

Chapter II

The psychological foundation

It is not stress that kills us, it is our own reaction to it.

Hans Selye¹

1. Introduction

This chapter deals with the basic psychological issues that form the substructure of this psycho-historical study. Although the focus falls primarily on the concept of stress and its related principles, it is vital to broaden the perspective somewhat to capture the entire picture. The concept of stress, as it is understood today, needs to be clarified and its impact must be understood before the experiences of the burghers who participated in the guerrilla phase of the Anglo-Boer War can be intelligently assessed.

Stress is not an awareness that comes and goes, nor is it a condition that affects only certain individuals. The well known researcher at the Ben Gurion University in Israel, Aaron Antonovsky, maintains that stress is omnipresent.² However, the intensity of its effect might vary from one situation to another or from one person to the next. Stress is a natural and even an essential part of life. Moderate levels of stress are necessary for healthy functioning. Insufficient stress which leads to boredom and lack of stimulation can even be detrimental to health.³

It is self-evident that stress will play a far more important role during a war-situation, when the demands which are made on the population in general, and on the combatants in particular, exceed those normally experienced. Moreover, during guerrilla warfare there will probably be more factors involved causing stress and the impact of these will tend to compound. It is seldom that one particular event on its own will cause serious stress. The following discourse will explain these statements.

¹ <http://www.heartquotes.net/monthly-Sept-2002.html>, keyword: Selye.

² A. Baum, R.J. Gatchel and D.S. Krantz, *An introduction to health psychology*, p. 64.

³ M. Michal, *Stress, sources, signs and solutions*, p. 11.

2. *What is stress?*

Before one can discuss factors such as the omnipresence of stress, the compounding effect and the results of stress, it is essential that the exact meaning of the term is clearly understood.

Stress has, unfortunately, become a buzzword or catch-phrase in the modern idiom, the term is often misused to indicate excessive tension or pressure that is experienced by an individual, particularly as the result of the demands of modern life. It is even used as a verb, for example in the admonishment: “Don’t stress!” This misapplication of the term has led to distortion of its true meaning and significance.

Baum, Gatchel and Krantz’s explanation in their work *An introduction to health psychology* simply states: “Stress is the process by which environmental events (stressors) challenge or threaten us, how these threats are interpreted, and how they make us feel.”⁴ This definition makes it clear that stress is a transaction between people (us) and the environment, which of course includes other people. They claim that it is not merely pressure or tension and moreover the result is not necessarily unpleasant.

In the late 1950s one of the early researchers on the subject, Hans Selye, also went to great lengths to explain that stress is not nervous tension; it is not the result of some form of damage, nor is it an emergency discharge of hormones (see below). Moreover, stress as such does not cause alarm.⁵ He explained that stress is a psychological outcome derived from some physiological change. It is a state that is manifested as a syndrome – the simultaneity of a number of symptoms. He also empathised that stress always implies change of some kind or other. It is caused by change and it creates change.

When a stressful situation arises, the body “turns itself on”. It becomes more alert, more vigilant, and it gathers strength for a quick reaction or for a sustained resistance. This occurs automatically, initiated by the central and peripheral nervous systems.⁶ The nervous system activates the secretion of certain hormones that are produced by the adrenal cortex of the brain.

⁴ A. Baum *et al.*, *Health psychology*, p. 63.

⁵ H. Selye, *The stress of life*, pp. 53-55.

⁶ A. Baum *et al.*, *Health psychology*, p. 62.

These hormones comprise mainly the catecholamines (adrenalines) and corticosteroids. The increased flow of hormones is the first stage in the manifestation of physiological stress. The next step follows when these hormones modify certain body functions such as the heart rate, blood pressure, muscle potential and breathing tempo. These changes cause the body to be transferred into a state of readiness in order to withstand the perceived threat or danger.

3. A simplified stress model

According to Antonovsky's model potential stressors, meaning situations caused by environmental or social circumstances, are received by the individual who appraises them cognitively and perceives the situation either as benign or alternatively, as malicious – in other words threatening, harmful or challenging.⁷ If the stressor is perceived as benign no further drastic measures are required. If, however, the stressor is appraised as malicious then the individual must cope with the situation.⁸

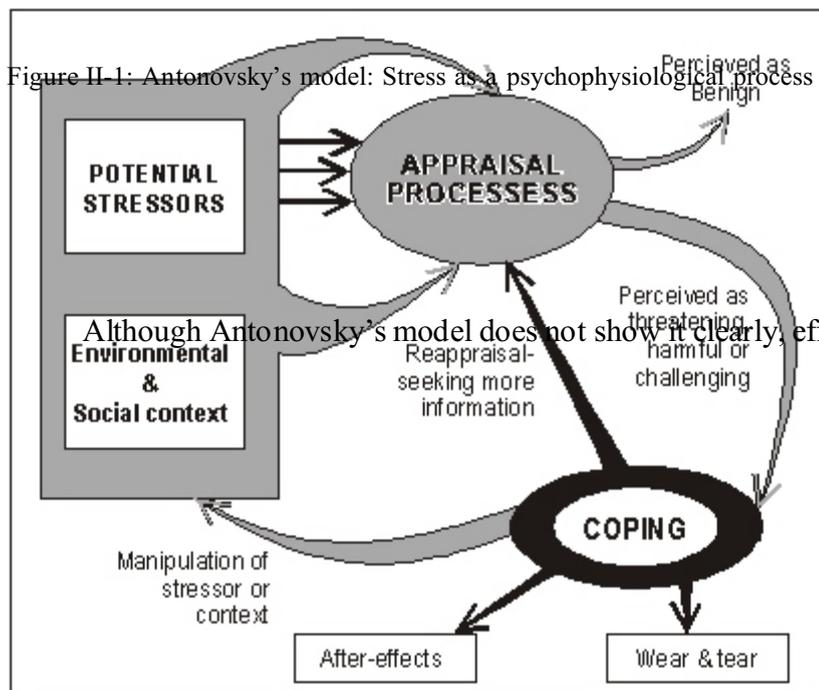


Figure II-1: Antonovsky's model: Stress as a psychophysiological process (Source: A. Baum, R.J. Gatchel and D.S. Krantz, *An Introduction to health psychology*, p. 64.)

Although Antonovsky's model does not show it clearly, effective coping actually relies on the individual's stress resistance resources also called generalized resistance resources (GRRs). These are the resources or the means which individuals have at their disposal to help them to

⁷

C. Plug, D.A.P. Louw, L.A. Gous and W.F. Meyer, *Verklarende en vertalende sielkundewoordeboek*, p. 190. They define cognition as all processes whereby individuals or organisms gain knowledge about a matter or become aware of its environment, by perception, recognition, imagination, reasoning, evaluation, recollection, learning or thinking

⁸

R.E. Allen (ed.), *The concise Oxford dictionary of current English*, p. 254.

cope with stressors.⁹ They will be discussed in more detail later.

The model illustrates four issues which may arise in the process of coping. Firstly, the individual might need more information (or a re-appraisal) of the stressor in order to determine whether the stressor is indeed what it seems to be at first glance. Secondly, the individual might manipulate the stressor or change his emotional reaction to be able to deal with it. For example he may simply close a door to eliminate a draught. Thirdly, coping *per se* may cause certain after-effects such as might be the case with coping through heavy smoking, drinking or drug misuse. Lastly the process of coping, particularly over the longer term, may lead to wear and tear on the individual's health.

4. The historical development of the theory of stress

Hippocrates (circa 460-377 BC) was probably the first to separate the physiological illness or *pathos*, from the toil or the energy which the body needs to combat the illness. Thus, apart from being ill (that is suffering the direct physiological symptoms of a malady), a patient also experiences certain side effects. A head-cold may usually implies a runny nose and eyes, coughing and sneezing as the direct symptoms of the ailment, but these usually go side by side with a feeling of fatigue and irritability. Hippocrates called this *ponos*, meaning that the body is getting ready to combat the disease.¹⁰

Many similar notions appeared over the centuries, but it was only in 1914 that the American physiologist, W.B. Cannon, first used the term *stress*. According to him stress was the potential cause for certain medical problems. He thought that the well known *fight or flight* response was caused by heightened arousal within the individual. Cannon claimed that this is accomplished partly by increased secretion of epinephrine or adrenaline as well as by other chemicals in the body that increase the speed of response.¹¹

⁹ C.L. Sheridan and S.A. Radmacher, *Health psychology challenging the biomedical model*, pp. 149-150.

¹⁰ A. Baum *et al.*, *Health psychology*, p. 65.

¹¹ A. Baum *et al.*, *Health psychology*, p. 66.

Real progress in this field was only made in the late 1950s when a Canadian endocrinologist, Hans Selye, claimed that stress could be caused by a vast number of factors, which he named *stressors*. He furthermore established that stress was related to the increased secretion of hormones by certain glands thereby causing physiological, psychological and behavioural responses. He identified three stages in the process of prolonged stress which he

called the *general adaption syndrome* theory or GAS theory.¹²

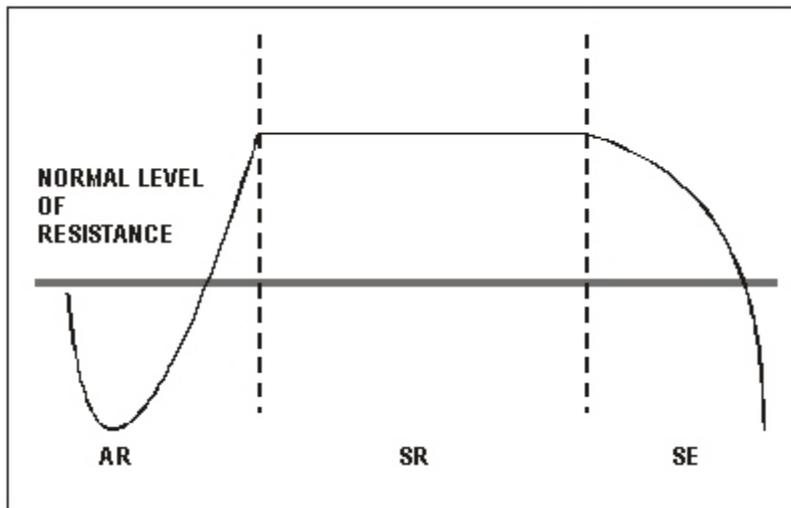


Figure II-2: Selye's GAS theory. (Source: H. Selye, *The stress of life*, p. 87.)

Figure II – 2 illustrates the three stages. The first stage Selye called the stage of “alarm reaction” (AR), when the first experience of stress is encountered. Although the normal level of resistance will initially tend to drop when the individual takes fright, he soon recovers and the level of resistance then increases to above the normal. The so-called *fight or flight* principle then becomes applicable. This stage may be of a limited duration depending on the type of stressor. As the individual continues to experience the stress he or she moves into a “stage of resistance” (SR), meaning that he is becoming adapted to the stressor. This stage will continue as long as the body can handle or cope with the situation or until the stressor disappears. Additional hormones, primarily the adrenalines and cortisones, are required throughout this period to maintain an adequate level of resistance, so that the prolonged stress can be managed. When the body's capacity of producing the increased levels of hormones eventually becomes exhausted a “stage of exhaustion” (SE) sets in and the level of resistance drops drastically.¹³

Selye's research work stretched over forty years. His 1956 publication, *The stress of life*,

¹² A. Baum *et al.*, *Health psychology*, pp. 66-67.

¹³ H. Selye, *The stress of life*, p. 57.

initially brought the subject to the attention of researchers from various disciplines and opened new fields of research.¹⁴ His work and writings continued into the 1970s. The GAS theory will form an important cornerstone in the study of the stress experienced by burghers who took part in the Anglo-Boer War.

In the latter part of the twentieth century the work of R.S. Lazarus came to the fore. He maintained that, although stressors are not measurable, they can nevertheless be grouped into specific categories.¹⁵ This categorization is still widely accepted and will be discussed below. In her work published in 1975, Marianne Frankenhauser, demonstrated that there is a strong psychological component in stress and concentrated on the role of the epinephrine and non-epinephrine hormones — the adrenalines and non-adrenalines — in the “readying” function.¹⁶ Although her work is an example of the tremendous advances that have been made in the field of stress, the role of physiological processes will not be elaborated upon in this study, where the focus will be on the human experiences rather than endocrinological-based argumentation.

It was during the late 1970s and early 1980s that from the research and writings of Antonovsky the paradigm of *salutogenesis* took shape. According to this theory there is a link between the individual’s ability to cope successfully with the experience of stress, and his health. This indicates that, although stress is omnipresent, one should not assume that it invariably has negative implications.¹⁷ More recent publications on the subject have come from the South African psychological researcher, D.J.W. Strümpfer, who expanded on Antonovsky’s paradigm of *salutogenesis* and supporting it with five associated constructs, and subsequently followed it up with his own paradigm of *fortigenesis*, where it is argued that coping successfully with stress can lead to better health as well to increased well-being (fortigenesis).¹⁸

5. The elements involved in stress

¹⁴ A. Baum *et al.*, *Health psychology*, p. 66.

¹⁵ A. Baum *et al.*, *Health psychology*, pp. 69-70.

¹⁶ A. Baum *et al.*, *Health psychology*, pp. 68-69.

¹⁷ D.J.W. Strümpfer, “Salutogenesis a new paradigm”, *South African Journal of Psychology* 20 (4), 1990, p. 266.

¹⁸ D.J.W. Strümpfer, “Salutogenesis a new paradigm”, *S.A. Journal of Psychology* 20 (4), 1990, pp. 265-276; D.J.W. Strümpfer, “The origins of health and strength: from ‘salutogenesis’ to ‘fortigenesis’”, *S.A. Journal of Psychology* 25 (2), 1995, pp. 81-89.

a. Stressors

Stressor is the accepted term used for any agent (either noxious or wholesome) that causes stress. R.S. Lazarus and J.B. Cohen maintained that although stressors cannot be measured they can be classified into three categories. These three categories are widely accepted as constituting a practical grouping.¹⁹

Cataclysmic stressors are powerful events affecting whole communities or large groups of people. They are often unpredictable and can be either brief or may be prolonged. The events can be dangerous and life threatening and may cause damage or loss to property or the environment, such as floods, droughts or bush-fires. Other examples would be events such as war, mass persecutions, natural disasters and nuclear accidents. Cataclysmic stressors usually involve large numbers of people. Although coping with these stressors tends to be difficult on an individual basis, there may well be beneficial support from others who are in the same boat, or from organisations. Social support therefore plays a major role.

Personal stressors are those events that affect individuals or smaller groups of people. They may or may not be predictable but they do have a powerful impact on the people who are involved. Coping may well be very difficult, as the issue is often a personal or private matter and support may be limited. Examples of personal stressors are the death of a loved one, divorce, serious or terminal illness, financial dilemma, loss of employment or similar instances as is also the case with cataclysmic stressors. This category also includes situations where an individual is not personally involved in the stressful event but witnesses the event or its results. Positive circumstances such as an approaching vacation or falling in love could also be classified in this category since they require an adaptive response from the person. Some of these stressors would naturally be more intense than others.

Background stressors. This third category includes the persistent, repetitive events that are part of everybody's daily life. Lazarus and Cohen called them "...daily hassles – stable, repetitive, low-intensity problems encountered daily as part of one's routine".²⁰ They differ from the stressors in the first two groups insofar as that they are less powerful but their ultimate effect,

¹⁹ C.L. Sheridan and S.A. Radmacher, *Health psychology*, pp. 149-150; A. Baum *et al.*, *Health psychology*, pp. 74-75.

²⁰ Quoted by A. Baum *et al.*, *Health psychology*, p. 76.

seen cumulatively over an extended period, may be just as serious as the others. They are frequently of a chronic nature, such as the exposure to noise in the work place, job dissatisfaction or daily traffic jams.

Metabolics or the theory of changes is an issue which requires attention when discussing stressors. It is necessary to assess in this study whether the norms which apply in present times were relevant one hundred years ago during the course of the Anglo-Boer War. Undoubtedly, over time change occurs, not only in the sphere of technology but also in the criteria of acceptable norms and customs. J.H. van den Berg, a Dutch academic and author on psychological matters, argued that the human is not by any means an unchangeable element in history. Indeed, man has changed over time as can be observed in many domains such as family-life, architecture, spirituality, religion, relations between people and numerous other issues.²¹ The norms of today differ from those that were applicable a hundred years ago. Van den Berg called this the theory of changes or *metabolics*: He maintained that an acceptable norm or standard in the past, is not necessarily acceptable in modern times and vice versa.

The theory of change must therefore come under careful consideration in this study. The tools of warfare developed dramatically, from the beginning of the American Civil War (1861) up until the end of World War I (1918). The Anglo-Boer War took place in this period of change. The norms of acceptability regarding warfare have likewise changed over time.

Two examples will suffice as illustrations: Whereas it was not unknown during the time of the Anglo-Boer War for the Boers and the British to leave their wounded to be cared for by the enemy, with changing circumstances and the aid of new war-tools such as helicopters, leaving one's wounded on the battlefield has become an unacceptable practice. Secondly, during the Anglo-Boer War most Boer officers refrained from aggressive actions on a Sunday. Pretorius mentioned this fact and J.F. Naudé confirmed it in his narrative of General Jan Kemp's silent protest when General Koos De la Rey gave orders to continue a battle at Hartbeesfontein on Sunday 24 March 1901.²² In modern guerrilla warfare the question of Sabbath-breaking is of little or no importance.²³

²¹ [http:// www.reijnhoudt.nl/metablicaWH](http://www.reijnhoudt.nl/metablicaWH).

²² F. Pretorius, *Kommandolewe tydens die Anglo-Boereoorlog 1899-1902*, pp. 201-202; J.F. Naudé, *Vechten en vluchten van Beyers en Kemp bókant De Wet*, p. 224.

²³ Personal interview, E. Basson, ex-colonel: South African Infantry commanding officer, Ruacana, 1991, 15 September 2002.

b. Appraisal (or cognitive appraisal) of stressors

Although certain stressors are more severe or intense than others, the actual strength of a stressor can, scientifically speaking, not be measured. Different individuals will moreover perceive stressors differently, because of the personal makeup or the circumstances that are involved. What one person might see as a serious threat could possibly be no more than a challenge for the next. Experience and the knowledge that leads to acquired or learned sources of resistance could influence the result of the appraisal.

According to Lazarus, as quoted in Baum *et al.*, for an event or a situation to be classified as a stressor it must be appraised as either threatening, harmful or posing an excessive demand.²⁴ Should the situation be perceived as benign it will not be classified as a stressor and therefore no further demand is made on the individual. Theoretically this is the primary appraisal which automatically takes place. The individual is really asking: "What is it going to cost me?" If the situation appears to be harmful or threatening, it is termed a stressful appraisal which will consequently involve a secondary appraisal or evaluation to determine its magnitude. The question asked is: "How am I going to handle this?" or "Am I able to deal with this?" In other words the primary appraisal deals with the question whether the situation is perceived as a stressor or not, the secondary appraisal whether the individual will be able to cope with it. In practice primary and secondary appraisals of a stressor occur practically simultaneously and the two reciprocally influence one another. The appraisal could perhaps be the assessment of a loss already suffered, or it could signify a threat with possible future dangers; alternatively it might be a challenge which the individual feels he is able to cope with or overcome.

c. Coping

After the stressor has been appraised according to the above outline, the individual moves into coping (or managing) behaviour. The method of coping may vary. Firstly it could change the stressor itself, for example by simply closing a door if the stress is a draught in the neck. Secondly more information or clarification might be sought so as to decide on the best course of action. Thirdly it may simply be ignored as some problems tend to solve themselves. However, denial can also lead to circumstances where the problem is increased. Lastly the decision may be to live with the situation or to try to deal with it – to accept the fact and cope with it accordingly.

²⁴ A. Baum, *et al.*, *Health psychology*, p. 71.

Coping depends largely on the resources that the individual has at his disposal, that is his general resistance resources (GRRs). When there are not enough resources available coping is not possible and the situation may turn into one of distress. This links with Selye's GAS theory (Figure II – 2 above). At the stage of alarm reaction (AR) the *fight or flight* response manifests itself. If the stressor persists and there are sufficient GRRs to deal with the stressor, coping becomes effective. That is when the individual enters into the SR. Resources during this stage may be of a material nature which would include money, clothes, food or goods. Alternatively they may be physical in context such as health, diet or attractiveness. Social position and personal qualities including leadership, self esteem and optimism may also be valuable assets to help an individual to cope with stress. Other factors that are regarded as resistance resources are educational background and a sound general knowledge of affairs and even cultural buttresses such as traditions, customs and rituals. The more GRRs a person has to his disposal the greater his chances become to succeed in coping with stress.²⁵

Once coping is successfully accomplished or completed the individual will return to normal physiological and psychological levels, in other words he or she has adjusted to the situation.²⁶ However, if the individual fails to cope, stress will continue and the individual eventually moves into the stage of exhaustion (SE). The consequences of prolonged stress will follow. These range from physiological illness to psychological changes in mood such as depression, anxiety and even burnout.

The success of coping psychologically is determined by the strength of the available GRRs. This strength may depend on a number of factors such as firstly, the extent of social support. This is one of the well-studied agents of coping and it may include esteem support, informational support, social support and instrumental support.²⁷ Secondly, it may depend on the hardiness of the person. This personal trait shows itself in the individual's commitment, sense of control and the readiness to accept challenges. The gender of the individual may be relevant. Although women are emotionally more susceptible to distress, they show a better ability to deal with more functions simultaneously and often display greater coping ability than males.²⁸ Finally the individual's personality is significant in coping with stress. His or her general disposition of pessimism or

²⁵ C.L. Sheridan and S.A. Radmacher, *Health psychology*, p. 152.

²⁶ A. Baum, *et al.*, *Health psychology*, pp. 64-65.

²⁷ C.L. Sheridan and S.A. Radmacher, *Health psychology*, p. 159; A. Baum, *et al.*, *Health psychology*, p. 82.

²⁸ C.L. Sheridan and S.A. Radmacher, *Health psychology*, p. 87.

optimism is relevant as that often relates to the style of approach to or avoidance of a challenge and whether he or she denies or ignores reality.²⁹

The above factors are integrated in the construct of *sense of coherence* (SOC) which signifies the individual's ability to cope with the situation. The South African psychologist D.J. W. Strümpfer quoted Aaron Antonovsky who declared that to have a strong sense of coherence, one should be in a position to rely on a well developed repertoire of GRRs. The strong SOC is a dispositional orientation and not a characteristic or trait. It involves the elements of perception, memory, information processing and affect which then lead the individual into habitual patterns of appraisal which are based on repeated experiences of sense making.³⁰ In addition it is crucial to have the experience in dealing successfully with harmful or threatening situations. Antonovsky identified three rudimentary elements of SOC namely *comprehensibility*, *manageability* and *meaningfulness*.³¹ These three elements are of vital importance in the development of a SOC.

By comprehensibility is meant that the individual perceives life as being ordered and consistent rather than being turbulent, unexpected or incomprehensible. Manageability is the extent to which the individual feels that the resources at his command are adequate to overcome the demands or threats he faces. Such an individual is confident that the resources to cope with his stress are either in his own hands or in those of someone who supports him. Meaningfulness relates to whether the situation which faces the individual is perceived as being a significant part of life and can be logically agreed to.³²

In addition a successful coping strategy consists of certain elements. Sheridan and Radmacher quoted Antonovsky who maintained that there are three major elements involved in successful coping. The first element is *rationality* which means the gathering of information, analysing what is available and planning the application of resources. The next is *flexibility* which suggests that the individual should be prepared to consider more than one solution. Finally successful coping calls for *farsightedness*. The individual must realise the consequences of his strategy by asking the question "What if...?"³³

²⁹ C.L. Sheridan and S.A. Radmacher, *Health psychology*, pp. 162-163.

³⁰ D.J.W. Strümpfer, "Salutogenesis a new paradigm", *S.A. Journal of Psychology* 20 (4), 1990, p. 268.

³¹ C.L. Sheridan and S.A. Radmacher, *Health psychology*, p. 161.

³² Written information: J.B. Schoeman, Professor, Department of Psychology, University of Pretoria, 24 October 2002.

³³ C.L. Sheridan and S.A. Radmacher, *Health psychology*, pp. 159-160.

This style of coping will fit in with *problem* focussed coping where the individual concentrates his attention on the stressor and endeavours to change the stressor. It involves firstly the gathering of information about the stressor, then evaluating the resources which are available to meet the stressor and lastly planning the course of action which is required in order to overcome or manage the stressor. This is a cognitive and also a behavioural process. The example mentioned above of closing the door to eliminate a draught, would fall into this category of coping. On the other hand there is emotional focussed coping, which can either be involuntary or voluntary and, to some extent, irrational. The individual knows that the stressor cannot be changed, so his own perceptions and reactions are altered. It could possibly take the form of self deception – to simply look for the silver lining and then continue life as before. Other forms of emotional coping include avoidance, ignoring or denial, humour, exercise, work and the pursuance of hobbies.³⁴ These different forms of emotional coping only makes it easier to live with or to forget the reality of the stressor.

Coping is an important process in the entire concept of stress, and the success that an individual achieves when his or her life is filled with stress, depends on his or her ability or inability to meet the challenge and manage the stressors.

d. Control

Emanating from the concept of coping stems the next theme, that of control. By this is simply meant that the individual has power over or determines his actions and decisions. It is also seen as a sense of efficacy or belief in one's own capabilities — to have self confidence. Because this sensation is pleasant it bolsters the individual. An overestimation of one's ability to exert control over matters, however, may lead to bravado, which might place the blame elsewhere when things go wrong. Baum *et al.* quoted several researchers who claimed that individuals who controlled the tasks they were given – whose jobs were self-paced – exhibited less stress than those who had a regulated goal set for them and had little control over their work, as for example in mechanized production lines.³⁵

³⁴ C.L. Sheridan and S.A. Radmacher, *Health psychology*, pp. 160-161.

³⁵ A. Baum *et al.*, *Health psychology*, p. 116.

6. Negative outcomes of stress

a. Associated experiences and outcomes

It is generally recognized that while the body responds to a challenge or a threat by, for example, faster heart beat, increased blood-pressure and rapid breathing, an individual may also experience secondary or associated effects, such as irritability or loss of appetite. Baum *et al.* stated that stress responses go far beyond the activation of the hormonal systems and the organ systems which are subsequently affected. They claimed that in a situation of stress the whole body reacts.³⁶ Nearly all hormones, most muscle groups, the digestive as well as the immune systems are affected. When a stressful situation demands sudden action, a feeling of excessive fatigue can often be experienced afterwards. These responses are all part of stress. Thus it is important to note that, while stress may help an individual to perform better when under threat, it may also cause certain adverse secondary effects. Aside from the wear and tear on the body that is generated by repeated or prolonged stress, other less desirable outcomes may result. These may range from physiological dysfunctions to tissue damage or may even result in death.³⁷

Furthermore, physiological stress, the increased body alertness which has been discussed here, may lead to psychological and emotional stress, inducing other cognitive and emotional experiences such as fear, depression, worry, sleeplessness, crying spells and frustration. On the other hand, once a stressful task has been successfully completed, the individual often feels emotionally good about it. The psychological after-effects of distress have been widely researched and include frustration, aggressiveness, helplessness, withdrawal and decreased sensitivity to others. There is additional evidence that anxiety, fear or symptoms of apprehension experienced at high stress levels frequently result in acute episodes of panic. Baum *et al.* added that depressive disorders may also occur. For such an individual the future looks bleak and he believes nothing can be done to change this condition.³⁸ It has, moreover, been found that in cases where individuals were able to cope successfully with their stress, there were fewer negative after-effects.³⁹

b. Psycho-physiological disorders

³⁶ A. Baum *et al.*, *Health psychology*, p. 88.

³⁷ A. Baum *et al.*, *Health psychology*, p. 89.

³⁸ A. Baum *et al.*, *Health psychology*, p. 90.

³⁹ A. Baum *et al.*, *Health psychology*, p. 91.

When distress (detrimental stress) develops and continues over a prolonged period, psychophysiological disorders – previously called psychosomatic disorders – may develop. Indeed the prolonged or intense stress may damage bodily organs. It is argued that when the individual's response to stress is abnormally intense and prolonged, the damage to organ systems can contribute to the disease process.⁴⁰ “Thus the psychosomatic symptom emerges as a physiological concomitant of an emotional state ... Psychosomatic disorders may effect almost any part of the body, though they are usually found in systems not under voluntary control ... but it is generally believed that the form a disorder takes is due to individual vulnerabilities.” Encyclopaedia Britannica continues that certain forms of hypertension, respiratory ailments, migraine, dermatitis and ulcers may occur.⁴¹ Baum *et al.* observe that illnesses ranging from coronary heart disease to gastro-intestinal disorders and even cancer may develop in such cases.⁴²

The term “individual vulnerabilities” used in the quotation above can perhaps be replaced with “weakest link”. It simply means that should an individual, for example, be prone to respiratory disorders, it is highly likely that a psycho-physiological disorder such as asthma could occur during prolonged stress. It should be emphasized that these disorders are indeed real physical afflictions and not merely hypochondriacal situations. What complicates matters is when the physiological symptom *per se* becomes a stressor.⁴³ An example of this would be when, due to weakening vision that is partly brought on by prolonged stress, an individual's ability to perform his other functions adequately, declines and that this leads to further stress. The deteriorating vision then becomes a secondary stressor, accumulating with all the other stressors experienced.

c. Other negative outcomes

Apart from psycho-physiological disorders stress can also lead to a number of other negative outcomes and some of these are discussed below.⁴⁴

i. Depression

Depression is characterized by a dejected mood, a loss of motivation and a disinclination on

⁴⁰ A. Baum *et al.*, *Health psychology*, p. 98.

⁴¹ *Encyclopaedia Britannica* 2002, keyword: Psychosomatic disorder.

⁴² A. Baum *et al.*, *Health psychology*, p. 98.

⁴³ C.L. Sheridan and S.A. Radmacher, *Health psychology*, p. 150.

⁴⁴ Written information: J.B. Schoeman, Professor, Department of Psychology, University of Pretoria, 24 October 2002.

the part of the individual to become involved in the events around him. It can furthermore be experienced as tiredness, a feeling of worthlessness and hopelessness, a loss of concentration, appetite, or sexual desire, sleeping problems and a general tendency to withdraw from others. During a guerrilla war, combatants suffering from these adverse symptoms are naturally unable to function as they should and would probably be classified by Hans Binneveld as “psychologically wounded”.⁴⁵

ii. Anxiety disorders

Anxiety is a state of fear and apprehension, which is doubtlessly common during war. In contrast anxiety disorders are manifestations of anxiety and distress in situations which would not normally evoke such a response. Prolonged stress such as can be experienced in time of war may lead to anxiety symptoms at times when no immediate danger exists. Again symptoms may include a faster pulse, increased blood pressure, sweating, intestinal discomfort and muscular tension. Other likely signs are insomnia, forgetfulness, irritability and panic.

iii. Burnout

Burnout normally follows long periods of chronic stress and ensues when the individual has reached the limit of resistance and is often no longer concerned about the consequences that his actions hold for those around him. It suggests that he has nothing more to give and that he has, psychologically speaking, reached the end of the line. Burnout can also lead to fatigue and insomnia, to persistent colds or stomach trouble, or to drug abuse. It should be understood that these are only a few of the possible outcomes and that burnout can be associated with numerous other signs.

iv. Post-traumatic stress disorder (PTSD)

PTSD occurs as a result of or as a reaction to traumatic stressors that are highly threatening to life; they overwhelm the individual’s coping abilities. War, and in particular violent battles, fall into the category causing PTSD. Symptoms may include social withdrawal, emotional numbness, exaggerated startle responses and sleeping difficulties. One of the common features of PTSD is the tendency for sufferers to experience “flashbacks” to certain situations, leading to sudden abnormal behaviour. Another important consideration is that the person who suffers from this

⁴⁵ H. Binneveld, *From shellshock to combat stress*, p. 9.

disorder may not necessarily have been the target involved in the traumatic occurrence. He or she might only have been a witness to such an event that would later cause them to suffer from PTSD.

In terms of the aims of this study the impact and secondary effects of all three of these elements, namely physiological stress, psychological stress and psycho-physiological disorders will be frequently encountered and will receive careful analysis in the chapters to follow.

7. Positive outcomes

a. Salutogenesis

Aaron Antonovsky started a new direction of reasoning when, about 25 years after the Nazi concentration camps, he asked the question in the early 1970s,: “How do people manage [cope with] stress and stay well?” This deliberation originated from his realisation that psychology should not mainly focus on pathogenic factors, but should also assist the individual to maintain and enhance his or her health.⁴⁶ This led him to the concept of *salutogenesis* (the origin of health). Antonovsky argued that since stressors are omnipresent and ubiquitous, then microbiological, chemical, psychological, social and even cultural pathogens would constantly be bombarding the body. Why then is there not widespread death? How can we survive as long as we do? This led him to ask the question “Whence the strength?” Antonovsky came to the conclusion that general resistance resources (GRRs) are involved and from this point he developed the paradigm of salutogenesis.⁴⁷

However, there are three ramifications in the paradigm which he developed that should be noted: Firstly, individuals are all on a health / disease, or a wellness / illness continuum, and are constantly moving somewhere between the two terminals of this continuum. Secondly, following from this conjecture, it should be underscored that not all stressors are inherently adverse. If they are managed well (coped with) their affect may be neutral or, on the reverse side of the coin, their influence may indeed be health enhancing. This led Antonovsky to ask the question: “How can we learn to live and even to live well, with stressors, and possibly turn their existence to our

⁴⁶ D.J.W. Strümpfer, “Salutogenesis a new paradigm”, *South African Journal of Psychology* 20 (4), 1990, p. 265.

⁴⁷ D.J.W. Strümpfer, “Salutogenesis a new paradigm”, *S.A. Journal of Psychology* 20 (4), 1990, p. 267.

advantage?”⁴⁸ This question is of fundamental significance in this study. As the investigation progressed it became clear that for the Boers on commando their existence abounded with hardships that they simply had to live with and wherever possible they had to turn these hardships to their advantage. Thirdly Antonovsky claimed that there will always be the “deviant case”, that is, individuals who do not succumb to the stressors; who against all odds continue a normal life. It must therefore be accepted that stressors may have a salutary effect.⁴⁹

Strümpfer, probed Antonovsky’s paradigm of salutogenesis in the context of five separate psychological constructs – some of which have been discussed briefly above. For greater clarity on Strümpfer’s theory these are outlined below.

i. Sense of coherence (SOC): This suggests that in order to make sense of the countless stressors which constantly bombard an individual he or she should be able to rely on a well developed repertoire of GRRs, as well as experiences of success. These resources must then be used to deal with threatening situations. The components of SOC that have been discussed above, namely manageability, comprehensibility and meaningfulness should constantly be kept in mind in order to grasp the complexity of a SOC.

ii. Hardiness: This construct contends that there is a personality attribute called hardiness and that this moderates the stress-health relationship. This disposition includes three elements, namely commitment (belief in the truth and in that which is considered right), control (confidence that one possesses the ability to influence the events in one’s life) and challenge (which implies a recognition of the reality that change presents opportunities). Strümpfer admits that the hardiness construct is being questioned by a number of psychologists on several issues, for example the buffering role of hardiness in countering stress and the serious concern regarding a “Hardiness Scale”, however, he is inclined to consider it as part of the salutogenesis paradigm, despite these technical disputes. From the perspective of this study – the psychological impact of guerrilla warfare — it seems as if the construct of hardiness indeed has certain positive applications for this study.

iii. Potency: This construct implies that an individual’s persistent confidence in himself, as well as in his social environment, leads to a mechanism that prevents tension or inadequate coping.

⁴⁸ D.J.W. Strümpfer, “Salutogenesis a new paradigm”, *S.A. Journal of Psychology* 20 (4), 1990, p. 267.

⁴⁹ D.J.W. Strümpfer, “Salutogenesis a new paradigm”, *S.A. Journal of Psychology* 20 (4), 1990, p. 268.

iv. Stamina: It is maintained that a relationship exists between the individual's ability to withstand pressures on the one hand and certain other qualities such as his personal health and personal insight on the other hand. Stamina is also observed in elderly people, who have learned how to manage change.⁵⁰

v. Learned resourcefulness (LR): It is asserted that LR is not a personality trait, but that it should be regarded as a personality repertoire. Furthermore it holds that coping calls for attempts at self-regulation. The essence of this view is that when success is achieved by the self-regulating of one's response, a basis is thereby provided for future use, in other words, that there is a development of resourcefulness. This understanding will then be relied upon by the individual should that stressor be encountered again.

In his conclusion Strümpfer asserted that even though the five constructs, viewed individually, may include certain imperfections, they nevertheless complement one another, thus validating the paradigm of salutogenesis.⁵¹

b. Fortigenesis

Based on the work involved in formulating the paradigm of salutogenesis, Strümpfer then posited that a cyclical pattern exists between the accessibility of GRRs and a strong SOC, the one element strengthening the other. Eventually this leads to the health and the well-being of the individual. From this concept, and based on Antonovsky's theory of a wellness / illness continuum, he developed a new construct which he called *fortigenesis*.

Antonovsky first posed the question "Whence the strength?" The answer, according to Strümpfer, is to be found in a new paradigm which he calls fortigenesis meaning the origin of strength, one that is more holistic than salutogenesis.

In his deliberation on the matter Strümpfer drew a number of conclusions. These include the fact that war trauma in particular, but military experiences in general, provide mechanisms for young men to overcome the psychological moratorium applicable to an age-graded career. He quoted G.H. Elder who stated that military service provides a place for young men to sort themselves out; it fosters greater maturity and increases social autonomy. He also stated that combat-experienced men were often more likely to succeed in later life, as they became more

⁵⁰ D.J.W. Strümpfer, "Salutogenesis a new paradigm", *S.A. Journal of Psychology* 20 (4),1990, p. 273.

⁵¹ D.J.W. Strümpfer, "Salutogenesis a new paradigm", *S.A. Journal of Psychology* 20 (4),1990, p. 274.

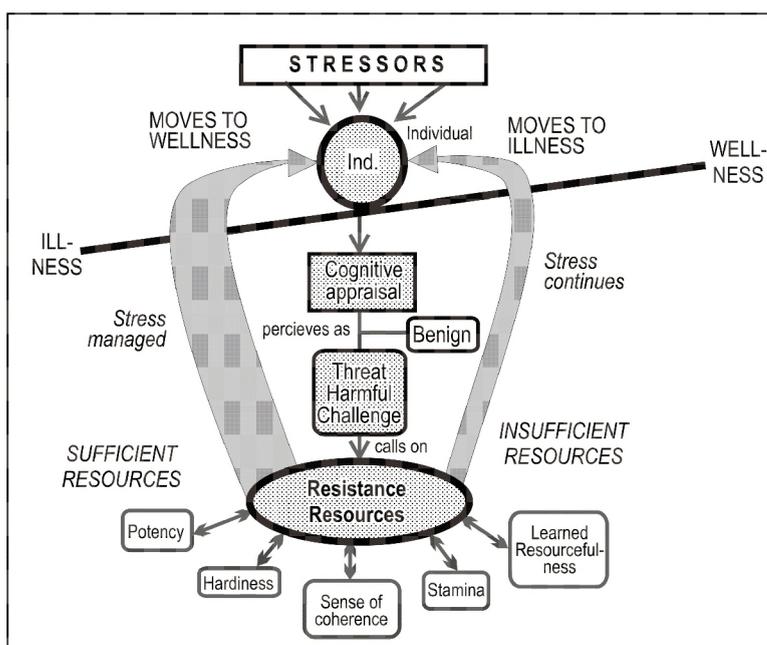
resilient and less helpless.⁵²

In his conclusion Strümpfer pronounced that the undergird of his research is to find “an understanding of why and how some people find the strength to withstand and overcome pressures ... while others do not ...”⁵³ It is clear that both the constructs of salutogenesis and fortigenesis will be of importance in the chapters to follow.

8. A perspective of stress and the Anglo-Boer War

The theories and concepts discussed above lead to the question of how this background knowledge of stress and its impact can be applied to this study. First of all it seems appropriate that a model covering all the relevant facets be constructed. This model is given below.

Figure II-3 A model illustrating the application of the constructs of salutogenesis and fortigenesis.



The model demonstrates the individual on a wellness / illness continuum. When the individual is bombarded with stressors, he appraises them cognitively and if they are perceived as noxious, he calls on his repertoire of GRRs. The GRRs are based on a number of constructs such

⁵² D.J.W. Strümpfer, “The origins of health and strength: from ‘salutogenesis’ to ‘fortigenesis’ ”, *S.A. Journal of Psychology* 25 (2),1995, p. 85.

⁵³ D.J.W. Strümpfer, “The origins of health and strength: from ‘salutogenesis’ to ‘fortigenesis’ ”, *S.A. Journal of Psychology* 25 (2),1995, p. 87.

as SOC, hardiness and stamina. Should the foundation of GRRs be sufficient, stress will be managed and the individual could possibly be moved in the direction of wellness (upwards). However this is a difficult – uphill – process and is not as easy to realize as it is to go the opposite way – downwards – moving towards illness.

This psychological model will form much of the logic for the study of the psychological impact of the guerrilla phase on the Boers.