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TOWARDS AN ADVENTIST PARADIGM IN PSYCHOLOGY

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Prepared for the
20th International Faith and Learning Seminar
held at
Loma Linda University
Loma Linda, California - June 16-27, 1997

INTRODUCTION

This presentation suggests a new paradigm for Seventh-day Adventist psychology. The term “paradigm” is defined as a broad and comprehensive model, a prototype or example that critically influences the development of a scientific discipline.

Writing in 1970 Thomas Kuhn expanded this definition. (He was an American scientist and epistemologist who studied the nature and grounds of knowledge with reference to its limits and validity.) He concluded that a paradigm “stands for the entire constellation of beliefs, values, techniques and so on shared by the members of a given community” (p. 175 [emphasis added]).

A paradigm is a frame of reference, a series of basic postulates, which sets the boundaries of the universe of scientific research in a particular area. A paradigm implies not only legitimate concepts for consideration as well as problems and topics for investigation; it also suggests the most productive methods for data collection and interpretation.

Certain presuppositional paradigms underlie any given scientific discipline. At its foundations the perspective of science is characterized by the fact that as scientists we share not only the scientific method in our fields; we also share certain assumptions—certain fundamental, unquestioned, conceptual frames. These assumptions determine our methods, suggest the problems we choose to study, and guide our hypotheses. Our assumptions define our reality—informing our view of what is human wholeness; and what are human motives, possibilities, and limits. Our presuppositional paradigms are the soil which nourish our theories, research, and practice.

A paradigm in the field of psychology is the set of broad, general conceptions of reality and of human nature; the methods which must be employed to approach the study of psychology; and the legitimate ways in which a scientific problem can be investigated. Within the frame of the methods and data in the field of psychology, hypotheses or theories are not merely discussed. Psychology is a science in which the specifics and fundamentals of various conflicting paradigms are strongly debated! Therefore, true conceptions of the world (or *weltanschauungen*) and of human nature are at issue.

The objectives of my research were to:

Establish precisely and clearly how both Old Testament (OT) and New Testament (NT) biblical Adventist anthropology relates to the origin of humanity;

Develop a paradigm on which to base psychology from the Adventist perspective, one which includes basic Adventist presuppositions and postulates;

Present an Adventist model of psychology as one which rests on the conception of the human being which is revealed in Scripture and in the writings of Ellen White; and

Propose a new psychology, which emerges from this Adventist psychology paradigm and which includes the previously mentioned Adventist view of biblical anthropology.

I. A VIEW OF SEVENTH-DAY ADVENTIST BIBLICAL ANTHROPOLOGY

The etymological meaning of anthropology is the "science of human beings; *especially*]: the study of human beings in relation to distribution, origin, classification, and relationship..." (Webster's Ninth New Collegiate Dictionary). From the data revealed in the Bible, Adventist theology has elaborated its own answers to questions about humanity. As Adventists, our study about human nature is based on the statements of the biblical text. Biblical anthropology is the attempt of human beings to understand themselves in relation to God through His revelation.

The Bible has its own "revealed anthropology"—a concept of humanity which has long been held in the Hebrew tradition and in first-century Christian thought: the fundamental foundation on which biblical anthropology is built is in Genesis 1-3 and in Romans 1-5.

The ethical responsibility of man, man and woman, is pointed out in Genesis 3, facing the alternative of whether to eat or not "from the tree of the knowledge of good and evil" (Gen 2:9). The knowledge in the Hebrew thinking it is not an intellectual apprehension of reality, but an experience of that reality. Until the moment of God's prohibition (Gen 2:17) and the human being's decision (Gen 3:6), man only "knows" good.

But woman and man misused their freedom of choice and suffered the consequences detailed in Genesis 3 and Romans 1-5. This produced a modification of the original human nature, which was good. The fact that he not only knew good but also evil produced effects in the human nature and mind. Ellen White points them out in her book *Education*, p. 25: "By the mingling of evil with good, his mind had become confused, his mental and spiritual powers benumbed. No longer could he appreciate the good that God had so freely bestowed" (added emphasis). From that moment on, the human being will not be good by nature, as it

is held by humanist-existentialist psychology. But **human nature** is characterized by being **hybrid**, that is to say, a **mixture of good and evil, kindness and evilness**. This constitutes his mind, personality, behavior, human relationships and interactions with the environment.

A detailed analysis of Hebrew terminology and theology in the OT and NT reveals a **monistic and wholistic anthropological frame**. (The monist sees the human being as a complete and indissoluble unity—the soul and spirit have no separate existence during life nor after death.)¹ This view of the human being as a unity is in open opposition to the traditional dualistic perspective. Dualism not only lacks a biblical foundation; it also rests on influences such as the writings of Plato. The philosophical anthropology of Plato has introduced some confusion and incomprehension into Christendom's biblical anthropological perspective. The dualistic Greek perspective and the later typically dualistic Christian perspective are founded on a worldview of the nature of human beings which differs radically from the biblical anthropological perspective.

A. The Anthropology of the Old Testament

The unity of mind and body in Hebrew thinking is evident in the fact that reason, feelings, and emotions are related to specific organs of the body; mental function is not separated from the physical body. Various psychological functions are attributed to the eyes, ears, mouth, bones, etc. Biblical psychology is monistic; that is to say, it presents the human being as an indivisible unity; the soul or spirit is not separate from the body.

B. The Anthropology of the New Testament

Not Platonic or secular Greek thought, but *the Hebrew thought and linguistics of the*

¹For the purposes of this paper, in the immediate context of psychology, limited to the discussion of the inner nature of the human being, we shall use *monism* to mean the unity of human nature and *dualism* to mean the Platonic and post-biblical view of most Christians that human nature is two: a body plus a soul or spirit.

We shall also use *wholistic healing* to mean that which tends to restore broken bodies; broken hearts; broken spirits; broken relationships with God and with others—that which tends to make humans whole. Whenever Jesus healed the body He also healed the broken spirit, such as when He first forgave the paralytic who had been let down through the roof before healing his body.

OT are the basis of the Greek thinking and terminology of the *NT*. Extensive analysis of words referring to human beings in the Greek of the *NT* reveals exactly what has already been cited as the anthropology of the *OT*: the *NT* uses several interchangeable words which refer to the complete, total person. Each one of these terms describes the whole person but from a different perspective (like describing different facets of one gem).

In conclusion, in my research, it became clear to me that the anthropology of the *NT* confirms the anthropology of the *OT*: that is, a human being is an indivisible unity.

II. AN ADVENTIST PARADIGM, MODEL, AND PSYCHOLOGY

For lack of space, I cannot develop the various psychology paradigms which are fully explained in the book I have published on this topic. However, specific consideration will be given to the proposal of a paradigm for an Adventist psychology. In presenting this paradigm, I will use the following methodology:

- I will present a theoretical frame which rests on a foundation of seven fundamental pillars. These pillars constitute the basic postulates or worldview of psychology on which this paradigm for Adventist psychology is based.

- Building on this paradigm, I shall establish the “Bio-Psycho-Spiritual-Social Model” (which I shall refer to as “The Basic-Four Model”). The Basic-Four Model rests on seven pillars or columns.

- The foundational pillars of The Basic-Four Model themselves rest first on the Bible, then on the writings of Ellen White.

- Finally, I will present a new psychology, which emerges both from the paradigm for an Adventist psychology and from its Bio-Psycho-Spiritual-Social Model. I call this new Adventist psychology Neocognitive Psychology.

A. Paradigm for an Adventist Psychology: A Seven-Pillar Paradigm

The seven pillars of the paradigm for an Adventist psychology derive from foundational statements such as these, which we find in the writings of Scripture and of Ellen White: “God is Spirit” (John 4:24). The God created us to live as rational beings in a spiritual

relationship with the Him: "Come now and let us reason together." (Isa 1:18). But He wants more than a relationship based on reason. He created us to be social beings: We are to love the Lord our God with all our heart, mind, soul, and strength, and others as we love ourselves; even more, we are to love as Jesus has loved us (John 15:12).

Ellen White reminds us that the Creator ordained the laws of mind.

He who created the mind and ordained its laws provided for its development in accordance with them (MCP, 1977, p. 10).

The seven pillars or columns of the paradigm for an Adventist psychology are:

1. The Creationist Pillar

My first assumption, the first pillar or fundamental column of this Adventist psychology paradigm, is based on the creationist perspective. Creationism is in clear and open opposition to the evolutionist perspective. For well over a century, evolution has been the unquestioned assumption of most scientists, including now of course scientists and practitioners in the field of psychology.

To establish this fundamental pillar we must define and examine the foundations of the biblical account of creation (Gen 1-2). We as Adventists believe this, based on the Bible and the writings of Ellen White. But is the truth of creationism self-evident to someone else? Clear evidence supporting the creationist pillar can be found in B. R. Neufeld's (1974) proposal regarding the development of a General Theory of Creation. The creationist pillar of this Adventist psychology paradigm is based on Neufeld's postulates; however, I have adapted them, where necessary, to the science of psychology and to our subject of study: developing a paradigm for an Adventist psychology.

2. The Monist Pillar

Ancient philosophers believed that body and mind were separate entities. This belief is called dualism. Today those who do research in my field of specialty-the psychobiologists-propose an empirical, practical, monistic focus in their study of the human mind. Monism is the belief that reality consists of a unified whole; and, therefore, mind is a phenomenon produced by the functioning of the body, specifically one of its organs, the brain. What we call "mind," say psychobiologists, is a consequence or product of the functioning of the body and of its interaction with the environment. When the functioning of the body (particularly

the nervous system) is fully understood, then, say the monistic psychobiologists, the problem of how the mind relates to the body will be solved. When we understand biology, biochemistry, and physiology well enough, we will be able to explain how we perceive, think, remember, and behave. This monistic view, held and defined by modern experimental psychology, agrees with the monistic view of Adventist biblical anthropology.

3. The Metahumanist Pillar

The humanist paradigm in contemporary psychology emphasizes:

- The importance of personal choice.
- That choosing implies personal responsibility.
- That personal experience and what it means to the individual are the bases for personality and behavior.
- The needs for growth, knowledge, and self-fulfillment—the fulfillment of our human potential. Humanistic psychology regards these needs as the motivators of human behavior and behavior change.

The metahumanist paradigm that I propose is based on the following presuppositions:

- A metahumanist perspective transcends the humanist view. A metahumanist model takes into account the whole being and the whole lifetime. It favors the harmonious development of physical, mental, and spiritual faculties for the present, for the future, for eternity.
- Human knowledge and the development of human faculties reach their highest elevation in a knowledge of God.
- A personal relationship with God is His method to achieve human development.
- To achieve the highest development of all our faculties means that God's image must be restored in the whole being.
- The great objective of the metahumanist paradigm is the biblical model of redemption: God's means of restoring the Creator's image and promoting the development of body, mind, and spirit.
- A basic essential for full human development is accepting personal responsibility to make free moral choices; exercising the will—the power of decision; choosing to make

qustained efforts to “co-operate” with God.

- The metahumanist paradigm fosters the development of human beings who are able to think and decide without dependent or codependent behaviors and who are able to control circumstances and not be controlled by them; human beings who are open-minded and clear thinking, who have the courage to defend their ideas and beliefs, who have strength of character and healthy personalities and wise behavior.

4. The Semi-naturalist Pillar

Currently, many areas of science are based on a paradigm called naturalism. Beginning in the seventeenth century, with influences such as Cartesian rationalism and English empiricism, there was a rapid drift away from a belief in the supernatural. This change landed on the shores of a new philosophical position, one which attempted to explain all that exists in the physical universe and in the human mind solely through the laws of nature. This remains the prevailing encampment of the modern sciences, which accept and assume only those hypotheses that do not imply any divine action in history or interaction with the human mind.

The semi-naturalism I propose assumes that the processes of nature and of the human mind operate according to the laws of nature. Living things and physical processes are like machines, in the sense that we can discover how they work and what laws rule their structure and functioning. “Semi-naturalist” scientists who accept this paradigm can work and think as naturalist scientists, but they accept *a priori* the possibility that an Intelligent Supreme Being has intervened and continues to intervene in the minds of human beings and in the lives of all on planet Earth. The Creator intervened particularly in the origin of human life and all forms of life on Earth, and in the establishment of the biological and psychological laws that govern their health and wellbeing.

5. The Experimentalist Pillar

Today, the study of psychology generally adopts the perspective and methodology of the natural and social sciences. The method of research commonly used in scientific psychology is a particular, systematic way to increase scientific knowledge. Etymologically, the word “method” means “with a way.” The scientific method teaches us the way to accumulate knowledge which will be accepted as scientific. The scientific method is the hypothetical-deductive method:

The method of empirical sciences yields two kinds of knowledge: empirical knowledge and rational knowledge. The rational component in the method of empirical sciences consists of formulating a hypothesis and deducing conclusions. This method of the empirical sciences—and of empirical psychology—is called the hypothetical-deductive method. The hypothetical deductive method has five stages:

- a. observation
- b. formulation of hypothesis;
- c. data collection;
- d. deduction of conclusions, and
- e. verification.

In psychology, three methods of verification are usually employed. They are the experimental, correlational, and observational methods:

1) *The experimental method*

The experimental method is generally the most used method in the natural sciences (sciences such as physics and chemistry). Psychology became a science when it began to apply the experimental method to its objects of study. From that time on, psychological research has continued to use the experimental method. The experimental method implies three main presuppositions:

Causality: There is a relationship between a cause and its effect.

Experimental manipulation: Variables must be controlled.

Control: Conditions must be controlled.

2) *The correlational method*

Psychologists want to study not only variables that can be manipulated and controlled but also "hypothetical constructs."

The constructs include, for instance, intelligence or some factor of personality (such as neuroticism) in which most variables cannot be manipulated.

In cases where a relationship between two variables is known to exist but in which the exact function that relates them cannot be identified, correlation is used. Correlation is a mathematical ratio which indicates the extent to which two variables concomitantly vary; however, to say that there is a correlation between two variables does not indicate that one caused the other. Correlations do not show causality.

3) *The observational method*

There are situations in which neither experimental nor correlational verification are adequate to the subject of research. Then, it is necessary to use the observational method. For example, if the behavior of a person in a classroom or social or family setting is to be studied, the study method of choice is the systematic or controlled observation of behavior.

6. The Neocognitivist Pillar

My proposed cognitivist perspective emerges from a paradigm with postulates and presuppositions different from the paradigm of contemporary cognitivism, or cognitive psychology. "Neocognitivism" is founded on the previous postulates and presuppositions of the proposed Adventist psychology paradigm; particularly on the Creationist, Metahumanist and Semi-naturalist pillars. These three postulates (which are a part of the larger proposed Adventist psychology paradigm) themselves form a new paradigm in scientific psychology, one which I call *neocognitive psychology*. It emerges from biblical foundations and presuppositions and from the writings of Ellen White. The neocognitive psychology which I propose describes and explains the basic cognitive processes of perception, thinking, motivations, beliefs, and attributions.

7. The Prospectivist Pillar

By "prospectivist" I mean the process of continuous observation, analysis, evaluation, and critique of the perspectives of present and future scientific psychology. The Adventist psychology paradigm prospectively seeks to develop and advance, continually informed by the new currents and contributions from recent scientific findings.

I will now consider some of these more recent findings which now shape and dominate certain fields of contemporary psychology.

Without question the psychological is intimately interconnected with the biological. This relation of the psychological with the biological has given rise to the important branch in psychology known as psychobiology. Animal and human biochemistry and physiology have many important behavioral and cognitive effects; and many psychological phenomena cannot be not properly explained unless these biological and physiological influences and interactions are considered. Today new subspecialties have developed within psychobiology. An integral part of psychobiology, the whole field of the neurosciences has developed explosively: for example, the subspecialties of psychoneuroendocrinology, psychoneuroimmunology, and

neuropsychology.

In conclusion, I believe it is essential to establish psychology as a science on the basis of molecular neurobiology and neurobiochemistry so as to understand how best to promote healthy human behavior and the optimal psychological functioning of human emotion, perception, learning, memory, and thinking.

Two kinds of therapies, rooted in the growing field of experimental psychology, have emerged in recent decades: these are behavior modification therapy and cognitive therapy. Behavior modification is built on the findings of learning psychology, and cognitive therapy takes its directives from cognitive psychology.

Another recent specialty is health psychology, rising from clinical psychology, which itself is based on experimental psychology. Health psychology is the application of scientific psychology to human physiological disorders. Thus, we see that psychology now intervenes in disorders that were once regarded as exclusively medical. Health psychology applies the techniques of behavioral and cognitive therapy to the patient's physical disorders.

Health psychology is a highly effective and important health care profession. One of its best-known treatment modalities is biofeedback. Biofeedback is based on the application of the principles of operant conditioning. Patients who practice biofeedback learn to control physiological patterns such as pain (or other elements implied in diseases which have a biological origin).

B. A Model for an Adventist Psychology: The Bio-Psycho-Spiritual-Social Model

Based on the Adventist Psychology Paradigm, I propose what I call the Bio-Psycho-Spiritual-Social Model or the Basic-Four Model. When we refer to a model in psychology we mean a working model which describes a psychological reality. A good psychological model describes fundamental processes which explain the reality of human psychological functioning. Within this frame of reference I propose the Basic Four-four elements essential in a wholistic psychological model. The Basic-Four Model integrates human biological, psychological, spiritual, and social processes. Therefore, it is a model from the monistical perspective of psychology; that is to say, it is a psychology which views the human being as an indivisible and complete unit. The Basic-Four Model is supported by seven pillars or

columns which are its foundations.

These seven pillars themselves are supported by the following axiom, found in the writings of Ellen White: "The true principles of psychology are found in the Holy Scriptures" (MCP, 1977, p. 10).

These true principles of psychology can be established by taking into account the following methodological subfoundation:

First, the Bible, a thorough consideration of the biblical texts of the OT and the NT, and

Second, the writings of Ellen White, especially those related to psychology, from the perspective of and with a knowledge of her time.

I invite you to consult the biblical texts in both the Hebrew and Greek and relevant references to Ellen White's writings which are available in my book —*Propuesta de un Paradigma Adventista de la Psicología*.

There are seven columns which support *Bio-Psycho-Spiritual-Social* or Basic-Four Model. After describing all seven, I will discuss their significance. The seven pillars are:

1. Perception

We see things, people, faces, a line of poetry, a lovely sunset, our favourite baseball team; we hear a plane, a guitar, a clap of thunder, the cry of a baby, the voices of friends. These experiences are called perception. What and how we perceive depends on our previous experiences and our knowledge of the world, as well as on the immediate sensory information, which electrifies our sensory nerve fibers as it speeds to our brain receptors.

2. The Organism

The second pillar supporting the Bio-Psycho-Spiritual-Social Model is the analytic understanding of the basic biological mechanisms of the human organism, especially the extraordinary network of neurons which constitutes our brain and nervous system.

3. Thinking

A third pillar, *thinking*, can be defined as the usage and manipulation of information which is codified in the long-term memory. The ways that thought processes use and manipulate codified information can be expressed in many different ways.

The brain's codified information is a symbolic representation of a past experience, a state of the world, or even an imaginary state of the world. These symbolic representations are the contents of thinking. These contents can assume various forms. They can be verbal,

and in this sense thinking is “inner talking.” When the content of thinking is formed by mental images, thinking is like “inner seeing”—like perceiving a picture on the mind’s screen. There is a third kind of codification. It is the code we use when we think but we are not thinking with logical words or coherent visual images. When we think in this abstract, free-floating, almost dream-like way, the only thing we know is that one thought leads to another and another, like balls racing through a pinball machine, and suddenly we have found a new idea or solution.

Many suffer from emotional disorders or unhealthy behavior patterns due to faulty cognitive processing. What people think (the content) and how they think (the process) can cause feelings of depression or immature behavior. Feelings and behaviors themselves are important considerations in a treatment program, but they may be symptomatic, to a great degree, of inadequate patterns of thought. If faulty thought processes and reasoning are corrected in these cases, then behavior and feelings will improve.

4. Motivation

Human behavior has a purpose. It tends towards some objective. These purposes and objectives fuel motivation. We dial a series of numbers on the phone because we want to talk with some family member or friend. We open the refrigerator because we are hungry. A student may attend a university because she or he wants to become a psychologist. These reasons for the behavior are referred to as the motives—the impetus which seems to explain why that behavior occurred.

Human motivation consists of physiological impulses (such as hunger); psychological impulses (such as curiosity, which stimulates us to explore and understand our environment); socially-based impulses (such as the desire for success), which we acquire from our culture; and spiritual impulses (such as the desire to know God).

5. Belief

Beliefs are that part of human knowledge which are what we know or think to be true and real about objects, people, ideas, religion, society, and the world. Our beliefs are our personal perspective on social and transcendental reality. The Basic-Four Model specifically makes reference to the divinely revealed truths about reality—a biblical cosmos of divine revelations about the nature of reality. When we accept this Word as authoritative, these revelations inform our opinions and beliefs about the sense and meaning of the past, the

present, the future; and about that human existence which will transcend time.

6. Attribution

Attribution is the process of perceiving, analyzing, and then categorizing people, ascribing various characteristics and motives to them. In order to assess the intentions underlying a person's behaviors, we analyze the social circumstances surrounding those actions. These interpretations are called attributions.

We look at other people and perceive certain details—clothing, body posture, and so on. Our perceptions lead us to make inferences about the categories to which they belong, based on their style of dress, for example.

Of course, our perceptions of people differ from our perceptions of rocks, trees, and other elements of nature. People have intentions, motivations, plans, and personality. This means that part of the role of perception is to analyze the actions of other things and people in order to discover what and who, in fact, they are. Attribution theories describe the way in which we develop explanations and interpretations about others' actions.

The process of attributing characteristics and motives to other people is complex and implies interpretations and judgments. For example, John and Mary may each see Brian in a different, even contradictory way, because as observers they have each had different prior experiences with and impressions of Brian. They may hold different beliefs about the nature of Brian's personality; they follow different unwritten rules for making attributions; and each may be observing Brian in very different situations.

7. Behavior

Behavior is any mental action or physical activity of an organism, including thoughts, dreams, and physiological functions. The emphasis in psychological research is on behavior that can be observed, including the cognitive processes that are communicated orally.

The significance of these seven pillars—how they support the Bio-Psycho-Spiritual-Social Model—is this: The human organism's perceptions, thought processes, motives, beliefs, attributions (the motives, behaviors, status, we attribute to others), and behaviors cannot be wholistically healthy (physiologically, psychologically, spiritually, and socially healthy) apart from a mature internalization of the sound principles of true psychology as well as a growing relationship with the One who created the human organism.

C. An Identity for an Adventist Psychology: Neocognitive Psychology

From the Adventist psychology paradigm we have discussed and the Bio-Pscho-Spiritual-Social or “Basic-Four” Model which is a part of that larger paradigm, I propose a new paradigm of Adventist psychology, one which I suggest be called Neocognitive Psychology (NCP). I call it Neocognitive Psychology because it includes the basic cognitive processes of human psychology (perception, thinking [which also includes memory, reasoning, and problem solving processes], motivation, beliefs, and attributions). NCP or Neocognitive Psychology could become the defining term for Adventist psychology in the larger therapeutic community, one which embraces our Adventist distinctives—*from* the initial expression in the Bible and the writings of Ellen White regarding what humans are “to think and to do” in order to reflect their Creator’s image *to* His ultimate expression through human behavior—while also embracing the growing body of research that reveals the best of the modern science of psychology. Based on this view, *I now propose the following definition of psychology: The science of human behavior processes.*

To complete this proposal, I suggest that within the framework of cognitive neuroscience and within Adventist Neocognitive Psychology a new discipline be introduced: Neocognitive Psychoneurobiology.

Neocognitive Psychoneurobiology is the science that studies the interaction among (1) the nervous system; (2) biological mechanisms at molecular, cellular and organic levels; and (3) the psychological processes, in the context of Neocognitive Psychology. It will research the relationships between the neocognitive psychological, neural, biological, and chemical processes. This new discipline will pursue an ultimate objective: study and research in the field of human psychology, particularly its cognitive and biological processes, from the wholistic, monistic, integrating perspective that the human being is an indivisible unit, a unified whole, in terms of body, mind, and spirit. Therefore, it is the work of true psychology to restore man to wholeness and to oneness with the Creator. This lofty spiritual goal may be informed by basic physiological research.

The theoretical, technical, and experimental bases of Neocognitive Psychoneurobiology can be found in the new instruments of scientific research now available to experimental psychologists.

The possibility of studying cognitive processes *in vivo*, synchronized with corollary brain activity while such processes are taking place, is now a reality. To achieve this stunning disclosure, first the development of the technology of brain imaging *in vivo* was crucial. Now, with these techniques the observer can see how the brain functions and which brain systems are activated while, for example, the subject is memorizing a passage or solving a complex problem under the effects of a strong emotional state.

Techniques such as Computerized Axial Tomography (CAT) scans and Magnetic Resonance Imaging (MRI), which show us the neuroanatomy of a static brain, have existed for some time. Other techniques show us a dynamic brain, using equipment which measures Regional Cerebral Blood Flow (RCBF) or scanning the brain with specialized x-ray equipment—Simple Photon Emission Cerebral Tomography (SPECT) and Positron Emission Tomography (PET). Used with powerful computers, these techniques allow us to take almost instantaneous images of the physiological changes associated with mental processes. Neocognitive psychoneurobiologists are interested in these last two techniques since they show us a dynamic brain and allow us to observe the areas of the brain that are stimulated by specific tasks.

CONCLUSION

The paradigm that has been the object of my research, that is to say, the development of an Adventist Psychology Paradigm, is an important area for research in the modern scientific field, a transcendental subject within the Adventist worldview. To my knowledge, it is currently the broadest and most complete attempt to develop—from the Adventist perspective—a paradigm, a model deriving from it, and a new psychology.

The main problem that I found, and that others before me have also found, was how best to develop a paradigm, a model, and a new psychology, with its own identity, conceptualization, and meaning; and how to establish its acceptance and adoption into the general theory and practice of Adventist psychology.

First we needed to establish a theoretical frame which included our Adventist anthropological perspective—the biblical worldview of humanity within the context of the Hebrew-Christian thought, and the vision of human beings and human psychology that Ellen

White presents through her writings. In addition, this paradigm needed to give serious consideration to the knowledge acquired and developed by scientific psychology since its inception.

The problem is still more complex if we consider all the paradigms in the field of psychology that have had a significant scientific and social influence, a multiplicity of paradigms which makes it difficult for another paradigm to establish its own scientific and social space, particularly when it does not share the common humanist assumptions.

Nevertheless, in spite of those difficulties, I propose a construct that takes into account the foundations of the biblical worldview of man and the psychological conceptions of Ellen White, as well as the progress made in scientific psychology. I suggest that this new Adventist psychology, growing out of the Adventist psychology paradigm which has been discussed, be called Neocognitive Psychology. Neither today's presentation nor my book on this subject are intended to be the final word. Instead my aim has been to develop a paradigm which may be useful as a frame of reference to those who would support establishing a representative Adventist paradigm in psychology and who feel the need to blend the best of Adventist thought and contemporary psychology, without sacrificing either good science or what God has revealed about human beings and the ways He would have us relate to Him and to others.

The Adventist psychology departments in our universities, hospitals, and treatment centers need a scientific paradigm of their own—not merely a patchwork adaptation of today's dominant scientific paradigms. In the proposed Adventist psychology paradigm, I have attempted to offer students in the university where I teach a paradigm which is a frame of reference with both theoretical and practical applications. It is a frame with its own identity, unlike the various paradigms of modern humanist psychology.

The potential of this research project acquires an even deeper significance which could have great repercussions. With good, published research, the effects of a truly Adventist psychology could transcend the field of psychology; its influence could be felt throughout the church and its educational system, and beyond.

Kuhn indicated that when a new paradigm is proposed, as has been my objective here, initially there will be only a few who think it is worth the effort. The possibilities of this paradigm taking root and spreading and proving fruitful will depend on those few pioneers

demonstrating that they can carry out effective and significant research within the parameters of the paradigm. I invite you to be one of those pioneers.

BIBLIOGRAPHY

- ARNAU, J. y CARPINTERO, H. (1989). *Historia, teoría y método de la psicología*. Madrid: Alhambra.
- ASHERSON, D. N. y SMITH, E. E. (eds.). (1990). *Thinking*. Cambridge, MS: MIT Press.
- ASOCIACIÓN GENERAL DE LOS ADVENTISTAS DEL SÉPTIMO DÍA (1989). *Creencias de los adventistas del séptimo día*. Madrid: Safeliz.
- BOMAN, T. (1960). *Hebrew Thought Compared with Greek*. Philadelphia: Westminster Press.
- BRAND, L. R. "Una alternativa al paradigma del naturalismo", *Theologika* 9 (1994): 38-72.
- BRIDGEMAN, B. (1991). *Biología del comportamiento y de la mente*. Madrid: Alianza.
- CARLSON, N. R. (1993). *Fisiología de la conducta*. Barcelona: Ariel.
- ESPINOSA, E. (1995). *Antropología teológica*. Entre Ríos: SALT.
- HAIMSON, B. R. (1985). *Experimental Methods in Psychology*. New York: McGraw-Hill.
- HEROLD, S. y FRACKOWIAK, R. J. "New Methods in Brain Imaging", *Psychological Medicine* 16 (1986): 241-45.
- INVESTIGACIÓN y CIENCIA (1993). *Mente y cerebro*. Barcelona: Prensa Científica.
- JEEVES, M. (1994). *Mind Fields: Reflections on the Science of Mind and Brain*. Grand Rapids, MI: Baker Books.
- JUNQUÉ, C. y BARROSO, J. (1995). *Neuropsicología*. Madrid: Síntesis.
- KALAT, J. W. (1995). *Biological Psychology* (5th ed.). Pacific Grove, CA: Brooks/Cole.
- KANDEL, E. R. y SCHWARTZ, J. H. (1991). *Principles of Neural Sciences*. New York: Elsevier.
- KOCH, S. & LEARY, D. E. (eds.). (1992). *A Century of Psychology as Science*. Washington: APA.
- KOSSLYN, S. M. y ANDERSEN, R. A. (1992). *Frontiers of Cognitive Neuroscience*. Cambridge, MS: MIT Press.
- KUHN, T. S. (1970). *The Structure of Scientific Revolutions*, 2d ed. Chicago: The University of Chicago Press [1962¹].

- LEÓN-CARRIÓN, J. (1995). *Manual de neuropsicología humana*. Madrid: Siglo XXI.
- MYERS, D. G. (1994³). *Psicología*. Madrid: Médica Panamericana.
- NAVARRO, M. (1993). *Barro y aliento: Exégesis y antropología teológica de Génesis 2-3*. Madrid: Paulinas.
- NEUFELD, B. R. "Towards the Development of a General Theory of Creation", *Origins* 1 (1974): 6-13.
- NOLTE, J. (1994). *El cerebro humano*. Madrid: Mosby/Doyma.
- OURO, R. (1989). *Estados emocionales y procesos cognitivos*. Tesis Doctoral; Valencia, España: Universidad de Valencia.
- _____ (1995). *El relato del huerto del edén: Estructura literaria de Génesis 2-3 y relación lingüística con Génesis 1*. Tesis de Master; Entre Ríos, Argentina: SALT.
- _____ (1997). *Propuesta de un paradigma adventista de la psicología*. Entre Ríos, Argentina: Universidad Adventista del Plata.
- POSNER, M. I. & RAICHLE, M. E. (1994). *Images of Mind*. New York: Freeman.
- SARTER, M., BERNTSON, G. G. & CACIOPPO, J. T. "Brain Imaging and Cognitive Neuroscience", *American Psychologist* 51 (1996): 13-21.
- SIEGEL, G. J., AGRANOFF, B. W., ALBERS, R. W. & MOLINOFF, P. B. (eds.). (1994). *Basic Neurochemistry*. New York: Raven Press.
- THOMPSON, R. F. (1993). *The Brain*. New York: Freeman.
- WHITE, E. G. (1952). *Education*. Boise, Idaho: Pacific Press.
- _____ (1977). *Mind, Character, and Personality (MCP)*. Nashville, Tenn.: Southern Publ.
- WOLFF, W. H. (1975). *Antropología del antiguo testamento*. Salamanca: Sígueme.