New Frontiers of Health Education:

Exploring the Impact of Specialization as it Relates to Medical and Health Education and its Implications for Advancing Community Health

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ABSTRACT

This paper examines *specialization* as one of the unexamined and "taken-for-granted" philosophical presumptions which underpin the practice of modern medicine and health education. We argue that this gratuitous acceptance of specialization as a foundational component of the medical enterprise has adverse ramifications for health education which impede the advancement of community health. We suggest that specialization has been crystallized as a paradigmatic heuristic that almost imperceptibly encodes other unexamined philosophical assumptions, which are conjointly responsible for the ineffectiveness of modern medicine in its efforts to stem the rising tide of degenerative disease epidemics, such as cancer, heart disease, diabetes, etc. Lest we be misunderstood, it is imperative to make clear that it is no part of our purpose to denigrate the many quite astonishing breakthroughs in the technology of modern medicine. Our objective is to be critically constructive by showing that in regard to control of the epidemic of chronic disease, the medical preoccupation with specialization is not necessarily the best use of resources, and may in fact be inimical to the goal of diminishing the pervasiveness of chronic degenerative disease.

Introduction:

Popular belief to the contrary, the specializations of modern drug-based therapy and surgical intervention for the management of chronic disease is presently achieving only limited success (Laura R. S., 2009)(pp. 33-51). In spite of the expenditure of unprecedented amounts of money in developed countries, no significant impact is being made in reducing the rates of mortality from these diseases, and in a number of instances, for example, diabetes, both its incidence and mortality are increasing alarmingly (Campbell, 2006) (145). Contributing to this failure are a number of factors, two of which we elucidate here: (1) the implications surrounding the obsession with medical specialization and (2) the epistemic aetiology of 'specialization' in the patriarchy of power and methodological reductionism.

In this discussion medical specialization is defined as focusing one's academic and/or professional interests on a particular area of medical study, with the aim of developing a professional competency, or expertise into a much more narrowed and precise discipline than is afforded by the general field of medicine. The particular subdivision of the practice of medicine into various specialties varies, but medical specialties can be classified, though not exhaustively, along several axes. These are:

Surgical or internal medicine;

Age range of patients;

Diagnostic or therapeutic;

Organ-based or technique-based.

Throughout recent medical history, the most important of these has been the division into surgical and internal medicine specialties. The surgical specialties are the specialties in which an important part of diagnosis and treatment is achieved through major surgical techniques. The internal medicine specialties are the specialties in which the main diagnosis and treatment is never major surgery. In some countries anesthesiology is classified as a surgical discipline, since it is vital in the surgical process, though anesthesiologists never perform major surgery themselves. Many specialties are organ-based, in the belief that virtually all chronic diseases are associated with the dysfunctionality of a particular organ. Others are based mainly around a set of techniques, such as radiology, which was originally based around X-rays.

The age range of patients seen by any given specialist can be quite variable. Pediatricians handle most complaints and diseases in children that do not require surgery, and there are several subspecialties (formally or informally) in paediatrics that mimic the organ-based specialties in adults. Paediatric surgery may or may not be a separate specialty that handles some kinds of surgical complaints in children. A further subdivision is the diagnostic versus therapeutic specialties. While the diagnostic process is of great importance in all specialties, some specialists perform mainly or only diagnostic examinations, such as pathology, clinical neurophysiology, and radiology. This line is becoming somewhat blurred with interventional radiology, an evolving field that uses image expertise to perform minimally invasive procedures.

Our reason for labouring the structure of medical specialization is to show that it rests on the presumption of methodological reductionism, namely, 'bio mechanist reductionism' , which models the human body on the conception of its being a machine, comprised of ever increasingly smaller parts, in regard to which doctors are trained to be specialists. The presumption on which this medical

philosophy is based is that the best way to effectively medicalise and treat the human body is to break it down into its most basic physiological components to identify those parts which are dysfunctional. The idea is that the locus of disease is in these basic parts, namely, individual organs, further reduced down to the cells of which they are made, or to the blood which nourishes them, or reduced even further to the genetic components, where the program template for disease resides,

In summary , specialization depends upon the bio mechanist assumption that the human body is sufficiently like a machine that methodological reductionism can be used to break it down into its fundamental parts which are the source of disease, to be extirpated, either by surgical intervention or radiotherapy, or both. We believe that the reductionist presumptions and philosophy underpinning specialization are too limited and myopic to control the current epidemic of chronic and degenerative disease.

Medical Dominance

Because specialization creates its own intellectual patois upon which what we shall call, 'Expertise Discourse ' is built, the general public is, as a result, disempowered in several ways, which may themselves represent a subtle but neglected factor in the healing process. The paradigm of power represents the dominant attitude, and the orientation of contemporary society in relation to the material (and social) world. This attitude of power is a dispositional commitment to the domination of nature, which in turn has extended inevitably to the preoccupation to access power over fellow human beings. This lust for power, if examined at all, is often considered to be justified on the grounds that power over nature is necessary for survival. This fundamental quest for power is served by the aforementioned associated paradigms, all apparently justified, but without acknowledging some of their more sinister implications for the survival of humankind and the planet.

One such ramification is that the disempowerment caused by Expertise Discourse essentially means that the patient is implicitly obliged to surrender his or her body to the specialist doctor who is expert in the field. What is insufficiently recognized, however, is that in so doing, the patient is unwittingly relinquishing his/her responsibility for personal health by effectively making the specialists the custodians of his or her health. This happens, because students and people generally are implicitly discouraged from learning about the plethora of significant things they can actually do to take control of their own health while schools also succumb to custodial medicine by failing to teach the very things that could otherwise empower patients to regain responsibility for much of their own health.

In addition, these paradigms shape the practice of modern medicine in a way that inhibits the development of community medical practices that could significantly and effectively address the rising epidemic of chronic degenerative diseases. This being the case, it is essential that these hidden, unexamined, and taken-for-granted assumptions be determinately scrutinized as to their validity.

As we suggested earlier, the justification for the paradigm of power is the perceived evolutionary struggle for survival. The other paradigms—the city, reductionism, capitalism—are tools designed to ensure the survival of the epistemology of power paradigm. For this reason our presentation is concerned with the limiting nature of the paradigm of specialization in the pursuit of mastery over the current epidemic of chronic and degenerative diseases. Given that the dominant paradigm of power in medicine has been tardy in delivering on the promise of “health for all by the year 2000” (Wass,

1994)(p. 11), it should be no surprise that the health of the "children" of the paradigm—in this case, several generations of children brought up with specialization—should be found wanting, further compounding the failure of the bio-reductionist paradigm in addressing the health problems of western civilisation.

The paradigm of power in medicine has been extensively elaborated elsewhere by Laura, et, al. (Laura R. S., 2009), (Laura R.S., 1990), and will not be further addressed here. Our present concern has simply been to show that specialization is a representation of power which by its very nature is also inadvertently 'disempowering'. We have *en passant* referred to specialization as the handmaiden of the "city", and have suggested that reductionism served as the methodological tool by way of which specialization has been medically institutionalised, implemented, and myopically misguided. The paradigm of specialization is parasitic upon a commitment to methodological reductionism designed to achieve maximal mastery over the natural world, and all that it contains.

The Birth of the City as the "Mother" of Specialization

The city itself is the most significant product of the epistemology of power, and is the "mother" of *specialization*, which goes hand in hand with *reductionism.* The under-lying, all-pervasive paradigm of power, seeking to control natural forces, resulted in a collective commitment to the city, in which the division of labour required to sustain it served to facilitate specialization to ensure the efficient management of the said city, supposedly in the face of a hostile natural (and social) world.

For the paradigm of power to gain ascendancy, two things are required: (1) an individual or individuals who seek power over others in areas of life which interest them, and (2) a widespread abdication of personal responsibility in favour of those who wish to "rule". This abdication of personal responsibility clears the way for a ruling elite to seize power, to legislate how society shall conduct itself, and, for its own advantage, to restrict the power and freedom of the population at large. Eventually, the rank and file come to believe that they are better off for having relinquished responsibility in favour of a life of comparative ease. Specialists in political matters constitute one aspect of this socio-cultural phenomenon, in which the disempowerment of the individual in many, if not all areas of life, particularly schooling, sets the stage for the abdication of political responsibility as well as personal responsibility for health. In other words, the mass of the population must concur in order for the paradigm of power, preserved in the hands of the few, to exert its pervasive influence.

Specialization in medicine—as in other disciplines—is not a newcomer on the face of the earth. Traditionally, in primitive societies, specialist "medicine men" (and women), witch-doctors, have always—and still today—wielded a measure of power that is out of proportion to their skills, thus exceeding their knowledge and expertise. They have "enjoyed" a reputation that, if the truth were known, so to speak, could not be fully justified. As long as 3,500 years ago, specialization in medicine was already evident in ancient Egypt and Mesopotamia, as witnessed by the Ebers Papyrus and other paleontological evidence which have come to the light of day since the middle of the nineteenth century. (Porter, 1997) (p. 48)

In Mesopotamia, the code of Hammurabi engraved on a two-metre high stele found in 1901 in Susa in Iran and preserved in the Louvre, includes medical instructions for physicians. (Porter, 1997)(45). Ancient Egyptian, "physicians (*swnu*) specialized in particular diseases or body organs; in the fifth century BC, the Greek Herodotus observed that in Egypt 'one physician is confined to the

study and management of one disease . . . some attend to the disorders of the eyes, others to those of the head, some take care of the teeth, others are conversant with all the diseases of the bowels."

The Greeks and Specialization

By the middle of the first millennium BC, the Greeks, seeking a just and rational society, became aware of the dangers of specialization in general. The *polis* was in fact the Greek attempt to avoid the pitfalls (as they perceived them) of specialization while at the same time living in community. The Greek word *polis* has been routinely translated as "city-state" but in fact this is a poor representation of the true nature of the *polis*. The *polis* was, essentially a community of "free" citizens (as opposed to slaves) who gathered in a designated location (e.g., Athens) at regular intervals to discuss the affairs of the community—the *polis*. All citizens had the right to speak and to vote on all matters affecting the polis—and in fact were expected to do so.

The Greek experience gives an early insight into the nature of specialization, its dangers and its ultimate consequences.

***Arete* and *Aurtarkeia* in ancient Greece**

The Greeks tried "city" without specialization—though they had slaves (specialists?) to carry out mundane and unsavoury tasks! And they had certain kinds of "specialists", e.g., school masters, (though these too were often slaves).

The following passage from Kitto is enlightening:

> "The polis was made for the amateur. Its ideal was that every citizen . . . should play his part in all of its many activities—an ideal that is recognisably descended from the generous Homeric conception of *arete*, as an all-round excellence and an all-round activity. It implies a respect for the wholeness or the oneness of life, and a consequent dislike of specialization. It implies a contempt for efficiency—or rather a much higher idea of efficiency: an efficiency which exists not in one department of life but in life itself. . . . [A] man owed it to himself, as well as to the *polis*, to be everything in turn." (Kitto, 1951)(p. 161)

What happened to this idea of all round self sufficiency?

Progress broke the Polis

For the Greek ideal to survive, life needed to be simple enough that all could master the knowledge and skills necessary to perpetuate it. In Greece, life did not remain simple.

> "Occidental man, beginning with the Greeks, has never been able to leave things alone. He must enquire, find out, improve, progress; and p*rogress broke the Polis* (Kitto, 1951)(p. 161).

Eventually, Athens' "whole economic framework contradicted the law of *Aurtarkeia*" (self sufficiency) and, "the system in fact began to be unworkable when it contradicted the basic law of its being." (Kitto, 1951) (p. 162).

We are concerned here with the Greek disdain for *specialization, and* the death of the idea of *self sufficiency*. The defining characteristics of the *polis* were precisely those two pillars. Two significant factors that led to the abandonment of the *polis* as a workable democracy were: (1) expanding trade, requiring production, distribution, and the support of a merchant navy, etc., and (2) the threat of Philip

of Macedon coming in from the North necessitated a standing army rather than the former *ad hoc* arrangement, where war was conducted by the citizens between planting and harvest times.

Thus, in the words of Kitto: "Progress broke the polis." (p. 161). Progress broke the polis by destroying the capacity of man as an individual for control over his own destiny, and made him vulnerable to exploitation by specialists.

Ortega y Gasset, (Gasset, 1957, 1963), a noted Spanish philosopher of the last century, rather provocatively refers to specialists—in any area—as "learned ignoramuses". Ignoring his hyperbole, the validity of the point he is making is what concerns us here.

Gasset goes to the heart of the matter when he says that

> "science itself—the root of our civilization—automatically converts [the "scientific man"] into mass-man, makes of him a primitive, a modern barbarian." (Gasset, 1957, 1963)(p. 121)

He explains:

> "In order to progress, science demanded specialization, not in herself, but in men of science." (Gasset, 1957, 1963)(121)

While acknowledging that "scientific work does, necessarily, require to be specialized", Gasset elaborates the dangers and disadvantages in such specialization.

Over the past several generations, the scientist, "through having to reduce the sphere of his labour," has been "progressively losing contact with other branches of science . . ."

By 1890, says Gasset, the scientist had become one who

> "out of all that has to be known in order to be a man of judgment, is only acquainted with one science, and even of that one only knows the small corner in which he is an active investigator. He even proclaims it as a virtue that he takes no cognizance of what lies outside the narrow territory specially cultivated by himself . . . (Gasset, 1957, 1963) (p. 122)

> "But this creates an extraordinarily strange type of man. . . . The specialist 'knows' very well his own, tiny corner of the universe: he is radically ignorant of all the rest." (Gasset, 1957, 1963) (p. 123)

In earlier times, Gasset said,

> "men could be divided simply into the learned and the ignorant, those more or less the one, and those more or less the other. But your specialist cannot be brought in under either of these categories. He is not learned, for he is formally ignorant of all that does not enter into his specialty: but neither is he ignorant, because he is "a scientist" and "knows" very well his own tiny portion of the universe. We shall have to say that he is a learned ignoramus, . . . (Gasset, 1957, 1963) (p. 123)

In other sciences, not his own, this "learned ignoramus" will "adopt the attitudes of the primitive, ignorant man: but he will adopt them forcefully and with self-sufficiency, and will not admit of—this is the paradox—specialists in those matters." (Gasset, 1957, 1963) (p 123).

> *The result is that . . . he will behave in almost all spheres of life as does the unqualified, the mass-man.* (Gasset, 1957, 1963)(124)

This to some extent describes the unfortunate position adopted by many men (and women) with specialised medical education.

It may be noted in passing that the medically trained "specialists"—as opposed to medical "laypersons"—have traditionally been slow to accept solutions to medical problems that have come, even from within their own ranks. Some examples are: the passive and active opposition to Semmelweis' discovery that infection was transferred on the dirty hands of doctors from corpses to women in childbirth (Porter, 1997) (pp. 369, 370); the failure, for over a hundred years, of "medicine" to recognise what James Lind discovered about fresh fruit and vegetables in relation to scurvy (Porter, 1997) (pp. 295, 296); and the eventual concession of doctors, 100 years after a grass roots campaign began against the dirty habit, to the fact that smoking was harmful to health. (Porter, 1997) (p. 712).

The arrogance bred by medical training—indeed, by most specialist training—poses another threat to progress in medicine. For science (including medical science) to survive in the long term, it needs "from time to time" a labour of reconstitution, . . . an effort towards unification, . . ." Science "can no longer continue its advance unless a new generation" is prepared to think outside the box. (Gasset, 1957, 1963) (pp. 124, 125).

The specialist is in no position to undertake such a re-evaluation, because he

> "is ignorant of the inner philosophy of the science he cultivates," and he is even "more radically ignorant of the historical conditions requisite for its continuation; that is to say: how society and the heart of man are to be organized in order that there may continue to be investigators. (Gasset, 1957, 1963) (125)

It is against this background that we propose a radical re-think of our approach to solving the problem of widespread chronic degenerative disease.

The Challenge

Almost from the beginning, according to Porter, modern medicine has provided more "knowledge" than "answers":

> "In the short run, the anatomically-based scientific medicine which emerged from Renaissance universities and the Scientific Revolution contributed more to knowledge than to health". (Porter, 1997) (p. 11).

One glaring example of the ineffectiveness of modern medicine to meet the challenge of chronic disease is in the case of diabetes. In spite of millions of US dollars being spent on research, and on gathering virtually everything known that can be known, it remains that :

> "no cure has been found for that still poorly understood disease, and it continues to spread as a consequence of western lifestyles. Indeed, one could argue that the problem is now worse than when insulin treatment was discovered." (Porter, 1997) (p. 12).

Modern Medical science has not yet come to terms with the current epidemic of chronic degenerative disease. In addition to diabetes, which is virtually out of control, heart disease still kills *one in three in developed countries. In 2010, the number of new cases of breast cancer* diagnosed in Australian women increased to 14,181, from 5,303 in 1982. (Government, 2012)

Prostate cancer doubled in Australia between 1988 1nd 2008, and are expected to continue to rise. (Prostate Cancer Foundation, 2014)

Clearly, another approach is required. The idea that specialization has or is contributing to our problems, especially in the area of health, runs counter to everything we assume is true: for example, that more money will result in more and better medicines to control the diseases of affluence. The single most significant fact that would give the lie to this assumption—and claim—is the fact that America spends about twice as much per head of population on health as even the most affluent of other countries, yet in almost every marker of health, America stands at the bottom or very near the bottom of all developed countries; and in terms of dollars spent, by far the worst. (Bank, 2014)

The Way Ahead

Is there a way out of this bind? Surprisingly, the seed thought for the answer has been around from the earliest days of civilisation. In Greek mythology:

> "Pandora's box and similar just-so stories tell a further tale moreover, that plagues and pestilences are not acts of god or natural hazards; they are of mankind's own making." (Porter, 1997) (p. 15)

In ancient Egypt, there was a significant appreciation of the role of lifestyle in dis-ease. According to Porter,

> "health was associated with *correct living*, being at peace with the gods, spirits and the dead." (Porter, 1997)(49) (emphasis mine).

And in ancient Greece, Hippocrates (that is, the Hippocratic school) said: "let your food be your medicine", giving a clue that, even 2,500 years ago, the part played by diet (and lifestyle) in health was known.

> "The preferred Hippocratic treatment lay in dietary regulation . . . . good diet was crucial to health and so, the saying went, the first cook was the first physician."
>
> "But diet meant more than food and drink—*diatetica* (dietetics), the cornerstone of the healing art, involved an entire lifestyle. Ancient authors linked this therapy to athletic training, and to the well-regulated life as urged by philosophers. (Porter, 1997) (p. 59).
>
> Hippocratic medicine was also to win a name for being "patient-centred rather than disease oriented, and for being concerned more with observation and experience than with abstractions." (Porter, 1997)(56).

Lifestyle "Medicine"

Recent experience with a rising discipline called "Lifestyle Medicine" shows that the knowledge required for perfect health is minimal—very small indeed. University degrees are not required; the common man can learn all that needs to be known in a very short time. In fact, if properly taught, children could know and practice virtually everything they need to know to live long and healthy lives, by the time they enter secondary school.

As we have seen, the roots of lifestyle medicine were already evident in ancient Egypt and classical Greece. In 19th and 20th century America there was a plethora of initiatives in the area of lifestyle modification: Sylvester Graham, J. C. Jackson, R T Trall, A. Ehret, R. Sheldon, R. Schulze and others (Robinson, 1965). And in the late 20th century, medical researchers such as Colin Campbell, Dean Ornish, Caldwell Esselstyn, Neal Barnard and John McDougall have conclusively demonstrated

that lifestyle can not only prevent, but has the potential, with minimal financial cost, to arrest and even reverse such serious chronic conditions as heart disease and diabetes—even in the later stages. (Campbell, 2006), (Barnard, 2007) (Esselstyn, 2007), (McDougall, 1990),

A number of "official" studies have demonstrated the efficacy of lifestyle medicine at little cost to the public or private purse. Hans Diehl, for example, over a period of more than 25 years, with in excess of 55,000 "patients", has shown that lifestyle education and lifestyle modification can be effective in a community setting, even without input from medically qualified practitioners. (Morton, 2014) (Ludington, 2005)

Of course, these efforts may be dismissed as "folklore", "superstition", "unproven", and "unscientific" by many medical "specialists". However, as Gasset has pointed out, the authoritarian, condemnatory stance assumed by such "experts" is totally unconvincing in the light of their lack of training in all areas of knowledge apart from their own specialties. (Gasset, 1957, 1963)(p. 124)

The point here is that the current medical paradigm has resulted in little more than increases in cancer, heart disease, obesity, autism, and other degenerative diseases, along with obscene increases in the cost of health care.

This paper challenges all stakeholders in population health to begin thinking outside the conventional "specialist" box. Schools should offer truly educative units on how to live a healthy life, without deferring to specialist experts whose advice obliges those who listen to surrender control and responsibility for their health to someone who fails to see that lifestyle medicine can be learned by all, and is self empowering in its acquisition.

If our society is serious about addressing the rising incidence of chronic degenerative diseases there needs to be a three-pronged approach:

1. Education for health must be introduced into the schools; together with school canteen policies that actually enhance health rather than catering to the demands of "uneducated" students, driven by media promotions.
2. Parents and citizens must be educated in the principles of health; and last but not least,
3. Medical education needs to be removed from the prerogative of drug companies and put in the hands of non-profit health organisations with an uncompromising commitment to truth in health information. The current profit-driven system, by its very assumption of the high moral ground, unwittingly contributes to the current epidemic of chronic degenerative diseases. [What Illich designates as "social" and "cultural iatrogenesis" (Illich, 1976) (pp. 133ff).

What can the individual do?

1. The mass media exhibits a passing parade of "experts" who dazzle with their "expertise", generally without reference to the historical, social, or epistemic context of their supposed expertise. One should educate oneself with the aim first of emancipating oneself from the media brain-washing to which most people subject themselves.
2. Aggressively remove all the negative information to which children are exposed on TV. Parents, look for other ways to occupy your children—playing outside in the dirt, growing home garden vegetables may be a good start.

3. Agitate for true health education in schools.

Health Professionals

Today, in the face of almost unimpeachable evidence, much of mainstream medicine is strenuously resisting the thought that diet and lifestyle may have something truly significant to contribute to the prevention and reversal of the current epidemics of heart disease, diabetes, cancer, etc. The result is that, precisely for the reasons outlined above, many miss, dismiss and demean the efforts of people outside specialist medical science to improve the health of the population,

Health professionals could profitably widen their horizons by familiarising themselves with the considerable accumulated reports of success (and failures) of the lifestyle approach to treating disease.

Lifestyle Medicine may not turn out to be the cure-all that some think it is, but the lifestyle approach should not be ridiculed or dismissed by those who are currently practicing a specialist approach that has to date clearly proven itself to be ineffective.

It is becoming obvious that what is needed is not more and better medicines and surgical procedures, but a population-wide change in, and modification of, the lifestyle factors that cause the diseases in the first place, and which keep those diseases virulent—even in the face of heroic medical treatment.

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