

Editorial

Changing Paradigms in the Practice of Medicine in Canada

Professor Thomas Kuhn died recently. In his influential book, *The Structure of Scientific Revolutions*, he described the history of the evolution of science as a series of major steps, from one position to another, somewhat like the quantum jumps of electrons from one orbit to another. Medicine does not evolve smoothly with the accrual of bits of information, but rather evolves through a series of major convulsions or spasms, shifting from one set of beliefs, to another.

Unfortunately, the history of medicine is rarely taught in medical school, so physicians are not aware that what they are practising today, which seems so well thought out and necessary, was once considered anathema to a previous group of physicians. If history was taught as it should be, physicians would know that progress can come only when new ideas are allowed into the theories and practices of medicine, and that it takes from 40 to 50 years before new ideas are accepted.

There is a human quality to the 40 years or two-generation gap between discovery and its general application. Almost every major discovery, every major paradigm shift, has taken this long and it will probably take even longer as professional bodies become ever more entrenched, before new paradigms will be introduced, unless there is a major shift in the way medicine evaluates new ideas.

This 40 year gap is described in the Bible. Why did it take Moses forty years to march the Israelites from Egypt to Israel across the desert when, according to one of my Israeli friends, any good walker can cover this distance in two weeks? The Bible explains that two generations were required so that the men and women bred in slavery could die out and a new generation of men and women could develop in the spirit of freedom.

I will use chelation therapy as an exam-

ple of how physicians use old, well-known paradigms to resist the introduction of new ones. Chelation is a safe technique which has been used on a large scale in the United States, and to a lesser degree in Canada. A safe, small chain amino acid called ethylene diamine tetra acetate (EDTA) is slowly injected intravenously over a period of hours. The fluid also contains other nutrients depending upon the particular case being treated. The indications are arteriosclerosis, arthritis, and symptoms associated with these. It has been investigated for several decades, and thus is comparable to all the surgery that is being done for these conditions. There are very few double blind controlled experiments testing chelation therapy, and in this way it is entirely comparable to coronary bypass, heart transplants, and other vascular surgical procedures.

Recent evidence arising from work in New Zealand, Australia and Brazil shows that these indications will have to be widened. Oslim Malina, a vascular surgeon from Brazil who uses chelation and orthomolecular therapy, found that in a series of 12 patients awaiting heart transplant who were given chelation treatment while on the waiting list, 11 did not have to have transplants. This is the new paradigm for treating certain forms of heart disease. The old paradigm in use for several decades depends upon drugs and on surgery such as bypass and transplants.

In New Zealand chelation is widely accepted and it is developing in Australia. My old friend, the late Lady Cilento, a pioneer nutritionist and well known and loved Australian physician, went to New Zealand in a wheelchair because she could not walk. She came home walking after having been chelated. When I met her several years later she was walking, was productive in writing books and in her practice.

Today we witness a major clash between these two paradigms, but as Professor Kuhn described it, the old paradigm, firmly entrenched in the minds of physicians, will do everything in its power to re-

sist the development of the new one. The supporters of the old paradigm will use all the power they have, including the removal of the right to practise from doctors who support the new paradigm, including the closing of medical journals to the reports by the new paradigm supporters, and including the imposition of onerous conditions which, if applied to every doctor practising, would drive every physician out of the country.

The medical profession was a guild in Europe many years ago. Guilds were very jealous of their knowledge and tried to prevent any dissemination of what they knew. When I was in medical school in 1945-49 we were just coming out of an era when all prescriptions were written in Latin so that patients would not know what they were getting.

Over three hundred years ago Sir Thomas Sydenham nearly lost his license in London because he questioned the ancient belief about the cause and treatment of smallpox. Smallpox was one of the major killer disease of that day, much worse than tuberculosis or AIDS, or any of the modern plagues (except, of course, the plague of affluent malnutrition which is one of the major factors in creating so many chronically ill patients today). The old paradigm about smallpox was direct and simple. It was based on the fact that knowledge of small viruses and bacteria was still in the distant future. Smallpox is marked by high fever and by the eruptions of little vesicles all over the body. It made eminent good sense to think that some of the humors in the body were overheated and were trying to escape by erupting through the skin. If, therefore, the disease was due to too much internal pressure, what could be more rational than trying to get rid of the humors even more quickly? Thus, for several thousands years the treatment consisted of increasing the fever by covering the patients with many blankets, by giving them strong alcohol, and by keeping the windows closed.

Sydenham studied medicine after he was demobilized from Cromwell's army as an officer. He followed the old paradigm, but after several years he became aware that there was something odd about the disease. According to the old paradigm, the greater the fever the better the results should have been. In England, central heating was not common and it was much harder to increase patients' fever in the winter than in the summer. Therefore it seemed reasonable to Sydenham that the death rate should have been much higher in the winter. But to his surprise, he found just the opposite of what theory predicted, that the death rate was very high in the summer, about 50%, and much lower in the winter, less than 5%. He realized that increasing the fever was not therapeutic, that, on the contrary, it increased the death rate, and that keeping the fever down was much more therapeutic. He therefore threw overboard the old paradigm and began to treat smallpox by bringing the fever down. He uncovered his patients, allowed them to drink light ales and allowed ventilation into their rooms. Once he had done that the death rate year-round fell to below 5%. He had single-handedly discovered a new paradigm, i.e., for infectious diseases too much fever is not therapeutic.

When he presented his findings to his associates, the predictable occurred. He was threatened with the loss of his license, and one of his colleagues challenged him to a duel. At least in Alberta, no-one, as far as I know, has been challenged to a duel with sword or guns at sunrise in the foothills of the Rocky Mountains. Sydenham was so hard pressed, he wrote a long brief to one of the nobility outlining his troubles. One of his concluding phrases was "A medical discovery is like a sapling in the middle of the king's highway. It will be trampled down by the galloping hordes if it is not fenced in."

Paradigms are associated with the culture in which they developed. Doctors adherent to the paradigm they have grown up with in their original country, will find that

this may clash with the paradigm which is current in any new country in which they wish to practice. A good example is the use of Chinese medicine. The concepts and therapies of Chinese medicine have been present many centuries, but this paradigm is having difficulty finding its place in western cultures. Changes are coming. For example the Tzu Chi Institute for Complementary and Alternative Medicine was inaugurated in Vancouver in October. This is a joint enterprise of the Tzu Chi Foundation and Vancouver Hospital with other medical institutions pledging support.

Dr. Wah-Jun Tze, professor of pediatrics, University of British Columbia is president of the new institute. This institute will examine a variety of alternative therapies such as acupuncture, therapeutic touch, ayurvedic medicine, herbal, homeopathy and native remedies. Orthomolecular therapy will undoubtedly also be included. The use of nutrients, which should never have been taken away from medicine and given to nutritionists, is close to the modern western paradigm and ought not be considered an alternative. It should be central to all medicine and is certainly complementary. The institute will be funded by the Tzu Chi Foundation, an international Buddhist Organization. Individual physicians are moving into Chinese medicine. In Alberta a professor at the University of Alberta is very much involved. Recently a psychiatrist in Calgary has given up psychiatry and is practising Chinese medicine.

Alberta chelation physicians will fully understand Sydenham's dilemma. They are trying to fence in their new paradigm to protect it from the galloping hordes, the College of Physicians and Surgeons of Alberta. The institution to whom they have appealed is the Government of Alberta, not one of the nobility. The provincial government responded by unanimously passing the following legislation to be given Royal Assent by October 1, 1996.

Bill 209 ordered "A registered practitioner shall not be found guilty of unbecoming conduct or be found to be incapable or unfit to practise medicine or osteopathy solely on the basis that the registered practitioner employs a therapy that is non-traditional or departs from the prevailing medical practices unless it can be demonstrated that the therapy has a safety risk for the patient unreasonably greater than the prevailing treatment."

The College of Physicians and Surgeons obviously has misread the act, either willfully or in a spasm of terror. The act reads very clearly that it will have to be demonstrated that treatment is more dangerous than the old standard treatment. I wonder how the Alberta College will show that chelation is more dangerous than heart transplant or bypass operations. The act does not say that physicians practising the newer therapy have to prove that their treatment is safer than is orthodox treatment, even though we all know that it is.

In response to the bill, the College has promulgated a series of rules which flouts the act of the Alberta Legislature a flagrant manner. It denies the will of the people of Alberta. I have seen the rules and they are plainly ridiculous. One of the more amusing rules is that physicians would have to show that the World Health Organization (WHO) approved of their treatment. It occurred to me that to be fair the same new rules should apply to all physicians in Alberta. Thus, an Alberta doctor developing a new procedure for treating cataracts would not be allowed to use it until the WHO had approved of this.

I am not surprised at this action of the College, which is only doing what it knows best, i.e. to fight with tooth and claw to protect the old paradigm, and in this way it is going counter to a rapidly developing trend all over North America. In the U.S.A., seven states have passed legislation similar to Bill 209, and many more

are in various stages of passing such legislation. They have aroused the anger of their state licensing boards. I have discussed this in a previous editorial. The demand for advances in medicine using herbs, vitamins, nutrition, and safe procedures such as chelation is so great that in the end all the attempts of the old paradigmists will be defeated and the new paradigm will have been established.

The Canadian Complementary Medical Association responded to the College's action. In its letter to the College it wrote, "We, the complementary physicians of Alberta, are not willing to sign the enclosed application for the following reasons:

1. It violates the spirit of Bill 209
2. It violates our human rights
3. It violates the rules of natural justice
4. It violates the Helsinki Accord of which Canada is a signatory.

"We believe that the guidelines and Application are discriminatory and that if signed they open the doors for the College to harass and entrap the signing physicians.

"It is also recognizes that the College Council, which does not represent the population of Alberta, has challenged the Government Legislature, which does represent the total population of the province. The College has done this by attempting to circumvent Bill 209, designed to protect the right of patients to receive and physicians to give complementary therapy without harassment."

The conservative stance of the old paradigm supporters is very costly to the patients and to the public. A recent example is the matter of folic acid and its use to prevent congenital abnormalities like spina bifida. It is estimated that each child born with one of these defects will cost Canada about \$40,000 by the time he or she is 14 years old. A few pennies' worth of folic acid added to the daily diet will prevent more than 75% of these children being born with this defect if it is taken in the first trimester. The Scottish doctor who first made the discovery was attacked and reviled in the usual

way by the old paradigmists, who viewed that vitamins were only needed to prevent classical deficiency diseases. Spina bifida was not considered a folic acid deficiency disease. Only after 15 years of arguing, and millions of dollars spent to confirm the original claim, did the profession change its view. Yet in Canada today the government is still living in the old paradigm and is merely suggesting to physicians that all women who are pregnant should take folic acid. The problem is that in one third of the cases women only realize they are pregnant after it is too late for folic acid to do any good. The U.S.A. is considering the addition of folic acid to the diet by fortifying food as was done to white flour with thiamin, niacinamide, riboflavin. A few pennies' worth of folic acid will prevent the need to spend \$40,000 for each child. We cannot afford the luxury of allowing the old paradigmists to sit back and prevent progress, especially when procedures and methods are being developed which are much safer than those currently promoted.

All complementary therapists should take heart. The U.S.A. government has passed a bill, the Access to Medical Treatment Act. Candace Campbell, Executive Director, American Preventive Medical Association, was very pleased with the final wording of the act. As I predicted several years ago, the movement which started in Alaska has swept across the United States and has been adopted in two Canadian provinces. If the governing bodies do not yield to this major activity by society, they will be swept aside and replaced by other boards more in tune with 21st century philosophy. The 20th century paradigm wars are nearly over. What will be the subject of the 21st century paradigm wars? We should see to it that in the future new ideas in medicine are given rapid sympathetic hearing and rigorous testing so that we have answers within 10 years, not the usual 40 to 50 years.

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