

Restoring The Caduceus On Technology and Medicine in a Time of Troubles

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It has often been said that we live in an age where darkness is perceived as light, and light as darkness. Strong words to describe strange times. The events of recent decades have shown us that our illusions of safety, stability, and "business as usual" can very suddenly and catastrophically change.

Exponential change is one of the key signatures of the present era. We have, over the past century, moved from Morse code to mobile phones; from saddles to computer controlled, air-bagged automobiles; from sabres at close range to intercontinental ballistic missiles.

The development of increasingly powerful technologies has changed the lives of all who live in wealthy nations. Machines now fly across continents and between planets. Our voices are carried effortlessly through the ether by microwave radiation. Acts of war are perpetrated with deadly precision and devastating consequence by remote control. Over half a billion computers, all of which will eventually break down and be discarded, hum away in numerous households, businesses, and institutions around the world. The exhaust gases of six hundred million cars daily poison the air of every city on the earth as their occupants sit comfortably, listening to the news or enjoying music on FM stations.

At the same time, the few remaining forests of northern Europe and North America corrode under a rain of industrial pollutants. In Australia and New Zealand, the skin of young children reddens and blisters even under cloudy skies. Icebergs the size of small countries begin to break off the Antarctic ice shelf and float northwards through shipping lanes. The great coral beds of Queensland's Great Barrier Reef and elsewhere whiten and slowly die as the oceans begin to warm. Deadly radionuclide plumes continue to spread out from such repositories as Lake Karachai in the former Soviet Union to pollute ground waters and rivers in their inexorable movement towards the great oceans. Nearly seventy million tons of vital topsoil are lost every year through

the championed methods of industrial agriculture. Politicians in Tasmania and the Amazon Basin ignore calls to preserve their great forests, and cede to the demands of reckless owners of wood mills who would turn ancient watchers of time into wood-chip and pulp.

Yet our minders continue to reassure us that all will be well. Through the power of technology and the indomitable human will, we will adapt to the changes wrought by technological civilisation and establish a *paradisum in terram* governed by free trade and global commerce, and energised by old and new generations of nuclear reactors powered by uranium, plutonium and thorium.

Our technocratic custodians will ensure that we remain well heeled and comfortably entertained in the midst of escalating social, political and environmental disturbances. Some among them are certain that because we are such a clever species, we will soon develop technological solutions for what are becoming increasingly dangerous environmental realities.

Home Truths

In 1991, the great cultural historian Thomas Berry offered a prescient view of the planetary consequences of industrialisation and the proliferation of new technologies:

The earth cannot sustain such an industrial system or its devastating technologies. In the future, the industrial system will have its elements of apparent recovery, but these will be minor and momentary. The larger movement is towards dissolution. The impact of our present technologies is beyond what the earth can endure.

These are not the alarmist comments of a renegade technophobe, but the considered judgment of one who has given over a major

part of his life to a pursuit of the meaning of twentieth century civilisation. Berry continues:

I do not wish to dwell upon the devastation we have brought upon the earth, but only to be sure we understand the nature and the extent of what is happening.

Our children are born into a world that was unknown a short century ago. They are more likely to be greeted by the glow of fluorescent lights and the glint of forceps and stainless steel than by the sound of flowing rivers and the murmur of waiting midwives. If they happen to arrive a little early and find themselves housed in a windowed humicrib, they will likely experience at a very tender age the banality of technopop piped day and night through FM systems in the brightly-lit prem wards of city hospitals. And if they have quivered like autumn leaves in the hypoglycaemic tremor that ripples through so many premature newborns, they can be sure thereafter of being lanced every three hours until their heels turn blue, as blood is routinely drawn to test their glucose levels with hand-held electronic devices.

And at the close of our days, we may well end up in similar environments with a constant monitoring of our pulse rate and temperature, perhaps wired and drip-fed through an ebbing consciousness, far away from home and family and whoever else may wish to ease us into the approaching night.

During the mid 1970s, Ivan Illich directed his incisive intelligence to the role of technology in medicine. He observed:

From Stockholm to Wichita the towers of the medical center impress on the landscape the promise of a conspicuous final embrace. For rich and poor, life is turned into a pilgrimage through check-ups and clinics back to the ward where it started. Life is thus reduced to a "span," to a statistical phenomenon which, for better or for worse, must be institutionally planned and shaped. This life-span is brought into existence with the prenatal check-up, when the doctor decides if and how the fetus shall be born, and will end with a mark on a chart ordering resuscitation suspended.

The picture has changed little since.

Broader Vistas

A few years ago, a young woman in her early twenties made an appointment with me for an osteopathic problem. During the consultation, she described how she had unexpectedly fainted at her place of work the previous week. She immediately

called a multi-practitioner clinic nearby and arranged to see a doctor. During the course of their brief interview, he cursorily examined her and informed her that her blood pressure was low. He suggested that this was the likely cause of her fainting spell. The young woman asked for some advice regarding how she should deal with this, and was told that she could use a little more salt in her diet. The doctor suggested that she should get back in touch if the fainting recurred and politely escorted her to the door.

During her visit with me, I made my own inquiries. This young woman held a full time secretarial position. Most of her days were spent sitting in front of a computer screen. She was also completing a university degree part time. Her late afternoons were spent grappling with peak-hour traffic and she spent her evenings attending lectures. She ate when she could, usually on the run, and in between boosted her energy with coffee, carbonated drinks and snack bars. The only exercise she took was walking from her car to her place of work or to the lecture theatre. She was tired a lot of the time, but always completed her assignments by the due date. I asked her whether she thought that sprinkling a little more salt on her salad sandwiches would clear the problem. She replied that she was considering seeing another doctor.

Although this should not be construed as a typical story, it does reveal much about the underlying assumptions of contemporary biomedicine and dramatically depicts the alienation that has overtaken certain practitioners who operate in fast entrepreneurial environments. It also reflects the impoverished consciousness that hurriedly seeks out singular causes and singular remedies for all health problems. It demonstrates the weakness and unreality of epistemological strategies that limit all variables in the pursuit of simple solutions to complex problems. This story exemplifies how some practitioners of biomedicine have lost sight of their patients and the broader nexus of their patients' lives.

One occasionally hears that religion, law and medicine are the most fixed and refractory of the professions. They all tenaciously hold to their established norms and practices and are usually the last to concede the need for change in the face of new understandings. We can also include politicians as part of this elite group.

Experience carries more influence than does dogma, and consensual understanding more consequence than does coercion. When collective experience crosses a certain threshold, institutional reassurances begin to lose their authority. The tree of biomedicine has been shaken on several fronts over the past half century by a number of informed and articulate critics. At the same time, we have witnessed a growing acceptance and patronage of more naturalistic styles of medicine by many at a grass-roots level within Western communities.



Early Light

Rene Dubos was one of a small cadre of scientists who researched for cures for bacterial infections during the 1940s. Inspired by the great successes of the early penicillins used in the cities of war-torn Europe, Dubos discovered a number of powerful antibiotic drugs produced by soil microbes. Yet even from the midst of such triumphs, Dubos cautioned against too simplistic a view of the nature of health and disease. Writing in the late 1950s, he observed:

By equating disease with the effect of a precise cause - microbial invader, biochemical lesion or mental stress - the doctrine of specific aetiology appeared to negate the philosophical view of health as equilibrium and to render obsolete the traditional art of medicine. Oddly enough, however, the vague and abstract concepts symbolized by the Hippocratic doctrine of harmony are now re-entering the scientific arena.

It has taken nearly half a century for this insight to reach the consciousness of Western doctors. Dubos' understanding was grounded in a sensitive reading of the currents of medical thought that have coursed through history. Although a committed laboratory researcher, he was never seduced by the positivism of an emergent medical technocracy. He had a deep understanding of the transformative influence of civil and sanitary engineers during the nineteenth century. These unwitting healers improved the health of nations by removing the sewage and wastes of burgeoning urban communities and by providing their inhabitants with clean water.

Writing in the late 1970s, Rene Dubos reserved judgement regarding the self-proclaimed status of biomedicine as a scientific discipline:

There is more to medical science than the reductionist analysis of cellular structures and chemical mechanisms, more to medical care than procedures derived from the study of isolated body systems. . . . The scientific medicine of our times is not yet scientific enough because it neglects, when it does not completely ignore, the multifarious environmental and emotional factors that affect the human organism in health and in disease. Reducing the normal and pathological processes of life to the phenomena of molecular biology is simply not sufficient if we are to understand the human condition in health and in disease.

Dubos was as much a shaman as a scientist. He understood our essential embeddedness within life, and the social, cultural and historical realities that condition our being as deeply as do physiology and biochemistry. With Barbara Ward, he was later to co-author the remarkable document of a civilisation in deep trouble, "Only One Earth".

A little closer to home, a newly graduated doctor from the University of Sydney began to pay attention to the less desirable consequences of an increasingly technologised medicine. Richard Taylor was to become one of the most courageously

outspoken critics of biomedicine in Australia. Taylor was active within the Doctors Reform Society during the late 1970s, and later published "Medicine Out of Control. The Anatomy of a Malignant Technology." The very title of his book reflects Taylor's uncompromising use of language. He wrote scathingly about the self-serving interests that shelter under the mantle of the profession of medicine. He cut deeply to reveal the fear-based mechanisms of control and compliance used by forces within the medical establishment to create vast numbers of docile patients dependent upon regular check-ups, expensive tests and questionable screening procedures.

Richard Taylor detailed the apparent inability of biomedicine to effectively address and deal with the root causes of disease and social pathology:

Rather than adopt measures that can be understood and carried out by the normal average person, the medical establishment has elected to usurp the capacity of the individual to look after his or her own health. Instead of encouraging self-sufficiency, independence and self-reliance in health and illness, doctors have persistently contrived to produce dependent hypochondriacs. Rather than emphasising change in lifestyle and mores by education and through environmental, social and economic channels as a means of tackling the main diseases of modern man, they have concentrated on doctor-patient contact and 'treatment' as the main means of prevention.

He called attention to the fact that pharmaceutical and technological fixes more often than not serve to mask a neglect of the over-riding role of social, environmental, economic and life-style issues in disease creation and perpetuation:

We must recognize that it is the way we live, eat, smoke (or not smoke), work, drive, exercise (or not exercise), that are the main determinants of our health. And that these actions are determined as much, or more, by concrete circumstantial factors relating to social and economic organization as they are by individual 'choice'.

In the years since the publication of Taylor's book, things may have changed a little. Everyone now knows about the dangers of smoking. Government funded health promotion units now encourage people to get off their couches and onto their feet. Organically grown vegetables, "heart-smart" beef, and free-range chickens are now available at most supermarkets for those who can afford it.

Yet fast food outlets continue to do a mighty trade. Television shows continue to be punctuated by advertisements for trashy sweets and frozen treats. And both printed and electronic media conspire to maintain a widespread social and cultural anaesthesia through a constant serving of the banal and the inconsequential.

The popular media places little value on promoting a reflective, informed, and autonomous culture capable of responding healthily to the myriad abuses of persons, peoples and planet to which we are daily witness. This would simply

not be in their interests. Yet the creation of an active public awareness is precisely what is needed if there is to be a healthy and systemic response to the deepening crises of technological civilisation.

Quickening Seeds

Across the Pacific, American philanthropist Laurence S. Rockefeller was apportioning significant research funds to a number of groups in the U.S. that were undertaking health-centred rather than disease-centred research.

One of the recipients of that funding was Kenneth Pelletier, director of the Stanford Corporate Health Program at the Stanford University School of Medicine. Rockefeller funded a five-year study of 53 prominent individuals who, in Pelletier's words, represented "prototypes of optimal health" selected from the heartland of corporate America. Pelletier and his group worked with such corporations as American Airlines, IBM, Apple, Bank of America, Hewlett-Packard, Lockheed and others. The group's findings are detailed in Pelletier's "Sound Mind, Sound Body A New Model for Lifelong Health" published in 1994.

One wonders how many of Pelletier's "prototypes" had elbowed their way to the top of the corporate pile, possibly at great cost in terms of human and ecological values. Two of his exemplars were associated with the formation and development of the Trilateral Commission, a body which has been identified by some as a politically motivated organisation that has used Western corporate wealth and influence to control political, military, and economic activities in a number of third world countries.

One also must query where the little man and the strugglers might fit into all this. Political economists have for decades described the U.S. health system as exclusivist, expensive, ineffectual and neglectful of the poor. As we have recently witnessed, Barack Obama's attempts to humanise U.S. health care have been continually thwarted by the efforts of drug company lobbyists and Republican politicians determined to keep the American health system firmly in the hands of corporate interests that do not wish to see anything change.

Writing in the 1990s, Pelletier was clearly aware that there was something terribly wrong with the direction U.S. health care had taken:

Our hospitals, intensive care units and morgues are the repositories of a collective social pathology. Medicine itself is symptomatic of a greater societal ill for which resources are limited and choices need to be made. These choices extend far beyond medicine into the realms of ethics, social responsibility, and morality, where answers are not amenable to the scientific method. Finding solutions will require that we be both creative and iconoclastic. Every individual and society pays dearly when social and economic problems become medical cases.

He also detailed some home truths about the practice of medicine in the U.S. at that time:

More than 14% of the total Gross Domestic Product goes to support this "health care system," yet it is one of the least effective and least satisfying in the world, in terms of its ability to elicit and sustain health. There is deep dissatisfaction with the quality of the relationship between health practitioners and patients, as all too often patients are seen as a cluster of symptoms, not as human beings with complex psychological, social and spiritual dimensions. Prevention guidance is negligible, and medical care costs continue to escalate out of control.

Interestingly, Pelletier and his group found that a significant number of their respondents made use of so-called complementary and alternative medicine during periods of illness. Pelletier reported that the majority of those who participated in the study regularly made use of such treatments as acupuncture, massage, homoeopathy, herbal medicine and spinal manipulation.

Unlike both Ivan Illich and Richard Taylor, Pelletier paid little attention to the contradiction between the present style of technological medicine and the need to develop a conceptually broadened, ecologically sensitive, and economically sustainable model of medical practice. And unlike Illich and Taylor, Kenneth Pelletier places much hope in the role of increasingly sophisticated and expensive medical technologies as corrective influences within the biomedical enterprise.

Kenneth Pelletier projects a peculiar ambivalence that embraces the principles of holism yet fails to address the complicity of biomedicine in propping up the dominant political and economic reality. His work leaves one with an uneasy sense that one of the unspoken agendas of the biomedical project is the preservation of the social and economic patterns that have come to be associated with "successful" capitalist economies.

Even while acknowledging the seeming inability of biomedicine to deal with the escalating social, environmental and economic pathologies that are a major cause of ill health in the U.S. and elsewhere, Pelletier confidently cleaves to the notion that corporate beneficence will somehow save the day.

One could argue that corporate activities over the past century, and more particularly during recent decades, have in fact brought us to the perilous edge on which our civilisation now hovers.

Perilous Times

As the Cold War intensified during the 1980s, a powerful wave of realisation began to sweep through the international medical community. Groups such as Physicians for Social Responsibility and International Physicians for the Prevention of Nuclear War attracted many doctors who were increasingly troubled by the political, social and economic influences that undermined the historical mission of medicine. The IPPNW were particularly vocal in both the lay and the medical press in their efforts to call our collective attention to the great danger confronting humanity during the heated confrontations between the US and the former Soviet Union during the Reagan Era.

During the early months of 1984, four separate editions of "The Lancet" carried letters or articles describing the total uselessness of biomedicine in the event of a nuclear war. Medical supplies and facilities within cities targeted by thermonuclear weapons would be vaporized in the initial maelstrom while those on the periphery would be destroyed in the inevitable firestorms that would follow. One respondent pointed out that even herbal medicines would be difficult to collect and apply in such catastrophic circumstances.

Although Gorbachev's reforms and the dismantling of the former Soviet Union brought the Cold War to an end, the present posturing between Israel and Iran, the tenuous relations between India and Pakistan, and the growing nuclear arsenal of China continue to remind us that the great nuclear beast has not been vanquished, but is merely sleeping.

It is now clear that industrial and technological civilisation have profoundly altered the delicate planetary equilibrium that had slowly and steadily developed over a period of tens of millions of years. Yet in the name of economic necessity, governments and large corporations across the world scramble to secure supplies of oil, coal and uranium, construct massive pipelines for the transport of dwindling gas reserves and oil derived at great environmental cost from tar sands, and commission the construction of numerous uranium-fired nuclear reactors across the planet.

The most recent failure of the Copenhagen climate talks reflects further the opportunism and cynicism of governments and multinational corporations intent on preserving the powers and privileges that have been won at great and continuing cost to the earth and her peoples. One of the major difficulties in dealing with these realities is the sheer magnitude of the problems. We are also confronted by the stubborn recalcitrance and the petulant fixedness of many of the political, industrial, and economic institutions that govern the big picture.

The contradictory forces at work in the present time can have a paralysing effect on our own sense of personal power and influence. Yet within this, there is no shortage of well-meaning but often impotent gestures that reflect the growing need to feel that we are doing something. We dutifully put out our plastic, glass, and paper wastes for recycling. Many of us have now begun to compost all vegetable wastes from the kitchen and return them to our gardens. Many now choose to walk or ride bicycles rather than using their cars. To display the term "environmentally-friendly" on the label of produce has now become de rigeur in marketing.



Meanwhile, convoys of semi-trailers continue to burn rubber and fuel as free trade and the market economy moves foodstuffs and other commodities interstate and around the world. If we happen to live in a large town or city, it is virtually impossible to buy a clove of garlic that has been grown within a radius of ten kilometres - or even a hundred kilometres - from where we live. Yet every supermarket carries huge racks of bulbs that have been imported from China and Mexico.

Ailing Bodies, Ailing Earth

In matters of personal health and disease, there is a growing understanding that powerful prescription drugs may keep us alive but will not necessarily keep us healthy. Like the planet itself, we cannot endlessly assimilate the products of a toxic civilisation without suffering the consequences. We are not infinite repositories capable of continually absorbing junk food, industrial effluent, agricultural chemicals, and workplace stresses without undermining our own physiological equilibrium.

The forces that have created and which continue to sustain the current style of medicine practised in the Western world, like those that have created and sustained technological civilisation, are powerful and entrenched. A diagnosis of cancer automatically commits one to a course of chemotherapy, radiation or surgery. Similarly, a diagnosis of hypertension, cardiac arrhythmia, hypercholesterolaemia or rheumatic arthritis will be treated by the same medications regardless of whether we visit a doctor in Auckland, Brussels or Chicago.

Yet in recent decades, cancer support groups throughout the Western world have shown that other therapies based on a combination of such approaches as detoxification, nutritional therapies, the use of herbal medicines, mental techniques such as meditation and guided imagery, stress minimisation, and even such methods as prayer and energetic healing can have powerful healing consequences. Similarly, practitioners of the various modalities of natural medicine have demonstrated that they have much to offer in terms of both preventative strategies and effective therapies for the treatment of many conditions.

The call for a reduction of carbon levels in the atmosphere has seen a determined push to cleave to existing methods of energy generation. Coal continues to be loaded into massive ships at Australian terminals bound for the coal-burning power plants of China and elsewhere as technocrats assure us that non-existent carbon capture and storage systems will soon minimise the damage. Despite the former vehemence of the present Australian environment minister, the mining and export of Australian uranium now helps to fuel a so-called nuclear "renaissance" based the construction of enormously expensive and ultimately dangerous nuclear power plants throughout the world. We still do not know what to do with the radioactive wastes they produce, and their eventual inevitable decommissioning is simply not part of the present discussions.

Despite the rhetoric about thorium-based and fourth generation IFR (Integral Fast Reactor) generators, the new reactors being built around the world will continue to make use of uranium and will continue to produce increasing quantities of dangerous wastes that we don't know what to do with. And when the figures are added together, it is generally agreed that these reactors will contribute only marginally to any reduction in atmospheric carbon levels.

In the same way that there are other ways of dealing with ailing health in the human body than the standardised and uniform approaches of biomedicine, so too, there are other ways of generating energy for use by human communities that will create fewer problems for future generations. The past two decades has seen a remarkable growth in the development and application of large and small scale solar panels, solar-thermal systems linked to salt-based heat traps, wind turbines, tidal generators and geothermal facilities capable of providing numerous safe and sustainable nodal sources of electrical energy.

Other essential influences that govern the return of health after major illness or disturbance in equilibrium are the principles of austerity and balance. The neglects and the excesses that have contributed to a breakdown in health must be addressed and corrected if there is to be a true convalescence and recovery rather than a temporary and short-lived remission. The wasteful patterns of consumption that have squandered both energy and diminishing resources, and the wilful disregard of and disrespect for the needs of the earth and her many interdependent systems that have characterised industrial civilisation must now change dramatically if there is to be any real turning around.

We have learned from Copenhagen that such changes are unlikely to come through the major political and economic institutions that call the tune. As in matters of personal health, we need to become directly involved in those small changes that can bring about collective transformational consequences. We are confronted by deep structural issues that limit the capacity

of both governments and large institutions to address fixed patterns of behaviour, even in the face of dire necessity. This is an ongoing discussion that each of us can expect to participate in coming time. ✨

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