

A PARADIGM SHIFT

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Having been a member of this Club for more than 30 years I have noted that the papers delivered by members tend to be related to their professions rather than their hobbies. I have strayed away from my professional interests but once and I decided, after that, that I should persist in the subject that is ever on my mind. I have a plaque in my office that was given to me many years ago by a neighbor with whom I had many fruitful and entertaining discussions. It reads as follows:

PRESS ON

Nothing in the world can take the place of persistence. Talent will not: nothing is more common than unsuccessful men with talent. Genius will not: unsuccessful genius is almost a proverb. Education alone will not: the world is full of educated derelicts. Persistence and determination alone are omnipotent.

The membership has changed greatly in the last few years and some of my subject matter is relatively new to them, although I recognize that a few members will soon see why I am claiming persistence. If for no other reason, it usually makes for lively discussion.

Hippocrates, regarded as the father of medicine, is said to have imposed an oath on his disciples. It was updated by the Declaration of Geneva and is now regarded as the basis for modern medical ethics. There is a common misconception that *Primum non nocere* (first do no harm) is included in the Hippocratic Oath, although it seems to have been derived indirectly from his work entitled *Epidemics*, in which he wrote, "As to diseases, make a habit of two things- to help, or at least to do no harm". Hippocrates held the belief that the body must be treated as a whole and not just a series of parts. He described disease symptoms and he believed in the natural healing process of rest, a good diet, fresh air and cleanliness. An important statement of his has been virtually completely ignored. "The function of protecting and developing health must rank even above that of restoring it when it is impaired". He was also the first physician that held the belief that thoughts, ideas and feelings come from the brain and not the heart as others of his time believed. The definition of a paradigm in Webster is "a pattern, example or model" and this brief reference suggests why Hippocrates is such an important historical figure. Even earlier than Hippocrates, the ancient Chinese people were forming a philosophical approach to health that gave rise to acupuncture and the basic concept of communication throughout the body. They understood the circulation of the blood long before Harvey rediscovered it. How the brain and body communicate is one of the hottest areas of modern medical research and I shall be saying more about that later.

Much of this was either forgotten or never learned in the West and we passed through the so-called Dark Ages where the treatment of disease was primitive and based on largely false concepts. The phenomenon of disease remained a mystery until the discovery of bacteria. These living organisms, invisible without the aid of a microscope, became the focal point of a paradigm shift in thought. Ever since that time, the concept of

infection has dominated our approach to human disease. For many years the concentration of research was attempting to find ways and means of killing microorganisms without killing the patient. The discovery of penicillin, as now everyone is aware, opened a new chapter that has become known as the “antibiotic era”. The same rules have been applied to the treatment of cancer, to kill the maverick cells without killing the patient. Some drugs that were developed as antibiotics were found to be too dangerous for that purpose and were diverted to become chemotherapy agents in the treatment of cancer.

Most people now understand what happened then. The bacteria turned out to be a lot smarter than we thought. We found that they were capable of undergoing genetic mutations that enabled them to survive the antibiotic action. As each new antibiotic was either discovered or synthesized, the bacteria became resistant and a formidable search continues today for stronger and more powerful antibiotics. It is a search that should remind us of almost the same phenomenon in agriculture. As each new insecticide has been invented to kill the insects that destroy crops, the insects have mutated and become resistant. In our modern world, we now have thousands of chemicals that are toxic to our own systems as we explore this never ending spiral of search.

The new paradigm shift in thought is represented in what is now known as Complementary Alternative Medicine (CAM), and the concept behind it is simple. First, we must accept the science that has given a clear image of evolution, even though the facts are still being debated. Whether we accept natural selection or Intelligent Design is immaterial. The animal kingdom has evolved in the presence of microorganisms. They have always been there, even when we did not know what infections were. Perhaps we can think of them as the only predators that we have because we are at the top of the food chain. The presence of these predators, if we accept Darwin, is related to survival of the fittest. A microorganism, whether it be a bacterium or virus, may be thought of as an agent to test our fitness to survive in the great experiment of evolution.

There are three possible outcomes to an infection. Either we overcome the attack completely and are restored to former health, or we die because the “enemy” won the battle. The third possibility is that there is a stalemate where the battle is neither completely won, nor is it completely lost. We can think of the body as like a fort that is under siege from an attacking army. The “war” that follows is the illness and it should be conceived in much the same way as we would expect a fort’s defense to be conducted. The soldiers in the fort line the battlements and cut down the foes as they climb the walls. But a successful outcome will depend upon a command post and a commander.

It is also obvious that an organization of this nature would have to expend energy in performing this defense and the human body has the same obligation. The expenditure of energy is, however, seldom considered in the treatments offered in modern mainstream medicine. The paradigm is “kill the enemy”, the attacking microorganisms and indeed, the cancer cells. The new paradigm shift is in supporting the defensive measures ordered by the “commander” so let us see how this can be converted into practical terms.

The brain, from a functional standpoint, is divided into an automatic reflex part known as the limbic system and a conscious or cognitive part. The limbic system is responsible for all our survival reflexes. The best known is the “fight-or-flight” reflex that enables us to kill an enemy or flee the scene. This part of the brain governs our primitive sexual drive, since it is aimed at survival of the species. It drives our hunger and thirst

mechanisms for our individual survival. It is, in fact the “command post” of the body and it is more than obvious that it is a computer. We do not have to will our emotions. They are automated by the limbic system in proportion to the incoming stimulus. The ensuing chemical reactions cause the sensations. That is why anger may be accompanied by aggressive action while fear may be accompanied by flight in this complex reflex action. The important emphasis is on the fact that it is not a willful action, though the cognitive brain is fully aware. In a sense, it is a conversation between the computer and the conscious or cognitive parts of the brain

Our glandular organization, known as the endocrine system, is controlled by the limbic brain and the hormone released from each gland is a “messenger” that carries the information from the “command post” to the “soldiers” that perform the work of survival. Because each hormone circulates back to the limbic brain, it forms a closed biofeedback loop system by which the hormone released from its factory gland can be controlled by the brain.

We also have a very complex nervous system that is like a direct telephone line from the limbic brain to all the organs of the body. This is known as the autonomic nervous system and it is a two channel system called sympathetic and parasympathetic. One system opposes the other. For example, the sympathetic arm will accelerate the heart while the parasympathetic will decelerate it. The “decision” is made by the limbic brain in accordance with the environmental situation that exists from moment to moment.

The reader might well be asking now, “What has this got to do with infection? Doesn’t the immune system take care of that?” I will try to answer it from my clinical experience. Some years ago, I was consulted by the mother of a six-year old child. For two years or more he had suffered from repeated episodes of sore throat, high fever and swollen glands in his neck. For each of these he had been given an antibiotic, the standard answer in the modern world since it would automatically be assumed that these episodes were repeated infections. I say that this was assumed because if such an episode is not shown to be caused by bacteria it is then assumed to be due to a virus. Without going into the abstruse details, laboratory studies showed that he had a defect in the supply of cellular energy. This was easily corrected by providing him with the specific “spark plug” that turned out to be a vitamin. The recurrent episodes ceased abruptly and his case was published in a relatively obscure medical journal. It may be hard for people that do not have a medical background to be aware that there is indeed a form of censorship in medical journals and it is a good reason for the extreme difficulty in making some progress that is “outside the box”.

We cannot prove the explanation, but circumstantial evidence has accumulated over the years to provide a hypothesis that at least makes sense. One of the most important things that I have learned, through library research and clinical experience, is that the limbic system of the brain becomes exaggerated in its response to external stimuli when its metabolism is marginally inefficient. A good way to do that is to eat food that consists of empty calories, so called “junk food”. We have known for years that consuming simple carbohydrates is the fastest and easiest method of doing this because it automatically increases the need for vitamin Bs, and vitamin B1 (thiamin) in particular. Empty calories simply means that there is no vitamin or mineral support within that food, a fact that can be compared with trying to run the engine of a car without an adequate spark plug. Another factor that must be considered is the rate of activity of the limbic

system in its consumption of energy. The better the brain, the better the fuel must be provided in order to run it. You cannot put poor fuel into a Cadillac because you ruin the engine. The little boy in the example given above had developed a limbic system brain that was acutely sensitive to his outside environment, undoubtedly related to the fact that his diet was insufficiently proportioned to meet his needs. It was responsible for setting up a detailed defense program much too easily and may have even been reacting spontaneously without there being any form of microorganism attack. Each illness was the “fort” going into “defensive mode” by order of the “commander” in the limbic brain.

We tend to forget that the symptoms that develop when we become infected with microorganisms are caused by the body going into a defensive mode. We feel bad so we rest and that conserves energy. The body temperature goes up on order from the thermostat in the brain because it creates a body environment that is antagonistic to the microorganism. At the same time, there is a marked increase in circulating white blood cells, the “soldiers” that go out to meet the foes and destroy them, the immune response. Glands that normally have an important part of capturing and destroying microorganisms become bigger in order to take care of an increase in work load. I think that it is very instructive to be aware that Louis Pasteur pronounced a perhaps little known gem, almost a parable. He said “I was wrong. It is the terrain (body /brain/complex) that matters”

I must now address the subject of body communication. This is one of the hottest areas of medical research. Think of the body as being like an orchestra. The conductor “plays” an orchestra. Each musician within a group of instrumentalists knows exactly what he or she has to do but all of them have to cooperate to produce the symphony. The analogy is that the body organs are arranged, each with specialized cells that are programmed by their DNA code. Like instrumentalists, they have to work together to “play the symphony of health”. The limbic system represents the conductor. The hypothalamus is the central core and uses the endocrine and autonomic nervous systems to deliver the necessary messages to the 70 to 100 trillion cells that make up the body. Thus a hormone is really a messenger of the brain and is controlled through the closed biofeedback loop system to which I have referred already. Each branch of the autonomic nervous system opposes the action of the other. They have to work in balance. As an example, the heart is beating at an intermediate speed between fast and slow when the body is at rest, the so-called resting pulse. If it is unusually fast or slow at that time it means that the system is out of balance.

It is clear that the brain must “talk” to the body cells and it uses a chemical language. The body cells “talk” to each other and back to the brain and they use thousands of messengers that can be compared with a chemical alphabet that enables this continuous communication. The messages have to be received and delivered to each cell as it is transmitted and so we come to yet another vital connection in the communication system.

As everyone knows, glucose is the simple sugar that is used by the body and particularly the brain as its fuel. But back in the middle of the last century it was discovered that there are no less than 8 other sugars that have to be present for the messages to be received. They CAN be synthesized by the body from glucose, but it requires a lot of energy since a large number of enzymes are involved in the process. Mother Nature, in her wisdom, therefore arranged for these sugars to be obtained from our diet. Well, you guessed it, green vegetable foods are the key

How do they work? Well, it was thought for years that protein molecules were the most easily manipulated into their different forms. It turns out, however, that the carbon chains of these carbohydrates are much more versatile in this respect. They can form something like miniature antennae that stick onto the outside of a cell and, like the reception of a radio signal, receive and pass on a message to the cell. These sugars are now known to be an essential component to the complex messenger system for every cell in the body, a remarkable and vital discovery in our learning about the way in which normal health is maintained and even resuscitated.

It is pretty obvious that we did not need a dietary menu broken down to indicate the various components needed in order to preserve our health. All we had to do was to consume the natural food supplied by Mother Nature. If this were not so, trees would have had to be labeled with such messages as “be sure to consume apples from this tree in order to get the necessary nutrients that they contain” Well, we have not continued to eat the natural food that was supplied for our benefit when we arrived as a species, however you believe we arrived. Agriculture arose about 10,000 years ago more or less for our convenience. It saved us from continuing to be hunter gatherers and enabled us to establish home territory. Ever since then we have gradually moved away from our biologic origins, basically in the overall pursuit of pleasure,-- taste pleasure,-- sexual pleasure and so on. What we need to appreciate much more is that every single source of the sensation of pleasure is from a message received in the brain where specialized cells react to the incoming stimulus. We over-stimulate these cells and it leads to what we call addiction. For example, our taste appreciation cells are programmed to react to all naturally occurring food to give us what we call flavor. Flavor is made up of permutations and combinations of sweet, sour, bitter, astringent, salt and metal. Thus I have dealt with huge numbers of patients who have become sick because of over stimulation of these cells with a particular pleasure ingesting food that they are using as a drug. These are overwhelmingly sugar and salt, both of which are causally associated with at least one condition estimated to affect 30 million American women; premenstrual syndrome. This is a condition of hyper-responsiveness in the conductor of the endocrine orchestra, not a disease for gynecologists.

Much the same thing applies to light. We were designed to receive full spectrum white light from the sun. That is made up of red, orange, yellow, green, blue, purple and indigo, the spectrum. If we shine blue light into the eye, we get a different brain wave pattern from that caused by, say, red light

Because of our monetary system, our essential greed and the fierce competition of living in the modern world, we have developed a tawdry food industry that seeks to give us the taste pleasures that we appear to crave. This industry is interested in our money, not our health. Yes, I have to give huge doses of vitamin/mineral nutrients to people that have been made sick exclusively from their diet and life style; This is to resuscitate the enzymes that have been damaged from years of abuse. The sugars that I mentioned earlier have been extracted from aloe vera and patented to provide a supplement that is in the realm of only one company. The supplement is extremely expensive to garner all the research that has gone into its production. It is said, however, that an ounce of prevention is better than a pound of cure.

I will close with another story from my hard won experience. When I was doing my first internship in my teaching hospital in England I admitted a man to the hospital

one evening with pneumonia. He was also known to have chronic tuberculosis. If I had shown his laboratory reports to someone who did not know about the clinical situation, they would have said that there was nothing wrong with him. There was little or no elevation of body temperature and no elevation of his white cell count. Next morning, my chief physician came into the ward and, from the door, said “O, I see that you have a dying patient”. He pointed out that my patient was looking straight up at the ceiling and “picking at the bedclothes with his fingers”. Every now and again he would reach up toward the ceiling with one hand and “pick at thin air”. My chief explained that this was the picture of a “toxic brain” that was the herald of impending death and that is, of course, what happened. At autopsy the entire body was riddled with overwhelming infection shown by multiple pockets of pus known as micro-abscesses. To understand this, it is the very opposite of what happened with the boy in the previous example. The “command post” in this patient was in such a state of decay, caused by malnutrition and disease, that it was incapable of mounting the bodily defenses needed to beat the infections. It is marginal nutritional chaos, resulting in inefficient oxidative metabolism, that causes the limbic system to become overactive. If the nutritional situation becomes worse, the limbic brain becomes gradually less responsive and fails to do its work. This part of the brain works 24 hours a day and is the most oxygen demanding tissue in the body.

If we look at the classic course of beriberi, the nutritional disease most associated with excess of starch in the form of white rice and deficiency of vitamin B1, we find that the autonomic nervous system becomes unbalanced in the early stages of the disease and exaggerated in its action. As the deficiency is maintained, the autonomic nervous system and the parts of the brain that control it become damaged and fail to function. The disease is then irreversible but is easily cured in the early stages by cutting down the empty calories and supplying proper vitamin nutrition. Thus, the new paradigm is a shift in thought to understanding how we can support the defensive mechanisms that each of us has inherited. It is clear that any form of healing is performed by the body itself and it requires a great deal of energy to carry out this complex role. By providing non caloric (vitamins and minerals) nutritional elements in excess to sick people, we stimulate the mechanisms by which cellular energy is synthesized. It is much like servicing a car or any other fuel-burning machine. We improve efficiency which is the engineer’s definition of how much work is achieved in proportion to the fuel that is consumed.

I must emphasize that I am not advocating a “quick fix” here. I have learned that the vitamin supplements that we prescribe do not work unless the empty calories are removed completely. During their removal the nervous system becomes progressively more sensitive to the offending foods in much the same way as the nervous system in alcoholics during their withdrawal phase. Such withdrawal must be maintained “cold turkey” until the nervous mechanisms have returned to a normal sensitivity. The computer then computes what is needed in order to carry out its obligations to defend us against the natural foes that surround us.

I strongly believe that, with the relatively few purely genetically determined diseases excepting, virtually all disease starts by causing dysfunction as I have described. If this dysfunction continues indefinitely; if we insist on ingesting poor fuel because it gives us a stimulus called pleasure; if we continue to stress ourselves unnecessarily with poor life style, the machinery of the body becomes much more susceptible to all kinds of

attack from the environment. Body organs may well break down and we then have what we are pleased to call organic disease. There is little doubt in my mind that most of the disease in America is diet related and I have seen people that I could not help here who have become well when they went to live in England or Europe where food issues are much more in keeping with nature.

In my view, it is impossible to be a physician without considering philosophy. I did not make the rules. My colleagues and I are responsible for explaining them and indicating how the rules should be interpreted and used. To live well requires self discipline and it is extremely unfortunate that our modern era thinks little about this vital component of the good life, well lived. We raise our children with the concept that all the “goodies” that surround them are their birthright, and even good for them, since sugar is supposed to provide “quick energy”. The colorful commercials are aimed at this deception. I said earlier that the only predators that we have are microorganisms. Unfortunately we have yet another and that is ourselves. It seems clear that homo sapiens should be renamed homo stupidus. We are perhaps the most dangerous animal ever to appear on the face of the earth. Our stewardship of planet earth is appalling and we will eventually succumb to our own neglect and our stupid concept that we are the only species that matters.