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HEALTH AND SALVATION

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Before the Entry of Sin

The brief record of the creation of man, summarized in Genesis 1 and 2, indicates that if man had refrained from eating of the fruit of the Tree of the Knowledge of Good and Evil, and had partaken periodically of the fruit of the Tree of Life, he would have lived forever. Put in another way, obedience to God's requirements and continual consumption of the fruit of the Tree of Life would have assured him of eternal well-being.

Adam and Eve came from the hand of their Creator flawless, structurally and functionally designed to enjoy eternal health. But with their act of disobedience, that is, the violation of God's commands, they found themselves under the penalty of death. Only Divine intervention gave to them an extension of life. The future would see the quality of their health gradually decline and ultimately spent, with the loss of life itself.

Prior to the fall, Adam and Eve possessed perfect brains with the capacity for independent choice and decision-making. This God-like capability and freedom of choice made them arbiters of their own destiny. By the exercise of this gift they would develop their individual characters. God could not give them both freedom of choice and a mature character since the latter results from the exercise of the former.

God designed the most suitable environment for Adam and

Eve. Here, under the tutelage of heavenly angels and God Himself they could, by exercising their free choice, form characters suitable for eternal fellowship with unfallen beings. Such righteous character development required living in harmony with God's commands, which, by definition is obedience to the Creator's will.

The Lord blessed Adam and Eve with intelligence such as He had not given to any other creature. 1

The Lord placed man upon probation, that he might form a character of steadfast integrity for his own happiness and for the glory of his Creator.²

After the Entry of Sin

But Adam and Eve chose to eat the fruit of the forbidden tree. The characters which they were to develop were degraded by disobedience to that of self-serving sinners. To rescue them from this disastrous plight two things were necessary: (1) acquittal from the penalty of death (be given a second chance), and (2) acquisition, in the school of adversity, of characters that would fit them for heavenly citizenship.

The penalty of death was averted by the sacrifice of Christ. By faith the sinner must accept this (complete and perfect) atonement, in which he plays no part. But contrary to popular belief, Christ's death on Calvary could not provide the sinner with a character which fits him for heaven, in which he, the sinner, plays no part.

Unfallen Adam and Eve would have formed righteous characters had sin never entered this planet. So in the probationary period after the fall, it is the sinner's responsibility to cooperate with divine power to develop the sanctified character he would have developed had he never fallen.

It was possible for Adam, before the fall, to form a righteous character by obedience to God's law.³

The covenant of grace was first made with man in Eden, when after the fall, there was given a divine promise that the seed of the woman should bruise the serpent's head. To all men this covenant offered pardon, and the assisting grace of God for future obedience through faith in Christ.⁴

Hardinge: Health and Salvation

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TABLE 1

The Nature of Choice

Comparing man with animals, we find several biological similarities. The basic requirements of air, water, sunshine, food, activity, rest, and avoidance of stress and harmful substances, are common essentials for both animal and human life. The functioning of most of the body-systems are, to use a common term in the world of computers, "programmed." The digestion of the food by the digestive tract, the elimination of wastes by the kidneys and bowels, the manufacture and maintenance of the blood, lymph, skin, and bones are under automatic control. The respiration of air by the lungs, and the circulation of blood through the blood vessels are, along with many other functions, carefully programmed.

The brains of man and animals are also similar in many respects. They are physical organs made up of specialized and non-specialized cells. Like the other organs of the body they require oxygen and produce waste carbon dioxide. They, too, are dependent on the nutrients obtained from the food eaten and the water drunk. And as they function, controlling and directing countless activities through the vast reaches of the systems they monitor, they can be assaulted by deprivation of essentials, overwhelmed by excesses, and hindered or injured by overwork and fatigue, or by the actions of poisons, such as drugs.

While creatures exhibit degrees of choice, the extent of this ability is limited. Apart from a few that can be influenced by man's desires, the animal kingdom is programmed so that birds are birds, and fishes fish. A cat is a cat, and cats, under similar circumstances, will behave similarly.

But what sets man apart from other animals is his non-programmed capacity of thought, and choice, and decision. This is the most incredible gift that God could give. Were it not for this gift, Christ need never have died.

What is Health?

Viewing the body as a whole reveals that it is divided into support and functional systems. Each system consists of a series of discrete units, each unit specifically designed to fulfill its precise function. In Table 1 the body has been divided according to organization and function.

THE BODY: ITS STRUCTURES AND FUNCTIONS

Functional Units	Support Systems	Guidance Systems
Enzymes	Respiratory	Nervous
Cells	Circulatory	Chemical
Organs	Digestive	Genetic
Systems	Eliminative	Mechanical

The smallest of all functional units is the enzyme. Enzymes are the workmen of the body. They consist of protein molecules. Each enzyme performs only one duty. Enzymes which differ in function have different protein structures. If a series of enzyme actions is required to manufacture a certain substance, say hemoglobin (the protein pigment in the blood which transports oxygen and carbon dioxide), each step requires a different enzyme or group of enzymes.

Let me illustrate both the complexity and immensity of enzyme activity. On the average, 2 to 3 million new red blood cells are manufactured and enter the circulation every second. These replace an equal number of worn out red cells that are removed from the circulation every second. Now each red cell contains approximately 400,000,000 hemoglobin molecules! Thus one billion new hemoglobin molecules are produced every second of life.

And this is but one example of hundreds of thousands of the body's other molecules which are also being made second by second, many in greater numbers and even at faster rates than are the hemoglobin molecules.

The enzymes and their assembly lines are housed within cells. Each cell is a factory where the enzyme workmen carry out their duties. The nucleus of the cell is the command post, guiding and directing the cell's activities. Groups of cells with similar functions are generally placed together. Smaller groups are called glands, large groups form the organs. Since a single cell may have more than one function, it may house hundreds to thousands of different enzymes.

But to maintain the functional activity of the body's glands, organs, and structures (examples: lymph glands, liver, brain, muscles, skeleton, and skin), each cell must be provided with fuel to function, raw materials with which to work, removal of manufactured products, and the elimination of chemical and gaseous wastes.

To accomplish this, the major support systems are constantly at work. The lungs and other respiratory structures blow off waste carbon dioxide and take on life-giving oxygen, The heart and blood vessels transport this oxygen-laden hemoglobin from the lungs to the body's cells and, on the return trip, carry back the waste gases from the cells to the lungs. Besides this, the nutrients, as they are released into the circulation by the digestive processes, are also carried by the blood to every part of the body. Food wastes are expelled by the bowel and chemical wastes by the kidneys.

And all this immense array of chemical and biological activity must be constantly monitored,—activated, guided, and controlled by the brain. In turn, for the brain to accomplish its task, it must be supported by its vast empire. Thus, Health is the sum total of this orchestrated performance, the myriads of functional units working perfectly, adequately supported, and appropriately guided. The Hebrew word shalom or peace, suggests that all systems are in harmony and are on "go."

What is Disease?

When our first parents rebelled against the Creator by partaking of the fruit of the forbidden tree, they were spared from immediate death by our Savior's intervention. But what might have been unending health in sinless Eden was replaced by a process of dying. The infraction of moral law and physical law go hand-in-hand. When the physical laws of our bodies are violated, there is a stepwise failure in the execution of one or other of the body's functions.

First, there is loss in the quantity of output. If wrongs are not righted, this is followed by a loss in the quality of output. If the offense continues, tissue damage occurs, that is, the functional unit or units are impaired, and disease results. Disease, then, is damaged structures with impaired functions.

At creation health came first. Disease, like sin, is an intruder.

Health is not the absence of disease, but rather, disease is the absence of health. When sin is finally abolished, disease will be eradicated forever. Man will then enjoy unending health.

Levels of Function

Let's take, as an example, a person who is critically ill from a serious disease or suffering from severe injuries acquired in a near-fatal accident. He is barely alive and unconscious. The two most basic functions sustaining his life are respiration and circulation (Figure 1). Should either fail, death would occur.

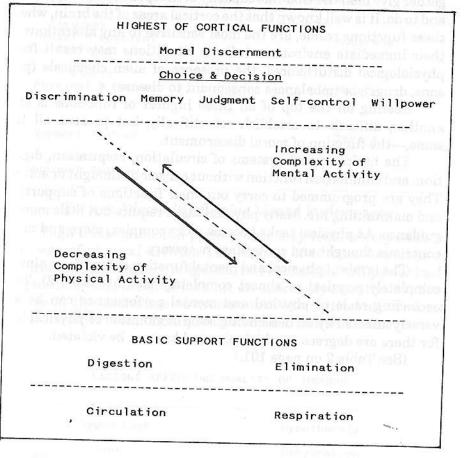


Figure 1. Increasing levels of complexity of physical and mental performance.

In Figure 1 the levels of functional activity are presented. As the functions of digestion and elimination, which had ceased to function, start operating, the individual moves into a slightly higher plain of physiological performance.

At this stage he may or may not have regained consciousness. As consciousness returns, functional capacity increases. With steady recovery, higher and still higher levels of physical and mental performance are regained. Eventually health is restored.

The highest intellectual functions of the brain are discrimination, memory, judgment, self-control, and will power. These together give man the God-like capacity of independent choice, to will and to do. It is well known that the cortical areas of the brain, where these functions reside, are the most sensitive to any alterations in their immediate environment. Such alterations may result from physiological disturbances, the presence of alien chemicals (poisons, drugs), or imbalances consequent to disease.

Resting on the top of all these highest of functions is still another, difficult to establish scientifically, but present all the same,—the function of moral discernment.

The basic support systems of circulation, respiration, digestion, and elimination function without conscious thought or action. They are programmed to carry out their functions of supporting and maintaining life. Many physical tasks require but little mental guidance. As physical tasks become more complex, more and more conscious thought and control are necessary.

The levels of physical and mental function extend from almost completely physical to almost completely mental (Table 2). This ascending scale of physical and mental performance can be adversely affected by an descending scale of violation of physical law, for there are degrees to which physical law can be violated.

(See Table 2 on page 101.)

PHYSICAL & MENTAL FUNCTION and VIOLATIONS OF PHYSICAL LAW

Levels of Physical & Mental Function	Degrees of Violation of Physical Law
Moral Discernment	Slight
Choice & Decision in General	Sma 11
Complex Mental	
or Physical Activity	Minor
Average	
Mental & Physical Activity	Moderate Hand
Simple	
Physical & Mental Activity	Major
at the op-raints wars, 1000, wi	
General Support Systems	Severe
	Severe
Basic	
Support Systems	Extreme

Factors Adversely Affecting Mental Performance

High levels of mental performance may require very little in the way of physical activity. The highest of cortical functions of discrimination, memory, judgment, self-control and willpower leading to choice and decision-making, are extremely sensitive to alterations in the immediate environment of the cortical areas where such activities occur. Examples are summarized in Table 3.

TABLE 3

FACTORS AFFECTING QUALITY OF THOUGHT

Oxygen Lack	Hypothermia
Fatigue	Dehydration
Nutritional State	Drugs
Inadequate Exercise	

Oxygen lack. It is well known that decreased oxygen to the brain will diminish the ability for these highest of cortical areas to function efficiently. Mountain climbers, struggling to reach high altitudes without being adequately acclimatized, have made judgmental errors costing their lives. This is also true of airplane pilots. Because of this, in the United States, all commercial pilots must wear oxygen masks or be in pressurized cabins when flying at 10,000 feet or higher.

Fatigue. Whether caused by prolonged hours of work or lack of sleep, fatigue reduces the ability of the brain to make sharp decisions. In a study reported in the Journal of Aviation, Space, and Environmental Medicine, pilots were tested for critical decision-making ability while flying four engine jets. They were tested when rested, and later tested when fatigued by long work schedules or sleep deprivation. Each acted as his own control. Brain wave recordings (EEG) were made throughout the flights. The pilots were not apprised as to the type of study, but the co-pilots were, and, whenever necessary, could take over the controls in order to avert an accident. The brain-wave recordings of pilots, when rested or fatigued, are shown in Figure 2.

Figure 2. The brain wave recordings (EEG) of a pilot are recorded, both when rested and fatigued (for details see above). The tired pilot was able to force himself to decide when relatively simple decisions were concerned (D). However, when the decisions required difficult chaices his brain was

First, observe the brain wave activity, during flight, of a pilot when rested. Take-off required increased cortical activity (A). Once the plane had reached the desired altitude the pilot began to relax (B). At C a problem was introduced. Immediately brain wave activity increased. The increase in activity stopped when the pilot thought he had resolved the problem (D). but the rate of decline was relatively slow until at point E, he was sure the trouble had been resolved.

At point F, a life-threatening problem was now introduced. The same type of spiking is seen at points G and H as was observed at points D and E, as the pilot realizes the problem has been handled. Note that a serious problem required considerably more cortical activity.

When the same pilot, now tired, went through a similar flight schedule, his brain wave recordings (dotted line) were never as high as when he was rested. He was able to solve the minor problem, but try as he did, he was unable to resolve the life-threatening crisis. Had the co-pilot not taken over the controls, the plane would have crashed.

Hypothermia. When the core body temperature drops below 90° F (32° C), brain function is depressed and thought processes are slowed and confused. 6

Nutrition. Extreme obesity or even a single heavy meal is known to reduce mental efficiency. On the other side of the scale, starved people think slowly and have difficulty putting their thoughts together. Even the generous intake of certain vitamins, such as A and D, reduce the ability of the brain to make decisions efficiently. Deficiencies of vitamins B1, B3, and B12 do the same thing.⁷

Exercise. Insufficient exercise adversely affects mental efficiency. A systematic program of exercise, three times each week for a period of six months, increased physical fitness 20 percent, but decision making 70 percent. Both the Scriptures and Ellen White support this observation.

After the entrance of sin God forced man to work, saying: "In the sweat of thy face shalt thou eat bread" (Gen 3:19). In the book Education we read: "Physical inaction lessens not only mental but moral power."

Dehydration. Significant loss of body water, due to inadequate

intake or excessive loss (diarrhea, vomiting, profuse sweating) results in thickening of the blood, serious changes in the mineral balances of body fluids, a rise in body temperature, with irritability, mental confusion, and lethargy.

Drugs. A large number of *drugs* affect the higher centers where thought processes occur. The effects may include slowed mentation, faulty discrimination, poor judgment, loss of self-control, and confused thought and finally inability to choose and decide. For example, increasing the intake of beverage alcohol causes all of the above (See Table 4).

Table 4

The Effects of Alcohol on the Brain and Nerves

Special Sense	Actions
Sight	Blurred, deranged
Hearing	Dulled, out of tune
Taste	Dulled
Sme l l	Dulled
Touch	Dulled
Pain	Dulled, lost
Position	Deranged, imbalance
Direction	Distorted, confused

Electrophysiological studies suggest that alcohol, like other general anesthetics, exerts its first depressant action upon those parts of the brain involved in the most highly integrated functions. . . . The finer grades of discrimination, memory, concentration, and insight are dulled, and then lost.

Carefully performed experiments have shown that, in general, alcohol increases neither mental not physical abilities. Although the individual often firmly believes that his performance is greatly improved, psychological tests involving typewriting, target practice, and complicated mental problems indicate that efficiency is, in fact, decreased. Tasks requiring less skill, thought, and attention are less markedly affected, especially if they are mechanical in nature. ¹⁰

The Special Senses and the Soul

The special senses are the only means by which the conscious

mind is made aware of its internal and external environments. Through these senses, thoughts are induced which in turn initiate responses—either to be stored in the memory bank or communicated to the physical or social world. The special senses included classically sight, hearing, taste, smell, and touch; but they also include pain, and the senses of position and direction.

Speaking of these senses, Ellen White calls them "the avenues of the soul."

All should guard the senses, lest Satan gain victory over them; for these are the avenues of the soul.¹¹

She clearly points to our responsibility to guard these portals to our minds, and mentions some by name.

Yet we have a work to do to resist temptation. Those who would not fall a prey to Satan's devices must guard well the avenues to the soul. They must avoid reading, seeing, and hearing that which will suggest impure thoughts. The mind should not be left to wander. . . 12

To the above can be added the senses of taste and touch through which Satan commonly gains access. Appetite and passion are perhaps the most common means of man's downfall. But God has promised help to close these gates to our souls.

Our only safety is to be shielded by the grace of God every moment, and not put our own spiritual eyesight so that we will call evil, good, and good, evil. Without hesitation or argument, we must close and guard the avenues of the soul against evil.¹³

These special senses or "the avenues to the soul," can be used by either the Holy Spirit or the Devil and his agents. Man, as a free moral agent, chooses whose influence will bear sway as his mind functions at the highest levels. The Holy Spirit, using these "avenues" with the willing cooperation of the human, can develop in in him a sanctified Christ-like character through which are shown the spiritual graces of love, joy, peace, long suffering, goodness, meekness, and temperance, as illustrated in Figure 3.

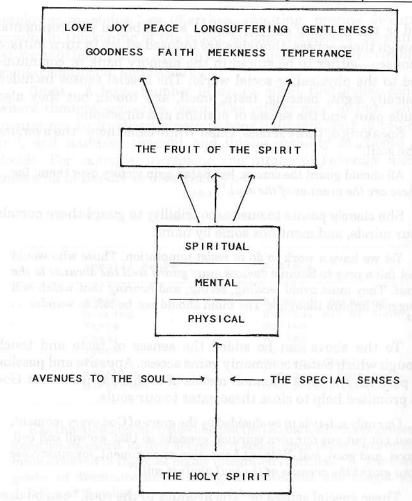


Figure 3. The Holy Spirit, acting through the special senses, also called "the avenues of the soul," transforms our natures, and allows the fruits of the Spirit to be revealed.

The devil, of course, if he is able to use them, will do everything in his power to derange, dull, or block these avenues so man will be deprived of the Holy Spirit's aid in his warfare against sin. That these physical senses can be dulled, deranged, or blocked is well illustrated by the action of beverage alcohol on them (Table 4).

We humans do not *have* bodies. We *are* bodies. Our brains are the command post of these citadels, and the avenues of entrance need ever to be guarded.

The body is the only medium through which the mind and the soul are developed for the up building of character. Hence it is that the adversary of souls directs his temptations to the enfeebling and degrading of the physical powers. . . . The tendencies of our physical nature, unless under the dominion of a higher power, will surely work ruin and death. ¹⁴

The brain-nerves which communicate with the entire system are the only medium through which Heaven can communicate to man and affect his inmost life. 15

The individual's lifestyle then, determines the manner of character development or sanctification. As far as the devil is concerned, he does not care whether the person's moral discernment is dulled by deficiencies or excesses, as long as the individual is intemperate.

Intemperance of any kind benumbs the perspective organs and so weakens the brain-nerve power that eternal things are not appreciated, but placed upon a level with the common. . . . If our physical habits are not right, our mental and moral powers cannot be strong; for great sympathy exists between the physical and the moral. ¹⁶

A close sympathy exists between the physical and the moral nature. The standard of virtue is elevated or degraded by the physical habits. . . . Any habit which does not promote healthful action in the human system degrades the higher and nobler faculties. Wrong habits of eating and drinking lead to errors in though and action. ¹⁷

And here it is well to consider Ellen White's beautiful definition of temperance:

True temperance teaches us to dispense entirely with everything hurtful, and to use judiciously that which is healthful. 18

Bible Examples

In Isaiah 7:14 is the well known prophecy of Christ's virgin birth.

Therefore the Lord himself shall give you a sign; Behold, a virgin shall conceive, and bear a son, and shall call his name, Immanuel.

Less well known is vs. 15, an integral part of this same prophecy.

Butter and honey shall he eat, that he might know to refuse the evil, and choose the good.

The phrase "butter and honey" or "milk and honey" occurs 22 times in the Scriptures. Without exception, it describes completeness. Any land, for example, whose rivers flowed with "milk and honey" had every thing. Thus this Hebrew phrase regarding a diet of "milk and honey" indicates one that lacks nothing and is completely adequate.

The prophet goes on record that Christ would eat a completely adequate diet that "He may know to refuse the evil, and choose the good." Thus, Christ set us an example of living in harmony with physical law so that His moral discernment might not be impaired. When dying on the cross, Christ refused the drink offered to Him, lest His clarity of mind be diminished, even for a moment (Matt 27:34).

Summary and Conclusions

Man, at his creation, could not be given both freedom of choice and a mature character. In his ideal environment, with the help of heavenly instructors, man was (by his choices) to develop a character worthy of eternal fellowship with unfallen beings.

Subsequent to Adam's fall, thanks to the intervention of our Savior, he was given a another chance, although under adverse conditions, to develop that same heavenly character, again with the aid of heavenly agencies.

Wise choices and decisions, to know, and judge, and act, are dependent on precise information transmitted by our special senses. This information must, in turn, be processed by the functions of discrimination, memory, judgment, self-control, and will-power.

The quality of our decisions determines the type of characters we develop.

These highest cortical functions can be affected adversely by a wide variety of conditions, such as, fatigue, dehydration, inadequate exercise, excesses or deficiencies of food intake, harmful chemicals. By the loss of health and the onset of disease the situation is made worse.

Satan, well aware of our physiological design, is bent on thwarting God's plan to aid us in character development. Since the special senses are the only avenues through which the Holy Spirit can aid us in our choices and actions, Satan's goal is to disrupt these pathways.

We are living in the final days of this world's history. Christ, looking down the stretches of time, saw the world awash with moral pollution of every kind, and likened the end time to the days before the flood:

But as the days of Noe were, so shall also the coming of the Son of Man be.

For as the days that were before the flood they were eating and drinking, marrying and giving in marriage, [indulging appetite and passion] until the day that Noe entered into the ark.

And knew not until the flood came, and took them all away; so shall also the coming of the Son of man be (Matt 24:37-39).

And within this moral pollution, the Devil is going about his work like a roaring lion seeking his prey. Christ warned His followers that just before His Second Advent, Satan's deceptions would be so cunning that "if it were possible, they shall deceive the very elect" (Matt 24:24).

To protect us from these delusions by keeping our minds clear and sharp, God in His infinite wisdom and love, gave His remnant people the wonderful, scientifically vindicated, message of Health Reform. This message, given in language all can understand, describes a lifestyle that preserves, above and beyond its many health benefits, moral discernment.

The apostle John expressed his greatest longing when he wrote:

Beloved, I wish above all things that thou mayest prosper and he in health, even as thy soul prospereth (3 John 2).

Having good health won't assure us of salvation, but it will aid us in thinking more clearly, and hearing more surely the voice of God: And thine ears shall hear a word behind thee, saying, This is the way, walk ye in it, when ye turn to the right hand, and when ye turn to the left (Isa 30:21).

And then we have another encouraging promise as we seek for a sanctified character:

When we desire to be set free from sin, and in our great need cry out for a power out of and above ourselves, the powers of the soul are imbued with the divine energy of the Holy Spirit, and they obey the dictates of the will in fulfilling the will of God. ¹⁹

Surely it behooves us, living in the final moments before our Lord's return, to strive, with God's help, to live in harmony with nature's laws, that our *health* might provide us with undimmed moral discernment to make our *salvation* sure.

Endnotes

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17 Ellen G. White, Temperance, p. 18. 18 Ellen G. White, Temperance, p. 138.

19 Ellen G. White, The Desire of Ages, p. 466.

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THE PILGRIMAGE OF A BELIEVER

By E. Edward Zinke Silver Spring, Maryland

I will attempt to describe for you the intellectual journey I have experienced as a believer, reared and educated in the Seventh-day Adventist Church. My parents were and continue to be dedicated and active members of the Church, and our family spent some time in the mission field. Upon their return to the United States, my parents continued to be active in the development of new churches in the community in which they lived. From grade school through graduate school, earning a seminary degree, my studies were exclusively in Adventist schools and under the tutelage of very dedicated teachers.

Introduction to the Role of Reason

Two basic principles stood out in my education: the absolute freedom of the individual and the necessity to pursue truth. The highest exercise of reason was the task of thinking for ourselves. Not only was it our privilege, but also our duty to follow truth—wherever it might be found, and wherever it might lead.

Thus students stood in the line of the Reformation. We were free from the domination of the church, the state, and the Bible to both think and know for ourselves. Freedom was absolute, it was self existent. Freedom was a given. God, who operated in harmony with the laws of the universe, granted us freedom of thought, and submitted' Himself to the laws of evidence. The free exercise of reason provided the key by which truth could be measured.

Truth was discovered when we exercised our reason to discover the basic data of the universe, the basic facts of the case. Then,