (Greenhaus & Parasuraman, 1987; Cooke & Rousseau, 1984).

Stress and its Management

The Development of Stress Measurement and /or Diagnosis

Since there has been no conclusive consensus among researchers as to a definition of stress, it follows that as far as stress measurement is concerned, different ideas would prevail here also. How one measures stress depends on one's definition of what it is.

Consequently, medically orientated researchers have tended to measure stress in terms of the physiological changes which take place when an individual is confronted with a stressor or stressors. Blood pressure, heart rate, cholesterol levels and countless other indicators of stress are recorded and correlated with, for example, a stressful lifestyle.

In the behavioural sciences stress measurement usually takes the form of interviews and questionnaires aimed at uncovering, inter alia, life events which place a person at risk, "bad" lifestyle habits, disturbed relationships and poor coping skills in areas such as communication and time management. Advocates of the psychological model of stress would tend to look to personality type or "faulty" thinking for the root of an individual's stress.

There are two basic approaches to measuring stress which have been elaborated on by different researchers. The first is to focus on the symptoms which the person presents with, and the second is to focus on his stressors.

Researchers involved with devising measuring instruments for stress appear to have had some difficulties:

Looking at symptoms can be confusing, since there are no symptoms which have been directly linked to stress and stress only. Almost any physiological symptoms and illnesses can be attributed to stress if one accepts the biophysiological theory of "wear and tear" which wears down the physiological defences of the organism to disease and thereby makes it vulnerable to any and every kind of physical attack. Lazarus, DeLongis, Folkman and Gruen, (1985) also introduce the idea that it is likely that when we measure stress with the various instruments at our disposal, in addition to getting measures of stress, we are also getting measures of psychological disorder. It is therefore impossible to know to what extent a particular result reflects stress and to what extent it reflects psychological disorder.

To measure stressors, many different questionnaires have been devised. Here again, measuring instruments intended to measure stressful life-events and circumstances often also reflect symptoms of psychological disorder in the persons being measured on the scale, in that their perceptions of their reality would be tainted by their disorder.

Nevertheless such measures have been and still are frequently used to gain an indication of the level of risk of stress to which a person is being exposed. Two examples of such instruments are Holmes and Rahe's Life-Events Scale, and Lin, Dean and Ensel's Instrumental-Expressive Social Support Scale (Winter, 1983).

The Development of Work-stress Management Interventions

Over the years many forms of interventions have been developed in an attempt to either prevent or to alleviate worker stress. Some of these have focussed on the individual worker, and some on the work context.

The interventions devised to be used with individuals have ranged from changing their thinking to changing their entire lifestyle.

Changing Thinking

Examples of interventions aimed at changing the thinking of the individual are training programmes in self-awareness, cognitive therapy, cognitive restructuring, positive self-talk, cognitive behaviour modification (Winter, 1983), Transactional Analysis, rational emotive therapy and reality therapy (Greenwood & Greenwood, 1979).

Changing Behaviour

In order to change the behaviour of the individual, assertiveness training, behaviour modification (Nykodym & George, 1989; Winter, 1983), and creative problem solving (Nykodym & George, 1989) are just some of the methods used.

Changing Lifestyles

Here all the physiological functions which are considered to be voluntary, and some which are involuntary are brought under scrutiny, inter alia breathing techniques (Winter, 1983), relaxation (Greenwood & Greenwood, 1979; Sharpe, 1984; Winter, 1983), sleep and rest habits, diet, weight control, exercise (Greenwood and Greenwood, 1979; Winter, 1983), smoking, alcohol and drug use (Greenwood & Greenwood, 1979). Training is given to individuals in various techniques for bringing these functions and habits under control, such as meditation (Greenwood & Greenwood, 1979), biofeedback (Greenwood & Greenwood, 1979; Winter, 1983), structural integration (Rolfing) and structural patterning (Greenwood & Greenwood, 1979).

Teaching Coping and Other Skills

On-the-job training, additional qualifications, goal setting (Sharpe, 1984), decision making, time management, and conflict management (Nykodym & George, 1989) are some of the skills thought to increase a person's ability to handle stressful situations positively.

Changing Relationships

Some researchers feel it is important to encourage and teach individuals to form a network of friends and associates who can provide social support for them (Nykodym & George, 1989; Quick, Nelson & Quick, 1990). Training in social skills such as communication and assertiveness are also thought to be helpful.

Changing the Environment

This is an attempt to eliminate physical and psychological stressors, and can take the form of changing the corporate climate of the organisation, changing the reporting structure, changing the individual's work load in some way, changing the work content, (task redesign to improve employee/job fit [Perrewe & Vickory, 1988] and job enrichment [Murphy, 1984]), changing the limits of the individual's authority, and introducing Employee Assistance Programs and stress management counselling and training programs in the workplace (Allen, 1990).

The Results Achieved by Stress Management Programs

Conclusions about the efficacy of work stress management programs are very mixed. The programs have been generally found to yield positive results in the short-term, that is, they have resulted in lowered measured physiological stress levels, lowered cognitive measures of anxiety, and increased work performance (Bernier, 1989; McLeroy, 1984; Murphy, 1984; Sedgwick, Paul, Plooj, & Davies, 1989).

Most of the writers questioned the long-term benefit of stress-management programs, although one long-term study found beneficial effects in subjects on average three years after administering a stress-management course (Sedgwick et al., 1989).

Ivancevich and Ganster (1987), when commenting on the outcome of studies done on the effectiveness of work site stress training programs write:

it is common to find reports of beneficial effects in control or comparison groups as well as experimental groups. In some studies the magnitude of post-training effects were equally large among trained and comparison groups. (p. 220)

Ivancevich and Ganster (1987) also report on another study done where absenteeism and productivity improved after training for the "trained" group, but also for the control group, and job satisfaction decreased in the trained group in comparison with the control group.

There is even the suggestion that stress management programs could cause stress under some circumstances:

Since all of the SMT (Stress Management Training) studies have employed some form of muscle relaxation exercise and relaxation-induced anxiety has been reported in about 10% of the population, practitioners also need to acknowledge potential counterproductive effects of SMT for some participants. (Ivancevich & Ganster, 1987, p. 222)

Bernier (1989), in reviewing the literature on stress management programs and their efficacy writes:

When compared to no treatment, most stress management programs were found to lower all or some somatic measures of stress and cognitive measures of anxiety, as well as to improve academic or work performance. Some efficacy is thus supported. Nevertheless, no differential effectiveness of stress reduction programs was found (p. 18).

In fact, none of the studies done appears to have yielded a clear indication of the relative efficacy of types of programs vis a vis each other. It would seem that compared with no intervention, such programs are beneficial, regardless of their area of focus. (The lack of differential results has been tentatively attributed by some writers to poor research design, others have merely noted it without attempting an explanation.)

Murphy (1984), with regard to work site stress management programs writes that "a major disadvantage of worksite stress management programs is that they are not designed to reduce or eliminate the sources of stress at work but only to teach workers more efficient coping strategies" (p. 12). It is suggested by Murphy that it is not enough to do one or the other, but important to pay attention to both, that is, the individual and the organisation.

The general conclusion appears to be that although stress management programs do appear to have some value within organisations, they should not be seen as an isolated activity, but should rather be a part of a more comprehensive employee health maintenance program (Ivancevich & Ganster, 1987). However, it seems that making substantial changes in the organisation in order to alleviate possible sources of stress was considered by most companies to be impractical and too costly to implement (Murphy, 1984).

It can be seen from the above that the attempted solutions are as numerous and as varied as the manifestations of the problem itself. Again, apart from concluding that intervention generally does make some positive difference, researchers cannot reach consensus about the specifics of the effects which can be expected from stress management interventions or about the best way to utilise them. There appears to be a general trend towards taking account of the complexity of the situation, rather than accepting what Ivancevich and Ganster (1987, p. 226) call a "band-aid" approach, which aims to eliminate a specific symptom at a specific time, and does not look at the context in which it is occurring.

Concluding Remarks

It is evident that an enormous amount of work has been done in the area of stress and particularly work-related stress. Researchers and clinicians have defined it, analysed it, looked for its causes and locations. They have diagnosed it in individuals and organisations and have developed various interventions, both individual-focussed and group-focussed, to help people to cope with it. Yet the end result is unclear, both with regard to conceptualisation of what it is, and with regard to the outcomes of the many interventions designed to manage it.

CHAPTER 3

A CRITICAL OVERVIEW OF THE PAST AND THE PRESENT SITUATION

This chapter will present a critical look at the results which have been attained by stress research to date, some hypotheses about what is precluding more favourable results, and some suggestions for possible directions for change.

Results

In reviewing the history of the development of the concept of stress, it can be seen that a great deal of ground has been covered by researchers in different fields in the past, and it is evident that much work is still being done on stress and its management by behavioural scientists the world over.

However, all the effort which has been expended does not seem to have provided a clear definition of stress or useful answers to questions about its nature. In fact it seems to have resulted in increasing confusion rather than clarity.

The popular conception of stress appears to be easy to understand, very well publicised, often rehearsed, and embedded in folk wisdom, scientific explanation and popular psychology. It provides a convenient and apparently simple explanation for any and all symptoms. However, it has not proved useful in the development of equally easy and simple solutions, and many of the results of research done in the field appear to be inconclusive, contradictory or inconsistent.

Some of the reasons why this seems to be so will now be examined:

1. As yet the research done has not provided an objective and definitive answer to the question: What is stress? There appear to be almost as many definitions as there are researchers.

2. In spite of this, as an explanatory concept, stress has been linked to such a wide variety of physiological symptoms and illnesses that at present anything which cannot be shown to be bacterial, viral or a result of physical injury may be attributed to stress. Ivancevich and Matteson (1979, p. 15) write that "most current medical text books, in fact, attribute anywhere from fifty to seventy percent of illness to stress-related origins."

For example, Cox (1978) listed the consequences of contact with stressors under the following groupings: subjective effects (for example aggression, apathy, boredom); behavioural effects (for example drug use, emotional outbursts, eating disorders); cognitive effects (for example concentration problems, forgetfulness, mental blocks); physiological effects (for example increased heart rate and blood pressure, breathing difficulties, hot and cold flushes); and organisational effects (for example absenteeism, high labour turnover, high accident rate).

3. There is a similar lack of specificity with respect to causes of stress, with any life event or circumstance, whether positive or negative, and any change at all in a person's circumstances qualifying as potential stressors. Some writers have acknowledged that it is very difficult to isolate precise places where the stress of one particular individual originates. They therefore talk about "additive effects" and "spillover" of stress from one domain to another. However, although there is no clear distinction, they still try to separate out the different kinds of stressful situations and measure one against the other.

This summary is by no means comprehensive but it does give an indication of the variety and extent of symptoms and causes which have been attributed to stress over the years. It can be seen that lists of these numerous and varied factors can do little to facilitate our understanding of stress.

A statement such as the following:

Stress has been suggested to be linked to physical and mental health (Cobb, 1976; Kornhauser, 1965; Morris & Snyder, 1979); to coronary heart disease (House, 1974; Matteson & Ivancevich, 1979); to absenteeism (Gupta & Beehr, 1979; Margolis, Kroes & Quinn, 1974); to turnover (Gupta & Beehr, 1979; Porter & Steers, 1974); to job dissatisfaction (Beehr, 1976; Johnson & Stinson, 1975; Lyons, 1971; Miles, 1975) (Jamal, 1984, p. 1),

is so broad as to be meaningless in clarifying what stress is or how it operates. It would seem that stress as a concept has been evoked to explain almost anything and everything.

Wilder-Mott and Weakland (1981, Foreword) write:

I wish to invite the reader to reflect for a moment what it means to have arrived at something that explains "almost everything." Does something that explains everything explain anything at all? Maybe such a thing explains in fact nothing at all.

4. In spite of having so many diseases attributed to it, a direct link between stress and illness has yet to be proved. Pollock (1988, p. 386) asserts that "stress research assumes that there is, or can be, a direct causal relationship between the physiological changes resulting from stress and at least certain forms of illness." However,

it seems that it is still not possible to say how far stress is responsible for causing any specific illness, or exactly how it operates to produce this effect. Nor is it possible to inspect it directly, or measure its intensity, or predict its impact on any individual organism (p. 387).

In addition, according to Pollock (1988, p. 387), stress theory "cannot account for why some people and not others are able to handle the physiological consequences of stress without becoming ill, nor why specific illnesses affect different people." Here it must be mentioned that Selye (1957) has attempted to provide such an accounting by speculating that individuals are more or less susceptible to particular diseases depending on their inherited physiological makeup. However, this does not seem to be an adequate explanation in that it still does not clarify the stress-disease link.

5. Many of the concepts which stress theory appears to take for granted as self-evident "truths" are unclear or unproven. For example, there appears to be an indistinct conceptual separation between physical stressors, which directly and obviously can cause physiological damage, and psychological stressors which have to operate through perception and physiological arousal to have an organic effect. Both are grouped under the term stressor, which can then be used to denote anything from simple sleep deprivation to the emotional impact of a long and complicated divorce.

6. Many of the additions to the traditional model of stress, intended to facilitate understanding, have resulted in further confusion due to the lack of theoretical consistency with the original theory.

For example, the idea of taking individual perception and interpretation into account has complicated matters for researchers, since it presents them with the necessity of reconciling a cognitive explanation with their original mechanical conception of stress. Whereas previously they understood themselves to be dealing with an objectively observable and measurable entity, they now have to deal with something which is neither, but must instead be inferred from behaviour.

As a further example, the research done on social support and its hypothesised ability to act as a buffer between an individual and his stressful life circumstances, or to ameliorate the effects of stress on him, appears to have yielded positive results. However, as yet there is no clarity about how or why social support is helpful to individuals in stressful circumstances (Coyne & De Longis, 1986; Dignam & West, 1988; La Rocco et al., 1980; Williams & House, 1985).

With regard to change, there seems to be a general assumption that change of any kind is particularly stressful, but research offers no clear explanations of why this is so, or how the process operates.

Summary

It is apparent that as it is presently conceptualised, stress is seen as a something which can be caused by everything in life and it can result in just about any and every kind of physiological, psychological, and social problem. In attempting clarification, researchers have labelled as stress phenomena as diverse as the basic General Adaptation Syndrome and the demands of modern daily life, and then in turn reified this label to denote a single, all-encompassing psychological and physical state for which a cure must be found.

An example of the results of the kind of confused reasoning which has been used in the study of the phenomenon is what Bateson (1972) called the creation of a "dormitive principle". This is where a descriptive concept such as stress, originally intended to link up and try to make sense of a lot of seemingly disjointed observed phenomena, is reified and invoked as an explanation of itself.

Such an explanation can obviously add nothing useful to the existing store of knowledge about the subject.

It is evident that instead of the intended clarity they have been trying to achieve, researchers have found themselves increasingly mired in their own thinking. At present anyone attempting to understand what stress is, what causes it or to alleviate the many human afflictions linked to stress, comes up against as many theories and methods for managing or coping with it as there are researchers writing about it, since both research and remediation programs are characterised by diversity of opinion.

The Epistemological Basis of Knowing

This thesis suggests that the issue which is bedevilling work in the field of stress is that of epistemology. The epistemology of the scientist, whether conscious or unconscious, determines the theories he bases his models of research on, the questions he asks and does not ask, the tools he uses and does not use, the actions he feels constrained to take and those which are proscribed to him, the evidence which he looks for and that which he ignores, and how he views and interprets his results. In short his epistemology determines the starting point of everything he does and ultimately shapes the end results of his work.

Although any explicit epistemological or even theoretical basis for diagnosis or for intervention is lacking in much of the research cited in the previous chapter, a study of the field reveals that most of the work is grounded in an epistemology which subscribes to traditional Cartesian/Newtonian metaphysics. This derives from the historical origins of stress research in the medical model, which itself is built on Cartesian/Newtonian scientific epistemology.

Such an understanding of the nature of knowing brings with it many assumptions. The most important of these are:

A Mechanistic Philosophy

This is an understanding of all of nature, including human beings, as functioning in the same way as does a machine - according to the laws of physics and the forces of nature.

Reductionism

The belief that all aspects of a complex phenomenon can be understood by taking it out of its context, reducing it to its constituent parts and analysing these.

Linear Causality

The idea that there is a direct, unilateral relationship between events and that one thing causes another because it precedes it. This also includes the notion that events usually have one true cause, and if there are other possible causes occurring at the same time, these are merely co-incidental, and in any study of the event, must be controlled.

Certainty

The belief that certainty and truth can be discovered through objective observation and an analytic method of reasoning. Reality is seen as something which can be measured and quantified.

Objectivity and Truth

The assumption that science is able to provide objective knowledge about the world and that this knowledge truly and accurately reflects the truth.

Anti-contextualism

People are considered to have specific qualities which promote certain behaviours, which in turn can be explained by those qualities. The context of events and the complexity of people is largely ignored.

An examination of the literature on the subject of stress shows that all of these assumptions are intrinsic to the traditional thinking on the subject:

Most models of stress are based on a mechanistic model of supply and demand. There is the implication that there is a one-way pressure being applied from the environment on the person which makes demands on him which he is constrained to meet. Furthermore, the human being is understood to "contain" or "own" a certain amount of resources (abilities, strengths, social support, coping strategies, and so on). When these resources are depleted he begins to manifest certain symptoms of malfunctioning or even "burns out" completely.

Stress management programs are aimed at "recharging" him with resources and/or equipping him to manage the demands of his life better in the future. This idea was introduced by Selye (in Winter, 1983), who felt that the human being's supply of adaptive energy is finite or limited.

This medical/mechanical input/output model may in certain cases be useful in looking at the physiological aspects of overwork. However, it is no longer useful when we are trying to understand psychological phenomena. Psychologically a person cannot usefully be described as an input/output mechanism. Psychological resources, unlike physiological resources, cannot be counted, measured or weighed. Psychological processes, unlike physical processes, are complicated by meaning attributions and the influences of the environment. For example, in the case of overwork a reduction in stress so as to enable the human "machine" to heal itself and in the long run to last longer would seem to make sense. However, good health and lasting longer mechanically are not necessarily important priorities for many people. Some appear to seek out stressful situations, and some to perpetuate stressful contexts. Stress management programs geared at teaching ways of reducing stress do not take such possibilities into account.

Also, as previously mentioned, in order to fit with the hypothesised model, the concept of stress has been reified to the point where the explanation has become the disease. For example, instruments have been and are being devised for measuring stress as if it were a simple and observable phenomenon, whereas this is not so.

In their attempts to create order in the confusion which this line of reasoning has contributed to, and to separate out causes of stress, reasons for susceptibility to stress, physiological responses, cognitive responses (attitudes of mind, perceptions), heredity and so on, researchers have reduced reality to manageable portions and have endeavoured to analyse these by means of logical, scientific and statistical methods, based on their own area of expertise and world view. They have disregarded or given perfunctory mention to, those factors which lie outside their area of focus. As a result, each study deals with some of the relevant issues in depth, but apparently none attempts to look at the larger picture and its development over time. Such a fragmented approach results in artificial divisions which limit rather than enhance the researcher's ability to understand, since these are not elements which make any sense when they are divorced from one another.

Le Roux, (1987, p. 15) confirms the view that this way of tackling human problems is unlikely to be helpful:

The reduction of the complexities of interpersonal behaviour to measurable "things" or constructs may be useful under certain circumstances, but it is only one way of construing realities related to interpersonal behaviour. Realities related to interpersonal behaviour are complex and it would appear unlikely that it will become possible to reduce them to mathematical constructs only.

Most studies have adhered to the view of the symptomatic individual as being the central focus of attention, although elements of the environment are taken into account in some approaches. The individual is usually studied in isolation and his problems, being symptoms of his inability to cope with stress, are seen as a manifestation of his personality and located within him. His context is generally ignored, except where the "causes" of his stress are said to originate in the environment. However, here again, the offending environmental "factor" is identified and isolated for purposes of study. Such an approach blinds the researcher to the entire area of the relationship between the individual and his environment.

Although some researchers appear to concede that physiological arousal on its own is not sufficient to explain the development of illness, and that many other factors must also be considered, the assumption of linear causality has forced them to ignore the complexity of the interrelationships between these factors.

Finally, the researcher is considered to be an objective observer who is able to view reality from a neutral corner and through empirical research methods, to discover the truth about the phenomenon that is defined as stress. The influence of his historical and present context and resulting belief systems and ideas, as well as the relativity of truth is not considered to play any part in his discoveries.

On the whole therefore it can be seen that the way problems are traditionally diagnosed and described, and the kind of interventions which are prescribed, do conform to the traditionally scientific epistemology previously outlined. That this way has not proved to be helpful in either understanding stress or in designing interventions for its alleviation, has been amply demonstrated by the research results obtained.

A New Approach

There have been many warnings issued by various writers that things may not be as simple as they seem. Even Selye (1974) acknowledged that as far as causes are concerned, a particular disease could never be linked to a particular stressor, since the same stressor can produce very different symptoms in different people, or different stressors can produce similar or the same symptoms in different people. So already at this point there was no certainty about the causal links between stressor and stress reaction.

More recently there appears to be a growing awareness that there is a need to take a broader and more comprehensive view of the phenomenon. Researchers and writers from every sphere are attempting to deal with this need in various ways. This has resulted in models which are becoming more and more complex and all-encompassing. However, they also seem to be discovering that the very use of the word stress brings with it such a plethora of factors and issues to take into account that it makes their task virtually unmanageable.

The impression is gained that those working in the field of stress have become the victims of their own ideas in some way, which impel them to continue down a path of research which is leading to results of less and less relevance in the larger scheme of things.

Sluzki (1992) explains this process as follows: Inasmuch as a person describes his reality in language, he is also creating and ordering that reality by the process of description, according to his own previously arrived at ideas about the reality he is describing. Simultaneously, however, through this process he also structures and limits his alternatives for future perceptions and descriptions.

Thus it is possible that "stress", as a concept, could self-reflexively become its own proof and justification. Once a problem is defined as stress, the label determines all further actions which will be taken in terms of research, investigation and intervention, as well as the diagnoses and conclusions which will be arrived at. Thus in effect, the concept of stress locks the researcher into a linear, reductionistic and anti-ecological way of thinking, and allows for no alternative way of conceptualising the situation. It would seem that, through their epistemological assumptions and use of language therefore, writers and researchers in the field seem to have set themselves up for failure.

In order for researchers to stop limiting their alternatives, they need to acknowledge that stress as it is presently conceptualised does not provide a helpful basis for research or intervention. In order to break out of the traditional way of thinking which entraps them, however, it is necessary that they examine the epistemological foundation on which their models are built, and contemplate the possibility of changing these.

As long as the traditional definitions and explanations about stress are used as a starting point, and as long as our thinking remains within the traditional Newtonian/Cartesian epistemology, we will continue to ask the same questions in the same way, and therefore also end up with the same answers. In that this epistemology has brought stress research to the point where it has begun to repeat itself, and where therapeutically useful concepts or ideas for understanding the phenomenon which, traditionally, we have come to refer to as stress, are scarce, perhaps a different epistemology is indicated.

It is suggested that an epistemology founded in ecosystemic, constructivist principles may provide an alternative to the traditional ways of thinking about stress, which could prove to be more useful. In the following chapter such a way of thinking is outlined.

CHAPTER 4

AN "ECOSYSTEMIC" EPISTEMOLOGY

In 1974, Edwin Williams, an ecologist, published a paper suggesting that analysts of human behaviour would do well to attend to the larger system of which their subjects are part, since "behaviour does not exist in vacuo, but is part of a delicate system. When a single behaviour is changed, there are likely to be other, concomitant changes" (Rogers-Warren & Warren, 1977, p. 3). He also warned that the so-called "side-effects" of an intervention may have detrimental effects on the subject which are worse than the original problem.

Dell (1980, p. 129) also mentions the temptation of attempting to understand human behaviour by analysis and categorisation: "Always, there is the seduction of attempting to simplify and reduce by seeking to discover how things are the same and how categories have characteristics". He is of the opinion that by doing this we lose a lot of relevant information and come to erroneous conclusions, on which we then act. Focusing on maximising individual health, as is done in the research on stress and development of intervention strategies is taking just such a narrow and reductionistic view, and what we do to "improve" things at one level could well be unhealthy or destructive at another.

It is evident from the previous chapter that a new and different way of looking at the problem of stress is needed if we are to develop interventions which are effective and relevant at every level. It is suggested that "stress", in its positive and negative senses, can be reconceptualised in a way which respects the complexity of human behaviour, and takes context and ecology into account, and that this could be done by employing an ecosystemic (Keeney, 1979) method of observation, description, conceptualisation and analysis.

In order to provide a contextual background for the reader's understanding of the directions which this study intends to follow, some of the basic tenets of what is today loosely understood as ecosystemic epistemology need to be described. Some of the most important implications of these for the study will then be outlined.

Ecosystemic Epistemology and the Co-evolution of Reality

The task of observation and description of any psychological phenomenon confronts us with the issue of diagnosis. Matteson and Ivancevich (1987, p. 96) tell us that the literal meaning of diagnosis is "to know". Since what we know, is in every respect dependent on how we choose to know, the way we diagnose and the meaning we attribute to the knowledge thus gained is determined by our epistemology. This means that in order to understand and "to intervene in an ecological and systemic fashion (we) must see and know situations in an ecosystemic way" (Keeney, 1979, p. 119). This "ecosystemic way" is built on certain basic premises, which are outlined below.

Universal Unity

In the previous chapter the Cartesian/ Newtonian world view which underlies most traditional research into human behaviour was described. According to that epistemology the universe is conceived of as a machine with subdivisible parts, and man himself is seen as a discrete unit which can be separated from all the other "parts" and in turn can be divided and analysed in parts. In contrast, ecosystemic epistemology views the universe as an indivisible whole, whose parts are interrelated to such an extent that any one part, for example man, can only be understood in terms of his relationships to all the other parts.

This immediately confronts one with the imperative to look further than the individual stress-sufferer and his symptoms. We must look at that person's work and social context and at the relationships between him and these contexts. It may also become important to look beyond even these immediate contexts at the larger societal and even universal contexts in order to understand a given phenomenon.

Constructivism, Objectivity and the Role of the Observer

Whatever epistemology one embraces implies that one encounters reality in a way dictated by the assumptions inherent in that epistemology. In order to gain an ecosystemic understanding the investigator would use himself as his main

instrument and would be looking, questioning, listening and describing, keeping in mind at all times his own role in creating the reality that he describes through these activities.

Part of the reasoning underlying this "personal" approach to investigation is the assumption of a constructed (as opposed to an absolute) reality. A reality which, far from being an indisputable truth "out there" which we encounter and know through our senses, is in fact our own creation which we constantly and progressively build and confirm (von Foerster, 1981, 1984a; von Glasersfeld, 1984; Watzlawick, 1984).

In referring to how we know our world, Heisenberg (1958, p. 81) asserted that "natural science does not simply describe and explain nature; it is part of the interplay between nature and ourselves; it describes nature as exposed to our method of questioning."

Bateson (1978, 1979, 1988) went further than this and stressed that we can never claim to have an objective understanding of reality, since everything we know is perceived by us (and therefore "created" by us) through the structure and limitations of our nervous system, and is known and understood in terms of previously established patterns of knowledge. He wrote that "what is, is identical for all human purposes with what can be known" (Bateson, 1988, p. 28).

Dell (1986, p. 229) writes in this regard that "the world we see is not a world which objectively is; the world we see is the one that our structure determined existence in the medium brings forth." Maturana (in Efran & Lukens, 1985, p. 24) support this view and propose the even more radical idea that there can be no reality save that which is created by an observer: "Without the observer, nothing exists".

Our memory of the reality we created in the past constitutes our "knowledge" about reality and limits and determines how we experience (construct) the present and what fantasies we nurture about the future. Von Glasersfeld (1984, p. 30) puts it this way: "Such constraints as we encounter spring from the history of our construction, because at any moment whatever has been done limits what can be done now". Watzlawick (1984, p. 66) explains how self-reflexiveness via positive feedback from the environment operates to further entrench any ideas we may have: "Convictions, traditions, hopes prejudices and above all, certain adamant assumptions have the strange ability to generate - self-reflexively - their own practical proof and justification."

"Knowledge can now be seen as something that the organism builds up in the attempt to order the as such amorphous flow of experience by establishing repeatable experiences and relatively reliable relations between them" (von Glasersfeld, 1984, p. 39). It is important to note here that according to this line of reasoning there can be no "correct" version of reality and no explanation which is more valid than any other explanation. Certainty about reality is not possible. Therefore an ecosystemic enquiry into any subject can only result in a description and/or an explanation which is more or less useful in its context, but can never be more correct than any other description or explanation.

Change in our perceptions, views and consequent behaviour is possible because "the operations by means of which we assemble our experiential world can be explored, and ... an awareness of his operating ... can help us do it differently and, perhaps, better" (von Glasersfeld, 1984, p. 18). This again introduces the notion of feedback through which we receive "news" about the effects of our actions on our environment. Watzlawick (1984) also supports the idea that our ideas are confirmed in a process of self-reflexiveness via positive feedback from the environment. (Feedback will be discussed in more detail later.) Our communal ideas of reality are therefore created in language by consensus. In other words, we cannot know an objective reality, but we can agree with others that the reality we perceive, and have contributed to bringing forth, is similar (but can never be the same) for all of us.

Von Bertalanffy (1975) emphasised the relativity of these ideas to the context in which they develop:

Our survey has shown that from the sixteenth century to the present, our general world view always corresponded to the stages of scientific development.... Then, with the development of classical mechanics a system of absolute natural laws governing the ultimate material elements of reality was formulated. Thus, not only the world of inert matter, but also that of life and the soul were interpreted as a game of atoms. This was the mechanistic world view which also formed the basis for Kant's theory of cognition. Modern physics as well as modern biology showed that this was insufficient.

Today we are striving for a world view which regards the organismic model, and biological rather than physical concepts as fundamental. This new perspective, however, differs from previous ones in an important point: it realises its relativity and limitations. We are aware that all possible knowledge is only an approximation and does not reach ultimate reality. It only reflects certain aspects of reality in more or less appropriate models. The limitation and effectiveness of creative scientific thinking lies in the realization that our symbols and models reflect reality in a necessarily limited way. In contrast to the dogmatism of previous times, we now recognize that we see the world in a "perspective" and that our cognition of it is but an aspect of reality (p. 113).

If one accepts the notion that reality is a construction, then one must also accept the idea that there can be no objectivity. The observer, in describing what he sees is taking part in the reality that he describes. Lifschitz (1986) explains this in terms of recent changes in scientific thinking:

The newer conceptions of physics not only transcends the division between observer and observed, but also the Cartesian division between mind and matter. The crucial feature of quantum theory is that the observer is not only necessary to observe the properties of atomic phenomena, but that the observer is necessary even to bring about these properties. This assertion becomes apparent when it is recalled that the phenomena under observation do not have a character, but that properties are attributed to it in the act of observation (p. 62).

It would seem, furthermore, according to Heisenberg's "Uncertainty Principle" (in Keeney, 1979) that the observer not only creates his reality, but that he is also constantly altering that reality by the very act of observing it (Zukav, 1979). Bugental (in Keeney, 1979) asserts that:

Indeed we must recognize that the very process of describing the human experience changes that experience and that the more such a description approaches completeness, the more it is apt to be a basis for change in the very experience it describes. This is probably true for all science, but it is particularly true for the sciences that deal with man. Man's awareness about himself acts as a constantly "recycling" agency to produce changes in himself (p. 22).

The idea that each person sees things correctly according to his own psychological structure brings with it the implication that whatever we "find" as researchers, we have to ask ourselves what it is about our structure (and epistemology) that led us to find this. It also implies that if we change our structure (this can obviously only be done within limits, since structure also determines the range of the change which is possible), in this case, as researchers and clinicians, our epistemology, we may be able to "find" a very different reality. A reality which hopefully will be useful to our endeavours to intervene in the systems we encounter in a healing way.

Furthermore it must be remembered that by studying a phenomenon, such as stress, we perpetuate its existence, and by creating interventions for its alleviation, we will simultaneously create a reality where we will be looking for and, of course, finding, clients with the exact symptoms which "fit" our diagnosis and therefore also our "cures" (Keeney, 1979). This is something which has to be acknowledged, and for which the researcher/clinician must take responsibility.

Systems Theory

From the viewpoint of ecosystemic epistemology, a system can be defined as "a cybernetic network that processes information" (Keeney, 1979, p. 119). The individual is seen as a biological and psychological system in his own right, and at the same time as part of larger, multi-member systems which reciprocally impact on and are impacted upon by, his behaviour. Keeney (1979, p. 123) tells us that these "mutual, reciprocal, simultaneous interactions define, identify and constitute whole systems."

Keeney (1979, p. 117) gives two criteria for discerning a system: "A recursive organisation must be perceived ... (and it) must have a feedback structure, that is, the recursive process must involve self-correction."

There is a distinction which can be drawn between physical systems and conceptual systems: A conceptual system is defined by ideas whereas a physical system is defined by concrete objects. For the purpose of this study, however, this distinction is not emphasised since the physical and conceptual systems are seen as interwoven and interdependent, and it would be impossible to describe one without reference to the other.

Bateson (1988, p. 19), in explaining how systems maintain themselves, writes that a system is " something that can receive information and can, through the self-regulation or self-correction made possible by circular trains of causation, maintain the truth of certain propositions about itself." In order to understand a particular behaviour of an individual one has to take into account the systems he is part of and their organisation and patterns of functioning.

Some Basic Features of Systems

Interdependence. Le Roux (1987, p. 30) writes that human systems "are interconnected with each other in reciprocal, ever continuing complexities. Attempts to reduce these complexities to a few specific aspects, usually lead to oversimplification and fragmentation of an intricate whole".

A system can be composed of any number of elements (more than one) which have something in common which defines them as part of that system. The elements within the system are interdependent and any change in one brings about a simultaneous change in all the others. One implication of this interdependence is that we cannot separate any individual subsystem from the systemic context in which it functions and, examining it in isolation, expect to understand the meaning of the symptoms we see.

A system can only be defined as such if there is a distinction drawn between what belongs to the system and what does not belong to it. What does not belong to it is the environment or context in which the system exists, but with which it is intimately interconnected. As with systems, this context also can be physical and conceptual, that is, a system has a physical context as well as a context of ideas. Some of these ideas are drawn from the larger cultural milieu and some of them may be unique to a particular system.

The context of ideas in which a particular idea is embedded is constituted by cultural, organisational and individual ideas vis a vis that particular idea, as well as by the historical development of the idea in these systems. Therefore in order to understand the meaning and complexity of any idea, the ecosystemic researcher must be familiar with the context and ecology of ideas from which it evolved and in which it exists.

Wholeness. The wholeness of a system is assumed to be more than the sum of the parts of that system. In other words the fact that the elements are perceived as being part of a coherent system imbues them with a meaning which is different from the meanings of each one individual, even if these are added to one another as in traditional research. Keeney (1979, p. 119) puts it this way: "The systems axiom of nonsummativity asserts that diagnostic information obtained from isolated parts of the system cannot be summed to represent the whole system."

Boundaries. Systems are separated from their environment by boundaries. These boundaries can be physical (for example border posts, office walls and so on) but in human systems they are often conceptual (for example the human-resource department, the family, the nation). The boundary serves the function of determining what belongs where. Some boundaries are more permeable than others.

An impermeable boundary implies that there is no or very little interaction between a system and its environment. This results in a relatively "closed" system. A permeable boundary which allows information and interaction between the system and its environment facilitates an open system.

It is important to point out here that human interactional systems differ from physical systems in that the boundaries which define them are not predetermined or definite, but are drawn by the participants in that system, often including those who describe themselves as observers (Bateson, 1972; Keeney, 1983). These boundaries are also subject to change with circumstances.

The drawing of conceptual boundaries is one of the ways in which the observer of a system interacts with that system. Where and how he draws the boundaries will be determined by what he is looking for and will also determine what he "finds". Such an observer will perceive the boundaries of the system under study according to his model and his perception of the problem.

Keeney (1983, p. 25) writes: "Thus a therapist can choose to indicate or punctuate his unit of treatment as an individual or a family organisation or to see it from a perspective that makes the individual-family distinction irrelevant."

Constant change. A living system can never be totally closed, since the system must survive in its environment and in order to do this it must interact constantly with that environment. The reciprocal influence between and within systems is seen to be dynamic. That is to say, through constant recursive interaction and resulting accommodation between and within systems, the picture is continually shifting, on the one hand maintaining organisational properties which are essential to the survival of the systems, and on the other hand bringing about change and development through time (Dell, 1985; Maturana, 1975; Maturana, 1987; Varela & Maturana, 1974). This tendency of human systems in particular to change constantly is described by Le Roux (1987, p. 12): "Human beings and their social interactions are particularly prone to fluctuations, both in moment-to-moment events and historical events."

One implication of this is that we can never assume that we can "freeze" reality for a while to study a particular human system and come up with "accurate" descriptions. We must see each set of circumstances which we study as unique and different not only from other sets of circumstances, but also from that same set of circumstances at another time. Because a system is constantly interacting and constantly changing, all our descriptions can provide are, of necessity, historical information about a system. These historical snippets themselves are meaningless unless we read them not only in the context of the environment in which the system has existed and is existing, but also in the context of the past. We have to ask questions about what went before a particular event and what came after that event in order to gain an ecosystemic understanding of the event itself.

Circular causality. The way of thinking about and describing reality which ecosystemic epistemology leads us to is very different from the traditional way which Keeney (1983, p. 14) described as "atomistic, reductionistic and anti-contextual and ... (following) ... an analytical logic concerned with the combination of discreet elements."

Whereas traditional thinking emphasises linear causality which tells us that y happens because x happened before it, circularity forces us to think that when x happens there could be a probability that y might also happen, but we cannot know the direction of this relationship. The past does not cause the present in linear fashion. It merely gives to the future a number of possibilities (Riedl, in Watzlawick, 1984).

Circular thinking, as originally described by Bateson (1978), focuses on distinguishing and describing the interrelations between and within systems, the complexity of these relationships as the systems act upon one another, and the contexts in which these actions and relationships occur. Ultimately circularity emphasises unity and mutual interrelations.

This implies that we can no longer isolate and describe "factors" in the environment which "cause" a person to become ill, or a particular set of symptoms as "residing" within a person, but must understand and describe problems and symptoms as part of an on-going, recursive relationship between a person and his context. Bowery (1986, p. 28) puts it this way: "The focus is placed on relationships and transactions between and around individuals: the aim is to become aware of the unity and mutual interrelation of all things; to transcend the notion of an isolated individual self."

First- and Second- order Cybernetics and the Importance of Feedback

Cybernetics was originally defined as the science of communication and control of machines as well as living systems. More recent developments in cybernetic thinking have brought about a change in this definition to include the study of not only the system being observed, but also the role and effects of the observer on the system (Howe & Von Foerster, 1974), and Steier (1985, pp. 28-29) writes that, "it (cybernetics) may be better defined today as the study of the process of organisation in observed and observing systems, and its inherent circularities."

Central to the theory of cybernetics is the concept of feedback. According to cybernetic theory, any system is controlled by information. This may be information about the environment, or it may be information about the results of the system's own actions in the environment. The latter is called feedback, and it is this feedback which enables the system to operate in such a way that it can maintain its organisation and continue to exist and function in its environment.

According to von Bertalanffy (1975, p. 118) "the self-preservation of living systems requires and presupposes an ordering of their processes." This ordering takes place in response to feedback or information from the environment

which allows the system to assess the impact of its actions on the environment and on the basis of this evaluation to alter its future behaviour. Wiener (in Keeney, 1983) defines feedback as follows:

Feedback is a method of controlling a system by reinserting into it the results of its past performance. If these results are merely used as numerical data for the criticism of the system and its regulation, we have the simple feedback of the control engineers. If, however, the information which proceeds backward from the performance is able to change the general method and pattern of performance, we have a process which may be called learning (pp. 66-67).

Maturana (1975, 1978, 1988) brought additional complexity to these ideas about information and feedback by asserting that although an organism (in this case a human being) does react to changes in its environment, it can only do so in accordance with the constraints imposed on it by its own structure, and its possibilities for behaviour are therefore limited. (Structure-determinism will be discussed in more detail further on in this chapter.)

It is assumed here that the process whereby physiological as well as conceptual responses or behaviours become entrenched in a system or discarded as inappropriate is dependent on feedback cycles between the system under study and its environment. These feedback cycles will continually work towards facilitating a fit between the system and its environment, and in doing so will evolve a pattern unique to the system.

Equifinality

This principle asserts that there is no reason to believe, when studying human behaviour, that a particular set of circumstances will always result in the same outcome, or that a particular outcome is always the result of a given set of circumstances. As Hoffman (1981, p. 72) writes: "The same outcome (does) not necessarily mean the same origins." This is a revolutionary idea since it challenges our fondly held notion that we can predict outcomes if we become sufficiently familiar with the circumstances.

The implications of this principle for this study are numerous: We cannot study one or even a hundred work-related systems and assume that we can identify "factors" which can definitely be said to lead to or to cause stress. We cannot develop a set of intervention strategies designed to address and remedy behavioural or other "causes" of stress, since we cannot know what these causes are and we also cannot predict what the impact of our interventions will be. What we can do is to treat each individual case as unique; to study, understand and describe it in all its complexity, and to try to be part of the ecological context in such a way that change becomes a possibility.

Context and Ecology

Everything exists within a context, and cannot be separated from this context. Any event has meaning within its context, that is, the context contributes to the meanings ascribed to the event. To understand any event, we must know and understand the context in which it has occurred. To take it out of context for purposes of analysis is to render it meaningless. Contexts consist of physical settings, social ecology and ideas about reality.

Because of the constant interaction and interdependence between a human being and his environment or context, the concept which best describes this relationship and which is inclusive of all the relevant information has come to be referred to as human ecology. This is simultaneously a physical ecology and a ideational ecology. An ecological "map" or model of any human system and its context would include, inter alia, interactional feedback loops (in language and action\behaviour) and ideational feedback loops (ideas, world views, belief systems expressed in language) within the system and between the system and its context. The observer making the distinctions and drawing the map would be as intrinsic and as necessary a part of that system which he is observing as any other element of it (Zukav, 1979; Keeney, 1983).

Relationship and Recursive Interaction

Maturana tells us that "Organisms survive by fitting with one another and with other aspects of the surrounding medium" (Efran and Lukens, 1985, p. 24). This fitting requires constant interaction between the organism and its environment, and therefore precludes the possibility of the existence of a "closed" system in the true sense of the word, as previously mentioned.

All human behaviour must therefore be seen as taking place in relationship. This relationship may be with someone or something, past, present or future, and should always be understood in its wider context (for example, the other relationships in which the person is also existing). Networks of human relationships form interactional patterns which can be distinguished over time, and it is in these patterns that the meaning of human behaviour expresses itself. Dell (1980, p. 126) writes that: "It is the interactional context of an event which provides its meaning." Keeney (1979, p. 123) writes: "Perhaps the most important idea in cybernetics and systems theory today is that mutual, reciprocal, simultaneous interactions define, identify and constitute whole systems."

Symptomatic behaviour, like all other behaviour, must be understood as a part of these patterns (and not as an aberration or illness "belonging to" one individual), and diagnosis (the knowing and describing of any system by an observer), can therefore also only occur in interaction. According to Keeney (1979, p. 124) "the major implication for diagnosis is that the therapist can come to know the properties of a whole system only by interacting with it."

This interaction itself changes the system and it is thus obvious that the system or ecology which the researcher comes to know is at least partly his own creation by virtue of the fact that he has participated in its interactions and also the fact that he is knowing and describing it through his own epistemological premises and assumptions. Varela (1976, p. 29) puts it this way: "(W)hatever we purposely distinguish will reveal not only the properties we are looking at but the fact that we are doing these interactions out of our own properties, that is, the properties we discover in systems will depend on our own properties."

Circularity of organisation, Structure Determinism, Autopoiesis and Coherence

Maturana and Varela (1987, p. 42) define the organisation of anything as "those relations that must be present in order for something to exist. " In referring to the organisation of living systems le Roux (1987, p. 39) writes that "for a living system to be alive, it has to function as a whole; and in order to function as a whole, every part of such a system interacts with every other part of that system." This implies that the organisation of living systems is, of necessity, circular. Maturana (in Dell, 1985, p. 5) confirms this by writing: "It is the circularity of its organisation that makes a living system a unit of interactions, and it is this circularity that it must maintain in order to remain a living system."

Living systems have a closed organisation, which means that although they are open to energy and matter, and in fact require this from the environment in order to survive, they are informationally closed. It is their structure, and not the environment, which determines how they will react to any event taking place in the environment.

This is structure determinism as defined by Maturana (1975, 1978, Efran and Lukens (1985), and Maturana and Varela (1988). This refers to the theory which maintains that all living systems can only operate according to their own specific structure. Regardless of environmental factors, there is therefore a limited range of behaviour which any living system can manifest (Efran & Lukens, 1985; Dell, 1986).

Living systems survive within their environment through their reciprocal interactions with that environment. Maturana (1975) uses the term structural coupling to indicate the process whereby living systems reciprocally interact with one another and with their environment. According to Maturana (1975, 1978, 1984) and Varela (1976) interactions between living organisms are mutual perturbations, the effects of which are dependent on the structures of the respective organisms. The interactions must therefore be in keeping with the structure of both the system doing the surviving and the environment, in order for there to be a sufficient fit between the two.

Maturana (Efran & Lukens, 1985, p. 24) maintains that: "Organisms survive by fitting with one another and with other aspects of the surrounding medium.... When the fit of the organism and its medium is insufficient, there is disintegration."

The ability of the system to survive within its environment, and to make the necessary changes in structure in response to perturbations from the environment, can be called its competence. Le Roux (1987) defines the competence of human systems as:

The way in which a system is part of a consensual domain through the eyes of an observer; within the domain of human systems, it becomes the correspondence of ideas about ideas about how to survive in any time-space sequence (p. 59).

Maturana refers to this constant activity of a living system to maintain or "create" itself as autopoiesis. He tells us that autopoiesis also limits the kinds of structural changes that the system can undergo without disintegration and determines which aspects of its organisation it must conserve in order to continue to exist (Maturana, 1987).

Maturana has extended this theory to be analogous to the way human social systems operate. This fit can be understood to replace the notion of communication between organisms, or in this case human beings, which he felt to be a misleading one. It must be kept in mind that structure as an analogy also includes the way an individual perceives his environment, construes his reality and organises his ideas. This in turn is expressed in the distinctions he makes and the language that he uses to describe his reality.

Dell (1982) refers to the idea of "fit" as "coherence", and explains that

The coherence of interactional systems needs no explanation other than that the coherence is a natural, spontaneous phenomenon that arises when living organisms spend time together. Coherence simply implies a congruent interdependence in functioning whereby all the aspects of the system fit together.... Every behaviour ... is not an independent atom of an individual's functioning but rather is embedded in his or her systemic coherence (p. 31).

In other words a system's coherence is simply the system being itself and fitting with its environment.

The coherence of a system is generated by the organisational patterns of the interconnections and relationships in that system. When a living organism or system behaves, through the recursiveness of the feedback cycles which are generated, every behaviour emanates from and simultaneously impacts on its coherence. The system is therefore continually altered in ways which ensure its continued coherence within the larger system of which it is part. This Dell (1982) calls the co-evolution of coherences. He writes:

Thus, there is coevolution of the individual's coherence and the coherence of the family network and other social systems to which he or she belongs. The coevolving coherences of the individuals and of the larger system are a complementarity that can neither be separated into its components nor reduced to one or the other (p. 32).

Therefore any behaviour is at once an expression of the individual's fit with his environment, and a vehicle for change, both within the individual and the relationships in which he is embedded.

Communication and Information

In an interactional system each participant sees and hears what he is structurally determined (by his ideas and beliefs) to see and hear. Therefore there can be no communication which can be objectively determined to be a specific thing. It does not matter how many people are in the room to hear and see a particular communication, since not one of them has the capacity to determine objectively what was communicated. If they agree about what it is, it is on the basis of consensus that they do so, not on the objective correctness of anyone's version.

Maturana (in Dell, 1985, p. 8) tells us that it is "the system which specifies not only what is an interaction (for it), but also what kind of interaction that given interaction is.... In any given interaction the system always behaves according to its structure." Information and what is made of it is also determined by the structure of the person on the receiving end. Therefore there are individual differences in response to any interaction.

Efran and Lukens (1985, p. 23) in describing Maturana's view of communication and change write: "You do not change organisms - you design an environment in which organisms thrive, respond and change themselves."

The conclusion to be drawn from this is that there can be no communication as we have traditionally come to think of it, between systems. (Maturana (in Dell, 1985, p.6) refers to the traditional view of communication as "instructive interaction".) In that the term communication implies that one organism is able through its activity to influence the behaviour of another in a predetermined direction, it contradicts Maturana's theory that living systems are organisationally closed, that is, unable to respond to the environment on any other terms but their own.

It does seem at times as though there is instructive interaction, for example when we correctly predict the reaction of a person to a particular

stimulus, we assume that it was the nature of the stimulus which determined the response. However, Dell (1986, p. 228) tells us that "the apparent illusion of instructive interaction is due to our success in correctly calculating the structure-determined response of an object (organism) to a particular event in its environment." Varela (1976, p. 29) confirms this when he writes that "once you know the laws of a closure, ... you can predict the compensation for any perturbation."

Thus it would seem that predictability is possible, but it is based on knowledge of the relationship between the system and its environment, rather than on knowledge of the characteristics of one or the other.

Conservation, Flexibility and Discontinuous Change

In this case the word conservation refers to the tendency of any biological system to conserve those aspects of itself which define and maintain its organisation (Maturana, in Efran & Lukens, 1985). This can be seen as analogous to human systems which also strive, through conservation, to maintain their organisation as expressed in their ideas of reality.

The notion of structure determinism seems to imply that living systems are entirely closed and unable to change in response to outside influence. However, it appears that this is not the case. Varela (1976) writes that although such systems are organisationally closed and their behaviour is structurally determined, they are nonetheless open for "matter and energy" (p. 28), and are able to change (according to their structure) in response to perturbations from the environment.

Maturana (in Dell, 1985) calls the ability of living systems to change their "structural plasticity":

A structurally plastic system is one which undergoes structural changes as a result of interacting with itself, its environment, or other structurally plastic systems. In other words, although the structure of the system determines how it will "react" to a particular perturbation at a given instant, that interaction, in turn, leads to structural changes which will alter the future behaviour of the system. Thus, a structurally plastic system is a learning system (p. 13).

In order to survive within their environments, living systems must constantly adapt to these environments while at the same time maintaining their structure and organisation (Dell, 1985; Maturana, 1975; Varela & Maturana 1974). For this they need to be flexible and simultaneously conserve those aspects of their structure and organisation which define them.

Both Maturana (1975) and Dell (1982) state that change is only possible within the limits of the structure or coherence of the system. This kind of change ensures the survival of the system as it is. Change beyond these limits requires a shift in organisation which in a living organism could mean death or disintegration of the organism.

However, Dell (1982, p. 34) asserts that discontinuous (radical) change is possible at the interactional systemic level because "coherence as an interactional system is fundamentally different from the coherence that constitutes the individual living members who constitute that system." He explains that whereas disrupting the coherence of the individual living system leads to disorganisation and death, disrupting the coherence of an interactional system will lead to the disintegration of that system and the evolution of a new and different interactional system.

This is good news for anyone wanting to alter the behaviour of human beings, since it is in the context of interactional systems that behaviour takes place. Dell (1982) tells us that human beings always behave "in relationship" to someone or something.

According to Dell (1982) interventions which are aimed at affecting discontinuous change in an interactional system must also fit the coherence of the individuals in that system. The source of the change is the individual, therefore it is at individuals that interventions must be aimed, and it is with the individual's coherence that the intervention must fit.

From this point of view a symptom (as communicative metaphor) in any system can be viewed as an idea which has evolved over time in the system and which is coherent with that system. Therefore we need not only ask what the idea is, but also what are the ideas which form the context of this idea and with which it is coherent. Our task as therapists would then be to design interventions which, though fitting with the coherence of the ideas of the individuals in the

system, would be sufficiently different from those ideas to trigger those individuals to disrupt the coherence of the interactional system (that is, change their ideas, language and behaviour vis a vis the symptom).

Language and Punctuation as Vehicles for Change

In that it is in language that a person thinks, draws distinctions, punctuates what he perceives and describes what he is thinking, he can be said to create and "live" his reality in language. Even Heisenberg (1958) himself asserted that any kind of understanding of a phenomenon, whether it is scientific or not, depends on the language used to describe it, and any description can only be communicated in language. According to Maturana and Varela (1987, p. 248) "every human act takes place in language" and Maturana describes human beings as "observing systems who describe, distinguish, and delineate in words and symbols (language)" (Efran & Lukens, 1985, p. 24).

Dell (1980, p. 123) goes further when he points out that since reality is created in language, "the nature of one's language significantly affects what one can think, and, therefore, how one perceives and orders reality." Keeney (1983, p. 25) writes that "language is a tool for imposing distinctions upon our world. Given a language system, we make choices regarding the patterns we discern."

Therefore the relationship between language and "reality" is a circularly interactive one where language is not merely a tool in the service of the describer, but also limits and shapes what he describes, and therefore, by extension, also what he is able to perceive. The ecology in which a person exists is expressed and defined primarily in language. It is through language that social systems are created, beliefs are described and confirmed, distinctions are drawn and relationships are defined and maintained.

This leads us back to the idea of constructivism. As opposed to the Aristotelian\Newtonian idea that reality is certain and truth is absolute, many writers (Bateson, Maturana and Varela amongst others), have preferred to view reality as a construction based on individual perception and meaning attributions and group consensus, considering this view to be more useful to dealing with human systems. This co-construction of reality is made possible by the existence of language through which ideas are shared, perceptions explained and consensus is developed.

Sluzki (1992) supports this view also:

From this perspective, language is not representational; what we call "reality" resides and is expressed in one's description of events, people, ideas, feelings, and experiences. These descriptions, in turn, evolve through social interactions that are themselves shaped by those descriptions (p. 219).

This introduces the notion that human beings are linked to one another and to their environment through the language which they share (Snyders, 1990). According to this view, it can be said that any person's or group's reality is created by consensus and expressed in language. The social ecology in which a person is embedded therefore, is seen as an ecology of ideas about relationships as expressed in language.

Punctuation organises thinking into a coherent pattern, and in this way also plays an important part in determining the way a person sees and describes his world. Le Roux (1987, p. 15) writes that "the observer participates in punctuating the observed events and therefore helps in shaping and creating the reality within that context. Ordering sequences of events in different ways thus creates different realities."

It is thus evident that the role of language and punctuation in creating realities is a crucial one. Sluzki (1992) elaborates on how the stories which emerge from a system's use of language bind the participants to a particular reality and how even small changes in these stories can drastically alter realities:

Because of its recursive, systemic fit, any nontrivial alteration in the content of a story, as well as in the way the story is told, will trigger changes in plot, characters, setting, and theme, will affect the moral and behavioural corollaries of the story, and will reposition the relative dominance of that story over the many other stories that constitute the individual or familial ecology of stories. These shifts, in turn alter the storytellers' experiences of the world. Because these stories organize, maintain, sustain, and substantiate problems (conflicts or symptoms), any meaningful change in the dominant stories or in their reciprocal relation will affect the way problems are conceived, perceived, described, explained, judged, and enacted.

Such change provides access to new solutions (to what is, in fact, a new description of the problem/conflict), or to a nonproblem formulation, or to the fading away of the perceptual-conceptual-behavioral gestalt(system) that constitutes the problem (p. 220).

It follows then, as Le Roux (1987, p. 153) reminds us, that "all problems, solutions, distinctions, alternatives, and notions about stability and/or change, are also in language."

This has important implications for anyone wanting to facilitate change in a system. Certain realities created in the language of the system can be self-perpetuating, in that they seal off alternative interpretations and are embedded in a "complex network of reciprocally influencing narratives" (Sluzki, 1992). This makes change very difficult. On the other hand, Sluzki (1992) tells us that it is only through the stories themselves that we gain access to the world in which the participants in that system live, and therefore it is through these stories that change can be introduced.

The Symptom as Communicative Metaphor

From an ecosystemic perspective, symptoms cannot be seen as the characteristic of one individual. They do not have "exclusive substantive locus within the boundaries of individuals" (Keeney, 1979, p. 121). It is only in interaction that the structure determined behaviours of a person become apparent (and therefore also relevant). Therefore, if we view the individual as embedded in a context of relationships, then we have to attend to his symptom as a communication about a particular system or even many systems, and about his participation in these. According to this way of thinking, symptoms can be understood to be metaphoric communications which comment on the patterns of relationship in a system. Symptom relief, therefore, would not be useful without a simultaneous change in the system which would make that metaphor redundant.

Structural Coupling and Interactional Games

The on-going interactional behaviours between the members of a system, which in turn form the patterns of interaction by which the system may be recognised, are characterised by Palazzoli et al. (1987) as a "game".

These games may be seen as manifestations of the members' structural couplings with the system (which constitutes their context). That is, they describe (perceive) the context in a way which makes those particular games inevitable and necessary. The game can be seen to consist of moves, with each move being preceded by a previous move, the perception (description) of which determines the next move, and so on.

Complexity

From all of the above, it can be seen that ecosystemic epistemology respects the complexity of any human situation rather than trying to reduce or simplify it in order to render it more manageable. It maintains that useful understanding of human behaviour can be reached through taking a wide, non-linear view, and through acknowledging and utilising our own part, as observers/clinicians in creating the realities we describe in our observations and diagnoses.

The reduction of the complexities of interpersonal behaviour to measurable "things" or constructs may be useful under certain circumstances, but it is only one way of construing realities related to interpersonal behaviour. Realities related to interpersonal behaviour are complex and it would appear unlikely that it will become possible to reduce them to mathematical constructs only (Le Roux, 1987, p. 15).

Conclusions

With respect to understanding and evaluating our findings von Glasersfeld (1984, p. 37) warns us that "what we experience, cognize, and come to know is necessarily built up of our own building blocks and can be explained in no other way than in terms of our ways and means of building." Dell (1986, p. 229), also, is clear on the subject: "We have no valid grounds for contending that there is an objective reality that exists independently of us."

Therefore it must be kept in mind that any picture or description of reality which is constructed can in no way be claimed to reflect a "true" reality. It is

merely a map of the researcher's impressions of the reality constructed by the subjects around a particular idea. The usefulness of an ecosystemic way of thinking or seeing reality lies not in its ability to find truth therefore, but in its "fit" with the situation it is describing, since it takes cognizance of the complexity involved.

CHAPTER 5

IMPLICATIONS OF A PROCESS AND ECOLOGY-ORIENTATED EPISTEMOLOGY

Stress - A Constructed as well as an Observed Reality

If one uses as one's epistemological starting point the constructivist idea, that the traditionally accepted conceptions and definitions of stress are simply certain explanations (among many possible explanations), this leaves one free to look for other explanations, which may be more useful than the traditional ones in providing contexts for change.

It is important to remember here that according to this line of reasoning there can be no "correct" version of the reality of stress and no explanation which is more valid than any other explanation. Therefore any enquiry into the subject of work stress can only result in a description and/or an explanation which is more or less useful in its context, but can never be more correct than any other description or explanation.

An ecosystemic epistemology dictates that in studying any phenomenon we must take cognizance of the role and influence of the observer in what he is observing. We cannot separate the act of research from that of intervention. Because the observer becomes an intrinsic part of the system he is observing, and because, by his descriptions, he is participating in the evolvment of a particular, unique reality, his role is a far more active one than that suggested by the term "observer". Le Roux (1987) confirms this when he writes that:

Within such a paradigm, it is argued that interference of observers need not be limited. As a matter of fact, it cannot be limited, and therefore effects of observers should be utilized instead. Influences of observers form part of the reciprocal interactional processes between the individual and the wider ecology in which he/she is embedded (pp. 219-220).

This also implies that not only that which is observed is changed by the act of observation, but also the observer, and therefore his subsequent observations are different from what they might have been had he not participated in the observation. In addition, both the observer and the observed are linked to a larger matrix of relationships, as well as being embedded in their respective cultural and historical contexts. These, too have a part to play in the observing.

If the above notions are accepted, then any investigation of a phenomenon such as stress, which is "out there", must be done on the understanding that we are actually investigating our own ideas about the many ideas about stress which are already "out there". Also, it must be remembered that these ideas are constantly changed by the act of observing as well as by what is being observed. Therefore we have to acknowledge that we can never arrive at an absolute and certain knowledge of an objective and independently observable reality which is stress. We can only know stress in relation to systems which evoke its name, and with full recognition of our own part in creating its reality.

The relational interactions of people in a system are manifestations of their structural couplings with the system (which constitutes their context). That is, they perceive and describe the context in a way which makes those particular interactions inevitable/necessary. The concept of stress is therefore seen as embedded in those descriptions. Steier (1985, p. 28) tells us that "the meaning of research ... is often imposed through the methodology used and the measures constructed, rather than emerging from the research itself." Thus, any presenting problem is seen as being socially constructed, and the way that it is arrived at makes an important contribution to the reality being co-evolved.

The implication of this is that by studying a phenomenon such as stress, we validate and perpetuate its "existence" while at the same time elaborating its meanings; and by finding interventions for its alleviation or amelioration, we will create a reality which will be reflexively self-confirming.

Because each system in which the phenomenon of stress is said to exist is unique, every encounter with such a system requires and in fact produces a new definition of stress. The commonality which links these systems one to the other is not an objectively definable and observable phenomenon called stress.

It is rather the emergence of various symptoms in the systems which the members of the systems have consensually labelled as stress. Accordingly, stress cannot be understood as an entity with a real existence of and qualities of its own which we could describe. It must be understood in terms of the relationships within which it is said to arise.

As previously mentioned, context gives meaning to phenomena - without knowing and understanding the context, one cannot know and understand any phenomenon occurring within it. A very important implication of this is that it is consequently not possible to understand the symptoms of a person if one conceptually (and sometimes physically) removes him from his context and examines and analyses him. One is obliged to look at and to try to understand his symptoms within the context in which it manifests itself.

In investigating stress it is important always to be aware that one is dealing with many interdependent ideas about the reality of stress which co-exist within the context being investigated at any particular time. These ideas in turn are embedded in an ecology of related ideas consensually supported by cultural, organisational and individual agreement, as well as by the historical development of these ideas over time. Therefore in order to understand the meaning of stress in any situation, one must be familiar with the ecology of ideas from which it evolved, as well as with the immediate context in which it manifests at that time.

Accordingly, stress is not a discovery of some identifiable illness state but rather an invention - a concept used to describe the coincidence of a number of observed phenomena. It is an hypothetical construct which is not primarily based on direct observation of human behaviour (it cannot be, since it is not a thing to be seen, only surmised from other behaviours which could as easily be explained in other ways), but is derived from inferences by the investigators about the meanings and motives of the people they study. It is a shorthand label which has evolved over time to describe an ecology of ideas which include notions of illness, deficiency of coping mechanisms, and psychological and physiological reactions to various factors in the environment. Inevitably then, we can no longer describe stress as a condition in the environment which "causes" a person to become ill, or as a particular set of symptoms "residing" within a person, but must understand and describe stress as part of an on-going, recursive relationship between a person and his context (in this case his work-context).

Systems in Interrelationship

It has been asserted that, since the elements within a system are interdependent, any change in one affects a simultaneous change in all the others. In order to understand a particular symptom or behaviour of an individual therefore, one has to take into account the systems he is part of and their organisation and functioning, and he must be observed and "treated" within the system of relationships which constitute his work context. Accordingly, we assume that the "stressed" individual is part of several systems, which define and are defined by the presenting problem.

The process whereby physiological, as well as conceptual responses or behaviours (like stress) become entrenched in a system is dependent on recursive feedback cycles between the system under study and its environment. These feedback cycles will continually work towards facilitating a fit between the system and its environment. It is important therefore that stress (physiological arousal and the symptoms commonly associated with it) should be seen as part of the way that the organism is attempting to establish such a fit.

Symptoms as Metaphoric Communication

If we view the individual systemically as embedded in many interrelated systems, we also have to attend to his symptom as a communication about the system or systems in which he exists, and about his participation in these.

We need to take cognizance of the reciprocal relationship between the symptom and the ecology in which it is embedded in order to understand its place and its meaning in the system. Any explanation which attempts to identify a "cause" of the symptom and situates this within either the person or the environment is disregarding part of the whole which it is trying to explain.

The relationship between the situation and the type of symptom which will be manifested is likely to be unique to each case, since it is the system and its idiosyncratic patterns of interaction which produce the symptom, and since, according to the principle of equifinality, different outcomes can emerge from similar circumstances and vice versa. The symptom emerges as a metaphoric communication about relationships in the system and constitutes a solution to a systemic problem. (It does not belong to any one individual and it cannot be found "in" an individual [Keeney, 1979].) Symptom relief, therefore, would not

be useful without a simultaneous change in the system which would make that metaphor redundant.

The Ecology of Stress

A person's behaviour and symptoms acquire new meaning when seen in relation to the physical, relational, ideational and historical ecology in which he exists. Instead of asking whether something in the ecology has an influence, the ecosystemic point of view forces one to assume that if it exists in the system, it does have an influence. An environment may or may not be inherently demanding (in relation to human systems), it simply is what it is. A person or system in that environment may or may not be structurally constituted to fit with the environmental conditions. It is the reciprocal relationship between the person or system and the environment which will determine how the situation will be described, and whether it will be described in terms of stress or not. Descriptions (based in the ecology of ideas in which a person is embedded) are subject to change by the addition of "new" information. This information or perturbation (Maturana, 1975; Maturana & Varela, 1987; Varela, 1976) is sometimes provided by interventions.

In addition, to arrive at some understanding of how ideas of stress are introduced into a system and how they have evolved over time, it is important to investigate not only present ecology of ideas about stress in the system but also the historical development of these ideas.

How Meaning Evolves

It is evident from the previous discussion, and has also been mentioned before in another context, that the meanings of environmental demands or changes will be unique to each system and each situation. What may be experienced as an "important perturbation" (Dell, 1985, p. 10) by one system may not be that for another. Maturana tells us that it is "the system which specifies not only what is an interaction (for it), but also what kind of interaction that given interaction is" (Dell, 1985, p. 6). Therefore it will be the system which will determine the meaning as well as the importance of any event, and will either define it in terms of stress or not, and in the case of interventions, will define these in terms of their usefulness or lack thereof.

Structure Determinism and the Notion of Fit

The implication of the ideas of structure determinism for this study is, *inter alia*, that each individual will respond in a unique way to environmental factors - he may or may not respond with physiological arousal, or may respond with a particular level of arousal which is unique to him. His body also will be damaged by that arousal or not, and if it is, the damage will also be of a kind and intensity which is determined by his structure, not by the stimulus.

This uniqueness will be further emphasised once one gets beyond the physical structure of the individual into the realm of ideas as expressed in language. Structure as an analogy also includes the way an individual perceives his environment, construes his reality and organises his ideas. This in turn is expressed in the distinctions he makes and the language that he uses to describe his reality. This implies that each person sees and describes reality correctly, that is, according to his own structure, and therefore all perceptions are valid - but there can be no absolutely or objectively correct view.

The success or failure of any intervention we may make to help an individual to cope with his stress-related difficulties is therefore also not determined so much by the correctness of our intervention as it is determined by the perturbation which that intervention brings about in the structure of the individual. This applies as well to relational systems as it does to individuals. Therefore we cannot say, as clinicians, that a person is suffering from stress. What we can claim is that together with him, according to each one's structure (ecology of ideas), we have chosen, by consensus, to describe his condition or problem as stress-related.

Instructive Interaction

As pointed out in the previous chapter, according to the principle of structure determinism there can be no such thing as instructive interaction or the direct influencing of the behaviour of one system by that of another, in a particular predetermined direction. The relevance of this for understanding and intervening in human systems is that we can only expect individuals to behave according to their own ideas and belief systems, and what Hoffman (1981) refers to as collective ideational systems, by which she means ideas which have been validated by consensus within the group or community. We cannot expect them to understand, describe or behave in ways which put their structure at risk.

Conservation and Flexibility

It is important to note that in the same way as other living organisms differ in their flexibility or alternatives for behaviour (range of behaviour), just so humans and interactional systems also differ in their range of permissible behaviour (behaviour which does not threaten the system with disintegration). Such systems will strive, through conservation, to maintain their organisation and structure (and therefore identity) as expressed in their ideas of reality.

The description of a system as stressed might well be perceived by the system as intrinsic to its continued survival, and interventions designed to "help" would have to take the need to conserve this perception by the system into account.

The Autonomy of the System

According to Maturana (1975), autonomy is central to the functioning of human systems, because it is the system's autonomy and autopoiesis (ability to create itself) (Maturana, 1975; Maturana & Varela, 1987; Varela et al., 1974) which enables it to maintain its organisation and to survive within its environment. For this reason, it is also important that a human system should exist within a context (or consensual domain) which confirms its autonomy. Some work circumstances are such that they interrupt that consensus and perturb the system in such a way that its adjustments to that perturbation disconfirms its autonomy. Describing itself metaphorically as stressed might be helpful to a human system in the short term, in that it may serve as a rallying call or perturbation to the context to behave differently. However, intrinsic to the metaphor is the requirement that in order for the necessary environmental changes to continue, the definition of the system as stressed (and therefore the disconfirmation of its autonomy) must also continue. So a vicious cycle is instituted whereby "stress" and therefore disconfirmation becomes a necessary part of the system.

Language and Punctuation

The importance of language and punctuation in the creation of realities by systems has been discussed in the previous chapter.

The most important implications of these notions for investigating and intervening in work related human systems are related to the opportunities for facilitating change which they present. If, as clinicians, we assume that the problem we "find" is one which the system (including ourselves) has created, and it has done so in language, then presumably if we are able to change our language, we would simultaneously change the problem.

The context in which a problem is embedded is also described and brought into being in language, therefore if we could use language differently in order to bring about change in the context, this in turn may transform the problem.

A Different Kind of Intervention

As previously mentioned constructivist thinking allows that stress could be merely one possible way to construe the reality of a system in which symptoms manifest themselves. If this is so, then many other ways of construing that reality also become possible. This is a very important point, since it opens the way for many and varied possibilities for intervention.

In investigating a situation and developing interventions intended to facilitate changes, it is important to take cognizance of the fact that the diagnosis and the treatment of stress happen in a context, and that the context recursively affects both "findings" and "outcomes" (O'Connor & Lubin, 1984). Any intervention or interventions, which are intended to facilitate change in the ecological relationship system, must acknowledge the interdependence and mutual determination of individuals and their contexts, and organisations and their larger contexts. Specific interventions, therefore, should be tailored to the environment for which they are intended, and "we need to be sure that the contexts that we create for ourselves will support the achievement of our goals" (Greenhaus & Parasuraman, 1987, p. 75).

Many of our present methods of intervening in stress-related situations, such as questionnaires, diagnoses, lectures, and so on, take away from the perceived power of the individual to handle his own situation, rather than empowering him. If one accepts that self-determination (that is, the perception of

control or autonomy) is important to the psychological well-being of people, then this way of describing and intervening cannot be therapeutic.

Finally, then, intervention or help can no longer be conceptualised as something which can be done from the outside "to" the system or the individual by the therapist. The therapist has to situate himself within the system and be involved in the circular patterns of interaction as they evolve. He must perceive the problem as something which is happening within these patterns of interaction, and he must see himself as a facilitator of conditions of change, rather than a dictator of solutions (Steier, 1985).

CHAPTER 6

A CASE STUDY

In reading the following case study, it is important to keep in mind that, according to the constructivist view, it is not possible to study a situation or phenomenon without having some influence on that which one studies. It is also not possible to describe what one observes without one's descriptions being defined and coloured by one's unique world view and language. Therefore the very acts of observation and description are in themselves acts of creation rather than discovery. What follows then is the author's description of a case which is intended to illustrate the interconnections between the descriptions of the various players in the particular situation and how these interconnections contributed to the emergence of the symptoms manifested by the subject.

The psychologist (who is also the author) has taken a systemic, ecological and constructivist view of reality in the handling of this case. This means, *inter alia*, that she subscribes to the notion that all human action takes place in relationship. This relationship may be between a person and another person, but it is always between a person and his or her context (which may or may not include other people). Therefore, instead of choosing one or the other description of what was happening in the systems as being the more "correct" version, it was decided to investigate further to try to build a picture which encompassed and also explained all of the versions she had heard; a more useful version which would place her in the best position to understand both the subject and the organisation for which he worked.

This way of investigating or looking at a situation is supported by Bateson's (1979) idea of double description, that is, that two or more views of the same thing lead to an understanding of that thing or phenomenon which is different than the sum of both together. Also, in order to gain a useful understanding of relationships, it is important to discern the "pattern which connects" (Bateson, 1979, p. 8) one person to another, one person to his context, one event in time to another at another time. This would yield a new and different third view, which can lead to a different understanding.

Case Illustration: The Story of Mr Smith

The Referral

The author works as a consultant to a large organisation, and in this capacity is periodically called on to assist with cases of employees within the organisation, who are experiencing difficulties which impact on their work situation in some way. She was contacted by the Personnel Manager of this Organisation and asked to see someone who had been the focal point of some trouble in one of the departments recently. The person he was referring was John Smith, the Safety Officer and Caretaker of the building which housed the Organisation.

Mr Smith had been employed at the organisation for the past five years, and had initially been appointed, after evaluation, on the recommendation of the psychologist herself. He, his wife and their 13-year old daughter were living in an apartment in the building. His wife was also employed by the Organisation in a clerical capacity, and the couple shared the caretaking duties.

The psychologist agreed to see Mr Smith and an appointment was arranged for him. Before the first appointment, the information already available about Mr Smith was reviewed. This consisted of: the Story that the psychologist and Mr Smith had constructed about him and his past, at the time of his initial evaluation for the position he held (the Evaluation Story); the psychologist's own observations of him during short and infrequent contacts during the time that he had been employed; as well as the Story that the Personnel Manager had told her on the day of referral.

Commentary

For the sake of clarity, Figure 1 depicts the different levels of management in the Organisation and also shows Mr Smith's position fitted.

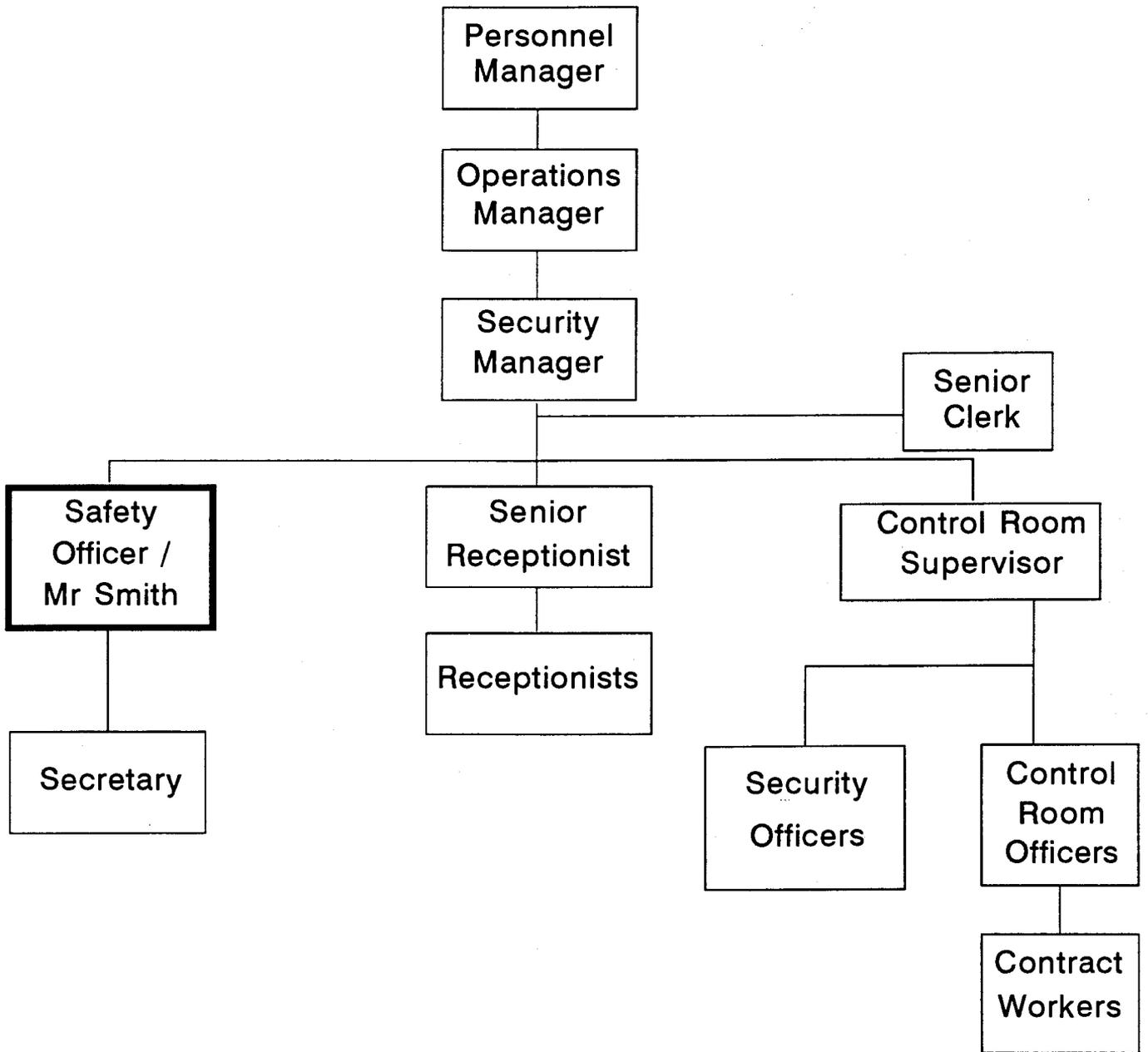


Figure 1. Organigram.

It is important to note that the Personnel Manager's action of calling in the psychologist was the culmination of a chain of events which had taken place previously, and had to have some significance with regard to how he saw the situation and what he expected to occur thereafter. Palazzoli et al. (1987) call this a "specific move in a wider game" (p. 117).

One possible interpretation of this action on the part of the Personnel Manager could be that it served to label Mr Smith as psychologically ill, and thereby also confirmed the reality that the problem was located within him. By implication this would absolve everyone else involved, and would eliminate the need to look further for the source of the trouble which was being experienced.

With respect to the psychologist's position vis a vis the Organisation, Palazzoli et al. (1987) assert that it is this which determines the sphere of the interventions she is able to make, and the type of interventions she is able to make. It also appears to play an important role in determining the kind and amount of information she has access to, which in turn limits what she can and cannot do. This was well demonstrated in this situation: much of the higher management hierarchy was out of bounds for questioning, and the problem as defined originally by the Personnel Manager, and confirmed by the Security Manager and Mr Smith's colleagues, retained this definition. The staff of the security department could only be approached with the permission of the Security Manager, and he was aware, and they were aware that he was aware, when this was taking place. This might well have given them the impression that any information they divulged would be fed back to the Security Manager, although it was made clear to them that this was not the case, and that anything they said would remain confidential.

The Evaluation Story

Mr Smith was 50 years old when he was originally evaluated for the position of Caretaker/Safety Officer of the Organisation. He had an adopted son of 19 who was out of school and working, an adopted daughter of 17 who was at school, and a natural daughter who was 8 years old at the time. His wife, who was two years younger than him, was working as a typist/clerk.

The family was living in their own house in a small South African town. The area where they were staying was predominantly Afrikaans speaking and the available schools in the area were also Afrikaans medium schools. Although Mr Smith and his family could speak Afrikaans fluently, they considered themselves to be English speaking, and it was important to him in particular that his youngest daughter should attend an English medium school.

In the self-description which he was asked to complete, Mr Smith described himself as a person who takes his job very seriously and takes pride in doing everything he does thoroughly and correctly. He believed reciprocal loyalty between a worker and his employer to be very important. He asserted that he had very definite views on important issues like religion, politics and morals, and would not compromise these for any reason. However, it was also important to him to please others, and he would often go out of his way to do so. He described himself as a private person.

When asked about his history, Mr Smith mentioned that his father had been a very strict and distant but much admired figure, who set a good example for him and also mentored him in his work. (He and his father had worked for the same company at one time.) His father had died many years ago, when he was 24 years old, and although they never "became pals", he felt that such a figure was still very important to him in his life. He needed someone he could look up to.

His parents had originally wanted him to become a minister of religion, and had put a lot of pressure on him to do so. He felt that he had disappointed them by taking up a technical career instead. Mr Smith was trained as a fitter and turner after leaving school, and worked for several years in the mechanical field.

He then joined a large industrial company and initially worked as a maintenance planner. He continued doing maintenance work until he was promoted to a position as trainer, which he held for five years. During this time he also attended instructor training courses. He said that he enjoyed training others and felt that he was good at this.

Nine years later Mr Smith was given the position of Assistant Loss Prevention Officer, which he still held at the time of applying for the post at the research organisation. In this post he had also received relevant training.

He was happy in his job, but felt that there was no more scope for advancement for him. The position at the research organisation represented a promotion for him in terms of status and finances, and he was confident that he would be able to meet the challenges involved.

The medical information which Mr Smith gave at the time of his evaluation was that he had had one operation for stomach ulcers previously and experienced headaches fairly often, but considered himself to be in good general health.

From the test material available about Mr Smith, it seemed that he was a man who could function at an above average level of intelligence. His tested language skills, in particular appeared to be strong in relation to his education level.

Through the personality questionnaires which he completed, Mr Smith described himself as emotional, sensitive, and rather meek and unable or unwilling to assert himself, and it seemed that his behaviour tended to be regulated by external realities and occurrences, rather than internal motivations. The impressions gained of him in the interview which was held with him at that time supported most of these perceptions, particularly his sensitivity to approval by others.

He gave as his motivation for wanting to change jobs, the fact that he was looking to improve his status by taking on a more challenging position than he had at the time, and that he wanted to move his youngest daughter to a place where she could attend an English medium school.

At the time his reasons were judged as being sound and well-considered, and on the basis of all of the available information about him, and particularly his excellent qualifications and experience for doing the job, he was recommended for appointment.

The Psychologist's Observations

In her brief encounters with Mr Smith after his appointment, the psychologist observed that he was usually very cheerful and friendly in his interactions with herself and with others. He frequently sought out the company of various groups simply to chat. She also observed, however, that he was losing weight steadily and that his health appeared to be becoming progressively poorer, with frequent absences from work.

The Personnel Manager's Story

When referring Mr Smith to the psychologist, the Personnel Manager reported that Mr Smith had been behaving erratically at work in the past few weeks. He had lost his temper on more than one occasion with other members of staff and he had made some major decision errors. The Personnel Manager believed that Mr Smith had been under the influence of alcohol on at least some of these occasions, and attributed his behaviour to a combination of stress and alcoholism.

His request to the psychologist was to talk to Mr Smith and try to influence him to improve his behaviour.

Mr Smith's Story - The First Interview

Mr Smith was very keen to talk to the psychologist. She assumed that the fact that they had had a positive, if superficial, acquaintance with one another since his appointment four or so years previously, may have had something to do with this. Also, he appeared to be eager to have an opportunity to tell someone his Story. He was well aware that there had been many complaints about his behaviour, since most of them were made to him, or were voiced in general departmental meetings at which he was present.

He described his problem as one of stress. When asked to be more specific, he mentioned feelings of frustration and extreme anger in the course of his working day, which he believed led to him losing his temper with the people who were reporting to him. In response to questioning by the psychologist, he mentioned several factors which he believed were the cause of his negative emotions.

Work-related Issues

The Organisation had been going through many changes, including a rationalisation program. He felt that this was putting a lot of pressure on him, as he feared for his job.

The top management had changed, and Mr Smith described the new Operations Manager as someone who was a stickler for protocol, queried everything but gave no feedback whatsoever.

There had been a change in management of the Security Department two years before, the previous Security Manager having died. Mr Smith described his relationship with his first boss as very good, and ascribed this to his straightforward way of relating and authoritarian style of managing his staff.

He stated that he could not get on well with the present Security Manager for various reasons: He did not trust his motives, found him to be secretive, and felt that he was deliberately persecuting him. He felt that he was being prescribed to as far as how he was doing his work was concerned, and, since he considered himself to be better qualified in the area of Safety than the Security Manager, he did not think this was justified.

His position had been redefined. Whereas previously Safety had fallen within the Security Department, it had now been made a separate department of which Mr Smith and a secretary were the only members. He still reported to the Security Manager, however, and was second-in-charge of Security. This meant that he had to share shifts with the Security Manager, and was expected to carry a lot of responsibility in the event of anything going wrong. However, he had to clear everything with the Security Manager, and was not permitted to make decisions independently, even in the latter's absence.

Various special duties which he had previously had, such as being in charge of key control in the building, had been taken away from him. He considered this to be a comment on his capabilities.

He described himself as a person who takes his job very seriously. Since his responsibility was for the safety of the building and its contents, as well as for

the safety of the people in it, he felt that anything to do with safety had to be correctly and thoroughly done at all times. According to him the people he worked with did not appreciate the importance or complexities involved in this, and sometimes let their standards slip. It was on such occasions that he tended to lose his temper. He described the Security Department as being very rigid regarding protocol, however.

He was very critical of everything and everyone in his work situation, particularly the Security Manager. At this interview he described his colleagues as being reticent towards him, as picking on him, and as withholding information from him. He also said that there was a culture of suspicion in the department, which seemed to emanate from the top levels of management, and his impression was that a "culprit" was always being sought. According to him there was a lot of manipulation going on with "atmospheres", which were intended to instil fear.

He had also been disappointed at the way his job had evolved. He said that he had expected that it would be a "downhill cruise to retirement", and instead he had found himself in an organisation which was struggling to survive and which had difficulties defining and communicating what it required from employees. He found this to be very frustrating.

Home-related Issues

In an exploration of Mr Smith's home situation the following information emerged:

His wife, Mrs Smith, was related by marriage to the Security Manager, who was married to her niece. He was regarded by her and many of her relatives as a manipulative and untrustworthy person. Mrs Smith disliked him intensely, and voiced her negative feelings, frequently and at length.

At home the Smith family had been recently disrupted by the temporary return of the eldest daughter, who was now 22 years old. She had previously moved away from home when she finished her schooling, but now she was pregnant and had come home to prepare for her wedding, which was due to take place about two months after the initial referral.

Mr Smith said that he had never got on well with his daughter previously. He described her as slovenly, and told the psychologist that her untidiness caused a lot of tension in the home, because his wife was a very particular housewife who liked everything to be neat and tidy, and the daughter's untidiness annoyed her. His wife's irritation, in turn, caused him to become annoyed and, as a result, frequent arguments occurred between the three of them.

The wedding preparations were also taking their toll, in that Mrs Smith was very busy making all the arrangements, and co-ordinating the wishes of both families in doing so. Mr Smith described her as being "under a lot of stress".

His adult son was no longer living at home, but there was some concern about him also, because he was involved in a serious romantic relationship with a divorced woman with two children, and neither Mr Smith nor his wife approved of this.

The youngest daughter was doing well at school, but he described her as very lonely, and recently she had been showing a tendency not to obey his instructions as promptly as before.

Mr Smith described himself as the "boss" at home. He felt that he had the right to ensure that his family did things correctly by criticising and disciplining them, and he expected his wishes to be complied with at all times. Although he insisted that in principle he was right in making these demands, he did acknowledge that sometimes he was too harsh in both his judgments and his behaviour. When he was feeling stressed, he tended to drink "a bit", and when he drank, he became very hard on his family - very particular about detail and about asserting his authority. He would then become abusive, at least verbally, if not physically, and would feel very guilty about this afterwards.

In addition, the building in which the Organisation is housed, and in which the family was living, is situated in a busy area of the city. Whereas previously this area had been fairly quiet at night, Mr Smith reported that the noise had increased to such a level that he was having difficulty sleeping.

The exploration of Mr Smith's relationships with the people in his home family yielded, inter alia, the information depicted in Figure 2.

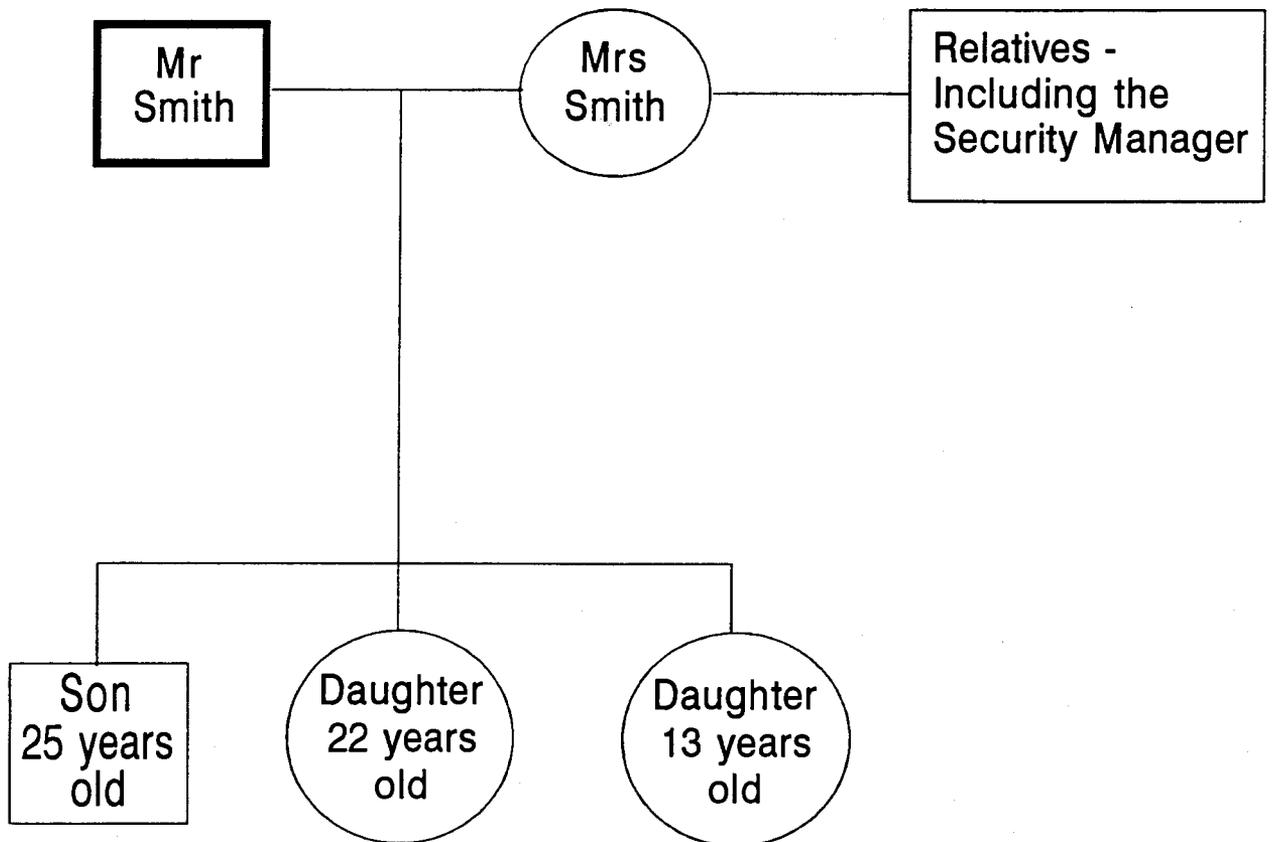


Figure 2. The Smith family genogram.

Solutions

When asked what he had done to alleviate some of these problems, Mr Smith replied that he attempted to solve his difficulties at work by writing letters to top management about the things he did not like, and at home by trying to be less authoritarian in his style of interacting with his family.

Commentary

Although the heading implies that this is Mr Smith's Story, it must be kept in mind here that the psychologist was asking him questions according to her own frame of reference and in response to the unfolding Story. Therefore from the first exchange she was already involved with him in constructing the reality which subsequently emerged.

Many authors since Bateson (1972, 1980), for example Penn (1982) and Keeney (1983), have described this process of coevolution of reality which takes place in a human system through the circular processes of feedback. With reference particularly to psychotherapy, Palazzoli, Boscolo, Cecchin, & Prata, (1980) describe the process (circularity) as "the capacity of the therapist to conduct his investigation on the basis of feedback from the (client) in response to the information he solicits about relationships" (p. 8).

It is apparent from the above that Mr Smith had done a fairly thorough job of analysing his own situation, and had come up with an impressive and convincing list of the things that he believed were causing his difficulties, which he referred to globally as stress.

Context and meaning. As previously mentioned, an important assumption on which this study is based is that in order to understand any event, one must know and understand the context in which it has occurred. It is only in the light of this information, that one can gain an understanding of the meaning of what has occurred, the dilemmas which people find themselves in, and their responses to these, which may otherwise appear to be un-understandable, confusing or contradictory. This assumption is based on the idea that people behave (and this includes symptomatic behaviour) in relation to other people, to ideational systems, and to combinations of these. These, in turn, form the context of the behaviour and render it meaningful.

In keeping with this assumption, not much time was spent discussing Mr Smith's symptoms per se, but rather information was elicited about his relationships in the work and the family context and the role of the symptoms in these. This included relationships to abstract concepts like the employer, management, procedures, as well as to the people in these contexts. Mr Smith's ideational systems were also explored, particularly his ideas and beliefs regarding family, the relationship between employer and employee, the safety profession and himself as a person.

Double-binds, paradoxes and symptoms as communication. From the information given, the psychologist made certain deductions and constructed further hypotheses:

Mr Smith's roles and instructions at work appeared to be ambiguous and sometimes contradictory - he seemed to have a lot of responsibility without being allowed the authority to carry out the duties which were required; he was spoken of as the expert on security, and his title also confirmed this, yet his actions were questioned and his perception was that his authority was disregarded; lip service was paid to his insistence that the company should upgrade its safety standards, but no co-operation was given in this.

At home he was by definition the "boss", yet everyone criticised his actions and called his judgment into question, even his youngest daughter.

The relationship with the Security Manager who was the boss but was also the disliked in-law is another example of roles not clearly defined, and another source of confusion and contradiction. Mr Smith had to grapple with the dilemma of how to treat and allow himself to be treated by the Security Manager - how to separate the work role from the family role. His wife referred to the Security Manager in disparaging terms and continually criticised his actions, but Mr Smith had to accept him as his "boss".

As a result he found himself in a double-bind (Bateson, 1972) situation, in that whichever option he chose, he would be the loser: behaving vis a vis the Security Manager as the boss would anger his wife, and behaving towards him as the disliked nephew would further jeopardise the job he was already fearful of losing.

The Security Manager appeared to be maintaining his own position by insisting that all decisions and actions which Mr Smith took had to be cleared with him. Yet, if there were mistakes or problems, he did not seem to be willing to take responsibility for these. This again resulted in a double-bind situation for Mr Smith.

Because the management structure in the Organisation was strictly hierarchical, communication with higher management was made difficult, and could only be done via letters which were circulated to the lower ranks. So anything Mr Smith wrote or complained about, even when he did have the courage to go over the Security Manager's head, was immediately known to the latter. This would result in indirect retaliatory actions, such as fault finding, "cold atmospheres", and so on. Again, he could not act in such a way that his dilemma would be resolved.

Mr Smith's Story Continued - The Second Interview

At the second interview which took place a week after the first, Mr Smith reported that everyone at work was now treating him in a much more friendly manner. His secretary, who had previously behaved in a difficult way with him was now far more co-operative. The Security Manager was also more friendly. He attributed part of this improvement to the fact that the Operations Manager, who was a very particular and demanding man, was on leave, and everyone was consequently more relaxed. He did not acknowledge any change in his own behaviour.

During this interview Mr Smith mentioned that he suffered from depression, which had started about ten years previously, and was still troubling him from time to time. It was also about 10 years previously that his temper had become a problem in his life. According to him he had previously been a very self-assured person.

In addition, he again voiced his mistrust of the Security Manager, saying that he felt sure that he had secret motives and reasons for "riling" him, and that he tended to take the credit for everything which was achieved in the Security Department. He also added that his wife knew some very negative things about the Security Manager, hated him, and continually talked about this at home. It was therefore difficult for him to go home and discuss about his work situation,

since she would usually get more upset than he was and that would only make things worse for him.

Commentary

Symptoms as solutions. Haley (1963) writes that in any interpersonal situation the communication which takes place between the participants defines the relationship and determines their future behaviour towards one another. In situations where communication is ambiguous, and expectations are unclear or vague, or where a person finds himself in a paradoxical situation, (that is, where an injunction at one level is disqualified at another), this provides fertile ground for symptomatic behaviour to emerge as a "response" which itself communicates at different levels.

It is felt that Mr Smith's symptoms were in themselves responses to and also solutions to the many contradictory injunctions inherent in his work and home situations. His drinking for example, allowed him to voice his feelings and his criticisms of his colleagues' and family's behaviour on those occasions when he lost his temper, while at the same time it enabled him to deny responsibility for having done so. His depression served in a similar fashion to allow him to withdraw from the situation when it became unbearable to him without having to define this as "running away".

Boundaries. There was the additional complicating factor that Mr Smith's home and work were in the same physical location, and metaphorically the way that the building encompassed, defined and surrounded the family's home, so did the work relationships encompass, define and surround their private lives. The boundaries between work and home were ill-defined both physically and psychologically. There was therefore little separation between the systems and no chance for the members of the family of getting away from one to the other. The ideational systems, the issues, the dilemmas and the conflicts spilled over from one to the other, constraining and limiting their behaviour.

For example, Mr Smith (who was a self-confessed "private person"), because he lived on the premises, was on call night and day, whenever something went wrong in the building. If he decided to have a drink on a Friday or Saturday night, chances are he would be found out. If he had arguments with his family, the Security staff would hear this and tell each other about it. The Security and Maintenance staff had emergency access to his apartment - so they could and on at least one occasion did, enter his home without permission.

Intervention

At this point the psychologist asked Mr Smith how he had managed, in spite of the Security Manager being such a difficult person, to find ways of working with him over the three years that they had been together. He responded by listing a number of things that he had himself achieved, and that they had achieved together. A discussion ensued in which Mr Smith's role as active participant in the scenario was emphasised, and his positive actions condoned, and other actions positively connoted.

Commentary

It is assumed that the comments made and the questions asked by the psychologist to elicit the above story from Mr Smith were a form of intervention in themselves, in that they led the discussion in particular directions and emphasised certain elements of the story while de-emphasising others. However, in each therapy session, certain more deliberate interventions were made, in the form of explanations, remarks or questions, which were intended by the psychologist to serve as a reframe for Mr Smith and to stimulate him to think in a different way about his situation.

The rationale for the above intervention was to open up the possibility for Mr Smith to perceive his relationships at work differently and to shift his perception of his life being controlled by external circumstances (about which not much could be done) to a perception of self-directed control. It was hoped in this way to disrupt the pattern of negativity, and the conviction that Mr Smith was entrenching in himself, and therefore also in other members of the systems he was part of, that his situation was impossible, that everything was hopeless, and that he was a helpless victim in the situation.

This intervention was based on the psychologist's assumption that each person creates his own reality within his own context, and does so in language. Based on this it follows that one should be able to affect change in a person's perception of their reality through changing the language used to describe it. Since "solutions" to problems are also defined by and exist in language, new definitions of a problem can open the way for new possible solutions.

A perception of loss of control of one's life is in itself distressing to the individual. This is so because human beings survive through constant interaction with and adjustment to their physical and social context (Maturana, 1975; 1978; 1980; Varela, 1976), and for this it is necessary that perceptions should be "accurate" and behaviours should be conducive to "fit". Without a sense of control, this becomes a very difficult if not impossible task.

Mr Smith's Story Continued - Subsequent Interviews

Mr Smith's more complete medical history emerged during the subsequent interviews which were held with him:

He had been diagnosed as suffering from depression 10 years before. He had been hospitalised for this once before he came to work at the organisation. During the five years that he was working for the Organisation he lost at least fifteen kilograms in weight, underwent a further operation for ulcers and was admitted twice for treatment at a "nerve" clinic. Here he was given tranquillisers, anti-depressants and narcotic drugs, and took part in group psychotherapy. At the time of his referral he was still taking tranquillisers and sedatives as well as misusing headache powders which were not prescribed. He described his intake of alcohol as moderate.

A further issue which seemed to be a source of contention between Mr Smith and the rest of the organisation was that of safety standards. Mr Smith had begun to introduce a particular system in the Organisation which was internationally recognised and which would ensure high standards being applied. He knew the system very well and if introduced it would provide him with an area of expertise as well as clearly defined goals to work towards. However, to succeed in this he needed the support of higher management as well as of the Security staff, and this was not forthcoming. Although in principle it had been agreed that the system would be applied and the Organisation would try to get a high grading in it, in practice he was getting no help and some people even appeared to be trying to obstruct him.

During the third session Mr Smith reported that his daughter's wedding was over, and had gone well. However, he and his wife were having some problems. In the aftermath of the wedding he had verbally attacked his wife, and she was threatening to leave him. Although he was sure that the threat was not

a serious one, he felt very guilty about what had happened and had made up his mind to stop "making excuses" for himself. In discussing his temper, he also disclosed that he was afraid of losing control, since anger tended to come over him very quickly and he could become violent at such times. As an example of this, he mentioned an occurrence some years previously when he had attacked his father-in-law.

Intervention

At this point the psychologist's questions and comments were aimed at shifting Mr Smith's descriptions from self-blame and his own worthlessness to a more positive use of language. He did gradually ease up on himself and eventually said that he was sure that if he put his mind to it, he could just get on with his work, and the challenge of getting done everything he had to, would relieve some of the stress he was feeling.

During the same session the psychologist also asked some questions about Mrs Smith. She had apparently also had a "breakdown" two years before. Mr Smith described her as being someone who is able to do things well, as well as being inclined to threaten rather than act. The Psychologist suggested that he should ask her to come along to the next session and he agreed to this.

Commentary

As far as the issue of the safety standards was concerned, the message Mr Smith was getting appeared, once again, to be contradictory. On the one hand he was instructed to proceed with the project, but on the other he was given no further support or co-operation.

The determination on the part of Mr Smith to get on with his work was seen as an attempt to regain a sense of control over his own participation in his relationships. As such it was supported by the psychologist as a positive stance. It was assumed that a change in Mr Smith's attitude, language usage and behaviour at work and at home would trigger altered responses from colleagues and family.

The psychologist's request for Mrs Smith's presence at the next session was based on her belief that the marriage relationship was an important one in providing support and a stable base in Mr Smith's life. Therefore, his description of it as being in trouble, needed to be taken seriously. In order to understand more about the relationship, and to be able to intervene most effectively should this be necessary, it was preferable that both partners should be present at the session.

Mr and Mrs Smith's Story - the Marital Interview

In the interview which was held with Mr and Mrs Smith together, she appeared to be supportive of him, and he of her. They came across as having complementary ideas about about what the problems were.

Mrs Smith was even more vehement than he had been about how badly the Security Manager was treating her husband. She cited examples of him taking credit for work done by Mr Smith, and of him rewriting Mr Smith's documents. She felt that the whole Security Department was scapegoating him, and that there was a "witch-hunt culture" in the Department which emanated from the highest levels. She described the Security Manager's behaviour as being bad towards the whole family and said that he was obviously afraid of them. She also said her whole family was afraid to make a single move for fear of invoking the wrath of either the Security Manager or the Operations Manager.

The Operations Manager was described as an inflexible, self-serving person who queried everything and had petty rules for everything. The couple claimed that he also provided no feedback to his underlings.

Mrs Smith's hypothesis was that the problem stemmed from the fact that there was a "personality clash" between Mr Smith and the Security Manager. She described how happy Mr Smith had been working for the previous Security Manager, with whom he had gotten on well, and that he had been "OK" even for a while after the latter had died. She felt that the two Managers (the Security Manager and the Operations Manager) for whom he was working now, were "making him worse" by treating him unfairly. She said that Mr Smith was having an on-going "war" with the Security Manager and the Operations Manager, and that all of the security staff had a peculiar attitude towards their whole family, in that they were very stand-offish and they also questioned their daughter about the family's home life.

Intervention

During this session the psychologist felt that it was necessary to emphasise that which was positive - in this case that was the obvious bond and support between Mr and Mrs Smith. Therefore questions were asked around how they usually help each other to cope with stressful situations. This led to a discussion of the strengths in the marriage, and they left the session behaving and presumably feeling very close to one another, and said they felt energised for facing their difficulties together.

Commentary

The psychologist's previous observation that the permeability of the boundaries between the family and the organisation was a source of difficulties was confirmed by Mrs Smith during this meeting, when she stated that the whole family was afraid to behave naturally lest they be found out by the Security Manager.

The rationale for the intervention seemed sound at the time of the interview, since it served the purpose of facilitating joining with Mrs Smith and of healing some of the rift that their quarrel had brought about between the Smiths. What did become very evident during this session, however, was that a lot of the bond between the Smiths was based on the psychological boundary that they had drawn between their family and the rest of the world, and the oppositional stance that they had taken towards the Organisation, most of the people working in it, and even the building itself. Possibly, reinforcing their idea of themselves as a "team" served to strengthened this "us against the world" stance.

It is important to note here that it was the psychologist's failure to take the wider ecology into account which led to her focussing on the marriage relationship at the expense of the relationship of the family to the larger context. The next step should have been to devise an intervention which addressed both the needs of the family to differentiate themselves as a unit and their need to fit with their context in a more constructive way. However, the opportunity to do this never came.

Mr Smith's Story Continued- The Final Interview

At the next session Mr Smith reported that he was feeling very well, and that everyone's attitude, including his own, was much improved. He was in better control of his emotions and behaviour and his work, also, was going well. He had had a performance evaluation, done by the Security Manager, which had been positive. At home things were settling back to normal after the upheaval of the wedding, and he and his wife were getting on much better than before. Since everything was so much improved, he had decided that he did not need to continue with therapy.

The psychologist expressed approval and pleasure at his good news, and agreed that since he felt so positive there would be no purpose in continuing with regular sessions at this point. However, she did point out that he should not expect that things would be continually or permanently perfect and assured him of her continued availability, should he ever feel that he did want to return, even if only on an informal basis.

Commentary

Mr Smith's sudden improvement took the psychologist by surprise. Given his totally optimistic stance and his insistence that his therapeutic goals had been achieved, she felt obliged to support him in his decision to terminate therapy, although she was by no means convinced that long-lasting solutions had been achieved. Fundamentally there had been little change in either Mr Smith's descriptions (and it is assumed, perceptions) of his situation, or in his relationships. It is for this reason that she voiced her reservations and made the offer of further therapy in the future.

On reflection about the history of the Smith family, a larger pattern became evident: It seemed that the family would usually go about their business in a fairly independent way, maintaining boundaries of confidentiality between themselves and others, and also not asking for any assistance from others. (Both Mr and Mrs Smith described themselves and each other as proud and independent people, and both appeared to be suspicious of the motives of others.) Periodically, however, when several work- and family-related difficulties converged, one of them "broke down" in some way. This would be either through physical illness or psychological incapacitation.

These breakdowns necessitated the involvement and assistance of other people, such as the Personnel Manager, medical practitioners, psychologists and so on. Having participated in these outside interactions for some time, the family would once again withdraw to the privacy of home and their own devices, and for a while things would again continue fairly smoothly. Seen in this light, the termination of therapy by Mr Smith at this time was to be expected. However, what made this occasion different from previous ones is the increasing difficulty the family was experiencing in maintaining the boundaries between work and home. It seems that whereas they were still able to do so when the previous Security Manager was alive, this had become virtually impossible once the new Security Manager was appointed. It was hypothesised, therefore, that their period of "health" would not be a long one on this occasion.

Discussion

The Broader Investigation

When Mr Smith decided to terminate therapy, the psychologist felt that in order to understand what was occurring, it would be necessary to do some investigation of the Security Department itself. Certainly there seemed to be enough evidence to indicate that a situation had evolved there in which the other employees also had an important part to play.

The following plan was drawn up:

To interview everyone who worked in that particular department, including the Security Manager.

To have a very loose structure for the interviews, eliciting as much spontaneous information as possible;

To be especially alert during the interviews to information about what recent events had occurred in the department; what the perceptions were of Mr Smith and his problems; how language was used in the department to talk about stress; what patterns of interactions between people could be discerned; what demands were being experienced by other staff members in the department; what their experience and perceptions were of the Security Manager and the culture and climate in the department; who was successful in adjusting and who was not; how they described their difficulties; and how the management style of the Security Manager was perceived and how this impacted on the workers.

Findings

The following represents the psychologist's understanding and interpretations of the ecology in which Mr Smith lived and worked. The information which was collated in the interviews must be seen and understood in the context of the organisational changes taking place at the time, as well as the relationship which the Security Department had with the rest of the Organisation.

The Organisation itself had existed as a research body for many years. Four years before the problems arose with Mr Smith, it had moved into a new building, and this move required that a new Security and Safety Department should be established.

The Security Department, when established, was viewed by the rest of the Organisation as something of a necessary evil, and as such had never been fully integrated into the Organisation socially. The people working in the Security Department were seen by the other employees, who were mostly highly educated, as somewhat inferior, due to their lower levels of education and the rather simple and mundane nature of their work. They were also more visible in their role as enforcers of often irritating rules and regulations, than as helpers or protectors.

Top management in the Organisation had also changed during the recent past. There appeared to be some difficulty in deciding in whose domain of responsibility the Security Department should fall, and as a result it had been shifted from one management team member to another a number of times. At the time when this investigation was done, it was the responsibility of the Personnel Manager.

His preferred style of management can best be described as very structured and autocratic, and it was known that he had tightened up on the discipline in all the departments under him. In the case of the Security Department this was experienced as a change, since the manager previously responsible had been rather easy-going and not very involved in the activities of the Department. So it is safe to say that there was considerable pressure on the Security Manager from the top down to ensure that everyone in the Department was seen to be performing according to expectation.

The first Security Manager appointed after the move to the new building was a very dynamic, young and well-liked individual, with whom Mr Smith got on very well. He looked up to him, and in spite of a large difference in their ages, saw him as a protective and knowledgeable father figure. This man fell ill and died within two years of the Security Department being established. When this happened Mr Smith was placed temporarily in charge of the Security Department until a new Security Manager could be found.

As previously mentioned, the new Security Manager, when recruited, turned out to be someone who was related by marriage to Mrs Smith, and was disliked by her and by many of her relatives.

In the Security Department itself, the members were found to maintain strong bonds with one another, to be loyal and supportive towards one another, and they appeared to form a very cohesive and exclusive group. It seemed apparent that this tendency towards exclusivity and cohesion and their outsider status in the Organisation were reciprocally reinforcing.

The Security Manager was seen by most of the employees as the "father" of the group - they referred to themselves as his "family". Like a father, he was perceived as being kind but strict with those who misbehaved. Most of them professed to accept his authority unquestioningly, since they liked to have a clear structure to guide them in their actions.

Although no-one made mention of difficulties in the Department, and the general consensus appeared to be that they were a very happy working group, there were indications that this was not necessarily the case: One staff member (our subject, Mr Smith) had been referred for remediation of severe "stress" symptoms; in the past year four members of staff in the division had been dismissed on various grounds, for example absence from work for extended periods without permission, stealing and being drunk on duty; other staff members had periodically complained of suffering from stress.

With respect to Mr Smith, the staff members reported that they felt he was an outsider and they preferred to avoid him as much as possible. According to them, the Manager had talked to them about being "tolerant" and kind in their behaviour towards Mr Smith, and had asked them to be understanding of his shortcomings and problems.

Mr Smith's Story Continued - Further Developments

After termination of therapy there were three more contacts with the Smiths:

A month after the last session Mr Smith came to see the psychologist, bringing with him a letter which he had received from the Security Manager. The letter was a formal reprimand for an offence which he had in effect not committed. He showed it to the psychologist as a demonstration of the harassment which he said was still taking place. It seemed to the psychologist that although the situation between Mr Smith and his colleagues was not much changed, he was able to cope with things on a daily basis. There had been no further occurrences of drinking on the job or of conflict with colleagues, and the family situation also seemed to be calm. Mr Smith did not wish to return for any more therapy sessions.

Another month later, Mr Smith brought to the psychologist an evaluation which had been written by the Security Manager about him. (Because the position which Mr Smith was in had been shifted out of the Security Department, he was appointed to it on probation, and the Security Manager was required to submit regular reports of his adjustment and progress in it to top management.)

Mr Smith felt that the evaluation was unfairly negative and in some facts given, incorrect. It indicated inter alia that his production, adjustment to the work situation, and interpersonal relationships were all unsatisfactory. He was described as spending too much time on the trivial aspects of his job, on documentation, record keeping, basic inventories and so on. The unsatisfactory adjustment to the work-situation was described as his tendency to work independently, and if criticised, to resort to blaming others. It was asserted that he was not working constructively as part of the team or involving himself sufficiently in the duties and functions of the rest of the section. His interpersonal relationships were described in the report as leading to confrontation and dissatisfaction between him and his co-workers. The expectation of him in his position was that he should motivate others, innovate and promote a positive attitude in the work situation, and, according to the report, he was not doing any of this.

Commentary

It appears that Mr Smith found himself in a position where he was on probation for a job he had been doing for the past four-plus years. Although this was explained to him as a positive step, in that theoretically it would enable him to function more independently, he experienced it as a trial situation, where he was being watched and judged on his actions even more than usual. The Security Manager's evaluation, which was given to Mr Smith for his signature and can therefore be seen as a communication to him as well as to higher management, confirmed this perception.

He appeared to be struggling to ascertain where he fitted in and how, and to establish a new definition of his position for himself now that the previous definition had been taken away. He had to continue to do the same work with the same people, but to think about his position vis a vis them differently. Also, any new definition would have to be confirmed by the consensual, mostly unspoken, agreement of the others in the division.

He perceived himself to be getting conflicting messages about how he should do this:

- During the period covered by the evaluation stating that Mr Smith was not involving himself sufficiently in the activities of the department, his complaint was that he was having more and more of his duties taken away from him and given to other staff members. His job had been redefined as separate from the rest. This tended to increase the psychological distance between him and the other workers. Whereas the Security Manager's instructions to the rest of the Department to behave in an understanding way towards Mr Smith appears to be one of reconciliation and helpfulness, by virtue of the language used it accentuated his outsider status and further reinforced the negative perceptions that the other staff members had of him.

- Although Mr Smith was by definition second-in-charge, he only had authority when the Security Manager was absent. Yet he was expected to motivate and engender a positive attitude in people who officially did not report to him, and who were encouraged to avoid him.

- He felt that he was expected to be involved and be part of the group, but at the same time to mind his own business; to be responsible for everything that went on, but have no real authority over anyone at any time.

As is often the case in such a contradictory situation, Mr Smith tried to satisfy all the demands which he perceived were being made on him, and succeeded in satisfying none of them. For example, if he moved closer to the group, either socially or in terms of his position, they rejected him. On the other hand if he failed to do so, he was penalised for not involving himself.

His symptoms are seen as a way of trying to escape from this situation as well as a metaphorical comment on it. Whereas, according to him he had always had a tendency to be "perfectionistic" this became much more accentuated, both at work and at home. It would seem that he was trying to maintain a sense of control while at the same time he felt himself to be a total victim of circumstances. In keeping with this, he blamed others for what was happening to him.

Mr Smith's Story Continued - Further Developments

On a further occasion Mrs Smith telephoned the psychologist to complain that the maintenance staff in the building had entered their apartment without permission. She had wanted to complain about this to the Operations Manager, but her husband had asked her not to, since this would "add fuel to the fire", and would lead to further bad treatment of him. After discussion she decided not to pursue the matter any further.

Commentary

It is apparent that very little had really changed in the lives and perceptions of the Smiths during the time that they were in therapy, although Mr Smith's behavioural symptoms had abated, and he described himself as feeling happier.

Mr Smith's Story - Post-script

Less than a year after the last therapy session, in the context of a general "rightsizing" exercise held by the Organisation, Mr Smith was put on early retirement on the recommendation of two independent practitioners who had done evaluations of him at the request of the Personnel Manager.

In a discussion with the psychologist the day before he was due to leave, Mr Smith expressed his acceptance of what had happened as being for the best. Although it was his intention to find another job, he had been given a lump sum cash payment which would enable him to take his time about finding something really suitable.

Conclusions

Such an accounting of Mr Smith's case history and circumstances reveals a complexity which was not apparent at the time of referral. One might be tempted to assume that his case is unique, and that most cases which are referred for stress-related complaints are far simpler. The assertion of this thesis, however, is that no understanding of a person's problems or situation is possible without a broad view of the various interconnecting relationships in which he lives, and of the patterns which these relationships form over time, as well as an understanding of the meaning attributions and ecology of ideas which constitute that person's reality.

It would of course be possible to look even wider at any problem, but in this case the breadth of the analysis provided enough information for an "event-shape in ecological time-space" (Auerswald, 1985, p.) to emerge according to which the symptoms and behaviour of Mr Smith could be understood.

CHAPTER 7

DESCRIPTIONS AND EXPLANATIONS

Different Domains of Explanation

In this endeavour to understand the phenomena described in the previous chapter, use is made of different domains of description and of explanation. Understanding how a particular system operates is important, in that it provides an explanation for how certain roles and functions interlink and develop over time, to ensure the survival and maintenance of the system in its prevailing form. However, this is still only part of the picture. It does not give sufficient explanation for the fact that in such a context, a particular person is assigned a particular role and develops symptoms of a particular kind. To understand this it is necessary to look more closely at the individual, his history, and his relationships. The individual and his context are therefore described and explained in terms of their functioning as a system, as well as being described and explained in terms of individual psychology, meaning attributions and historical patterns.

Explanations

The following are some hypotheses about the larger work system and the role which Mr Smith and his symptoms may have been playing in this.

A Systemic Explanation

According to Palazzoli et al. (1987, p. 114) the "organisation is a structured system characterised by the congruent functioning of its parts", which functioning has developed during its own inner functioning and in interaction with its environment over time.

The working department within this is itself an "existing, complex relational organisation" (Palazzoli, et al., 1987, p. 114) which must continue to function smoothly, while making constant adjustments to both internal and external changes. A change at any level of the system induces change at all the other levels of the system.

Viewing the Security Department as a system, it becomes apparent that although it was part of the larger Organisation, it was fairly isolated physically. (Most of the staff worked in the basement and ground floor of the building.) It was also isolated in terms of its functions and goals, which were different from those of the rest of the Organisation. In addition, the staff were socially isolated, since the nature of their work and their education level were very different from the staff in the rest of the Organisation. All of this resulted in a rather closed system, characterised by a cordial but cautious relationship with outsiders and with higher management levels. It is perhaps also for this reason that no-one in top management was very keen to take responsibility for the Security Department. The system functioned independently and tended to allow as little information as possible out of the Department. The system also operated according to a different set of rules and regulations than the rest of the Organisation, due partly to the nature of the work it was engaged in.

There were inherent signs of conflicts in the system which were contradicting the group's myth of being a cohesive, "happy family" and threatening its stability, such as staff members staying away from work, drinking on duty and stealing. It is felt that identifying Mr Smith as the problem enabled the system to ignore these contradictions.

Andolfi, Angelo, Menghi and Nicolo-Corigliano (1983) tell us that in any system there is a balance between cohesiveness of the group (which favours the continuity of the system) and differentiation of individuals (which favours individual development). "The need for differentiation, understood as the necessity of self-expression for each individual, is meshed with the need for cohesiveness and maintenance of unity in the group over time" (p. 4).

In a healthy system "individual differentiation and group cohesion are guaranteed by the dynamic equilibrium established between the mechanisms of diversification and those of stabilisation" (Andolfi et al., 1983, p. 10).

Such a system has the capacity to tolerate temporary disorganisation in the interests of the development of a new stability which allows for changes in individuals and in relationships.

"Change requires a process of adaptation which may be seen as a modification in the rules of association in order to insure ... cohesion while allowing space for the psychological growth of individual ... members (Andolfi et al., 1983, p. 11).

In a "sick" system the balance between striving for stability and allowing differentiation is uneven, and the system cannot risk making the changes necessary to redress this. Such a system, in order to maintain its cohesiveness, must prohibit the flexibility of individuals to express themselves and to experiment with new behaviours. This is achieved through paradoxical communication which keeps members in a state of "rigid indecision". No one is able to make a decision or to act independently of the system. The cohesiveness of the system is achieved not in positive ways, but through the prevention of development in the individuals. They are effectively locked into the system.

Such a system can eventually also be expected to become rigid in its relational modes, as it imposes certain roles, functions and labels on all the members. Each person in the system is impelled to continually play the role ascribed to him or her.

One could speculate that even if a member of such a system were to venture to be different from that which the system imposes, this difference would have to be the opposite of what the system prescribes for him in order to be different, and therefore, indirectly also a prescribed difference. Therefore, such a person can never really claim ownership of any action or decision, even if he were to rebel.

Andolfi et al., (1983, p. 7) asserts that "inevitably, differentiation is more difficult in those areas where there is a conflict in demands or where demands are highly inappropriate to the individual's level of maturity." One could add that differentiation would also be more difficult where the demands are inappropriate to the individual's own needs in general, since here again he would find himself in a conflict.

In the face of pressure to change (from outside or inside the system) individual pathology may serve to maintain the equilibrium and functioning which the system has achieved. In this way the system changes in order not to change. Such a change (the symptoms of a member) would neither modify or question the functioning of the system, since it is a way of making the change external to the system, in that it points to the pathology of an individual.

Andolfi et al. (1983, p. 14) write that "in these (systems) the designation of 'patient' becomes irreversible and indispensable, not only for avoiding the risk of instability at that specific stage but also for avoiding successive evolution of the (system)." In other words it precludes the risk of future changes becoming necessary.

This process of stabilisation uses systemic energy for maintaining rigid functions which limit exchanges to redundant interactional schemes.... This stasis permeates the relationship between the system and the external world (for example, the inputs of the psychotherapist), whose influence will be filtered and used to maintain the accustomed equilibrium. (Andolfi et al., 1983, p. 14)

The identified patient thus represents both the impossibility of change and the only possibility of change. His behaviour, with its contradictory aspects, has the effect of congealing processes which are moving in opposite directions while providing the possibility for new input, i.e. the therapeutic intervention. Simultaneously serving as both guardian of the system's stability and agent of systemic disruption, the identified patient's behavior represents a metaphor for the dilemma of a (system) that would like to move while standing still. (Andolfi et al., 1983, p. 18)

In Mr Smith's case, he was identified as the one with the problem through the attribution of his symptoms to stress. This was a convenient label for him since it could serve as an explanation of almost any symptom or behaviour on his part, and simultaneously located the problem in him, thus absolving others in the system. In this regard Pollock (1988, p. 387) writes that "the success and popularity of the stress theory as an explanation of illness lies in its versatility and its capacity to incorporate a wide range of themes."

By thus labelling Mr Smith, the system was able to deny the conflicts which were threatening its stability. However, as the scapegoat, he also represented the greatest danger to the system in that he was more likely than anyone else to expose that which the system kept hidden through denial. (Such exposure would naturally disrupt the functioning of the system as it was and would force it to change.) Therefore the label attached to him had also to serve the purpose of qualifying his words and actions as the products of a sick person, and therefore not to be taken seriously. This was confirmed repeatedly by his referrals to doctors and psychologists, his visits to hospitals and his behavioural symptoms.

It can be clearly seen how his continuing in his role protected the system's stability. His behaviour tended to divert attention away from other important issues in the department, particularly those which contradicted the myth of the group being a cohesive "family". When he showed sign of giving up his symptoms, as when he reported that he was feeling better and there had been no further incidents with staff members, the system escalated its efforts to retain him in his role. This was done, for example, through the Security Manager formally reprimanding him for something he had not done.

In such a system it would also be imperative to minimise external influences or inputs, since these would tend to perturb the precarious balance it had achieved. Palazzoli et al. (1987, p. 47) write of closed systems that "when an institution confines its human, social, and economic resources to the intra-institutional environment, it tends to become dysfunctional and sterile."

In our example, the system (the Security Department) appeared to have very impermeable boundaries. Outside information (people, advice, inputs even from top management) was censored and neutralised, and the group tended to operate in terms of its own rules as an almost independent, and fairly powerful unit within the Organisation.

Sharing Mr Smith's case with other managers and departments (the Personnel Manager, the psychologist) could create the impression of open communication between the Security Department and the rest of the Organisation, while the other issues were not mentioned. For example, the thefts, the disciplinary hearings, the dismissals.

Mr Smith's presence and behaviour also gave the other members of the system a common cause - whether they were united in disliking him or in "helping" him, his outsider status was an important factor in their on-going cohesion. In addition, it provided the system with a scapegoat who could often be blamed for things that went wrong, since he was second in charge and officially responsible.

Some symptoms may also provide a personal solution to the paradoxical injunctions imposed by the system for individual members, while still conforming to the rules of not taking responsibility for actions and decisions. For example, a symptom such as alcoholism seems to imply that while the person is present in the system he is at the same time not responsible for his actions and behaviour in the system. It confirms his membership of the system while at the same time simultaneously denying it.

In the example we are dealing with two overlapping systems:

The family system was being threatened with change from the outside by the marriage of the daughter, the expected grandchild, and the relationship of the son. All of these changes put into question Mr Smith's role as father and his children's roles as children. They had to redefine their relationships in order that a new equilibrium could develop. The family system at this stage was therefore at risk.

The work system was, as previously discussed, a fairly closed system, where quite quickly after the arrival of the new Manager, a rigidity had developed with allotted roles for all its members. Mr Smith had been cast as the outsider and trouble maker. Given his history of symptomatic behaviours (he had already shown many of these symptoms in previous situations) he was well suited to playing such a role and fulfilling such a function. Once he was identified as such, it was virtually impossible for him to break out of this function, since the functions and roles of the others depended on his remaining as he was. His efforts to disengage from his assigned role by his various behaviours merely served to confirm his status in the system. Andolfi et al. (1983, p. 8) assert that "It is clear that the fundamental guiding rule in a system where these mechanisms apply is the impossibility of 'leaving the field'."

This would require individuation, and it is precisely this which is not allowed by the rules. Therefore the individual is prohibited from leaving by the very rules he would need to get away from, and he is not able to risk endangering the roles of the other members by breaking the rules since his own role depends on theirs and he is by no means certain of his ability to survive without the system. It would seem then that the only way open for him is to leave without leaving - that is to develop symptoms which deny his responsibility for his actions.

In summary, the core of the systemic dilemma lies in being able to constantly adapt to changing external and internal demands, while maintaining the cohesiveness of the system; in having to balance change and stability and counteract the impetus of the individual members to disconnect (individuate). A flexible system is able to do this - the members feel secure enough in their roles and about the roles of the others, as well as in their sense of belonging, to be willing to "risk" the potential disintegration which change could bring. After a period of disruption, therefore, such a system finds a new stability (this may or may not necessitate new roles or new role definitions for the individuals). A sick system, however, responds by making superficial changes while at the same time ensuring that no fundamental changes take place, by binding the members to the system and to their function through paradoxical injunctions.

The Organisation as System

Palazzoli et al.'s (1987) description of malfunctioning organisations is very reminiscent of Andolfi's sick system, and further supports the argument for taking a broad view of a person's situation when trying to understand individual symptoms and behaviours. They write that if an organisation has numerous explicit and implicit objectives, some of which may be mutually incompatible, this leads to incompatibilities between the official and the latent structure, and encourages the emergence of endemic conflicts. The people working in such an organisation find themselves in a no-win situation, since there can be no way to behave which satisfies both levels of demand.

Although, in such an organisation there may be formal agreement about objectives, goals and methods, there is underlying hostility between people, since each has a vested interest in seeing that the other fails, while overtly they should be working for the same goals. They speak one language, yet communication is never straightforward, and it always contains both explicit and implicit messages at different levels.

This allows for much misunderstanding, since implicit messages are read into all statements and actions. Also, built into the system is the understanding that a solution is impossible, therefore all attempts at finding solutions are pseudo-attempts aimed at pretending to be positive. This confirms Andolfi et al.'s (1983) theory that the system changes only in order to remain the same.

In the situation outlined in the case study there appears to have been a conflict in terms of the objectives of the Department. Overtly the objectives were to ensure the smooth and efficient running of the Safety and Security Service in the Organisation. On the covert level, however, the objectives appear to have been more complex, and had to do with maintaining the independence of the Department and the power-position of the Security Manager. Obviously these objectives were often in conflict with one another, and also led to intra- and interpersonal conflicts, as we have seen. Explicitly the rule was that everyone worked together and there was a strong bond between them. Implicitly this only applied to some - the chosen ones. The others were eventually moved out of the system on various grounds.

In addition there was a conflict with respect to the rules for behaviour, both written and unwritten, with one set of rules applying to those who were accepted in the Security Department as part of the "family", and another for those who were not. Overtly, and in keeping with the stated aims of the Department, top management and the Security Manager were very strict about rules and procedures being followed to the letter. However, inside the Department Mr Smith's complaint was that the Security Manager and his staff were less strict, sometimes even slack. In addition, they supported one another, each one confirming the other's behaviour, and where mistakes were made they covered up for each other.

Palazzoli et al. (1987) quote Haley in this regard, who defines such an arrangement (where one member of the system forms a coalition with a person or persons at a different order in the power hierarchy against a third member, and where the coalition is overtly denied) as a perverse triangle, and adds that this is characteristic of pathological systems.

Levels of Communication and Organisation

As previously mentioned, in such a system the communication taking place on one level is contradicted by that taking place on another level.

Messages confirming the existence of the coalition are sent simultaneous with messages denying this. (This kind of communication will be discussed in more detail further on.)

As a further example, the Security Manager's exhortations to his staff to humour and "be nice" to Mr Smith, very clearly defines them as being part of a group to which the Manager himself also belongs, and Mr Smith as being the outsider. Simultaneously his words actually urge Mr Smith's inclusion in the group.

Haley (in Sluzki & Ransom, 1976, p. 78) writes that:

all learning creatures are compelled to organise, and that organisation is hierarchical, (therefore) we must expect confusions in the hierarchy. At times conflicting levels of hierarchy will be defined, and at times the structure will simply be ambiguous.... When the hierarchy is not clearly established, the creatures within it will struggle with one another.

This will take place not necessarily out of a need or want of power, but because they are attempting to reach a stable organisation where they can all function in a predictable context.

In this struggle various "moves" will be employed in order to establish not only places in the hierarchy, but also places in the hierarchy of who is to define these places.

Haley (in Sluzki & Ransom, 1976) postulates two levels of organisation. The first level describes the organisation and the second level describes the hierarchy of who will define the organisation. There is potential for struggle at both levels. Some disagreements may appear to be taking place at the first level, but if this were true, such a disagreement would be easy to resolve through a direct confrontation where one person would win and the other be forced to give in. However, because the disagreement is actually happening at the second level, it becomes more difficult to settle, since part of the game is to deny that there is a struggle taking place.

One way for a person engaged in such a struggle to gain a higher position than his opponent is to deny that he is defining the relationship. This denial defines the other as being the one who defines the relationship, and in doing so defines the relationship.

When Mr Smith denied responsibility for his feelings of anger by blaming his drinking; by attributing them to his wife; by saying that it was the stressful circumstances of the wedding which were placing a strain on him; by emphasising the managerial role of the Security Manager; he was communicating that he was not determining his relationships with his colleagues and with the Security Manager. At the same time, however, he was taking the position of being the one who defined what type of relationships these were. This could be understood from his frequent comments on and criticism of the Security Manager's ability to fulfil his role, the organisation's inability to decide what to do about safety and to stand by their decision, and so on.

The issue of power is also a complicating factor here. In order to understand its role in this situation we could distinguish between different levels of power - power which is consensually attributed to the individual within the system, and power which is attributed to the individual by the metasytem. The first level of power may only be utilised within the system to the extent that the other members of the system agree with its use. The second level of power is that power which the individual can bring to bear on the system from the metasytem. For example, a manager will, by virtue of his position be able to call on the higher management of the organisation to back him in any conflict situation within the system.

In our case the Manager initially attempted to bring his first level of power to bear on the situation by calling on the support and co-operation of his staff in isolating Mr Smith. Ultimately, however, the matter was resolved through the use of his second level of power to request that Mr Smith be retired/removed altogether.

Paradoxical Communication in a System

Both Andolfi et al. (1983) and Palazzoli et al. (1987) emphasise the role and importance of paradoxical communication in the maintenance of the pathological systems they describe. Palazzoli et al. (1987, p. 50) write:

Conflict in social institutions is not necessarily dysfunctional; indeed it can reflect the vitality of explicitly acknowledged cross-currents, as long as it is not excessive. However, conflict is always disruptive when its existence is denied. The inevitable consequence is a breakdown in communications.

A paradox can be seen as a communication which has its own negation built into it. However, the messages conveyed do not contradict one another in the usual sense. Rather, they conflict because they are at different logical levels. For example "I want you to disobey me." Responding to such a contradictory injunction, therefore, is not a simple matter of making a choice. Faced with two conflicting levels of messages, the person cannot choose one without the other, and he is placed in a situation in which any response is a wrong response. Haley (1976) calls such a situation a "double-bind". It is important also that the person or persons sending the message should be important to the receiver. Weakland (in Sluzki & Ransom, 1976, p. 27) asserts that, "not only can he not be escaped or ignored, but also his messages are hard to doubt or question."

A further complicating factor for the person faced with such conflicting levels of message is what Haley (in Sluzki & Ransom, 1976, p. 76) calls the "illusion of alternatives", which "encourages the (person) to attempt to resolve an irresolvable problem", thereby setting the scene for frustration.

Sluzki and Ransom (1976) write that interpersonal behaviour always has a "political" component, and ... "paradoxical definitions of reality that sustain double binds allow some ... members to gain control in a relationship without making their bid overt" (p. 52). As previously mentioned, in an interpersonal situation, the "function" of paradoxical communication and creating a double-bind context for the other person is that it prevents that other person from defining the kind of relationship which will prevail.

Haley (in Sluzki & Ransom, 1976, p. 72) also describes the subjective experience of individuals finding themselves in such a "double-bind" context as being "feelings of helplessness, exasperation and rage."

Another communicational device which has a similar effect in systems is mystification. Laing (in Sluzki & Ransom, 1976, p. 200) states that "To mystify is to befuddle, cloud, obscure, mask whatever is going on, whether this be experience, action or process." Mystification is seen as an interpersonal tactic which allows one person to organise another or others into defining reality in a particular way. In order to survive within his context it is important that the individual's perception of reality is congruent with the reality as defined by others in the system. If there is mystification taking place this has the effect of masking what is really going on and makes it difficult to attain any certainty about the "correctness" of perceptions.

For example, it can be a way of avoiding open conflict by clouding the real issues of what the conflict is about. The mystified person\|s may feel confused and conflicted but will not be able to define what the problem really is. This could lead to the attribution of conflict and confusion to "false" causes. This in turn brings about further mystification and confusion in the system. In such a situation the individual's perceptions, and the reality as defined by the system, would not coincide, and as a result he would not be able to decide how to proceed. According to Haley's (1976) theory, he would be in a state of permanent double bind.

Other similar manoeuvres which can be considered as political are concealment, denial and inhibition. These can also have a very detrimental effect on the individual's adjustment to his context:

These manoeuvres affect the capacity of the individual to interpret those context markers that anchor us to some consensual reality in a world of otherwise virtually limitless interpretation. Stating it differently, the effect of the exposure to long-lasting and unquestioned paradoxes is that of undermining the capacity of the individual to master key classificatory segments of the human code, and thereby endangering his capacity to interact meaningfully with his milieu - a capacity identified by many as "sanity". (Sluzki & Ransom, 1976, pp. 52-53)

In a system where such paradoxical communication is taking place, people cannot know what behaviours are adaptive (since none are, and all contain a threat of some kind). As a result they cannot settle on any particular behavioural patterns, either individually or as a group, except the pattern of indecision, and similarly paradoxical behaviour which does not take responsibility for itself.

Given that the paradoxical communication in the system applies to all members, one would expect that all the members would manifest with symptoms. Yet, it is often only one person who shows overt symptoms. The "pathology" of the others is that they continue to play their allotted roles in the system and that they continue to assign the "mad or bad" role to the person designated to carry it.

In studying Mr Smith's situation, many such messages and manoeuvres can be found. One example is the message he received with respect to rules and regulations: His explicit instructions were to obey and enforce the rules at all

times and with all people in the Organisation. Implicitly, however, he was led to understand that these rules and procedures did not apply equally to all the members of the Security Department, but also that this was not to be questioned or spoken about. If he acted according to the explicit instructions he was rejected by the others and isolated. If he acted according to the implicit message he was going counter to what he believed to be right, and he was also (sometimes publicly) punished for not working according to the structure. The person primarily responsible for conveying these messages was the Security Manager, and as such, was a figure of importance to Mr Smith. If he attempted to discuss the matter with anyone in the system, thereby making the implicit explicit, he was labelled as a trouble-maker and accused of behaving in a "paranoid" way. There was an implicit coalition between the members of the Security department and their Manager. This was clearly demonstrated by the insistence of all the members, including the Manager, that everything in the Department was going very well and that, except for Mr Smith, they were all one big happy family. Mr Smith, on the other hand, had no allies, except his wife, and he attempted to recruit the psychologist as an ally in a coalition against the Security department.

Foucault (in White & Epston, 1990, p. 24) suggests that under conditions where a person experiences ongoing evaluation according to particular institutionalised norms, where these conditions cannot be escaped, and where such a person feels isolated in his experience of these conditions, he may become his own guardian. In such circumstances, the person will perpetually evaluate his own behaviour and attempt to change it in such a way that he complies with the perceived requirements and standards. Foucault calls the on-going evaluation experienced by such people the "ever-present gaze".

This seems to have some relevance for Mr Smith's situation, since he frequently mentioned that he felt that he was being watched and evaluated. He himself also appeared to be watching his own every action, and the actions of his family also, to ensure that they did not transgress any of the rules (as he perceived them) of the organisation or those of any of the managers to whom he reported directly or indirectly. Living where he did also made more concrete, immediate and continuous the "everpresent gaze". His efforts to ensure that his behaviour was beyond reproach could only be futile, however, since, as previously mentioned, the rules were either concealed, ambiguous or self-contradictory. He was therefore doomed to continuing failure in his efforts.

The Symptom as Metaphorical Communication

Palazzoli et al. (1987, p. 160) argue in favour of taking a systemic view when we attempt to understand the meaning of communication: "Any communication can be analyzed accurately only when the degree of complexity generated by the extended system is part of the analysis". They assert that any communication commits the sender to the on-going game which is inevitably part of the functioning of any human system, "(t)herefore the game itself, and not the various players, should be considered the real receiver of the sender's communication" (p. 161). Any comment or communication, whether verbal, non-verbal or metaphorical can be seen as a move in the game. They go on to write that if the communications are clearly defined, "(t)he different levels of reality may meet in every communication, remaining distinct or blending together, and produce a kind of harmony" (p. 169). However, if they are ambiguous, contradictory or undefined, "their incompatibility may turn them into an explosive mixture" (p. 169).

As previously mentioned, in the system under study, much of the on-going communication was undefined, concealed or denied. This prevented the players from commenting directly on what was happening. The direct and metaphorical messages conveyed by Mr Smith's behaviour and symptoms can be seen as equally denied and paradoxical communications which together had the effect of maintaining his position in the game.

For example:

He wrote critical and accusatory letters to top management about his Manager and colleagues while at the same time he complained that he was being progressively isolated in his functioning.

He made friendly overtures to various staff members and complained that he was being excluded socially, while he periodically and unpredictably lost his temper with them and said vicious things to them.

His demand that he should be viewed, treated and trusted as an expert in his field took place in a context where he was behaving in an unreliable and unpredictable fashion.

His drinking is seen as providing a context for his anger which redefined that anger as being "caused" by the alcohol, and therefore allowed him to express the anger while simultaneously avoiding any accusatory implications towards anyone.

His abuse of analgesics implied that he needed relief, without obliging him to be specific about from what.

His ulcers afforded him a legitimate escape from the situation from time to time when he was too ill to be at work. They can be seen as a further metaphorical comment on how the situation he was in was effecting him. (A pain in the gut.)

His "nervous breakdowns" also allowed him to leave the field - albeit temporarily.

The metaphor of "father" which was introduced by the employees in the department appears to have had an important part to play in the way Mr Smith constructed his reality. In Mr Smith's world view, the father is the person in any situation who represents expertise and authority. He is someone who is admired and obeyed, and who in turn guides and protects, albeit from a distance. This is the role he felt was rightly his at home, and had previously also been his in his previous job, where he had had the task of training the younger, more inexperienced people. He professed himself to be equally willing, however, to attribute this role to those who had authority over him at work.

However, since he did not feel that anyone in the work situation was deserving of the title, he attempted to play the role himself. This was rejected by both the Manager and by the other workers in the division, none of whom would afford him the respect or the authority which he felt was his due. Again he was in a situation in which he could not act in such a way that the outcome would be satisfactory to all. He could not grant the father role to the Manager, since he felt he was not competent to handle it, but he could also not take on the role himself without penalty. He responded with rage, drinking, stomach pain, and periodic "escape" to hospital.

In fact, seen in the context of the system of which he was part, all of Mr Smith's symptoms and behaviours can be understood to be in some ways an appropriate, adaptive response to his situation, and to have had the effect of conveying his feelings and ideas about the status quo, without necessitating that he take responsibility for these communications.

However, Mr Smith's communications must also be seen and understood in terms of the system as a whole. In this relational system the messages between Mr Smith and his context were such that no-one could be sure of the the "real" meanings being conveyed, therefore no-one could make any meaningful or predictable adjustment to the situation. The contradictions in communication between Mr Smith and the system, and particularly Mr Smith and the Security Manager, while more apparent in Mr Smith's behaviour, must surely have had a similarly discomfiting effect on the other members of the system. That this was so is shown by the fact that they preferred to avoid and if possible to ignore him, that he was referred for therapy, and that ultimately he was rejected by the system.

Time - an Important Element in the Context of the System

It has been identified that a knowledge of the context of an event or behaviour is very important in any attempt to understand or give meaning to that event or behaviour. The context, however, does not include only the environment and ecology of ideas prevalent in the present, but also includes the events which took place in the past and the development of the ideas about these events in the system over time. The history of the situation, therefore is also important in any analysis of a situation.

In looking for (and attributing) meaning, people tend to think linearly, to look for continuity in their attempts to make sense out of their lives, and to construct their reality in linear ways. Therefore they seek explanations for phenomena not only in the present, but also in the past, and their narratives stretch over time to include the past, the present and even future intentions, plans and aspirations. The observer, in constructing an explanatory hypothesis must, similarly, look for patterns in past interactions and find links between these and the present situation in the system he is dealing with.

Equally important to keep in mind, however, is the principle of equifinality - that is that totally different past patterns could also have preceded the particular situation, and that the patterns being perceived are in a sense unique to the observer's own way of constructing reality. That is, they do not reflect an ultimate truth, but are merely one possible way of construing the situation, which may or may not be useful in facilitating an understanding of the various behaviours and meaning attributions being observed.

Palazzoli et al. (1987) write that:

During their common history the members of a (system) have gradually elaborated, by trial and error, their own mode of coexistence and of adaptation to the pressures of the environment. Congruent interdependence in inner functioning and in interactions with the environment has enabled the (system) to construct its own game, its own mode of being itself. (p. 114)

They go on to say that it is the history of this development which give a system a particular character in its internal functioning and its interactions with its environment. Therefore, knowledge of that history can help an observer to better understand what is being observed.

Taking the role of the observer into account, Palazzoli et al. (1987) write that:

Everything we observe in an organization at a given moment can be considered the climax of a chain of actions and reactions in which we (arbitrarily) identify the starting point of a particular environmental event that we consider pragmatically important. (p. 116)

White and Epston (1990) also confirm the active role which people take in creating their reality. They make the proposal that people give meaning to their lives, experiences and relationships by storying their experience and that, in interacting with others in the performance of these stories, they are active in the shaping of their lives and relationships. They write: "It is the meaning that (people) attribute to events that determines their behaviour" (p. 3). Therefore it is the history of an event as it exists in the narratives which are told about it which we have to take into account.

In the case study it is evident that various events in Mr Smith's life coincided in space and time to create the situation which was described. These were, inter alia, the elder daughter's wedding, the son's relationship, the teenage daughter's adolescence, and the reorganisation and retrenchment of staff members at work. However, even these events may not have been enough to explain Mr Smith's symptoms. For this it was necessary to know that he had a history of ill health and "nervous" complaints, and also that he was a person who had, over the years, developed strict and rigid "rules" for how things should be in his life and was not inclined to change or reconsider these.

An Explanation of Narratives as Creators and Creations of Meaning

White and Epston (1990) assert that:

In striving to make sense of life, persons face the task of arranging their experiences of events in sequence across time in such a way as to arrive at a coherent account of themselves and the world around them. Specific experiences of events of the past and present, and those that are predicted to occur in the future, must be connected in a lineal sequence to develop this account. The success of this storying of experience provides persons with a sense of continuity and meaning in their lives, and this is relied upon for the ordering of daily lives and for the interpretation of daily experiences. (p. 10)

If we accept that persons organise and give meaning to their experience through the storying of experience, and that in the performance of these stories they express selected aspects of their lived experience, then it follows that these stories are constitutive - shaping lives and relationships. (p. 12)

Behaviour, in turn, further develops the story, and in this way a narrative of interlinked and recursive meanings and behaviours develops over time. All individual stories are framed in turn by broader contexts of systemic narratives, for example, the dominant ideology of the time and the broader sociopolitical context.

Looking at Mr Smith's situation, it can be seen that he was prevented from developing a story about his present and future which was coherent and met the expectations which he had derived from the past.

In order to develop such a story it is apparently important that the individual feels that his perceptions and explanations of the reality he exists in should be reliable. For this it is necessary that these perceptions and explanations should be confirmed by others through consensus. In a situation where the communication taking place is characterised by ambiguity and paradox, such as in this case, confirmation and consensus are unavailable.

To extend White and Epston's (1990) theory, it would seem that people story their reality differently at different levels for the "benefit" of different contexts. One assumes that there would be one dominant story which the person understands as being the real one. However, if there is conflict between the demands of the different contexts with relation to the story, incongruences and denial between these levels of stories could bring a conflict in meanings or an inability to find congruent meaning. The individual would of necessity experience this conflict within himself and may become confused about the reality of his stories.

An example of this is Mr Smith's story about his relationship with the Security Manager. At work it was necessary that the story include reasons why he should take his advice and obey his instructions. Socially it was important that he find reasons to get on with and even to like him. At home, however, the demand was the opposite - here he was required to take part in constructing negative stories which included as many reasons as possible not to like him.

White and Epston (1990) assert that people select a dominant story from all the available experiential material, and that there is much experience which is not selected to form part of that story. This experience then becomes the material for possible alternative stories. In a system it then becomes possible, and according to Maturana (Efran & Lukens, 1985) even a certainty, that each person in the system creates his own story which is of necessity different from the stories of the others. To the degree that a particular individual's story links and correlates with the stories of the others in the system, he can be said to fit with the system. If his story is vastly different, he has a good chance of being labelled as "mad" or "bad". Mr Smith's story was just such a "different" story.

Roles as Part of the Narrative

In the narratives used to structure their experience and attribute meaning to it, people assign to themselves and to others in their context specific roles.

In a work situation roles are assigned to people which, being officially condoned, may carry a great deal of weight and may also bestow power on an individual viz a viz others who have different, complementary roles.

In order to function well, and sometimes even to survive, it is imperative for a member of a work-related system to have a clear understanding of the formal roles he is expected to play, as well as of the roles of the others working with him. Such clarity is often difficult to achieve, however, because, as mentioned before, in many cases the formal structure of an organisation is different from what Palazzoli et al. (1987) call the latent structure, which may be concealed and denied. In situations where this is the case, individuals would find it difficult to know which structure to believe or follow, and they would be placed in a situation where correct discrimination is impossible. As previously explained, such situations often result in a system which is locked into a pattern of chronic indecision, and in which people have difficulty establishing consistent roles for themselves. On the other hand, in order to gain a measure of certainty in such a situation, the individuals may adopt and impose on one another rigid roles from which no-one is permitted to deviate (Andolfi et al., 1983).

It seems apparent that the defining of roles and relationships with important people, particularly with the Security Manager, was central to Mr Smith's dilemma. He received mixed and ambiguous cues with respect to this, and was unable to settle on particular definitions. His roles were in a state of disarray in both the home and the work systems. The father role he wanted to continue was being questioned by those who should have been confirming it, that is, by the members of his family. The expert role into which the previous work system had cast him, and which he wanted to continue, was being questioned by his colleagues and manager. Instead of confirmation, on both fronts he was being cast as the villain of the piece, and his behaviour, inconsistent as it was, was perpetuating him in this role.

The Role of the Psychologist

In such a situation, the role of the psychologist is a complex one. It is important that she take cognizance not only of the interactions within and between the systems she is observing and describing, but that she acknowledges and tries to understand the interactions between the observed system and the observing system (herself). That is, she must deal with the part she herself is playing in the on-going systemic games.

An Explanation of Structure Determinism and Fit

Very important to the ideas presented in this chapter are the assumptions inherent in Maturana's (1975, 1978, 1980) theory of structure determinism. These have been described in chapter 4 in detail. As was mentioned under that heading, Maturana has extended this theory of structural coupling to be analogous to the way human social systems operate.

He sees human beings as needing to fit with their environment in order to survive. Human beings, however, unlike most other living systems, have a psychological and a social aspect which are equally important to their survival as the physical aspect. Structure as an analogy therefore includes the way an individual perceives his environment, construes his reality and organises his ideas. This is expressed in the distinctions he makes and the language that he uses to describe his reality. The meanings in turn are determined by the present context or ecology of ideas in which the individual exists, as well as being derived from patterns of interaction in the past. It is also constituted in the stories that the individual tells himself about himself, his context and his relationships with that context. It is ultimately this complex structure which prescribes and limits his range of behaviour in any situation.

Based on these assumptions, it is hypothesised that in order to fit with his environment successfully, the individual has to be able to define his context sufficiently clearly to know what adjustments will be necessary. For him to be able to do this, the context should be sufficiently stable for him to be able to rely on a certain predictability. However, in a context where there are latent structures which are not made overt, and where denied coalitions and paradoxical communication are prevalent, the context is never stable or predictable, since there are constant shifts between the various levels of meaning which are present (Palazzoli, et al., 1987). Therefore the individual can never know or attach any permanent meaning to the context and therefore also cannot know how to act efficiently (in a way which is conducive to survival) within the context.

In such a context, where the reciprocal communications and interactions are such that there can be no adjustment (no congruent structural coupling), the individual is quite literally at risk. If he cannot find a way to fit at the level of meanings, he will experience this as threatening to his continued existence in the particular system. If this is only a single, isolated incident, or in relation to a

system on which his survival does not depend, he may be able to disregard it and go on to other systems where he perceives himself as being better able to fit. However, if he has no alternatives, that is if he perceives the system or systems as being essential to his (psychological if not physical) survival, then his attempts at fitting with the system may take bizarre, symptomatic forms. His symptoms can then be seen as both the outcome of his fear of death (physiologically) and a further manoeuvre, move or comment on the systemic game in which he is inevitably a player. For example, as in the case under discussion, he may achieve a temporary sense of fit by accepting and playing the role of scapegoat.

Mr Smith's history, as it emerged in the various discussions held with him, seems to have predisposed him to hold a particularly rigid and regimented view of life. He had definite ideas about right and wrong, and about how things "should" be, and found it very difficult to deviate from these. He tried to live and behave according to strict moral and ethical codes and also expected those associated with him to do the same. In addition, he was very sensitive to the approval or disapproval of others and was inclined to try to direct his behaviour according to what he thought was expected. This can be seen as his psychological structure.

Accordingly, in order to adjust successfully to his work environment, he would have required a context which provided unambiguous guidelines and procedures for behaviour, clarity and congruence in communication and consistency and predictability in the behaviour of others. It can be seen how the kind of confusing and contradictory context which has been described above, would not have allowed for successful coupling between it and a person with Mr Smith's psychological structure.

Summary

From the previous analyses it can be seen that the system under study manifested all the ingredients which Weakland (in Sluzki & Ransom, 1976, p. 37) lists as contributing to a pathogenic context: repeated inconsistent behaviours and conflicting messages at different logical levels, concealment and/or denial of these messages and of personal responsibility for them, and assertions of unity and benevolence.

Mr Smith himself, owing to his history and the ecology of ideas and belief systems to which he ascribed, was predisposed to seek certainty and reliable

anchors on which to base his behaviour. In this situation, however, he was prevented from developing a story about his present and future which was coherent and met the expectations which he had derived from the past.

It is evident that Mr Smith's position simultaneously maintained and was maintained by the ideas inherent in the system and the reciprocal and reflexive patterns of communication and interaction which these ideas generated. That this position was experienced by him as untenable is obvious, but it is equally evident that any attempt to address his "coping skills" or his drinking habits, and thus to alleviate his symptoms, as was the original request by the Personnel Manager, would have had no chance of effecting any change in the status quo. It would instead have served to further confirm and entrench the already prevalent ideas about the reality of what was occurring.

On the other hand, seen in the context of his own psychological structure as well as the complex functioning of the systems he belonged to, Mr Smith's symptoms and behaviours can be understood to be in some ways an appropriate, adaptive response to his situation, and to have had the effect of conveying his feelings and ideas about the status quo, without necessitating that he take responsibility for these communications.

CHAPTER 8

THE RIVER OF CO-EXISTENCE

In this chapter, the history of the therapeutic system which evolved in the case of Mr Smith is outlined, and an attempt is made to describe this as a context for the understanding of stress which developed in the mind of the author.

As has been previously described, each person who took part in this process contributed to the evolving reality which eventually emerged. However, one participant in the system who has not yet been accounted for is the psychologist herself. It is therefore necessary at this point to describe the role/s she played.

The Role of the Psychologist

Based on her view that there can be no objective description of a given reality, and that the observer always plays a pivotal role in the evolution of that which is observed, the psychologist assumed that she could only gain a meaningful understanding of the situation if she allowed herself to be exposed to the system, to become part of it, and to interact with the people in it.

Accordingly, she used herself as a tool for learning about the system. In this process she needed constantly to keep in mind her own part in bringing forth that which she was observing. Steier (1985) writes:

The issue is not one of unobtrusive and objective interviewing, but of interviewers' awareness of their distinctions that guide the interview process and their own stated or unstated intentions; they must be aware of the way in which the presenting problem is socially constructed (p. 30).

In order to maintain such awareness it was necessary that the psychologist should be conscious of:

1. Her epistemological approach, which, as outlined in Chapter Four, is ecosystemic;
2. Her learning contexts, which were those of ecosystemic psychotherapeutic training, the practice of psychotherapy and research, and practice in the field of industrial psychology;
3. Her communicational style, which tends to be sympathetic, non-intrusive and neutral;
4. Her relational models, which are based on a systemic approach superimposed on traditional Western ideas of family and work relationships.

Evidence of these predispositions and preferences can be seen throughout the case description, and some of their implications for the reality which evolved will be noted further on in the chapter.

In addition to the importance of taking cognizance of the interactions between the observed system and the observing system (herself), it was also considered important that the psychologist should try to understand her own place in the system as it evolved over time, and in what ways this both facilitated and constrained her participation, and consequently determined the conclusions she came to.

Andolfi et al. (1983) write that the role and function of the psychologist vis a vis such a system is predetermined by the system. She is only permitted to play the role as assigned to her by the systemic script: "The identified patient (and the other members of the system) will present a united front in proposing a program for therapy that will not disturb the equilibrium they have acquired" (p. 19). However, if the psychologist gets drawn into playing this role, she will serve to re-reinforce the status quo in the system. To some extent this did occur in this case, partly due to the constraints which the Organisation placed on the functioning of the psychologist, for example, by not allowing access to higher levels of Management.

Initially the psychologist may be recruited by part of the system in coalition against the other parts. In this case she was recruited by the Personnel Manager, on behalf of the Organisation. Her brief was to assist Mr Smith, with the tacit understanding that he was in fact the cause of whatever problems

existed in the Security Department, and that she should confirm this by providing him with therapy.

Mr Smith, on the other hand, in complaining about his Department and the Security Manager, and by providing various pieces of written evidence, attempted to recruit the psychologist to his side, and to prevail on her to pronounce the others in the system to be in the wrong, thereby confirming his reality.

Although a psychologist in such a situation may attempt to remain neutral, the ecology of ideas prevailing in the system/s would classify and attribute meaning to her actions and words according to their own narrative. For example, it is likely that her attempts to remain neutral in this situation were ultimately interpreted by both Mr Smith and the Personnel Manager as a betrayal, in that she was not willing to enter into a co-coalition with either.

A further difficulty in this situation was that, as consultant to the Organisation, the psychologist also became part of that system, which itself imposed a particular function on her. This function was that of providing requested psychological services, and thereby confirming particular realities concerning what the problem was and who "owned" it. Criticising or disagreeing with the representatives of the Organisation was not part of her brief. Therefore, although a psychologist may wish not to go along with the definitions attributed by the system, she is constrained by the prevailing expectations, and any deviation from her expected role would earn her a label as difficult, incompetent or unco-operative, rather than allow her to risk exposing the systemic "game".

Contradictions and Conflicts

In conducting and researching this case the psychologist faced many constraints, conflicts and contradictions. Some of these have already been mentioned. The following describes some others which are considered to be of importance.

Mr Smith's original symptoms, as these existed before the inclusion of the psychologist in the system, can be said to have developed in a context which was observer-less. However, the psychologist can never directly know the nature of these, since from the moment that she was called in as consultant, she was a participant in the creation of the reality which included the idea of stress-induced

symptoms. Therefore, she can also be seen as being part of the context which contained and produced the symptoms. For example, in order for the Personnel Manager to refer Mr Smith to the psychologist, he needed to be able to point to symptoms, and in order for Mr Smith to benefit from therapy, he had to manifest and believe in his symptoms. Therefore, all the contacts which the psychologist had with the various people in the system depended on the existence of Mr Smith's symptoms. In fact, her own employment as consultant depended on employees showing symptoms from time to time. Therefore, even before Mr Smith was identified as a candidate for therapy, the system can be said to have been preparing itself for the advent of a symptom-bearer, through its ecology of ideas around the concept of stress, and its consensual belief in the inevitability of people succumbing to stress in the work place.

In this context the psychologist found herself in a dilemma which was isomorphic to many of Mr Smith's dilemmas: She had to confirm the existence of "stress" in order to maintain her place in the system and to be allowed to continue to be therapeutically helpful to Mr Smith, while at the same time she had to help Mr Smith to "adjust" to a system which had a vested interest in keeping him in his role (and which she was part of). Her professional credibility in the system depended on her "curing" Mr Smith of his symptoms while confirming him as the person in whom the problem resided.

The Aims and Results of Therapy

Broadly stated, the aim of the psychologist in therapy with Mr Smith was to help him to fit with his contexts in ways which did not necessitate either the language of stress, or the behavioural and physiological symptoms which he was showing. The therapy was not intended to dictate the direction in which he should change, but was aimed instead at increasing his options for behaviour and his alternatives as far as his definitions of, and narratives about, himself and his situation were concerned.

Ultimately, as might be expected in the kind of double-bind situation she found herself in, the psychologist was not able to achieve these objectives. Although Mr Smith was relatively symptom-free for a period, this merely served to perturb the system in such a way that the rejecting and confusing behaviours of the individuals in it towards Mr Smith were escalated, and consensus was finally reached to move him out of the system altogether. Although it can be said that the problem of Mr Smith resolved itself, this was certainly not in the direction which either he or the psychologist would have predicted or preferred.

The Development of the Therapeutic System

Definitions and Descriptions of the Problem

In taking on the case of Mr Smith, the psychologist did not accept on face value that the definitions of the problems, as given by the various people involved, were the "truth". With respect to her expectations of what this case study would reveal, her constructivist viewpoint and ecosystemic training led her to be fairly confident that the clues which would lead to an understanding of Mr Smith's physiological and behavioural symptoms, would most likely be found in his relational contexts, his belief systems and his usual ways of constructing his reality. Therefore, while respecting the right of the others to think as they did, she nevertheless wanted to construct a more multidimensional picture around Mr Smith's problems, which superimposed her own views of symptoms and their role and functioning in systems, on the views of the participants in this particular case. In order to do this, the different systemic levels, as defined by Mr Smith's history and problems, were investigated by means of interviews, with the understanding that such levels must be conceptualised as being recursively connected with one another in a highly complex way.

The Level of the Individual

The psychologist felt that it was important to gain an understanding of Mr Smith's history as he described it, the history of the most important people involved in the problem up to the present time, and of the meanings which they attributed to their history. In addition, their ideas regarding the various issues and systems in their lives, as manifest in their conversation about these and about their relationships, were ascertained. The psychologist holds the view that the different contexts in which a person exists converge in that person's ideas about his reality.

The Level of the Work System

Here the history of the Security Department was looked at, particularly with regard to prevailing relationships and the system's history of stress-related problems. An understanding of this level was gained by superimposing the ideas

of several of the members of the system regarding the relationships mentioned above, on the ideas of Mr Smith and the psychologist herself. Particular note was made of how these ideas were communicated in the system (for example through language use, context markers, formal and informal structures, hierarchies, levels of meaning, and so on), as well as of the interpersonal "games" being played out in the system.

The Level of the Family System

Mr Smith's family context was considered to be very important in the development of his symptoms, and a lot of attention was paid to the composition of the family, its developmental history as a family, and the relationships of the members with each other and with Mr Smith.

The Levels of the Organisational System

At this level the hierarchical structure of the Organisation, formal organisational structures, informal structures which had developed, and the ecology of ideas prevalent in the Organisation regarding issues like structure, power, hierarchy, and protocol, as well as those issues which emerge as important to the individuals, were focussed on.

Events taking place in the Organisation in the present, as well as past events, were felt to be important contributors to the context. The Organisation's history with regard to symptoms, for example, problems with productivity, difficulties with staff, labour turn-over, absenteeism, and so on, was also looked at, as well as the prevailing political "games" which were being played out in the Organisation.

In the process of investigating these different levels, various people were brought into the picture after the psychologist was charged by the Personnel Manager with taking on Mr Smith's case. These were Mr Smith himself, Mrs Smith, The Security Manager, and various members of the Security Department. Other information about the Organisation was gained in an informal way in meetings, discussions and general conversations with employees.

Figure 3 depicts how the advent of each person to the therapeutic system contributed to the complexity of the reality, or ecological event-shape (which will be discussed further on), which eventually evolved around Mr Smith and his symptoms.

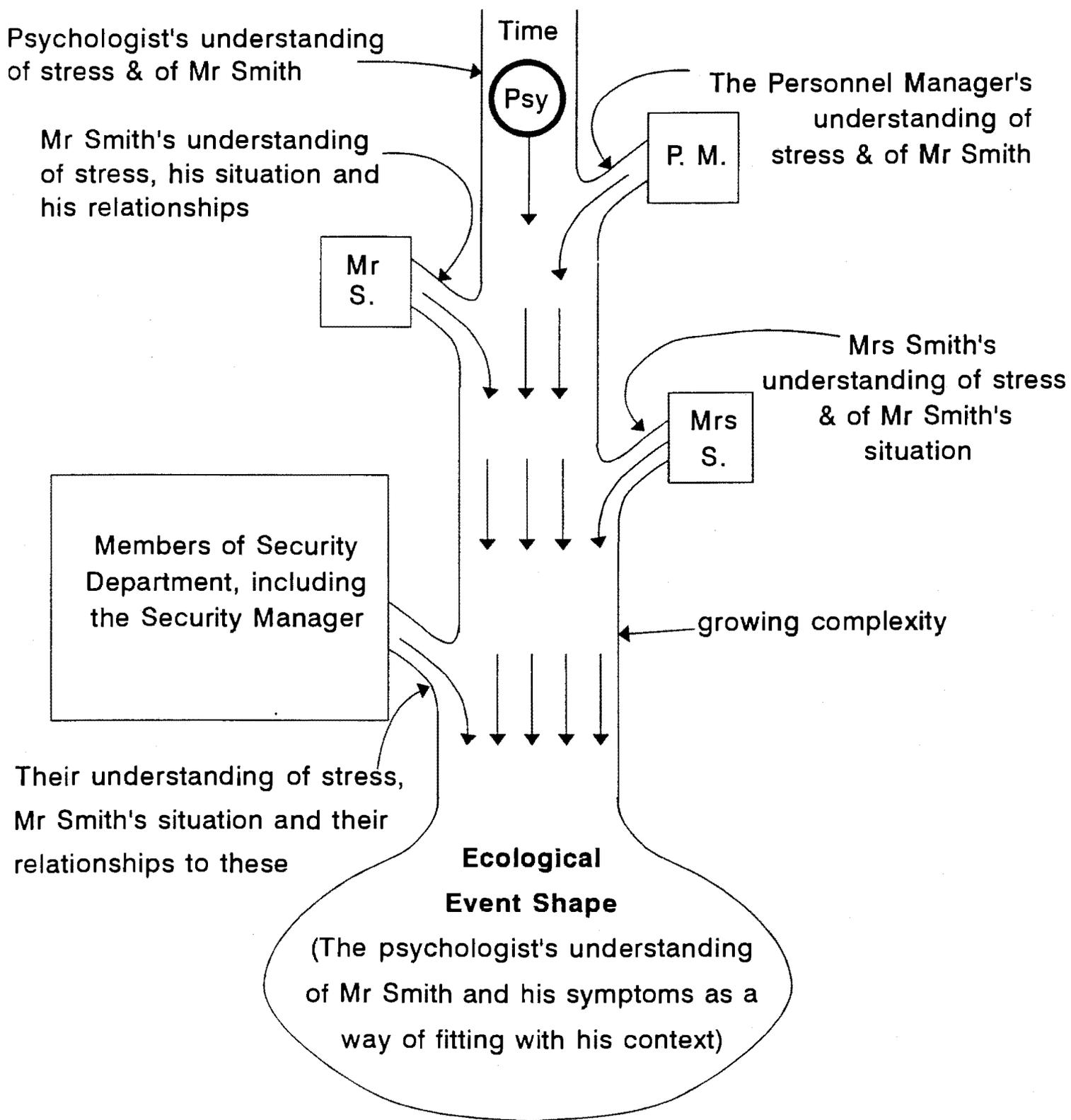


Figure 3. The history of the therapeutic system - "The River of Co-existence".

Ways of Participation

Since each case is viewed by the psychologist as unique in many respects, it was not considered possible to know beforehand what kind of participation would be called for. In keeping with this, and with the idea of a reality constructed socially in language, it was anticipated that the emerging conversation between the participants and the psychologist would guide participation, rather than that it would take place according to a predetermined model.

Accordingly, the psychologist chose non-directive, unstructured interviewing as the method most likely to succeed in attaining her aims which, at this stage were:

- to bring forth the ideas and meaning attributions of the participants vis a vis elements identified as important during the initial referral, such as stress, Mr Smith and his symptoms, the Organisation, and so on;
- to evoke descriptions of the patterns of the various relationships;
- to identify Mr Smith's position in the relationships and the functions of his symptoms in these;
- to gain an understanding of the contexts, both relational and historical, in which all of this was taking place;
- to ensure that the reality thus constructed was congruent with the ecology of ideas of the people in the system.

In the course of the interviews, the psychologist took an enquiring and "neutral" stance. She allowed the flow of discussion in each interview to take its own course, rather than imposing a predetermined direction on it. Initially her own agenda was simply to learn about the events and ideas of the people in the system which were in some way linked with Mr Smith or to his symptoms. It was only in the interviews held with Mr Smith that interventions were consciously made.

It is important to note that, although much of the conversations which took place centred around factual material, the psychologist was not looking for "facts" as a source of truth about the case. Instead, she was interested in the patterns of interaction and meaning in the systems, since she is of the opinion that it is the meanings which people attribute to occurrences, and the language in which they express these meanings, which constitute the stories (narratives) which they construct about their lives. These narratives, in turn, shape their future ideas and actions, and are therefore considered important both to research and to therapeutic endeavours.

The Overlap between Research and Therapy

It is important to remember that the structure, which of necessity has to be imposed on an academic presentation of this kind, cannot in similar fashion be imposed on the psychologist's participation in the system. That is, the divisions presented are artificial divisions, which are used to facilitate clarity and the understanding of the reader, but cannot in similar fashion be imposed on the process, which by its nature is complex, overlapping and recursive.

Therefore, for example, although investigation/research and intervention/therapy may be referred to as if these were different and discrete stages of the process of participation, there was no separate "investigation" stage and no "intervention" stage in the practical situation. Rather, these functions must be seen as having recursively interacted to create the realities which were constructed.

A Model

Figure 4 depicts the complexity of the interrelationships which constitute the context in which a particular person's reality develops, and the place of his symptoms within this. The observer (in this case the psychologist) can be seen to be in relationship with all the elements of such a co-evolved reality, since she has participated in two ways in bringing forth this particular way of understanding: firstly through joining the system and interacting with its members, and secondly through observing the system and describing her observations.

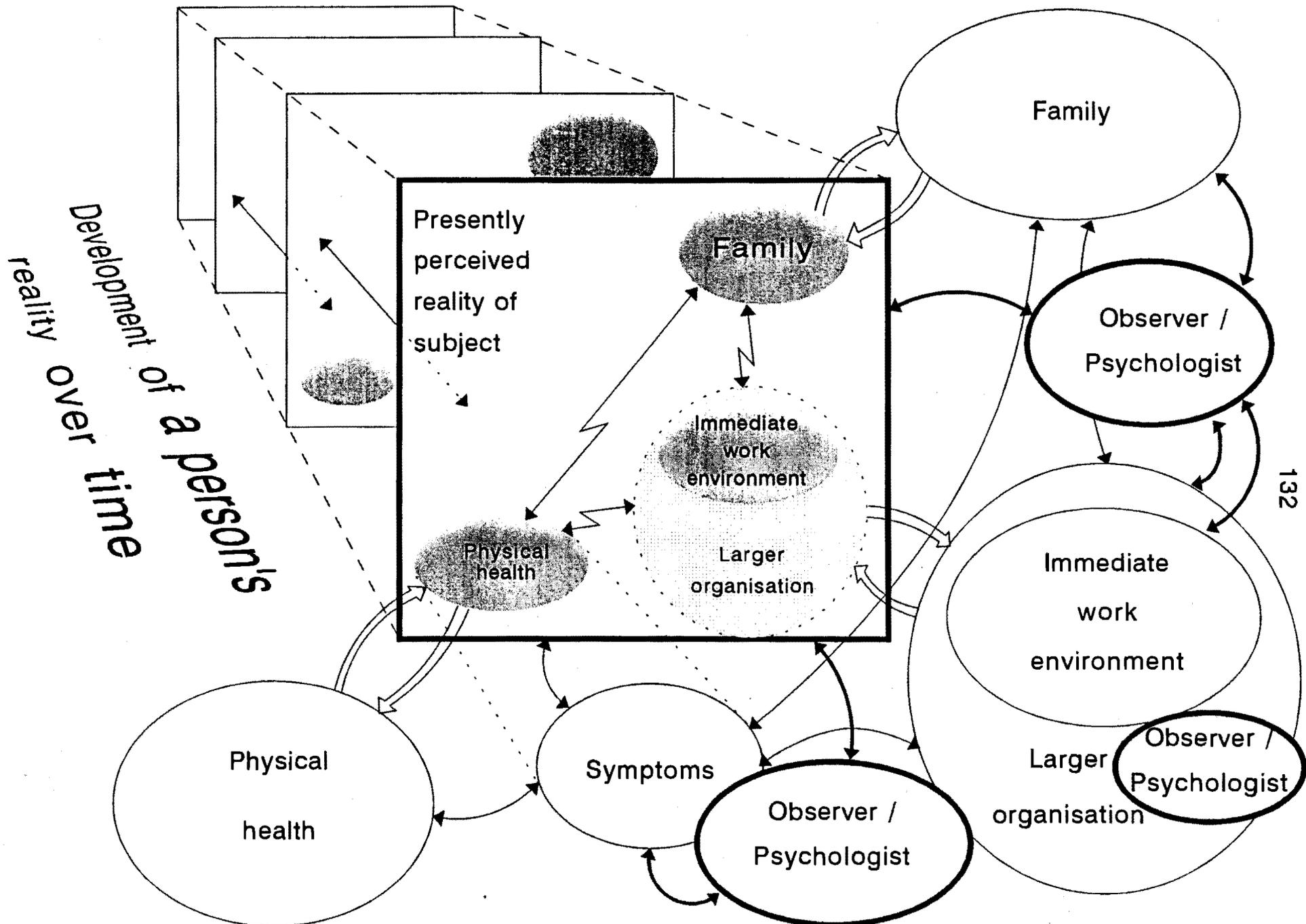


Figure 4. The observer's view of the context and development of symptoms.

What becomes apparent in this model is that in attempting to understand a problem-defined situation, it cannot be a matter of looking either at the environment or the individual; either his relationships at home or his relationships at work; either the communication taking place in the system or the power play between the players. All of these things have a part to play in the ecology which constitutes the context in which the individual must survive, and of which he must therefore be able to create a reality which is coherent and meaningful to him.

It is hoped that this model will be useful in alerting researchers in the field to the various aspects which should be taken into account when one is attempting to understand and to be therapeutically helpful to people in distress in the workplace. It must be re-emphasised, however, that each case is likely to be unique, since each is a creation of a reality by particular persons at a particular place and time, and therefore any generalisations made must, of necessity, be restricted to specific cultural and historical contexts.

An "Event Shape in Timespace"

Auerswald (1987) suggests that in any case of human distress, the researcher or therapist should attempt, through investigation, to identify those key elements or events which, when looked at in relation to one another, can be seen to contribute to the context which contains the symptom or symptoms for which help is being sought. In the process of his own participation, and through his endeavours to bring forth and respect the realities of the people involved in the systems with which he is working, the therapist develops a narrative of his own about the systems and about the participation of the various players in the events occurring in these systems, based on these key elements. Auerswald (1987) calls this narrative an "ecological event shape in timespace" (p. 326), and tells us that it is this which renders the symptom or symptoms being observed understandable.

It was decided to utilize this model in analyzing Mr Smith's situation, as it brings together most of the epistemological notions which this thesis embraces.

In the case of Mr Smith, the following were identified by the psychologist as key elements and events:

- the prevailing climate of constant, on-going change in the Organisation
- the isolation of the Security Department from the rest of the Organisation
- the ways in which the members of the Security Department defended themselves as a system against the encroaching changes
- the communicational style adopted by Management and the people in the Security Department
- the developmental changes taking place in the Smith family
- Mr Smith's life experience which predisposed him to seek for certainty, to set very high standards of behaviour and to hold rigidly to his ideas
- Mr Smith's behaviour and physiological symptoms

Based on these elements the following "event shape" may be constructed to explain Mr Smith's symptomatic behaviour:

Mr Smith was a strong-willed man who held very definite ideas about right and wrong in every situation, and who set very high and non-negotiable standards for his own behaviour and the behaviour of others around him. Most of the time people, including himself, fell short of these standards, and this led to frustration and disappointment on his part. He tended to be outspoken about his opinions and criticisms in this regard. He also liked things to be certain, reliable and clearly stated.

Ironically, he found himself in a work situation where nothing was certain: multiple standards prevailed in his department, rules changed often and at the whim of certain people rather than by consensus, communication was unclear, ambiguous or contradictory, and people at all levels were proving to be undependable and untrustworthy.

At home he experienced a similar state of uncertainty in terms of his relationship with his two daughters, who were both at crucial developmental stages of their lives, and had therefore changed their behaviour and their expectations of him.

Furthermore, the larger Organisation was a system in turmoil. The many changes taking place were having a disruptive and detrimental effect on many employees, and many were uncertain and pessimistic about the future, while attempting to maintain their positions in the shifting structure. Traditional indicators of organisational stress were at an all-time high.

In the context of these uncertainties, Mr Smith did not know how to behave in order to be certain that he was doing the correct thing, so he acted in accordance with his feelings of frustration some of the time, and in accordance with his convictions at other times. Since either kind of behaviour usually put him in the wrong and earned him some form of "punishment" from the system, his uncertainty and confusion escalated - as did his symptoms.

The value of such an event shape, in this case, is that it provides a narrative context for the symptomatic behaviour of Mr Smith which renders that behaviour not only understandable, but even seemingly inevitable. Simultaneously, it directs the attention of the therapist to possible areas for intervention.

A "Path with Heart"
(Castaneda, 1973)

The path taken on the journey which led the author from a simple diagnosis of "stress" to the complex and interwoven "ecological event shape" which finally emerged in the case of Mr Smith, was neither a straight one, as is customary in traditional research, nor even a circular one, as systemic thinkers would have us believe. Rather, it twisted and spiralled and often seemed to lead in many directions at once. It can be likened to a walk in a very dense forest, filled with plants and creatures of every kind, all unique in their actions and interactions, and yet all interdependent.

In such a forest it is impossible to enumerate, account for and explain every plant, every creature, every drop of water, every ray of sunlight and every interactional event which occurs. Of necessity, that which is seen and understood will be limited by the path taken, and by the light available, and every journey will be in many ways unique. The only choice a traveller has is of either embarking on his journey with a map to guide his way, or of simply allowing the unfolding vista before him to lead his footsteps.

The map might get him through the forest quickly and efficiently, and since others have been there before him, it is likely that the plants and animals he encounters will be ones he can identify. On the other hand, with a map he will stay on predetermined paths and is therefore likely to miss much of what is happening in the forest. Thus his adventure will, in many respects, be a predictable one.

The author chose to take her walk without such a map, guided only by the epistemological principles to which she subscribes and the various themes which seemed to unfold as she went along. As is evident in the previous chapters, this necessitated much backtracking, many detours and an altogether tortuous path through the forest which was simultaneously Mr Smith's life and the psychologist's theoretical assumptions. However, it was a rewarding, and in many ways, a surprising journey.

Theoretically the path led away from individual therapy based on traditional "stress" theory, into a maze of interconnected ideas derived from various theories and expressed in many languages. These were, *inter alia*, radical and social constructivism, general systems theory, family systems theory, organisational politics, strategic therapy, and communications theory, and they finally led to what may be termed an ecosystemic understanding of distress in the workplace.

The "reality" of Mr Smith's life and symptoms within its context, as this eventually emerged in the course of the journey, has proved to be similarly rich and complex, and as such, encourages and even demands the respect and circumspection with which all cases of human distress should be approached.

It is proposed that this way of perceiving distress in the workplace may also be useful in different contexts. However, this is seen as a starting point, and it is hoped that the kind of understanding of individuals and their problems in the work situation which an investigation of the kind outlined above engenders, will will provoke further development of these ideas in the future.

CHAPTER 9

THE SOCIAL CONSTRUCTION OF STRESS

In this chapter an alternative understanding of "stress" is presented. It is hoped that this may be useful in helping researchers and therapists to find ways of constructing hypotheses about work situations beleaguered by distress, which make a positive difference to how the people in these situations define their relationships and describe their own state of "happiness".

The following is intended as a summary of the ideas which have emerged in the course of this study. In addition, some suggestions are proposed regarding the kinds of ecological systems in which the reciprocal interactional processes would tend to favour the emergence in people of symptoms which they then describe and label as stress.

Some Commonalities Across Contexts

If knowledge is not viewed as a "true" representation of the world, but is seen as a construction of reality, then the search for the true nature of stress becomes meaningless. Stress is seen, not as an absolute condition, but as an explanatory concept for a way of co-existence which is socially defined as undesirable and which is therefore embedded in the social conditions which give rise to this way of living together (Mendez, Coddou & Maturana, 1988). Instead of analysing stress, therefore, it becomes imperative to research the operations of distinction used by observers to distinguish "stress" and to organise their worlds accordingly.

Assuming that complaints or symptoms of stress may be a way of finding meaning or attributing meaning to a difficult, new, or changing situation, one might ask whether there are any commonalities between contexts and their patterns of interaction which favour this kind of explanation for distress.

It is suggested that although each case investigated is likely to be unique in many respects, there are some such observable commonalities:

a) A context in which the expectations are unknown (as in a changing and uncertain future), prohibits individuals from making the adjustment necessary for fit.

b) A context in which the expectations as expressed in communication between the members of the system are ambiguous or vague, similarly makes adjustment and fit impossible.

c) A context where the messages at different levels contradict one another and place individual members of the system in situations where fit becomes impossible, since fitting at one level implies non-fit at another.

d) A context which in various ways, such as disconfirmation of the person, undermining of his knowledge and expertise, non-acknowledgement of his role or position, and so on, robs him of his sense that he is in control of his fate. Such a context also robs him of his belief in his own capability to make the adjustments necessary for fit and therefore for survival.

All of these circumstances demand contradictory behaviours in the person, while simultaneously and usually implicitly, the assumption is held that the behaviours are not contradictory. The discomfort or unhappiness resulting from his inability to fit with his environment is then punctuated as "stress", and it is lived as if it were something else.

Accordingly, stress may be called

a social assessment of situations of emotional contradictions that arise through the attempt to satisfy contradictory social expectations that are accepted as objectively legitimate, as if they belonged to the same domain of coexistence, while they pertain to different ones. (Méndez, Coddou, & Maturana, 1988, p. 152)

A person in such a situation grants power to the system to see him as, for example, "stressed" - since the system is imbued - by the person - with "objective knowledge" leading to authority. This has the effect of creating a reality in which the person is progressively alienated from his own experience, and there is a

contradiction between the his operations of distinction and behaviour, and that of significant others. He finds himself behaving in ways which are different than that demanded by the surrounding social consensus or system, and in fact he appears (to himself and to others) to live in a different reality than those around him.

It can be seen that this can become an escalating process which, once begun can effectively block further attempts at understanding or addressing the actual problems, which are the original contradictory demands themselves.

This leads to further questions of why this particular explanatory concept is favoured by an individual or group above others, and why it has come to be almost universally accepted as an explanation for distress in Western society.

The following are some of the "advantages" to the individual and to various systems of explaining problems or illness in terms of stress:

a) The reciprocal and escalating interaction between individuals diagnosed as suffering from stress and the publicity which the syndrome has been receiving in recent years results in a situation where everyone "knows" what it is, therefore it required little in the way of further explanation.

b) It provides an almost universally acceptable explanation for otherwise un-understandable symptoms and behaviours, as well as for what might otherwise be experienced as senseless suffering.

c) Most people attribute at least some of their perceived discomfort to it, so it provides a way of identifying with others.

d) It serves as a justification for failing to live up to expectations, for working less or working less well, as well as for a certain amount of socially unacceptable behaviour.

e) It procures sympathetic medical and psychological attention.

f) In a very success/production-orientated society it provides a way of escaping from demands while at the same time defining itself as temporary, and therefore allowing for the individual's return to activity when he is ready to do

this. In extreme circumstances it may provide a way of exiting from the situation permanently without the individual having to take responsibility for having done so.

g) As far as the researcher/clinician is concerned: Since each participant in a relationship must be seen as perceiving and behaving in terms of their own need to survive, he will be inclined to describe problems as well as the solutions to these problems in such a way that his own survival within the field of psychology is assured. For example, he is likely in his research to remain within the accepted notions about "stress", and thus confirm "stress research" as a discrete and justified field of endeavour.

Naturally, these are generalisations and should be understood as such.

A Co-evolved Reality

Pollock (1988, p. 383) suggests that stress should be regarded "as a means of generating and organising a whole complex of beliefs and ideas about the nature of the social order and man's place in it." If we accept this notion of stress as a social construction, rather than as an explanatory concept, then we have to ask whether it is useful to link distress and illness with a dangerous and pathogenic environment, and to portray the individual as weak and prone to succumb to illness under the strain of even ordinary, everyday demands (Pollock, 1988). This appears to be a very dismal and negative portrayal, and, it is felt, is more likely to be reflexively self-fulfilling and destructive than to generate creative ideas for improvement.

If we are to act as responsible agents of the creation of our own realities, it is incumbent upon psychologists to steer away from social constructions which promote such a negative view of man and his relationship with his environment, and to co-evolve constructions which are more conducive to a sense of fit and harmony between the two.

Ecosystemic epistemology may provide such an image, attributing, as it does, each individual with "perfection" in terms of his own parameters, validating all his perceptions, and portraying him as neither victim of circumstance nor master of the world, but rather as a participant in the on-going social and physical drama.

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