Papers on Medical Philosophy by M L Kothari et al

Sl.No.	Description	Journal	Co-Contributors
1.	Personal View (Knowledge is Confusion)	British Medical Journal	Lopa A Mehta
2.	An Illness Called Medical Science	Journal of Post Graduate Medicine	Lopa A Mehta and V M Kothari
3.	Time, Uncertainty, Relativity, Normality and Modern Medicine	Journal of Post Graduate Medicine	Lopa A Mehta
4.	The Trans-Science aspect of Death	**The University of Chicago**	Lopa A Mehta
5.	The Mythology of Modern Medicine Cocoon of Causalism	Journal of Post Graduate Medicine	Lopa A Mehta
6.	Non Pathology: The bedrock of pathology	Journal of Post Graduate Medicine	Lopa A Mehta and V M Kothari
7.	Cause of Death - so-called: Designed Event Acclimaxing Timed Happenings	-do-	-do-
8.	Scope and Limitations of Therapies: A Neomillennial Epistemological Evaluation for Helping Medical Practices	-do-	Lopa A Mehta
9.	White / Might has Rights: Apartheid and Health	-do-	-do-
10.	Utopia and Modern Medicine		
11.	Qualtum Cosmics-and-Chaotics—the Ultimate Tortoise in Physics and Modern Medicine		
12.	The Mythology of Modern Medicine- I		
13.	The Mythology of Modern Medicine- II		
14.	The Mythology of Modern Medicine- III		
15.	The Mythology of Modern Medicine- IV		
16.	Violence in Modern Medicine		

Some Forerunners
of
The Art and Science of Medical Practice

Herein are some of our past publications catering to the themes discussed in the foregoing text. They reflect an uninterrupted stream of biorealistic thoughts we have been evolving. These essays complement the book and offer areas of lateral thinking. Each essay is readable in isolation and has stood the test of time.

One

Personal View (Knowledge Is Confusion!)

Personal view, BMJ, Dec, 11, 1976

Kothari ML[1], Mehta LA[2]

Modern Medicine (MM) is under attack- recently by Platt, Illich and Co. Lord Platt's autobiography *Private and Controversial* abounds in "How to Avoid" MM. Illich's indictment is now a byword. Malleson's book *Need Your Doctor Be So Useless?* puts MM in its place. MM continues its sinister march, regardless. Why? The way medical students are taught and assessed may have a significant role to play.

The climactic moment in the life of a medical student, undergraduate or postgraduate, comes when he sits for the

1 Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Associate Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

qualifying examination which is *ipso facto* a story of blow for blow, tit for tat: For every question asked the student dishes out an answer. The indoctrination, which began in the medical school, that every medical question has an answer reaches its high mark. An apogee of such examinational indoctrination is the multiple-choice system epitomized by the ECFMG. Not only is there an answer for every question but a wide choice as well. Tragically, this tit-for-tat grooming breeds a code of medical practice where in the path of Martha - the urge to action-overrides the path of Mary - the need to contemplate to the point of inaction, the only way to the Hippocratic ideal of *primum non nocere.*

The something-can/must-always-be-done milieu that a medical student grows up in, arms him with a conviction that every complaint or illness - from dyspepsia to death - has an appropriate and effective remedial measure. In Pavlovian terms, investigation/prescription/ operation becomes a conditioned-reflex-response of the physician to the presence of a patient, nurtured by the illusion that anything done for the patient must be good for the patient. The word *cure* connoting, a la MM, "successful remedial treatment" represents the *ultima Thule* of such arrogance. Oliver Wendell Holmes described his teacher Jackson as one who never talked of curing a patient "except in its true etymological sense (L. curatio, from cura meaning care) of taking care of him." Holmes rightly went to the extent of generalizing that "the doctor who talks of curing his patients belongs to the class of practitioners known in our common speech as quacks."

A direct spin off from the dogma of action is the saleability of the action as a commodity called medical service. It shouldn't be surprising that the motto of a powerful medical association is: Fee-for-service. The Fee-for-service principle, in an affluent or a tottering economy, fosters a "must-do-something" relationship between a physician and his patient: The physician does investigate, diagnose, treat and the patient pays. Like many items in modern consumerism,

"medical service" is often sold not because a patient sorely needs it, but because there is a buyer capable, financially, of taking it. Forces promoting the foregoing are typified by the glossy, colorful and costly, cartons and pamphlets of pharmaceutical firms, promising as in Tono Bungay, to cure this and cure that by a preparation boasting of 14 vitamins and 8 minerals, in forte concentrations that eventually are thrown out in urine to nourish and fatten the rats in the city sewers. In the USA it is said, the chief indication for the removal of an organ is the presence of that organ. John Bunker, in a 1970 expose of "A comparison of Operations and Surgeons in the United States and in England and Wales," showed that the fee-for-service principle contributed to the vastly greater number of operations in the United States. "Given the choice of administrating or withholding therapy, whether the therapy is prescribing drugs or performing an operation, the American physician is likely to choose active therapy" (Bunker). In the absence of the remunerative incentive, Bunker remarked, many things not essential may not have been performed. Things in Madras or Bombay are not different. It is money that makes the mare of MM run, the way it does.

The patient, the buyer of medical service, stands equally to blame: He is willing to pay only for something that is actively done - a prescription or an operation. Iatrogeny — harm from medical advice, investigation or treatment - has its roots as much in the willingness of the patient to buy medical service as in the doctor's readiness to sell it.

Yet one more side effect of MM's hubris called **every-question-has-an-answer** is the progressive emergence and dominance of medical technocracy evolved out of .what Gene Marine calls the engineering mentality: "It comes about because, somehow, Americans (followed by all other countries) have become fascinated with technique as the answer to everything. Our dawn and twilight devotions are in homage to know-how, and the straight-line solution is our way of dealing with the, questions of life, from seduction

to South Vietnam. For example, until recently patients of cardiogenic shock were given vasopressors to raise the blood pressure, and the blood pressure rose strikingly to the satisfaction of all concerned "except of the patients, who died." The story does not end with this. So often, the medical technocrat only knows that it is the technique and not the outcome about which he is so sure. And it is natural that he does not use on him what he is too ready to use on a patient. A telling example of this is the surgical treatment of peptic ulcer. Over the years, the authors have seen, at the hospital attached to their place of work, patients young and old being gastrectomized or vagotomized for peptic ulcer, but they have yet to see a physician - peptic ulcer being so common among city practitioners - going under the stomach - sacrificing or the vagicutting knife of the surgeon. Alvarez has remarked in his autobiography that while, during his 25 years at the Mayo clinic, operations for peptic ulcer were a daily routine, he never saw a single doctor with peptic ulcer submitting himself to "curative" surgery.

A time has come to shatter the long cherished illusion, nursed by the doctors and their patients alike that MM knows and therefore has the right answers to all the questions. The **cliche** that **knowledge** is power works out differently for problems medical. **Knowledge is confusion.** Take for example, diabetes mellitus. Boyd, aphorises that "the more we know about diabetes, the less we seem to understand it." In place of diabetes, you could put cancer, hypertension, heart attack and what have you, and be dead, right. Hambling, a leukaemologist, draws a cogent picture in the BMJ (3:407, 1974):" Leukemia is a frustrating disease.... In a life geared to examinations, where questions have answers, one is apt to become self-critical when the patient poses problems that cannot be answered, when no matter how much ingenuity one employs one's treatment kills the patient and not the disease....The path to sanity is marked by the realization that some problems have no answers." A compound word, German-style, **formanydiseaseswehavenoremedyatall,** sumup the whole situation.

Every medical college ought to have a Department of Non-knowledge which keeps on telling the student of MM's rank ignorance about outstanding problems and about the proposed therapeutic solutions. Platt, Illich and Malleson could be profitably read by students while in the above department, along with say, Dubos's **Mirage of Health, Utopias, Progress** and Biological **Change, and Burnet's Genes, Dreams and Reality** which is a cogent summing up of MM's scope and limitations. Such an arrangement would eventually teach medical and lay persons that good medical education is one where the student learns that many problems posed by MM are non-questions that can only have non-answers. At graduation, beside the Hippocratic oath that a student is made to read, he should also be given a copy of a litany by Sir Robert Hutchison:

> From inability to let well alone;
> from too much zeal for the new and contempt
> for what is old; from putting knowledge
> before wisdom, science before art, and
> cleverness before common sense, from treating
> patients as cases, and from making the cure of the
> disease more grievous than the endurance of the
> same, Good Lord, deliver us.

Many a disease, by itself, is self-limiting. It comes and goes away, and like common cold, stays for 7 days if treated and for a week if untreated. It is a poorly emphasized generalization that 9 out of 10 illnesses that lead to a patient-doctor encounter outside the hospital, could subside on their own without any physically intervention.

> Munsif, a noted Bombay surgeon trained in UK, used to cite an aphorism: **A good surgeon is one, who knows when not to operate.** What a medical student needs to learn all along is, when not to act. Non-medical sciences are coming to accept that many problems are, a la Weinberg, trans-science. Medical teachers and students, had better understand that many things faced by MM are trans-MM.

Two

An Illness Called Medical Science

Kothari ML[1], Mehta LA[2], Kothari VM[2]

In, *Asking We Walk, the south as new political imaginary,* editor Corinne Kumar, Streelekha Publications, Banglore, India, 2007.

Medical practice – resting on an amazing variety of *–pathies* - is ailing. Medicine-watchers are, now, unabashedly expressing their despair over the state-of-the-art medical care. Allopathy, the so-called modern medicine, is a huge-output, poor outcome exercise. The science of medicine is drowned in the technologic deluge of devices and gadgetry. Machines never had it so good, medical-man, never so bad, the world over.

1 Ex. Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Ex. Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
3 Associate Professor, Department of Medicine, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

The whole drama of medicine revolves around 3 central characters – the *patient* (from *pati* = to suffer), the *doctor* (director), and *medicine* (from Skt. *matra* and L. *modus* meaning something given/done in a *precise measure).* The background score to the drama is provided by a panoply of *profit-seeking agencies,* namely, the makers-n-marketers of drugs and devices, a game in which the medical man is not averse to lending a helping hand. A patient, one may generalize, is a way to profit. How come such an evolution, such an impasse!

The slip on the part of the patient/public/powers/philanthropists is that they – encouraged always by the medical establishments – have set their expectations too high and unrealistic, against the working of biology and nature – a pill for every ill, a cure for every sore. The net outcome is that of all the services in a well-to-do society, medical care has chosen to be progressively costlier to the point of being inaccessible to most, and being the fifth commonest cause of personal bankruptcy in the USA, and second in India. Hence the learned tome from Rockefeller Foundation: (Medical establishment is) *Doing Better,* and (the patient-world is) *Feeling Worse.* The *Better* part is that a few decades ago the USA annually spent 8-10 billion dollars on health; today it is 5 billion dollars a day. The *Worse* part is that doctor-induced illness/death are all time high.

Robin Cook, the ophthalmic man turned prolific writer, concludes his *Mind Bend* on a candid note: *What we are witnessing today is the gradual but quickening pace of the intrusion of business into medicine. It must be understood that the corporate mentality of the balance sheet is diametrically opposed to the traditional aspects of altruism that have formed the foundation of the practice of medicine, and this dichotomy augers disaster for the moral and ethical medical field as a high-cash-flow, high-profit, low-risk, and low-capital investment industry that is now particularly ripe for takeover.*

Medical practice as it has been known in this country for the last thirty years or so is changing. The doctor-patient relationship used

to be the fulcrum, but it is losing ground to economic and business interests. The American public has a right and an obligation to know what kind of system is evolving

Ivan Illich, with typical bluntness, summed up the scene way back in 1975: "*The pain, dysfunction, disability, and anguish resulting from technical medicine makes medicine one of the most rapidly growing epidemics of our time.*"

A relationship, more basic to mankind than motherhood or marriage, is facing a grave crisis. Is it possible that what is lacking is some well-founded clarity on either side of the physician's desk, a clarity writ large on the wall, but connived at for too long for many reasons? What if we all accept the global survey that 9 times out of 10, medical pills, potions and procedures are unwarranted, and that many of them are responsible for the current epidemic of *iatrogeny*, meaning doctor-induced-illnesses? What if, for this exercise all that we need is rationality on the part of the patient-n-public and enlightenment on the part of doctors-n-donors? That done, you end up with an abiding harmony of *Patient Rationally Informed, Doctor Enlightened***.** A *PRIDE Symphony* that would emit notes to make medical care an opportunity for personal evolution, economy of effort and expense, ecological kindness, a friendliness that results in trust leaving little room for litigation.

The *Pride Symphony* enshrines notes that are not judgemental but perspectival. The aim is to provide music rich in empathy, understanding with due mutual regard and trust, and above all, the exaltation of genuine human spirit of compassion and camaraderie. Such movement does not exclude *All Things Bright and Beautiful* that the Good Lord made, namely, the animal world.

The seven notes enunciated below are accessible to the lay as much as to learned, subserving merely what Jacob Bronowski called, *The Democracy* of *Intellect*. Hence the whole text that follows rests on (what Einstein was fond of) self-evident-

truths, that entail no learned bibliography or references at the end of the submission.

Note One: Epistemology rules the roost: Apples still fall down

Epistemology or gnoseology, is the science of knowledge that evaluates a piece of knowledge/information that you have, to tell you what you *can* do, and what you *just can't.* Over 330 years ago, an apple chose to fall on Newton's pate and the universal concept of gravitation was born. Since then, scientists know all about gravitation to the 40th figure after the decimal point, except that gravitation refuses to obey any human command, and so, as Ardrey put it, apples still fall down. An atlantic surfeit of knowledge need not empower you to alter what you know about this.

Modern Medicine knows all about the cancer cell/coronary artery/cell/collagen and that yet, none of the above are ready to take any order from MODERN MEDICINE. After the supremacy of the nucleus was forever usurped by the cytoplasm, cytologists are stumped by the profundity of their ignorance on the cell. Ditto for the collagen that the cells manufacture to house themselves. So we suffer ails from Basic Binary Blindness on the two components that constitute animal life, namely cell and fiber. Wound-healing, the presiding deity of the science of surgery and human survival in this age of trauma, has refused to divulge the secrets of its superb, unsupervised efficiency, be it a little scratch while shaving, or multiple trauma following an accident or planned surgery.

Accruing from the above is Modern Medicine's incapacity called defitionlessness – no definition of normal/abnormal, cell, gene, cancer cell, cancer, coronary artery disease, blood pressure, stroke, arthritis, pathology, inflammation, infection, fever, illness, sickness. So, it is a free for all in which everything is accepted as proper. Lewis Thomas, who passed away recently after spending a lifetime as a keen watcher of biology and medicine, generalized that the greatest discovery

of the 20th century medicine is that of its profound ignorance. Ergo, MODERN MEDICINE is basically an art – in words and action.

Note Two: Disease-n-Death are basically unreaserchable

It is customary for private philanthropy, powers that be, and the public to swear and act, by the sacred words called science-n-technology that serve as the *Open Sesame* to all the ills that plague humankind. Backing this is a mindset that was epitomized in the 60's by the American creed of perpetual breakthroughs whereby *The difficult is achieved immediately –The impossible takes a little time.*

In reality, from common cold to coronary artery disease and cancer, animal/human ailments are basically unresearchable, and therefore, technologically unsolvable. Take two "major killers" as paradigms. Breast cancer is a skin-gland cancer, and hence most superficial one, palpable readily, yet the one that has not yielded an inch from the prechristian time of Sushruta-n-Charak. Heberden described coronary artery disease problem *circa* 1768, when a set percentage died in the first 3 hours, as they do today. MODERN MEDICINE has gained in imaging a problem and accessing the site of lesion, without any gain in the outcome. As Clyde Dawe of the National Cancer Institute summarized, MODERN MEDICINE has not discovered one more useful fact after slaughtering billions of animals on the altar of cancer research, than what was known before the experiments began.

Sir Macfarlane Burnet, the Australian Nobel-laureate has concluded that the age of lab research in MODERN MEDICINE has come to an end. Most, if not all, the labs could be shut down to gain two-fold benefit: Animals will have right o survive. And the absence of violence to them will soften the medical mind that seems to have glossed over Solzhenitsyn's warning: *If we stop loving animals, won't we stop loving humans too.*

This may sound depressing for Bill Gates and the like, but they could listen to a cancer researcher: *Stay out of cancer*

research because it is full of money and just about out of science. Ditto, for coronary artery disease, stroke, arthritis, high blood pressure, and what have you. It is not for the want of sophisticated instruments that they are not researchable. It is because of the fact they are all integral part of human body's biologic trajectory governed by laws which interlink all the living beings into one mass beyond space and time.

No wonder that in the above game, gene-genetics-n-heredity, have failed to be helpful. Samuel Brenner, a geneticist recently Nobeled concluded a session on the future of genetics on a note of "romantic pessimism": Geneticists promise too quickly and too much, only to realize that "We are always wrong." It is not difficult to comprehend why it is so. The tune on genes is played by the total biomass synchronously transcending the limits of space and time.

Note Three: Microbiouniverse

The viruses and bacteria, barely visible through the microscope, aggregately create a microuniverse that outweighs the total animal biomass – worm to whale – by 100 times. They are the host and we humans the pampered guests. We survive and thrive through their grace. Each human carries on the body 10 bacteria for every single human cell, the bacterial biomass weighing over 2kg. The fact that the human population has been, recordably, climbing up and up 1450 A.D. onwards, that after arrival of antibiotics the survival/mortality rates of humans have shown no deflection, and the fact that despite crass pollution of air and water, the poorest countries keep on piling up their population, can only mean that the axiom that *Friendship between microbes and man is a rule, enmity an exception* can be accepted as valid. Koprowski in his address *The future of infectious diseases* in a Ciba symposium on *Man and His Future*, 1963 issued a stern warning: *If a universal antibiotic is found, immediately organize societies to prevent its use. It should be dealt with as we should have treated, and did not treat, the atomic bomb. Use any feasible national and international deterrents to prevent it falling into the hands of stupid people who probably will still be in the majority in your time as they were in*

mine. Professor Raeburn writing in *The Lancet*, 1972, on *antibiotics and immunodeficiency*, delivered a grave prophesy: *In years to come, the story of antibiotics may rank as Nature's most malicious trick* against mankind. Sanderson, also of UK, generalized that *Bacteria have successfully survived the antibiotic era*" MODERN MEDICINE, now, has enough data to permit the following guidelines for the layest of the lay.

1. Humankind's earliest grandparent is a bacterium, whose enzymatic machinery perfectly matches that of man.
2. A Britisher had generalized in the 60's that a single microbe has greater genius than all the labs of the world put together, a truth that stands unchanged. A single virus or bacterium is capable of completely eliminating the most vicious parasite on Mother Earth, namely, man.
3. So, antibiotics and the like, are best kept at bay. If you can talk, eat and move around, no matter what your problem, antibiotics are best avoided. No out-patient merits an antibiotic prescription.
4. Antibiotics are best avoided in infections that have an exit to the exterior in the form of cough, sputum, urine and stools.
5. Accept antibiotics for deep-seated infections, the products of which have no natural exit. This falls in line with the Hippocratic axiom of desperate remedies for desperate situations. Such occasions are as such uncommon, most infections, affect the skin and mucous linings.

Note Four: Two pregnant Sanskrit terms – *sharir* and *deha*

If the earth were reduced to pure matter like in a Black Hole, it would measure not larger than a golf ball. *Materially,* you as a human being are next to nothing. In the words of Alfred Portmann, *you are*, like all forms of life, *configured time.* Time, as it were, has assumed your shape. You are therefore subjected to TIME – Time Induced Morphological Evolution, which goes by the name of aging, that starts in the womb

and ends in the tomb. As the Havard Biologist Dobzhansky generalizes, human development begins at conception and climaxes to death. Death thus, is the fitting, built-in, zenith to personal evolution. Death is natural, a programmed decision of the animal body, and not an outcome of any assumed deficiency or disease that MODERN MEDICINE could ward off by the sleight of its left hand.

The Sanskritic genius caged the above in some pregnant terms. *Deha* (=body) is that which is *Dahan-yogya*, meaning programmed to be assigned eventually to the flame. (Significantly, Aishwarya Rai the world famous beauty of the present era is often referred to as *Ash*.) With each heart-beat/breath, one inches close to the climactic event of death, and hence the body *ages* every moment. This was summed up as *kshayate iti ksharirum*, or *Sharir*: One of the eight-fold tenet of Buddhistic path is to constantly bear in mind the ceaselessly age-ability of the human frame.

As a part of our inherent ageability, the skin wrinkles, the teeth rot, the hair grays, the coronary or carotid artery thickens, the blood pressure rises, a cancer develops here and there, joints stiffen to pose as arthritis, and the brain may chose to go the Alzheimer way. Each of these processes is YOU in flesh and blood. Your tumor should read as *YOU R TUMOR*. Whatever you do to your tumor or to your artery is being done to you. So, be careful in opting for a radical attack on your problem.

Brooke of England said that a tumor remains, "discreetly silent" even for a lifetime. So do ALL the aging processes, not excluding coronary artery disease, heart attack, stroke, diabetes, or arthritis. Hence not one of them can be really classified as either pathology or disease. They need to be tackled as and when they dis-ease, and be tackled dis-ease far and no further.

Note Five: Diagnosis and Investigation in a search of meaning

Diagnosis, literally meaning "through knowledge" certainly

smacks of learnedness on the part of the maker. Then when you realize that this *thoroughness* is 3-fold, your regard for the diagnostician mounts up. Doctors make a crescendo movement – firstly, *clinical diagnosis* based on the story the patient or the relative tells, *physical diagnosis* accruing from bedside examination, and *laboratory diagnosis*, resting on the latest auto analyzer or scan. This done, the doctor *clinches* a diagnosis and then sets about to treat. In the final transactional analysis, diagnosis is *the* license to treat. Those keen on treating are as keen on diagnosing.

How much or what knowledge is knowledge enough? MODERN MEDICINE faces a daunting task: In the best of setups, there is inconsonance between what a person feels and the physician finds. Take the very commonplace situation of high blood pressure. Sir George Pickering, Regius professor of medicine at Oxford, and an authority on the subject, went hoarse pleading that no one was sure what divides the high from the ideal or normal! Add to this the discovery that the magical figure of 120/80 (or whatever) was foisted on humankind and MODERN MEDICINE by an insurance company, with a clear eye, as the chairman confessed in a board-meeting, on the profit accruing from declaring more people as having the disease. Regardless, doctors, inspired by the drug-pushers, have started lowering the acceptable upper limits of both the readings. The matter gets further complicated by officially recognized entity of "white-coat hypertension": -the mere act of measuring the pressure shoots it up. Paul Merino, a critical-care supremo and Norman Kaplan, current reigning guru on high blood pressure have declared that for this *most commonly diagnosed* ailment, MODERN MEDICINE has no reliable gadget – the electronic ones being the worst offenders. And climax this with the findings that most "patients" of high blood pressure develop symptoms thereof after they have been jolted into being conscious that *Your blood pressure is high.* For long MODERN MEDICINE not knowing till to-date what really *causes* this, has called high blood pressure as idiopathic, which inspired a wag to say that the idiocy lies with MODERN

MEDICINE and the pathos with the patient. Then MODERN MEDICINE grows wiser to call such pressure as *essential*, foxing humankind further. Now it has settled on *primary* when no cause is to be found (in over 99%), and *secondary*, when some manifest pathology excites it. It is an arena of the blind leading the deaf. Such a diagnosis fully justifies crescendo invective off Voltaire: *Doctors are men who prescribe medicine of which they know little to cure diseases of which they know less in human beings of which they know nothing.*

The moral it leaves behind for the doctor and the patient is: Diagnosis is not mandatory. Relief of symptoms may be in a person dis-eased enough to merit patienthood. Ergo, a person at ease, no matter what the pathologies and abnormalities may be therein, needs no medical intervention, or rather, interference. A check-up clinic in the USA or Ulhasnagar is defined as a magical place a person walks into and a patient walks out. It is a honeytrap into which no sane person should get caught.

Stanley Hoerr, an American surgeon, offered a useful guideline: *It is difficult to make the asymptomatic patient (sic) feel better.* One wishes Hoerr had said *person* rather than *patient*. The corollary is that should you still interfere to diagnose/treat, you can always make the person (now a patient) feel worse. The two important aspects of any clinical encounter are history and physical examination. The latter is to discover, as it were, the geography of the trouble, and the former is to ascertain how friendly the so-called pathology is to its owner. If they are on friendly terms, there would be no dis-ease, and hence no need to ease, hence no easer, hence no doctor, nor any diagnosis.

It needs to be realized that the word investigation is rooted in *vestige* = a trace or a footprint, and hence is poorly indicative of the real situation. The world over, labs symbolize the Everest Complex – *Because it is there*. So tests are ordered, for "completely working up the case," although the patient's own story merits no such safari. Many a test is ordered to save the

doctor's skin from ill-informed judges and jury. *Vis-à-vis* the latter, those who deride a medico for "not investigating," need to be educated that Rang has designated most investigations as "mischievous" having the full potential to converting a person-at-ease into a patient-at-dis-ease. The lesson here is simple. If you are fit enough to get into and out of the clinic/hospital on your own, you do not merit investigations.

A classical case of investigating needless-n-harmfully is measuring levels of cholesterol and other fats in the blood. There are enough studies to show that heart attacks occur in so many with ideal levels and refuse to occur in equally so many with abnormal levels. More than that, the whole pleasure of eating is lost, food enemizes, and every gulp taken with apprehension.

Note Six: Whither Research or Treatment?

The reason to combine the two rests on lay-n-learned assumption that all research leads to more scientific and therefore better treatment. Towards the elucidation of the cause-course-cure of human suffering, MODERN MEDICINE has drawn a blank. Towards material technology, there is a better filling for the tooth or a better tooth or lens implant, a more mobile and lasting joint replacement, a better heart valve. These stand out as golden-lettered triumphs of MODERN MEDICINE. To put it differently MODERN MEDICINE can allow a better/optimal physiological and morphological functioning of the body reducing the morbidity without altering the course of the biological trajectory of the body or temporal travel span of the body. The sorry side of material advancement where material matters the least. All *materialism* for curing coronary artery disease has meant prohibitive expensive treatment *sans* any gain. The ordinary stent, wrong by itself in the first place, costs a fortune when it is modified to elute a drug or emit radiation.

> *What had brought them together on this bright September morning in 1956 was their common status as first-year students of Harvard Medical School. They had gathered in*

> *Room D to hear a welcoming address by Dean Courtney Holmes.*
>
> *"Gentleman, I urge you to engrave this on the temples of your memories: there are thousands of diseases in this world, but Medical Science only has an empirical cure for twenty-six of them. The rest is…guesswork."*
>
> **Eric Segal, *Doctors***

To a discerning reader, the italicized term should reveal the truth that even the *cures* that MODERN MEDICINE has are based on experience rather than sound knowledge and therefore belong to the realm of empiricism synonymous with lack of training, guesswork, quackery, trial, attempt, risk, and danger. Yet these 26 cures fall into what one calls *eupathy*, i.e., treatments that have done consistent good over the ages, to set right altered anatomy, and/or disturbed physiology. Setting a fracture, suturing a wound, replacing what is lost, removal of cataract, facilitating a delivery, incising an abscess, closing a perforation, relieving an obstruction and so on. In each case, although the basic pathologic mechanism is often unclear, the medical action provides immediate and often lasting relief.

An empirical cure, as detailed above, is palliation, meaning relief of symptoms and dis-ease. Palliation is rooted in *pallium* = cover or coffin (and hence pall-bearer). So when Modern Medicine palliates, it puts the basic problem into a coffin and forgets about it. Then palliation provides relief from the pressing symptomatic and/or discomforting problems that are present. Thanks to very advanced imaging techniques, lab studies, operative techniques and gadgetry, palliation remains the gold-lettered achievement of Modern Medicine. Such palliation has stood by humankind and will do so till doomsday.

If the gold-lettered triumph were to be studded with diamonds, then that would be the relief from pain – "a more terrible lord of mankind than even death himself (Schweitzer)

– that Modern Medicine can provide, often instantly, and as often lastingly. The measures employed range from aspirin to ablation of nerve-tracts. Anesthesia is a highly evolved science that allows a surgeon to wield a knife far and wide in the human body without a whimper of pain from the subject during surgery. Modern surgery owes its achievement and progress to the unfathomable process of wound-healing, and to anesthesia that allows the wound to be deliberately inflicted.

The pioneer medical institute of Mumbai, the famed JJ Group of Hospitals and Grant Medical College (GMC) has its motto: *mens sana in corpora sano* which reads as "A sound mind in a sound body" Modern Medicine may have provided a sound body, but sound mind remains in the realm of dreams. Modern psychiatry (more correctly meniatry or mindatry, for *psyche* = soul) is ostensibly a competent and an advancing science, but some facts are unnerving. A huge tome titled *Controversies in Psychiatry* has its opening gambit *Has psychiatry any future?* and the laconic reply is *Bleak, if any!* Koestler used to be very critical of the arbitrariness that rules the psychiatric roost on either side of the Atlantic: *Can psychiatrists be trusted?* Addressing the World Psychiatric Association in London in 1969, Koestler posed this question, and then proceeded to answer it himself:

> *This predicament is, of course, most drastically reflected in the field of diagnosis and classification. As I seem to be the only outsider at this Congress of Psychiatrists, we must assume that I have been invited to represent that infernal nuisance in the psychiatrist's life, the patient. As a rule, of course, there are too many patients to one psychiatrist, whereas here the situation is reversed. But at the same time it reflects a different aspect of reality, for the single patient is potentially liable to be diagnosed and categorized in great many different ways, depending to some extent on the psychiatric school, the ethnic background, and apparently even the age-group to which the diagnostician belongs. Thus, should I have the misfortune to be admitted to a mental hospital in England*

with a somewhat complex symptom-picture, I would have a ten-times higher chances of being classified as a manic-depressive psychosis than if I were admitted to hospital in the United States; and taking my specific age-group into account, the ratio of United Kingdom to United States of patients diagnosed as manic-depressive beomes 21 to 1. On the other hand, If I were to go off my head in America, I would stand a ten-times higher chance of being classified as a case of cerebral arteriosclerosis than in England; and a 33 per cent higher chances of being classified as schizo. In the States I might also be found to show a 'psycho-depressive reaction', a category non-existent in England and Wales."

The world of psychiatry is full of ever new drugs, but MODERN MEDICINE and science, have not concluded *where* and *what* of human mind, so it is *laissezz faire* at its very best. MODERN MEDICINE needs to coin another phrase: *Mens sana in societa sano*. The current age is the triumph of crass consumerism of the *left* brain over the soulful poetry of the right brain, a strangulating hold as much round the neck of the psychiatrists themselves. A rich psychiatrist is unlikely to have thought of Poet-saint Kabir – "*Bhala boora sabka suni lije, kar gujran garibime,*" which is but the Indian version of St. Francis's idea of voluntary poverty. The day psychiatrists start preferring for their own selves mental health over monetary wealth, the mind/mood altering drugs will lose much of their relevance and value.

In the absence of a clear target to be attacked, MODERN MEDICINE, in most medical situations, attacks a particular site for a particular problem, to gain some advantage. However the targeted enzyme/tissue being widely located in the body-universe, the drug manages to pay a single Paul (intended effect) after robbing many a Peter (side effects). The pharmaceutical drug-makers have unleashed iatrogeny on the unsuspecting humankind, a tragedy worse than that wreaked by the drug-lords of Columbia.

As of June 2006, the average number of patients injured

a year, in the USA, by medication errors of health professionals, including doctors' bad handwriting is 1.5 million, 3.5 billion dollars being the cost of treating these drug-related side-effects. As a learned American study observes: *Medical errors are one of the leading causes of death and injury. The Institute of Medicine report indicated that as many as 44,000 to 98,000 people die in hospitals each year as the results of medical errors. Using the lower estimate (i.e., 44,000) medical errors are the eighth leading cause of death in the USA – higher than motor vehicular accidents (43,458), breast cancer (42,297) or AIDS (16,516)*" Oliver Wendell Holmes, the noted 19th century American physician-writer, noticed the curious fact that *No families take so little medicine as those of doctors,* and then went on to declare: *I firmly believe that if the whole material medica, as now used, could be sunk to the bottom of the sea, it would be all the better for mankind – and all the worse for the fishes.* Holmes was loudly echoed in the 20th century by another American, Arthur Bloomfield, who facing a personal tragedy from side effects of drug, advised: *Every hospital should have a plaque in the physician's and students' entrances: 'There are some patients whom we can not help, there are none whom we cannot harm'.*

The compelling moral on the most medical treatments is that they are best avoided. Patients loathe paying a physician who prescribes nothing or orders no investigations. What the patient should demand from the physician is not a prescription but her/his time for which the doctor should be adequately rewarded.

Note Seven: The Pathic Perplexity

A convenient, grand, abiding illusion is that allopathy is modern medicine and *vice versa.*By its very name, allopathy is a bastard child, so christened by its arch opponent Samuel Hahnemann, and signifying the art of curing one disease by causing another. *Allo-* means other, and *–pathy* implies pathogenesis. In fact, allopathy is a left-handed compliment flaunted a little too proudly by its purveyors. Little wonder,

that allopathy leads in iatrogeny or doctor-caused illnesses. The hackneyed phrase *modern medicine,* like *holistic health* is tautology. Both terms are rooted in Sanskrit, *Matra*, L. *modus*, meaning a measure. *Medicine,* then, is some things you *do/give* in a precise measure. When such an exercise is a *measured* step, it becomes *modern*. The fallacy that *modern* connotes latest/sophisticated/expensive/imported, and therefore allegedly the best, is a myth to justify most of medical consumerism today.

The sustained media-hype by MODERN MEDICINE has been so effective as to make people and philanthropists to expect miracles off the lab tube/animal. Such allopathic arrogance finds its expression in the WHO, in its resolution of 1981, aiming at "Health for all by 2000"' and a 1977 American book *No More Dying: The Conquest of Aging and the Extension of Human life.* It was but around 1972 that Richard Nixon, as the President of USA, asked a Conquest of Cancer Agency (COCA) to be established and be funded generously to gift humankind freedom from cancer by 1976, the bicentennial year of American freedom.

Allopathy's claim to eminence because of its surgical excellence is clearly dismissible by the fact that surgery was a well-honed Sushrutic art in India 500 years BC. The Western world has refined the surgical art to its zenith. But, refinement not being revolution, allopathy (Western medicine) cannot claim to have fathered surgery, which is the sole golden feather in the cap of so-called modern medicine.

If the above judgment seems harsh or unjustified, its defense and justification rest in the fact that learned allopathic tomes take the so-called MODERN MEDICINE as the "orthodox medical science," and therefore, a primary one, to which all other pathies are only to be taken as *alternative.* Insult is added to injury when MODERN MEDICINE declares that the term *alternative* be replaced by the "less ambitious" *complementary* or *fringe* medicine. MODERN MEDICINE's orthodoxy is clear from its claim of being orthodox science by itself.

The Parity of Pathies

Ayurveda, Allopathy, Homeopathy, Naturopathy, and what have you of the remaining 196 options, achieve one or more of the four effects:

I. Confrontation

This is allopathy's forte, for its very vocabulary reeks with, what Leslie Fould calls, *militaristic* jargon – attack, invade, inhibit, antagonize, excise, eliminate the "savage" cells, and killer diseases, the microbial assassins and some utterly innocent incidental findings. It is the medical Rambo let loose on the willing but unsuspecting patient. Allopathy as of today has chosen to remain ignorant of what a British wit wryly generalized: *In a war, it is not important who is right, but who is left.* Allopathy's supremacy lies in relieving pains – small and large – promptly and fully.

II. Concurrence

Homeopathy's avowed aim is to say "yea" to the disease, allow, nay encourage it to worsen, to the point of spending away itself and thus free the patient from the problem. It thrives on the unverifiable but likeable principle: *Similia simibus curantur* meaning *Like kills/cures like.* The initial worsening that therapy produces reminds you of Anthony Burgess's *A Clockwork Orange*: "Our subject, you see is, impelled towards good by, paradoxically, being impelled towards the evil." Get worse to feel better.

The strangest principle that homeopathy swears by is that the more diluted the potion, the more potent it is. In an open fight between allopathy and homeopathy that filled some pages of British medical media, it was pointed out that serial dilutions of "the thirtieth potency (1 in 10^{60}) recommended by Hahnemann, provided a solution in which there would be one molecule of drug in a volume of a sphere of literally astronomical circumference" to the extent that "an effective dose may not contain a single molecule." Homeopathy has solved this dilutional paradox by using a prescriptive style that entails, say,

4-6 (such and such) pills, taken every 4-6 hours, thus potentiating the patient's conviction that "the right thing" is done the right number of times, to chase the disease out.

III. Constitutional

Naturopathy, Ayurveda, Yoga therapy, all aim at improving the very constitution of a patient to enable the body to get rid of the disease. The exhortation is to *living correctly* for all diseases are a punishment of *living wrongly*. The chief targets in this story of villainy are diet, drinks, delights of the bed, and some innocent personal preferences like tobacco or take-it-easy-ness. The modern version of this game is *Life-style Modification* which has turned into a refined art of regretting one's past, fearing the future, to ruin the present. Alex Comfort, one-time famous for his treatise *The Joy of Sex* has christened the proscriptive propensities of medicos (don't do this, don't take that) as "anxiety-making – the curious preoccupation of the medical profession."

The *tridosha* (triple fault) theories of Ayurveda, the miasma of Homeopathy, the endless causalism of Allopathy, and the faulty-living theory of Naturopathy, after having countenanced all the pathologies for aeons, have yet not accorded to these pathologies their rightful place in the scheme of thing. So every therapeutic encounter is an adversarial combat between the disease and the doctor with the patient serving as the battle-field.

IV. Consolational

But know also, man has an inborn craving for medicine… the desire to take medicine is one feature which distinguishes man the animal, from his fellow creatures. It is really one of the most serious difficulties which we have to contend… the doctor's visit is not thought to be complete without a prescription.

William Osler, 1894.
Epigraphic to *Clinical Pharmacology* 2003

The above three and this fourth consolational one comprising acupuncture to zymurgy survive and thrive on the human fixation that, in state of assumed or actual disease, *something* must be done, no matter how abstract, nebulous, or even nocuous. The major subdivisions of consolational therapy are *placebo* – "I please you," and *miserabo* – "I make you miserable." The placebo-game involves a white-lie of seeming-effectiveness, making the patient and kith kin happy, and working as the harmless version of patient-as-profit. A good example of miserable is a pain-balm, that allopathy officially describes as a counter-irritant. The forehead of the skin so burns that the patient's attention from the headache shifts to skinache. A body ravaged by chemotherapy of cancer has little energy or inclination left to give thought to the original tumor that unlike the effects of chemotherapy was localized, and so often asymptomatic.

The chief aim of the above is to bring to public notice as to how much Modern Medicine is ailing, and more importantly to say that when you think of *alternate medicine*, you are considering 3 options – allopathy, non-allopathy, or neither. The safest treatment as of today, and tested over years, is No treatment. Why, otherwise, should the topmost axiom of Hippocrates be *Primum, non nocere*, meaning Firstly, do no harm.

There are now nearly 200 systems/modes of treatment to choose from. When a person is treated with more than one system, such an approach is, rather prosaically, called *mixopathy*. The better term would be synpathy, phonetics that lead you to the idea that Vinoba Bhave gave long ago; Any pathy is good provided it is accompanied by sympathy. Empathy and sympathy for a patient would make any physician, of any pathy to heed to the Talmudic directive: Treat exactly as you would yourself choose to be treated by. Koran advises a physician to approach a diseased/dying person with a note of thanks to Allah that, were his mathematics different, the physician could well be in place of the patient. The WHO could officially incorporate the *Rigvedic* invocation: Let noble thoughts – of serving a patient

– come to us from all sides and all pathies.

Summing Up

Cross-species organ transplants continue despite a 100% failure rate and the possibility that such experiments spread deadly animal virus to humans. The development of a polio vaccine saved countless human lives – though, Blum notes, at least a million monkeys perished in the process.

Deborah Blum
The Monkey Wars

The Sabin-Salk war to gain priority in the making of polio vaccine meant an animal slaughter that the whole world is now richly paying for. Richard Preston, in *The Hot Zone*, highlights the fact that medical experiments have decimated the monkey numbers in the jungles of Africa, India, and the Philippines. The net result is that viruses friendly and commensal to the monkeys are relocating themselves in humans with disastrous results.

The viral epidemics of Ebola Zaire, Ebola Sudan, Roster, HIV, all the flues, may well prove to be MODERN MEDICINE's gift to humankind.

Health status for all by 2020!

A time has arrived to scale down our expectations from MODERN MEDICINE to free it from the shackles of persistent media-hype, and (what Rene Dubos, the pioneer microbiologist, Rockefeller Foundation called) *healthism.* It is high time the public exercises its empathy and sympathy towards MODERN MEDICINE from which much unbiological feats were hoped for like doting but ambitious parents do of their progeny, with frequently disastrous results portrayed so well by Herman Hesse in *Prodigy*. Humankind has to assimilate the fact that it is an integral part of the biological kingdom. Each species charts out its biological trajectory laced with rhythm and in harmony with the rest of the biological kingdom. As one can not go backwards in time,

there is no going backwards in the natural course of life. What is possible is to run the course smoothly and in tune and sync with the rest of the biological kingdom.

A revised *weltanschauung* of the whole medical scene, embracing all possible pathies is warranted. Instead of seeing a patient as a *receiver* of some services by the doctor as a *giver*, it is imperative to see them both as making up a team not "fighting" any issue, but understanding the issue to march from lesser ease to greater ease, lesser joy to more joy, from heavy-heartedness to the lighter state. It is a very fragile, tender, but mutually ennobling relationship that aims at a win-win outcome. It is not for the patient and kith and kin to see or encounter a suave fleecer, nor for the doctor to envision a future litigant. Swami Vivekanand urged that students should rather play volley-ball then study Vedanta. Medical students and doctors, knowing the inherent pathos of life at close quarters, cannot afford to be bereft of Shakespeare or Vinoba, Gandhi or Goethe. The patient-world should be empathetic and sympathetic to the burdens that the doctors must bear, and the vagaries and limitations of biology they must contend with.

The doctors would do well to express a sense of fulfillment, permitted as we are to peep deep into the woes, worries, and vicissitudes of humankind, and evolve ourselves to the point of becoming a Schweitzer or an Osler; and so expand our consciousness that we turn into writers on life, starting with Rabelais, through Chekov, Maugham, Doyle, and Cronin. We are privileged to be a shade closer to the mysteries of health and disease, and capable, now and again, of bringing ease and peace to ailing fellow-beings.

> It needs to be more generally recognized that most of medicine is about relief of, and comfort in, suffering, and in the main very little to do with saving life.
>
> ***AM Cooke***
> ***Oxford Companion to Modern Medicine***

And so finally to the *Pride Symphony* or the cure for this ailing system of Modern medicine, whose essence can be summed up in the following words.

We fellow humans comprising the sufferers and the relievers (the roles changing now and again) realize that we jointly tread on thin ice called *fragilitas vivum* or *fragile life*, a brief pause between two heart beats the first and the last, an event *briefer than the flicker of a matchstick* (RL Stevenson), the flash of a firefly in the night, the single visible breath of an animal in winter, or the little shadow that runs across the grass and loses itself in the sunset. We all realize that we must be noble, for, we are made of the stars. And, we must be humble for we are all made of cowdung.

Three

Time, Uncertainty, Relativity, Normality and Modern Medicine

Guest Editorial
Year: 1979 | **Volume:** 25 | **Issue:** 3 | **Page:** 128-133

Kothari ML,[1] Mehta LA[2]

This year marks the birth anniversary of Albert Einstein, born on March 14, 1879. JBS Haldane[13] called him the greatest Jew since Jesus; scientists rate him as the greatest scientist so far. The reason is not far to seek: *Einstein,"*working only with mathematical scribblings"[9] revolutionized scientific thought, and reordered the universe. This essay, a tribute to him, proposes, a la Einstein, a reordering, of modern medicine on the basis of four simple concepts - Time, Uncertainty, Relativity, and Normality (TURN).

1 Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

If a la Einstein, mass is *configured, energy* then a la Portmann,[22] life is configured *time.* A material object or an organism is identified by the space it defines, for a given time. Each object/organism becomes, thus, a space-time unit. The time element is especially evident at the animate level, where the time-limit during which the organism - unicellular life-forms to the biggest whale - will define space, is predictably and observably set. Burnet[5,6] describes man as "the 4-dimensional clone in spacetime." Over an individual's lifespan, the space-aspect of this space-time unit does not exhibit as many changes or attract as much attention as the time-aspect. It's as well that, through history, life has been synonymized with time. This synonymy is medically most interesting since it is time that foists senescence and diseases on an organism: "Senescence takes a generally similar form in each species, whether judged by the physicochemical changes in collagen, the incidence of degenerative changes in blood vessels or the high incidence of malignant disease. The essence surely is that there is a genetic 'programme in time' laid down for each species. There must be a biological clock and a means by which a series of processes can be made to occur according to the expediencies of evolutionary survival" (Burnet[5]).

Van Der Leeuw,[26] aphorises that we *are time, we are timed,* we are *the timer.* "We are temporal... The man of nine thirty is not the same as the man of nine twenty-five. We *are* time." The most important point in the foregoing, vis-a-vis man's disease and dying, is the apparently sweeping generalization that "The man of nine thirty is not the same as the man of nine twenty-five." This small statement carries with it the ability to resolve many a paradox witnessed in modern medical practice - the enigma, for example, of a person just dropping dead while full of life, or soon after being medically given a clean bill of health. Modern medicine has failed to understand, emphasize, or highlight the fact that death is being increasingly viewed as a physiological function[10,16,17,28] **(Fig. 1)** that owes allegiance only to *time*.No wonder, "Altogether death has nothing to do with health and sickness, it uses them for its ends" (Benn[2]). Benn's[2] discomforting aphorism explains why people, pink and in the prime of their

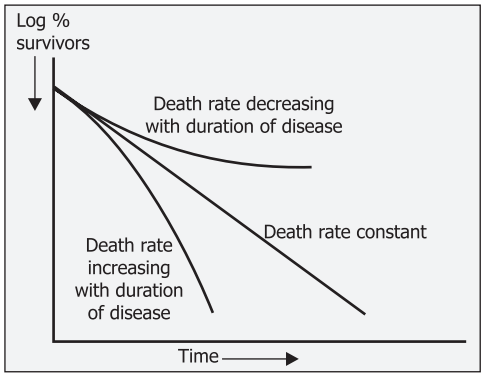

Fig. 1: The graph, after Zumoff et al,28 demonstrates that death is a physiologic function that obeys time, and not the type of the disease or its clinically-presumed severity. Medical men, with their "common sense"28 and "conventional wisdom"28 expect death rate to exhibit either the upper pattern (decreasing mortality with increasing duration of disease, if it is, say, myocardial infraction) or the lower pattern (increasing mortality with increasing duration, if it is, say, cancer) but not the middle one (of constant mortality throughout the disease), which in reality prevails.

life, die a "natural death," and people who are manifestly afflicted with a major disease/s not only drag on, but even seem to thrive.

For studying the development of major diseases exclusively in relation to age in rats, Simms and co-workers[25] created animal quarters called for their sophistry the Rat Palace. "Visitors who had contact with other rats were strictly forbidden." And yet, in this rat-utopia, diseases and death occurred with predictable timing and frequency. Comparing the rat-findings with those in man, the authors[25] concluded that "except for the difference in time scale," the findings on rats were applicable to man and that "the factors that determine longevity (or mortality) of the two species appear to operate in a similar manner." Needless to state, the diseases in rats bore as much relation to death, as in man: The two occurred independent of each other. This rat-man comparison brings us to the next important part of TURN-namely, relativity.

Although the cells and the collagen fibres of all mammals are very similar, they age at a rate that is inversely proportional to their lifespan. Further, given the time-adjustment between

different mammalian species (e.g., 3 years for a rat is 70 years for man), both the cells and the collagen fibres reach the same endpoint in all the mammalian species. In terms of cells and fibres (cytofibernetics), we are forced to conclude that man is no more than 70/2 or 70/12 times longer lived mouse or dog respectively. Man's aging is relatively slow, that of the dog less slow, and the mouse least slow. The rates differ, but not the basic style. The problem is one of relativity.

In a human herd, however, the genes of one man are exactly like that of another, and yet one lives for 19 years, and the other for 91 years; one woman gets cancer, the other escapes, and so on. To understand the basis of these differences, one needs to appreciate the bioforce of *normality* as governs a given herd. While relativity explains interspecies differences, normality explains intraspecies differences, between organisms.

Normal/normality, being fundamentally a field/distribution phenomenon, is always applicable[14,15] only 'to a group, herd, or a population. "Population thinking denies uniformity and looks to the *range* of diverse individuals within a group. The range, not the average, is the reality.... Just as popular thinking accepts range as reality, it dismisses as nonexistent the `average man,' a being whom no one has ever met anyway." (Ardrey[1]). Pickering[20] has searched *for the dividing lines* between hypo-, normal-, and hypertension, and found none. Cholesterol levels[3] exhibit the same Pickeringian puzzle of *where does normality end, and abnormality begin?* Let us paraphrase Ardrey,[1] to say, that *The range, and not the mean or the average, is the normality.*

If physiologic features such as blood pressure[11,20,21] or HCl secretion[4] exhibit normality in their distribution, pathologic features - even of the most serious nature **(Fig. 2)** are no less normally distributed. In any human population, it is the normality of distribution of (the so-called) pathologic traits that determines the occurrence, severity, age at diagnosis, post-diagnostic/post-treatment survival, or the age at death, of such diverse states as congenital malformations, peptic ulcer, hypertension, diabetes mellitus, cancer, heart

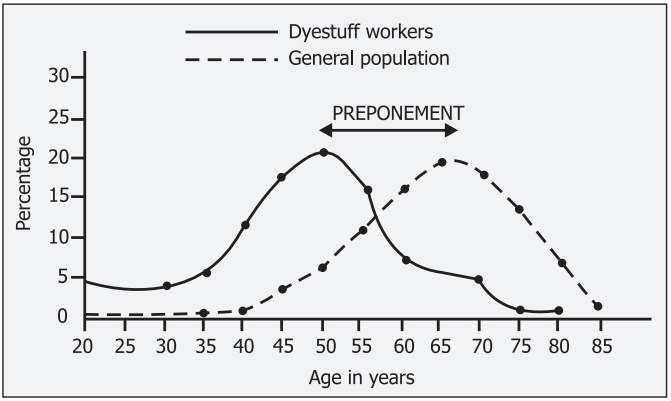

Fig. 2: Normality in abnormal situation: The above graph showing the distribution of *age at death* in patients of urinary bladder carcinoma[17] reveals the dominance of *normality* even when the situation is complicated by "carcinogens". Incidentally, the graph shows the true nature[17,18] of "carcinogens" – they do not cause cancer but prepone it. A study[19a] comparing birth-weights of babies born to mothers, *smoking or not smoking during pregnancy*, demonstrated higher average weight in the non-smoking group; yet for both the groups, the distribution of weights was, like in the graph above, normal.

attack, and what have you[7,8,17,18,23] To take but one example, of cancer,[17,18] it needs to be realized that every human being genetically possesses the *cancerability* of tissues. Such cancerability, as a biologic feature, is normally distributed. All humans can, thus, develop cancer, yet only a fixed percentage *(20%)* of them does. This is dependent on the fact that to express cancerability, a human being must cross **(Fig. 3)** a certain threshold[7,8,17,18] World over, 80% do not cross this. Hence the global impartiality, nay the democracy[17,18] of cancer. This discussion on the normalness of pathologic and lethal processes can be best concluded by considering the final end of all pathologies, viz., death. In animals inbred or outbred, and in humans the world over, the age-at-death is normally distributed, and as was emphasized earlier, this distribution is not dependent on the presence and/or the severity of some particular disease processes. Death, like diseases (to which even infections are no exceptions), is democratic. No wonder, death is held as the most impartial of all.

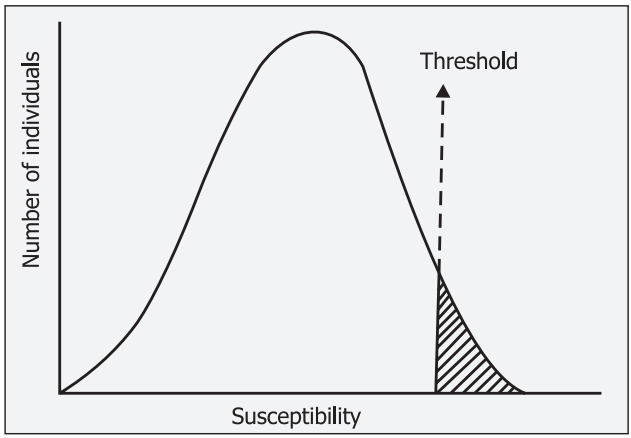

Fig. 3: Kurtzke,[18a] from a global survey of cerebrovascular disease (CVD), arrived at the unfailing global democracy of CVD. The same is true, say, of cancer.[17,18] CVD and cancer occur everywhere, and in excess nowhere. Every human being, because of the very human genotype is capable of developing CVD, cancer, diabetes, or myocardial infarction, but in any human group, a fixed stable percentage develops one of these. This is dependent of the fact that in any given groups of humans, the susceptibility to the disease is normally distributed; those endowed with higher quantum of susceptibility cross the critical threshold and get the disease.

Often, diseases, such as cancer, heart attack, stroke are considered prerogatives of the senile population. Not so, once normality is understood. The tails of the Gaussian curve stretch to infnity,[23,27] an aspect of normality that explains the occurrence of carcinoma of tongue in a newborn,[17] diabetes mellitus in a boy of 17 days,[19] carcinoma cervix in an infant,[17] carcinoma prostate in a child of 3,[17] heart attack in infants,[12] short survival despite mild disease, long survival despite severe disease, or a disease-free individual aged 105 years.

The discussion on normality can be concluded with the realization that each of the many features, physiologic or pathologic, that comprise a human being, is unpredictably, and unhelpably distributed on the normal curve, independent of all other features. To the utter chagrin of modern medicine and its specialists, such a *normal* state of

affairs makes *uncertain* the what, when, why of every disease, forcing modern medicine to be plagued by uncertainty at the level of every individual patient.

It is, however, the uncertainty principle that lends medical practice its mysterious element of unpredictability that charms and challenges the man of action[24] the medical man. It is uncertainty, backed by temporality and normality that accounts for esophageal mucosa declared normal today, but found cancerous tomorrow, ECG assured as OK today, and worrisome tomorrow, the patient given-up-as-gone today, surviving to attend his physician's funeral, tomorrow. But for uncertainty, medical practice would not have been half as fascinating. Thank God, for uncertainty.

In summary, we may state here the implications of the TURN concepts vis-a-vis modern medicine. TURN erases the hyper-hypo-cratic borderlines, that modern medicine has created, by showing that the difference between the "normal" and the "abnormal" is not that between black and white but that between different shades of grey, with no dividing line anywhere. TURN rationalizes the overlap **(Fig. 3)** of no-diabetes and diabetes,[19] or of mere pathology (dys-is, as distinguished from dis-ease),merely symptomatic pathology, and presumably "lethal" pathology by showing that while these are symptoms of senescence, they bear questionable relation to the occurrence of death. TURN thus accords to death **(Fig. 4)** the status of an independent, physiologic function by highlighting that "we are purposely programmed to die.[10] TURN dismisses as naive, modern medicine's causalism - fat causes heart attack, coitus causes cancer. TURN promises to cure modern medicine of its errorism, the obsession that every ill - congenital, cardiac or cancerous - is preventable outcome of some molecular/genetic/cytologic errors. TURN exposes modern medicine's cure-all-ism which is but ceremonial/essential palliative care of "killer" diseases which, regardless, chart their own course in a patient, often for the better, despite modern medicine. TURN is the new, and necessary, basis of physiology, pathology, and thanatology, and all that passes as modern medicine.[32]

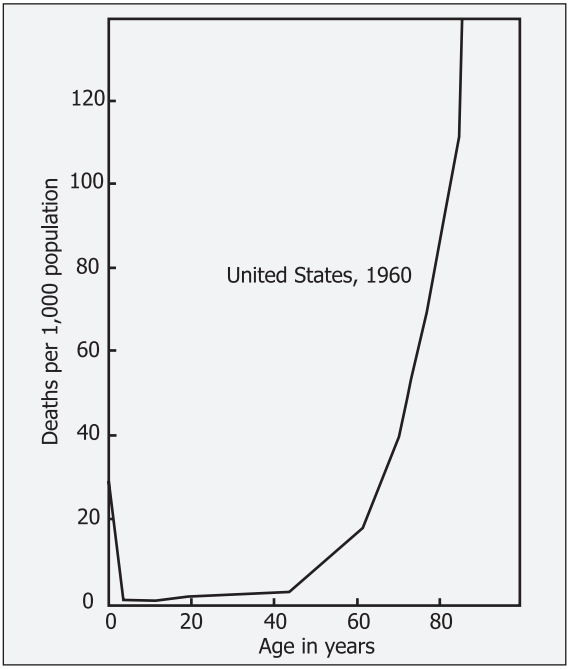

Fig. 4: The graph, after Fox et al,[11a] is a typical curve of herd mortality in a developed country. The physiologic death-function, serving the whole herd through individual death, asserts itself from birth onwards. The herd-trimming during the first five years after birth is a continuation of a far more rigorous process exercised *in utero.*[25a]

References

1. Ardrey, R.: "The Social Contract." The Fontana Library, Collins. London, 1972, p. 47.
2. Benn, G.: Quoted by Plessner, H. in, On the relation of time to death. In, "Man and Time." (Ed. Campbell, J.), Pantheon Books, New York, 1957, p. 249.
3. Best, C. H. and Taylor, N. B.: "The Physiologic Basis of Medical Practice." Williams and Wilkins, Baltimore, 1961.
4. Booth, M., Hunt, J. Miles, J. M. and Murray, F. A.: Comparison of gastric emptying and secretion in men and women with reference to prevalence of duodenal ulcer in each sex. Lancet, 1: 657-662, 1957.
5. Burnet, M.: "Immunological Surveillance." Pergamon Press, Oxford, 1970.
6. Burnet, M.: "Genes, Dreams & Realities." MTP, Bucks, 1971.
7. Carter, C. O: The genetics of congenital malformations. Proc. Roy. Soc. Med. **61:** 991-1000, 1968.
8. Carter, C.O.: Genetics of common single malformations. Brit. Med.

Bull. 32: 21-26, 1976.
9. Cover Story: The year of Dr. Einstein. Time, February 19, 1979, pp. 48-55.
10. Cudmore, L. L. L.: "The Centre of Life A Natural History of the Cell." Quadrangle Books, New York, 1978.
11. Emery, A. E. H.: "Elements of Medical Genetics." Churchill, Livingstone, London, 1975, p. 122.
12. Fox, J. P., Hall, C. E, and Elveback, L. R.: "Epidemiology-Man and Disease." Macmillian, London, 1970, p. 156.
13. Friedberg, C. K.: Acute coronary occlusion and myocardial infarction. In, "Diseases of the Heart," W. B. Saunders, Philadelphia, 1967, pp. 770-795.
14. Haldane, J. B. S.: Quoted in, "The Penguin Dictionary of Modern Quotations." (Ed. Cohen, J. M. and Cohen, M. J.), Penguin Books, Middlesex, 1974, p. 91.
15. Hodkinson, H. M.: The interpretation of biochemical data. In, "Recent Advances in Geriatric Medicine. Number One." (Ed. Isaacs, B.), Churchill, Livingstone, Edinburgh, 1978, pp. 101-108.
16. Isaacs, B.: Has geriatric medicine advanced? In, "Recent Advances in Geriatric Medicine. Number One." (Ed. Isaacs, B.), Churchill. Livingstone, Edinburgh, 1978, pp. 1-5.
17. Jones, H. B.: Demographic consideration of the cancer problem. Trans. N.Y. Acad. Sci., 18, 298-333, 1956.
18. Kothari. M. L. and Mehta, Lopa A.: "The Nature of Cancer." Kothari Med. Publications, Bombay, 1973.
19. Kothari, M. L. and Mehta, Lopa A.: "Cancer-Myths and Realities of Cause and Cure." Marion Boyars, London, 1979.
20. Kurtzke, J. F.: "Epidemiology of Cerebrovascular Disease." Springer-Verlag, Berlin, Heidelberg, 1969.
21. Malins, J.: "Clinical Diabetes Mellitus." ELBS & Chapman and Hall, London, 1975, pp. 54, 69.
22. Midwinter, R. E.: Smoking in pregnancy. In, "The Medical Annual, 1978-79." Wright, Bristol, 1978, pp. 114-116.
23. Pickering, G.: "High Blood Pressure." Churchill, London, 1968.
24. Pickering, G.: Personal views on mechanics of hypertension. In, "Hypertension: Physiopathology and Treatment." (Ed. Genest, J., Koiw, E. and Kuchel, O.), McGraw-Hill, New York, 1977, pp. 598-605.
25. Portmann, A.: Time in the life of organism. In, "Man and Time." (Ed. Campbell, J.), Pantheon Books, New York, 1957, pp. 308-323.
26. Roberts, J. A. F.: "An Introduction to Medical Genetics." Oxford Univ. Press, London, 1967.
27. Robinson, D.: Introduction. In, "Patients Practitioners and Medical Care." William Heinemann Medical Books, London, 1978, pp. x-xiv.
28. Simms, H. S.: Longevity studies in rats. I. Relation between lifespan and age of onset of specific lesions. In, "Pathology of Laboratory Rats and Mice." (Ed. Cotchin, E, and Roe, F. J. C.), Blackwell, Oxford, 1967, pp. 733-748.

29. Smithells, R. W.: The prevention and prediction of congenital malformations. In, "Scientific Basis of Obstetrics and Gynaecology. (Ed. Macdonald, R. R.), Churchill Livingstone, Edinburgh, 1978, pp. 275-299.
30. van der Leeuw, G.: Primordial time and final time. In, "Man and Time." (Ed. Campbell. J.), Pantheon Books, New York, 1957, pp. 324-350.
31. "Webster's Third International Dictionaries of the English Language Unabridged." Ed. Gove, P. B., G. & C. Merriam Co., Springfield, 1971.
32. Zumoff, B., Hart, H. and Hellman, L.: Considerations of mortality in certain chronic disorders. Ann. Intern. Med.,**64:** 595-601, 1966.

Four

The Trans-science Aspects of Disease and Death

The University of Chicago
Year: 1981 | **Volume:** 81 | **Issue:** | **Page:** 2404-0240

Kothari ML,[1] Mehta LA[2]

Modern medicine is in the dock, with men of science comprising the prosecution *and* the defense. The prosecution - composed of such eminent names as Burnet[1], Dubos[2], Goldblatt[3], and Platt[4] - contends that modern medicine is *overclaiming, overdoing,* and *overpromising* despite compelling scientific evidence to the contrary. A social scientist, Illich[5], takes on the role of judge and pronounces a peremptory sentence - *Medical Nemesis.* The Illichian judgment is endorsed by Carlson[6], a lawyer. Besides such solo plaints, a

1 Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Associate Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

chorus of plaints has recently been published as *Doing Better and Feeling Worse; Health in the United States*[7]. The defense, put up by Good[8], Horrobin[9], Taubter[10], and Thomas[11], swears by "The Past Is Prologue"[12]: If the past has been glorious, why not the future, given human ingenuity, *Medical Hubris*[9], and the advancing frontiers of all sciences? *You Can Fight Cancer and Win*[13]. To match the Illichian invective, a journalist and a geneticist cull the (albeit hazy) scientific evidence to envision *No More Dying*[14] for the would-be disease-free *Homo longevus.*

The common man - the dis-eased patient, the funding public, the jittery journalist - is confused, nay, frightened and paranoiac: What is the truth? Where is the truth? The arguments for and against modern medicine seem to have reached an impasse, each side claiming that science is on its side. Is science an answer to this stalemate?

It is possible that, through a conceptual mistake, we are all in the wrong court, with the accused, the jury, the prosecution, the defense - all professing *science* - irrelevant to the scene? What if the essential issues are *trans-science,* a finding that helps acquit modern medicine, the acused, on the ground that it was and is asked to achieve what is well beyond its ken?

A word about trans-science: Weinberg[15], introducing this concept and term, defines *trans-science questions* as those that can be asked *of* science but cannot be answered *by* science. Epistemologically, these are questions of facts presentable in the language of science but to which science has no rational answers; such questions transcend science. For example, about the "why?" of the unfailing individuality of a person, from birth through death, questions have been asked of medical science but have not been answered by medical science. Modern medicine, in its ostensibly scientific optimism, has not accorded due consideration to factors that are not only trans-modern-medicine but trans-any-science.

At the root of medicine's failure to provide an answer to

many a Kiplingian what, why, when, how, where and who is an assemblage[16] of four independent biologic factors - time, uncertainty, relativity, and normality (TURN, in short). These abstract principles govern all that appears concrete in medicine, be it laboratory research or the development of a person, physiologic parameters, disease, and death. As shown below, TURN is both an analysis and a synthesis; its elements, and their implications, are discussed in this order: time, relativity, normality, and uncertainty.

Time

Time, Bergson[17] insisted, is as fundamental as space and holds perhaps the essence of all reality. Following Einstein, matter has been understood as configured energy; following Portmann[18], life needs to be understood as configured time. Is not man, from his very start as a zygote, a calendar of timed events? Human development, in the mother's womb, is charted with remarkable precision in terms of week, days, and hours.

Lest the proposition that every life form represents a unique, individualized space-time entity appears preposterous, it is pertinent to allude to an Einsteinian concept[19] that regards *matter* as the expression of an inner dynamic will that is natural, meaningful, or even divine. If matter can be assigned such individualized qualities as "will" and "inner essence"[19], there should be no objection to assigning each individualized life form the status of a unique space-time unit. In symposium titled *Man and Time,* Portmann[18] characterizes any life form as configured time, while Van Der Leeuw[20] pithily concludes: We *are* time. Burnet[21] relates time to disease and senescence. He describes senescence as assuming a generally similar form in each species as evidenced by the physicochemical changes in collagen, the incidence of vascular degeneration or the high incidence of cancer, the whole gamut of events being guided by a genetic "programme in time" specific to each species.

Van Der Leeuw[20, P. 326], talking in a similar vein as Burnet,

conveys that *we are time, we are timed, we are the timer.* "We are temporal… The man of ninethirty [*sic*] is not the same as the man of nine-twenty-five." The most important point in the foregoing, vis-à-vis man's disease and dying, is the apparently sweeping generalization that the man 2½ minutes ago is not the same as the man 2½ minutes after. This bold generalization carries with it the ability to resolve many a paradox witnessed in modern medical practice - the puzzle, for example, of a person just dropping dead while full of life or soon after being given a clean medical bill of health. The deaths of Dean Acheson, Charles de Gaulle, Popes Paul IV and John Paul I, and Nelson Rockefeller, as well as the deaths of young healthy people[22], amplify the aforestated medical enigma.

The sudden, unanticipated death from heart attack of, say, Rockefeller at 70 and DLK, an orthopedic surgeon, at 30 - both fighting fit and with no history of heart trouble - cannot be related convincingly to any anatomic, physiologic, pathologic, or genetic factors. Many a person with any or all the presumed predisposing factors, even to a more severe degree, carries on admirably well, regardless, and eventually dies unexpectedly and inexplicably of something else. Rockefeller died at 70 and DLK at 30, incidentally of heart attack, both ages falling well within the age distribution of heart attack and death therefrom or of overall human mortality. A death hormone has been postulated[23]; a death mechanism obeying an individual's timer may be operative, doing *what* it wants *when* it wants and giving a disease a bad name. In an analysis of the death rates in four diverse diseases[24] - liver cirrhosis, heart attack, leukemia, and breast cancer - the startling finding was that the death rate was related neither to the severity of the disease nor to its earliness or lateness but to some undefined physiologic systems governed solely by the passage of time.

What really killed all these people, and would kill most of us, is not this disease or that, but the fact, ascertainable only *a posteriori*, that the time was up, as declared by a timer inside. The allegorical *timer inside* is a pointer to the fact that, as of

today, modern medicine can talk about *the time of death* of anyone healthy, diseased or more diseased, only after the death has occured. No list of predisposing factors including the medical prognosis of doom nor the findings at the anachronistic clinicopathological conferences (CPCs)[25] allow a tenable correlation between the medical data and the why and when of death. It is the subservience of death to time alone as determined by the timer inside that allows a Tito or a Karen Ann Quinlan to tick on and on in the teeth of should-have-died opinion of medical experts, and a de Gaulle or Acheson to slump down dead when medically least expected to do so. We are time; we are ended by time.

If Shakespeare talks of the "proportion'd course of time" and Dobzhansky[26] talks of death as the climax of programmed development, then it is right that we use the acronym DEATH to connote Designed Event Acclimaxing Timed Happenings. Aging, diseasing, senescence, and death are physiologic processes which reflect biologic maturation or development mediated by a series of gradual changes from conception to death as integral parts of the human life cycle[27]. No wonder that, according to Benn, "Altogether death has nothing to do with health and sickness, it uses them for its ends"[28, p. 249].

Benn's discomforting aphorism explains why people, pink and in the prime of their life, die a "natural death," and people who are manifestly afflicted with major disease(s) not only drag on but even seem to thrive. The medical histories of Freud, Pasteur, Brezhnev, Solzhenitsyn, and John Wayne show that may a person afflicted with medically certified "killer disease(s)" survives long enough to falsify the prognosis of doom.

A better appreciation of the foregoing is offered by an experimental study in the United States. For studying the development of major dis-eases in relation to age in rats, Simms and co-workers[29] created animal quarters which, because of the Waldorf-Astoria kind of lodging and boarding, came to be known as the Rat Palace. Unlike in the Waldorf-Astoria, visitors in contact with other rats were strictly

forbidden. And yet, in this rat utopia, diseases and death occurred with predictable timing and frequency. Comparing the rat findings with those in man, the authors concluded that barring the difference in time scale, the findings on rats were easily extrapolatable to man and that the factors that determine longevity (or mortality) of the two species seemed to operate in a closely comparable fashion. Needless to say, the diseases in rats bore as much relation to death as those in man: The two occurred independently of each other. This rat-man comparison brings us to the next important part of TURN - namely, relativity.

Relativity

The problems of middle and old age that bother man do not spare the animals. Most spontaneous cancers in animals, as in man, occur in middle-aged or elderly animals. The same is true of atherosclerosis, be it man, swine or killer whale. These observations and the experimental rat palace work of Simms and co-workers[29] drive home the *relativistic* nature of animal/human senescence and death. Collagen, although physicochemically similar in man, horse, dog, rat and mouse, exhibits maximal, and very closely comparable, age-changes in these animals respectively at 70, 25, 12, 3 and 2 years. Thus man, in terms of ageing and death, is a mouse whose time scale has been enlarged 35 times.

The relativity that prevails at the collagen-level, disease-level, and lifespan-level, is clearly reflected in the number of times the embryonic cells can multiply - the upper limit of the capacity being known as the "Hayflick limit." Hayflick[30] has demonstrated that the duplicating capacity of the cells from the embryo of an animal relates closely to its lifespan - the greater the lifespan, the greater is the number of times the cells can serially multiply.

We now have sufficient information to reach an understanding of the relativity of biological lifespan. Although the cells and the collagen fibers of all mammals are very similar, they age at a rate that is inversely proportional to their lifespan.

Furthermore, given the time-adjustment between different species (that is 3 years for a rat corresponds to 70 years for man), both the cells and the collagen fibers reach the same endpoint in all mammalian species. In terms of cells and fibers (cytofibernetics), we are forced to conclude that man is no more than 70/2 or 70/12 times longer lived mouse or dog respectively. Man's ageing is relatively slow, that of the dog less slow, and the mouse least slow. The rates differ, but not the basic style. Such differing rates of aging are seen even within a human herd, wherein, despite the genetic similarity of one man to another, one lives for 19 years, the other for 91 years; one grays early the other late; one woman gets cancer, the other escapes; and so on. The basis of these differences lies in the bioforce of *normality* as governs a given herd. While relativity explains interspecies differences, normality underlies intraspecies differences.

Normality

To say what things are abnormal, one must know what is normal. Alas, medicine has not been able to define what constitutes *the* normal, be it blood sugar or blood pressure. It is high time that normal/normality is accorded its pristine status of a field concept that is thoroughly irrelevant and inapplicable at an individual level.

The current widespread conundrum concerning normal/normality is traceable to carpentry, geometry, and arithmetic. Norma means the carpenter's square, and hence in geometry, *normal* connotes perpendicular, as also a line perpendicular to the tangent to the point of a curve. By extension, *normal* implies the point at which the aforestated perpendicular line intercepts the X-axis. Since in a Gaussian curve this point of interception falls on the arithmetic average on the X-axis, "normal" is synonymous with "mean" or "average" and everything to its right or left becomes *deviation*, error, or, what is worse, *abnormal.* The etymologic errors multiply to equate normal with "sane, natural, prevalent, regular, typical," and, by virtue of all this, "ideal." What has been forgotten in this jungle of epistemologic errors is the fact that "normal" refers

to a form of *distribution,* also called Gaussian distribution - the theoretical frequency distribution that is bell-shaped, symmetrical, and what is usually unemphasized, of infinite extent. Since the law of normality extends into the inanimate sphere with as much felicity as it does into the animate world, it is right that we should use the word "NORMAL" as an acronym, which on expansion reads as the Natural Order Regulation Matter And Life.

Galton's apparatus is an educative plaything that teaches the dominance of normality at the inanimate level of slots and balls. Another commonplace example that could be cited is the normality of distribution of the "typical grain size spectra of particulate matter from coastal waters"[31, p. 348].

The story at the animate level is no different. Falconer[32] generalizes that any biologic character that can be measured exhibits normal distribution. Thus human birth weight, blood chemistry, or intelligence can be designated "normal" or "abnormal." Must it not be for reasons of normality that the brain size varies widely on either side of the mythical normal (= average), with Anatole France enjoying a mere half of the brain size of Lord Byron or Oliver Cromwell and with Einstein in between, near the average? Again, would not the normality of distribution of intelligence, independent of the brain size, account for the brightness of Anatole France, the genius of Einstein, and the mental retardation of individuals with oversized brains?

If physiologic features such as blood pressure or HCL secretion exhibit normality in their distribution, pathologic features - even of the most serious nature - are no less normally distributed. The distribution of (the so-called) pathologic traits that determines the occurrence, severity, age at diagnosis, postdiagnostic/posttreatment survival, or the age at death of such diverse diseases as congenital malformations, peptic ulcer, hypertension, diabetes mellitus, cancer, heart attack, and what have you are examples.

The discussion on normality can be concluded with the

realization that each of the many features, physiological or pathological, that comprise a human being, is unpredictably and unalterably distributed on the normal curve, independent of all other features. To the utter chagrin of modern medicine and its specialists, such a 'normal' state of affairs makes *uncertain* the what, when, why of every disease, forcing modern medicine to be plagued by uncertainty at the level of the individual patient. Let us now understand the fourth element, namely, uncertainty.

Uncertainty

Uncertainty, the *alter ego* of Pascalian probability, is the child of normality, the science of quantitative differences between human beings. Modern medicine, without doubt, has spawned a gargantuan technocracy, unmindful of the quantitative nature of all human differences - anatomical, physiological, psychic, pathologic or thanatologic. The seemingly gross differences between two persons - one with elementary intelligence the other with creative genius, one with high stomach acid and no ulcer the other with low acid and ulcer, one surviving cancer, the other succumbing to it, and so on - are all a matter of quantitative variations normally distributed.

The absence of qualitative differences and the presence of normally, widely, and independently varying quantitative differences between human beings make for nagging uncertainty unremediable by all the might of medicine. To borrow a truism from physics, uncertainty is the only certainty. Quantum physics and uncertainty have demolished causality and determination, the one-time important pillars of physics[35]. If "quantum" is taken as "*quantitative,*" and physics is allowed to connote "medicine," then the aforestated physicistic revolution assumes debate-free medical relevance. Could the TURN concept open up the field of *quantitative bionics?*

It is the uncertainty principle which lends medical practice its mysterious element of unpredictability that charms

and challenges the man of action - the medical man. It is uncertainty, backed by temporality and normality that accounts for an esophagus declared normal today but found cancerous tomorrow and ECG (EKG) being assured as all right today, and worrisome tomorrow, the patient given up as lost today, surviving to attend his physician's funeral, tomorrow. But for uncertainty, medical practice would not have been half as fascinating. Thank God for uncertainty.

Summing Up

Time, Uncertainty, Relativity and Normality (TURN) universally govern development, disease and death - concepts that allow an intellectual ratiocination of both the trans-science and trans-medicine aspects of disease and death.

These concepts of TURN have some wider implications for modern medicine. They put modern medicine in its place. They dismiss as naive modern medicine's causalism - for example, fat causes heart attack, coitus causes cancer. In addition, TURN promises to cure modern medicine of its errorism, the obsession that every ill - congenital, cardiac, or cancerous - is a preventable outcome of some molecular/genetic/cytological errors. Furthermore, TURN erases the *hyper-hypo-cratic* borderlines that modern medicine has created by showing that the differences between the "normal" and the "abnormal" are not that between black and white but that between shades of gray, with no dividing line anywhere. By demonstrating that we are purposely, unalterably programmed to die, TURN accords to death the status of an independent, physiologic function. It asserts that all major problems - congenital, cardiovascular, cancerous, or metabolic - that medicine is claiming to be intensely researching are, in essence, unresearchable. Science etymologically means *knowing,* and not *doing.* Disease and death are not trans-science if we aim at understanding them. They are so if we want to manipulate them. More correctly, are they not trans-technique?

The choicest implication of TURN, however, may be its

integration of physical laws and biological laws, physicists and physicians, matter and man. By hinting at the integral relationship between time, relativity and uncertainty - hitherto only in the domain of matter - and man, TURN further erases the borderline between the living and the nonliving. Time, the space between the stars, and death are the ingredients of the woman who makes your meal, of your own self, or of the man who gets off the train as you get on[36]. The concept of TURN amplifies this to provide laws that govern you, the person who prepares your breakfast and the men you meet in the street. Thus TURN is a peremptory perspective on the democracy, the immense impartiality, and the trans-science temper of human development, disease, and death.

References

1. Burnet, F.M. *Genes, Dreams and Realities*. Aylesbury: MTP, 1971.
2. Dubos, R.J. *The Dreams of Reason: Science and Utopias.* New York: Columbia Univ. Press, 1961.
3. Goldblatt, D.P. Modern medicine's shortcomings: can we really conquer disease? *Perspect. Biol. Med.* 20:450-456, 1977.
4. Platt, R. *Private and Controversial.* London: Cassell, 1972.
5. Illich, I. *Medical Nemesis: The Expropriation of Health.* London: Boyars, 1975.
6. Carlson, R.J. *The End of Medicine.* New York: Wiley, 1978.
7. Knowles, J.H. (ed.). *Doing Better and Feeling Worse: Health in the United States.* New York: Norton, 1977.
8. Good, R.A. Quoted by J. Goodfield. *The Siege of Cancer*. New York: Dell, 1975.
9. Horrobin, D.F. *Medical Hubris: A Reply to Ivan Illich.* Edinburgh: Livingstone, 1978.
10. Tainter, M.L. Medicine's golden age: the triumph of the experimental method. *Trans. N.Y. Acad. Sci.* 18:206-227, 1956.
11. Thomas, L. Biostatistics in medicine. *Science.* 198:675, 1977.
12. Page, I.H. Editiorial: the past is prologue. *Mod. Med.* 40:51-53, 1972.
13. Brody, J.E., and Holleb, A.I. *You Can Fight Cancer and Win*. New York: New York Times Book Co., 1977.
14. Kurtzman, J., and GORDON, P. *No More Dying: The Conquest of Aging and the Extension of Human Life.* Los Angeles: Tarcher, 1976.
15. Weinberg, A.M. Science and trans-science. *Minerva* 10:209-222, 1972.
16. Kothari, M.L., and Mehta, L.A. Guest editorial: time, uncertainty, relativity, normality and modern medicine. *J. Postgrad. Med.* 25:128-133,1979.
17. Marti-Ibanez, F. Vitalism and existentialism. In *Tales of Philosophy,* edited by F. Marti-Ibanez. New York: Potter, 1967.
18. Portmann, A. Time in the life of organism. In *Man and Time,* edited by J. Campbell. New York: Pantheon, 1957.

19. Wenzl, A. Einstein's theory of relativity, viewed from the standpoint of critical realism, and its significance for philosophy. In *Albert Einstein: Philosopher-Scientist,* edited by P.A. Schilpp. New York: Tudor, 1957.
20. Van Der Leeuw, G. Primordial time and final time. In *Man and Time,* edited by J. Cambell. New York: Pantheon, 1957.
21. Burnet, F.M. *Immunological Surveillance.* Oxford: Pergamon, 1970.
22. Opie, L.H. Long-distance running and sudden death. *N. Engl. J. Med* 293:941-942, 1975.
23. Koshland, E.E., JR. Catalysis in life and in the test tube. In *Horizons in Biochemistry,* edited by B. Pullman and M. Kasha. New York: Academic Press, 1962.
24. Zmoff, B; Hart, H; and Hellman, L. Considerations of mortality in certain chronic disorder. *Ann. Intern. Med.* 64:595-601, 1966.
25. Lipkin, M. Sounding boards: the CPCs as an anachronism. *N. Engl. J. Med. 301:1113-1114, 1979.*
26. Dobzhansky, T. Heredity. In *Mankind Evolving.* New Haven, Conn.: Yale Univ. Press, 1967.
27. Taranger, J. Evaluation of biological maturation by means of maturity criteria. *Acta Paediatr. Scand.* 65, suppl.: 77-82, 1976.
28. Benn, G. Quoted by Plessner, H. On the relation of time to death. In *Man and Time,* edited by J. Campbell. New York: Pantheon, 1957.
29. Simms, H.S. Longevity studies in rats. I. Relation between lifespan and age of onset of specific lesions. In *Pathology of Laboratory Rats and Mice,* edited by E. Cotchin and F.J.C. Roe. Oxford: Blackwell, 1967.
30. Hayflick, L. The cell biology of human aging. *N. Engl. J. Med.* 295:1302-1308, 1976.
31. Kranck, K. Flocculation of suspended sediment in the sea. *Nature* 246:348-349, 1973.
32. Falconer, D.S. *Introduction to Quantitative Genetics.* Edinburgh: Oliver & Boyd, 1972.
33. Kothari, M.L., and Mehta L.A. *The Nature of Cancer.* Bombay: Kothari Medical Publications, 1973.
34. Reich, T.; Rice, J.; Cloninger, C.R.; et al. The use of multiple thresholds and segregation analysis in analyzing the phenotypic heterogeneity of multifactorial traits. *Ann. Hum. Genet.* 42:371-389, 199.
35. Barnett, L. *The Universe and Dr. Einstein.* New York: New American Library, 1952.
36. Ardrey, R. Time was. In *African Genesis.* London: Collins, 1971.

Six

The Mythology of Modern Medicine Cocoon of Causalism

Journal of Postgraduate Medicine
Year: 1993 | **Volume**: 39 | **Issue**: 2 | **Page**: 102-104

Kothari ML,[1] Mehta LA[2]

For pretty long, Modern Medicine (MM) has spun round itself a cocoon of causalism, the nature and the basis of which are best summed up by the adage *post hoc ergo propter hoc* - after this, therefore, because of this. Eat fat and occlude your coronaries, make love and give cancer cervix, or, have a prepuce to prepare for penile cancer. And so on, and so forth. The foregoing filaments of the causalistic cocoon may be good ploys to hide medical ignorance from an inquiring patient or public, but such facile assumptions have spelled

1 Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

for MM, intellectual bankruptcy, endless prescriptions and worse, proscriptions, and spawned experimental slaughter of innocent animals on an astronomical scale. MM, isn't it time to cure your body politique of the curse of causalism?

Before we spell out that MM's causalism and MM's confusion, a word or two on the why of its unending chronicity. Altruism and philanthropism aside, a medical person – of whichsover – pathy – can be comprehensively defined as one who is convinced that he is wiser than the patient's body. Such an individual also gets primed with a loftly litany – Prevention is better than cure. (In MM, so much is talked about prevention, for there is precious little to talk of any cure). So the MM man sets out to prevent a disease by forestalling the cause from conquering the patient, or, to cure the disease by attacking the cause resident in the patient's body. As of today, the whole cause hunt has been truly like asking a blind man to go into a dark room to find a black cat which is not there.

Circa A.D. 1918, Bertrand Russell[1] wrote an essay titled "On the notion of a cause" in which he declared in his inimitable style: "All philosophers, of every school, image that causation is one of the fundamental axioms of science, yet oddly enough, in advanced science such as gravitational astronomy, the world 'cause' never occurs…. The Law of Causality, I believe, like much that passes among philosophers is a relic of a bygone age, surviving like the monarchy, only because it is erroneously supposed to do no harm." The fact that causalism has survived, nay thrived, in MM betrays three possibilities: either MM is no science, or is not advanced, or is neither. Medical philosophers of the level of Smithers[2] and Burnet[3] had to generalize that MM singularly lacks in biological scholarship. It is an arena of enormous affirmative action unbacked by any conceptual clarity.

Fuller[4] puts down, as the earmark of causality, an invariant relation of events in which the cause must precede its effect and the effect must follow its cause, in time. "It is this sense of must which distinguishes causal connection from coincidence." Further, Fuller emphasizes, the effect

must immediately follow the cause: "Causality can no more jump gaps in time than it can gaps in space." The invariant relationship that must prevail, but fails to prevail in most of the causalism of MM leads to the following questions:

X causes Y
But why does Y
Occur without, and
Not occur despite, X?

A young lady, the wife of a physician-friend of the authors was detected to have an inoperable lung carcinoma. About her one could pose a question in Erich Segal's style: "What can you say about a twenty-five years old girl who got lung cancer without having a single puff any time?" Fuller's tenets on causalism can be amplified by an epistemologic necessity called the Bombay Razor[5]: Any proposition that A causes B must in the very same breath spell out why A often fails to cause B and why B manages to occur without A. Fuller's emphasis on no temporal gap between cause and effect must be appreciated in a wider context. Let us concede a situation in which everyone who only lived literally on fat of the land (ghee, butter and what have you) ends up with a heart attack after, say, n years. Yet fat cannot be incriminated for whatever else happened to these subjects during the interim n years including the mere proximity to a doctor as causal to the effect that is seen now.

MM may be diagnosed as having chronic *causitis*, a syndrome some features of which, and the remedy thereof, are detailed below.

Coursality, Not Causality

A zygote – the featureless *cellula prima* – ends up into a human being of 10^{27} cells through what the embryologists call epigenesis – a perspectival proposition that allows a person's brain, biceps, or bladder to be integral parts of the phased, sequential development that, postnatally, unfolds as uniquely invidualistic puberty, sexuality, menstruation, menopause, stroke, diabetes, cataract, cancer, death – all

coursal but not causal in nature. Development, Dobzhansky[6] aphorized, begins in the womb and ends in the tomb, all a part of DNA's Developmental, Nurtural, Annihiliational repertoire resident in the genotype of every cell and manifesting as varied phenotype.

Herdity[5], Not Heredity

The rather useless but uniquitous science of medical epidemiology thrives on the stability of probabilities like one in 1000 newborns having a cleft palate, one in 10 having a stroke, one in 5 having cancer, one in 33,000 having ALL, 2.6 in 100 being low in IQ precisely because 2.6 in 100 have too high an IQ world over, generation after generation. The unswaying nature of such statistics should have taught us long ago that these phenomena occur at an individual level at the behest of the herd whereby its occurrence in one assures the freedom from it in the rest and vice versa.

Exigence, Not Environment

(Exigentia = Demand, Pressure, Want, Requirement)

There works in the most modern branches of medicine the rule of thumb assumption that whatsoever cannot be attributed to genes or heredity must have been caused by environment. This done, man (i) forgot to love and preserve the environmental elements that sustain life, (ii) learnt to fear air, sunshine, food, sex, (iii) failed to see that even in the most smog laden metropolises[7] so man-made "since at least the 17th century," civilizations have prospered, and people have progressively lived longer and healthier, and lastly, (iv) man lost sight of the fact that all environments unsullied by man's industry and exigency are pristinely health-giving. Holding environment as causative is mankind's cunning to be the judge, jury and the executioner when in reality man alone is the culprit.

Penny-Wise, Pound-Foolish

For ghee-gourmets, there is some good news around. Cholesterol-causalism has bitten the dust, for whatever was

the alleged gain against CHD (CAD) has been more than offset[8,9] by disastrous disadvantages: "During the past three decades or more, in chasing the phantom of cholesterol, we condemned ghee and coconut oil as atherogenic saturated fats and replaced with so-called cholesterol-free kindly-fat-for-the-heart. Paradoxically, this change has resulted in a sharp rise or epidemic of not only coronary artery disease but also of diabetes mellitus and other disorders of insulin resistance."[9] *Vive le* cholesterol, chapatti soaked in ghee, and all other gourmet's delights.

Burch[10] has raised his cudgels against smoking as the villain behind lung cancer, and has demonstrated, statistically, that those who smoke have a lower incidence of brain and bowel cancers as compared to those who despise Lady Nicotine. In the whole preventive game, MM has made an average human being lose a great deal of his *joie de vivre*, spontaneity, and many a small, convivial bliss of life to give him in return nothing but hollow statistricks. Surely penny-wise, pound-foolish.

Patient, Not the Doctor, Knows Better

Alex Comfort[11], English gerontologist more famous as a sexologist, has portrayed medical men as the anxiety-makers and has praised the astounding resilience of a common man to rid himself of this MM-foisted illness by successful, admirable ingenuity.[12]

The Lament of a Coronary Patient

My doctor has made a prognosis
That intercourse fosters thrombosis
But I'd rather expire
Fulfilling desire
Than abstain, and develop neurosis.

Fischer[13], the eminent Harvard physician arrived at a conclusion that many a diabetic survives by stealthily eating the bread that his physician has denied. Antia[14], prefaces his 5th Edition on dietetics and nutrition by candidly declaring

that our forefathers (rather foremothers) knew a great deal better and more on balanced dietetics than all the texts, tables and statistics of MM put together.

All societal pleasantries, courtesies and convivial sharing involve items – tea, coffee, spirits, tobacco, betel leaf, sex that MM has found fault with. It is indeed to mankind's credit that it gives to MM a double-ear hearing that effectively bypasses the inhibitory cortex.

Empathy, Not *J'accuse*

Causalism conveniently cooks up a chain of events wherein the patient is seen as the willing accomplice and hence fit to be accused of a misdeed. Solzhenitsyn[15] and Cornelius Ryan[16], the eminent literary men, faced such *j'accuse* for the cancer they had had. Pickering[17] deplored that MM has not yet been liberated from medieval idea that illness is the result of a sin that must be expiated by the mortification of the flesh.

The death of causalism should drive home the lesson that in the occurrence of intrinsic diseases like heart attack, stroke or diabetes, the sinner and the saint are not treated differently by biological forces. The long list of cancerologists who died of cancer and cardiologists who succumbed to coronary artery disease should kindle in the medical man's heart the flame of empathy for a fellow being in suffering.

Humility, Not Hubris

Rushdie in the closing part of *The Satanic Verses* describes, in a Bombay setting, the visit by a cardiologist "dripping with self-esteem." Cause as the substratum of the course of an illness makes MM unduly assertive, arrogant, action-oriented, Mr. Know-all. MM behaves like the Queen in *Alice in Wonderland* – ordering the beheading of this cause and that, as a means to prevent/cure an illness.

In the midst of utter intellectual bankruptcy[18], scientists are still dreaming of spotting the cause, curing the cause. A recent issue of *Science*[19] traces cancer to be a faulty, *oncogene*

bel 2 which can be set right to enforce the regression of a cancer. Ambroise Pare's *"I dressed the wound God healed it"* has no chance in the arena of hubristic MM.

There are a number of other areas in MM that need a non-causal perspective to set right MM's illness. The utterly inhuman slaughter of animals for laboratory could be reduced to one-tenth of what it is now if causalism is dropped. Microbes as a menace has fostered antibioticism that has produced global immunodeficiency[20] that, in all likelihood, has allowed[21] the Darwinian emergence of the hitherto dormant HIV problem.

In the final analysis, causalism with its attendant cure-all-ism is MM's knee-jerk response to a wide variety of biological phenomenon. And that is decerebrate, spinal medicine.

References

1. Russel B. Mysticism and Logic. New York: WW Norton, 1929.
2. Smithers DW. On the Nature of Neoplasia in Man. Edinburgh, London: Churchill Livingstone, 1964.
3. Burnet FM. Immunological Surveillance. Oxford: Pergamon Press, 1970.
4. Fuller BAG. A History of Philosophy. Calcutta: Oxford and IBH Publishing Co, 1955.
5. Kothari ML, Mehta LA. Cancer: Myths and Realities of Cause and Cure. London: Marison Boyars, 1979.
6. Dobzhansky T. Mankind Evolving. New Haven, London: Yale Univ Press, 1962.
7. Pearce F. Back to the days of deadly smogs. New Scientist 1992; 136:24-8.
8. Schuit AJ, Dekker JM, Schouten EG, FJ. Low serum cholesterol and death due to accidents. Lancet 1993; 341:827.
9. Raheja BS. Quoted in: Polysaturated fats blamed for rise in heart disease and diabetes. Medical Times (Bombay) 1993; XXIII: 1, 6.
10. Burch PRJ. The Biology of Cancer: A new Approach. England: MTP, 1976.
11. Comfort A. The Anxiety Makers. London: Panther Modern Society, 1967.
12. Dershowitz AM. The two models of commitment: the medical and legal. Reflections 1972; 7:42.
13. Fischer MH. Quoted in: Strauss MB Ed. Familiar Medical Quotations. Boston: Little Brown & Co, 1968; 94a.
14. Antia FP. Preface in: Clinical Dietetics and Nutrition, 3r Ed. Bombay:

Oxford Univ Press, 1989; v-viii.
15. Solzhenitsyn A. Cancer Ward. New York: Bantam Books, 1969.
16. Kothari ML, Mehta LA. Death: A new Perspective on the phenomena of Disease and Dying. London: Marion Boyars, 1986.
17. Pickering GW. Resident Physician 1965; 11:71. Quoted in: Ref. 13, 1968; 637B.
18. Watson JD. Quoted by Greenberg DS. Progress in cancer research – don't say it isn't so. N Eng J Med 1975; 292:707.
19. Minerva: Reporting on Science 1993; 359:760-1, Br Med J, 1993; 306:664.
20. Raeburn JA. Antibiotics and immunodeficiency. Lancet 1972; 2:954.
21. Kothari ML, Mehta LA. AID is a gift of antibiotics. (To be published).

Seven

Non-pathology: The Bedrock of Pathology

Special Article
Year: 2000 | **Volume**: 46 | **Issue**: 2 | **Page**: 134-143

Kothari ML[1], Mehta LA[2], Kothari VM[3]

Abstract

Pathology, also called morbid anatomy, is macroscopically, microscopically, and molecularly so manifest an array of phenomena that it has compelled medical men to closely link it up with disease, dis-ease, and death. But there is more than meets the eye of the morbid anatomists, microscopists, and the molecular biologists. The obvious science of pathology

1 Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Associate Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
3 Associate Professor, Department of Medicine, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

is governed by numerous abstract, subtle, non-pathological factors. A pathological phenomenon is subservient to cosmic noumenon. Such a sea-change allows a newer perspective that cures modern medicine of many of its dogmas and provides epistemologically valid directions to research methodologies on the one hand and clinical practices on the other.

With *chaos*[1] as a leading buzzword of the day, any effort at dechaotizing pathology may seem as an attempt to square a circle. A panoramic view of pathology provides a cosmic perspective rich in subtleties and illuminating understanding. This essay endeavours to clear pathologic phenomena of their stings and stigmata to help develop a mindset that sees the benignity of much of pathology. Such an approach also helps the non-allopathic disciplines such as ayurveda, homoepathy, naturopathy and the like to restructure their world-view on their own *tridosh* and *miasma*, and *toxins* vis-à-vis human health and the lack of it.

A comprehensive definition of pathology has to be trifold: (based on L. *specere* = look, see) *spection* or seeing whatever deviation/abnormality is found structurally and/or functionally here and now, *retrospection* being an attempt at unravelling the causation, and *prospection*, a kind of crystal-gazing into the future to see what course the *disease* would take and what harm can ensue therefrom.

Before going to pathology proper, there are a few, new concepts that can profitably be comprehended. Such an exercise will spawn some mindshifts that will pave way for change in the sophistrily complacent mindset of modern pathology.

1. Judgmental jargon

The terms *normal, abnormal, benign, malignant, differentiation, dedifferentiation* are established cliches of modern medicine, and pathology. These terms necessarily express an opinion and hence a judgment. While the lay and the learned, patients and the doctors, have come to accept these terms as some kind of norm, a critical analy-

sis reveals them to be *judgmental jargon* bereft of semantic and/or scientific basis.

Normal-abnormal

It is not generally realised that *normality*[2] is a canvas, a map, a landscape, a wide range, a perspective and has nothing to do with a single finding or a person. The sway that *normal distribution* has over both the inanimate and animate worlds, inspires the acronym NORMAL to read as Natural Order Regulating Matter And Life. Much as beauty/ugliness lies in the eyes of the beholder, normal/abnormal lies in the judgmental eyes of the medical person.

Normality

To say what things are normal, one must know what is abnormal. Alas, medicine has not been able to define what constitutes *the* normal, be it the blood sugar or the blood pressure. It is high time that normal/normality is accorded its pristine status of a field-concept that is thoroughly irrelevant and inapplicable at an individual level.

The current widespread problem concerning the normal and normality is traceable to carpentry, geometry, and arithmetic. *Norma* means the carpenter's square, and hence in geometry, *normal* connotes perpendicular, as also a line perpendicular to the tangent to the point of a curve. By extension, normal implies the point at which this perpendicular line intercepts the X-axis. Since in a Gaussian curve, this point of interception falls on the arithmetic average on the X-axis, normal is regarded as synonymous with *mean* or *average* and everything to its right or left becomes *deviation, error*, or what is worse, *abnormal*. The etymological errors multiply to equate 'normal' with 'sane, natural, prevalent, regular, typical' and by virtue of all this, 'ideal'. In this jungle of verbal distortions, what has been lost sight of is the fact that the appellation 'normal' refers to a form of frequency distribution, also called Gaussian distribution. Such

a distribution provides a graph or a curve that is bell-shaped, symmetrical, with its two ends stretchable to infinity, thus allowing the widest variations of a parameter, say, blood pressure readings, to fall within normality. The law of normality prevails in the inanimate sphere with as much felicity as in the animate world.

Any biological characteristic that can be measured, exhibits normal distribution. This could be human birth weight, under conditions 'normal' or 'abnormal', blood cholesterol levels, or intelligence. Must it not be for reasons of normality that the brain size varies widely on either side of the mythical normal (that is to say average) brain, with Anatole France enjoying a mere half of the brain size of Lord Byron or Oliver Cromwell, with Einstein in between, near the average? Again, would not the normality of distribution of intelligence, independent of the brain size, account for the brightness of Anatole France, the genius of Einstein and the mental retardation of individuals with oversized brains?

If physiological features such as blood pressure or acid secretion in the stomach exhibit normality in their distribution, pathological features - even of the most serious nature - are no less normally distributed. In any population, it is the normality of distribution of the so-called pathological traits that determines the occurrence, severity, age at diagnosis, post-diagnostic/ post-treatment survival, or the age at death, of such diverse diseases as congenital malformations, peptic ulcer, hypertension, diabetes mellitus, cancer, heart attack, etc.

The contorted way in which the concept of *normal* has been arrived at and abused should reveal the truth that it is *the average* that is labelled as normal. Moreover, the antonym of normal is not abnormal but non-normal. If abnormal means away from normal (=average), then its opposite is adnormal. More truly, abnormal is abaverage and adnormal is closer to average. So any cholesterol-reading is average/adaverage/abaverage, and all these findings find their own rightful place over the *normal*

distribution that governs cholesterol levels in any group, herd or population. To paraphrase Pope, *whatever is*, is *normal*. The appellations abnormal and *adnormal* should be exiled from pathological and medical lexicons. All medicos should pay heed to the Ardreyean generalization[3]: *Normality is the range and not the average and hence inapplicable to an individual reading of any parameter*.

Benign-malignant

Let us first read a real-life history to appreciate the paranoia and the panic that the above terms breed: Around late 1950's, a Mumbai surgeon, in his late 30's has had bleeding per anum. A quick examination, a "lump", a biopsy followed and a label of rectal carcinoma was arrived at to be immediately followed by removal of God-given rectum and anal canal and the creation of a permanent fecal outlet on the abdominal wall. The "slide" was sent to USA and the report was normal rectal mucosa. Expectedly, the surgeon has survived the panic diagnosis and the panic perineo-abdominal resection.

Could the report, to start with, have been *normal rectal mucosa*? Would it then have allowed clinical complacency that everything is hunky-dory, only to find an eventual metastasis to the brain, reported again as normal rectum in the brain? Smithers[4] has described such a case where the rectal carcinoma differed from the "normal" no way structurally but functionally, by metastasizing to the brain.

Benign tumours of the brain behave, so often, malignantly and many a microscopically maligned malignant tumour of the prostate remains steadfastly benign throughout the life of the owner. Let it be clearly understood that a cell is benign/malignant by behaviour and not by appearance. A *Hunchback of Notre Dame*, repulsively ugly to look at so often proves to be benign, wise and humane as compared to the learned and debonair Father Frollo. The microscopist's judgment of cellular intentions is based on "nuclear features." Alas, nuclear-swapping experiments

have convincingly shown that the cancerousness or otherwise of a cell resides[5] not in its nucleus but in its nebulous, non-judgmentable cytoplasm.

The fierce flurry of frozen section fosters fastness of the oncologic knife. There is no evidence to show that an "early" operation offers any advantage over a "late" treatment. If at all, it is the delayed treatment that assures[6,7] a better prognosis. It's time to grow cellwise and to banish the judgmental terms benign and malignant.

Differentiation-Dedifferentiation

> We believe what we see,
> And see what we believe.
>
> **Anonymous**

At the 67th Ciba Symposium titled *Submolecular Biology and Cancer* (an apologetic title that confessed that having failed at the molecular level, researchers were diving still deeper), the chairman Szent Gyorgyii[8], Nobelist, was asked at the end of the 340 page deliberations, if he could define a cancer cell. His reply echoed an unchanging truth: "How can I differentiate between a normal cell and a cancer cell when I don't know what a cell is?" Not knowing *what a cell is*, cytologists ventured to talk of *differentiation* which only meant that whereas you started with a cell type A, you now have type B, C, which is what happens in embryogenesis. The utter featurelessness of a zygotic cell is also a distinct state of differentiation. The current craze of Dolly-cloning takes full advantage of this zygotic fact.

Differentiation, then, is a learned way of saying what a lay person would say: "The cell/cells is/are looking/behaving differently." Dedifferentiation, albeit, one more step in differentiation, is so denigrated because cytologists have not yet categorised the so-called dedifferentiated state. Since such a cell, obeying its programmed dictates, "misbehaves", it gets a bad name of being *anaplastic* (*ana*=backward *plassein*=to form), and

hence un- or dedifferentiated. How wrong we have been in this medley of assumptions should be clear from what follows.

Maclean's learned monograph *The Differentiation of Cells*[9] spells out the differentiated state that cancer cells themselves enjoy: "Rather than view the change to malignancy as dedifferentiation, it is more accurate to recognise it as a further phase of differentiation superimposed on an already differentiated cell." Moral: A cancer cell is a superdifferentiated cell, an anapoptotic cell designed to defy the mortality of a cell. Maclean goes further to emphasize the close similarity between "normally differentiated and malignant cells" in the sense of both exhibiting "memorizing of commitment." To those who would persist in hurling a *j'accuse* at cancer cells for their proclivity to metastasize, Maclean has a very clear answer: "The notorious invasiveness of malignant cells is not necessary an attribute of dedifferentiation, but may just as accurately be considered to be a further differentiating development of the malignant cell. Some non-malignant, but otherwise differentiated, tissues may also display this property, for example the embryonic trophoblast and, possibly, the regenerating nerve."

While at differentiation of cells, it is imperative to realize that all cells that look alike may be all cells that *behave differently*. Cellular differentiation, by and large, connotes physiodifferentiation, and not, morpho-differentiation. The greatest lab in the universe, namely, a liver cell "is more like what we would consider a typical cell, with no morphological features that make it extraordinary"[10]. The cellular consciousness of being different, is expressed a little differently by Lewis and Wolpert[11]: "Cells that look alike to the histologist but are in different positions in the body may have different intrinsic characters; they may have positional information, making them non-equivalent." A corollary of the foregoing is that cell, not excluding even the cancer cell, is what it does and not what it seems.

It can be - rather, it must be - generalized that the pejorative term dedifferentiated be done away with. It will be a great day when the histopathologist/ cytopathologist will report that, "the biopsied tissue shows cancerous differentiation," adding the following lines to every report that they said:

Cancerous features do not malignant behaviour make. Normal features do not benign behaviour assureth.

2. Dissociation between dysis, dis-ease, and death

A check-up clinic is a modern medical marvel where into a person walks in, and so often, wherefrom a patient walks out. This alchemy, practised world-over, thrives on patienting a person by replacing his or her hitherto innate sense of ease, into one of dis-ease by declaring the presence of a lump/an ECG squiggle/not-normal cholesterol or sugar level and so on. "For one disorder that doctors cure with drugs (as I am told that they occasionally succeed in doing) they produce a dozen others in healthy subjects by inoculating them with that pathogenic agent a thousand times more virulent than all the microbes in the world, *the idea that one is ill*." (Proust)[12] The modern medical penchant for *abnormalising* a troublefree variation empowers medicos to initiate a cycle comprising diagnosis, treating, prognosing, charging and so on. The whole art has acquired a learned name called *iatrogeny*.

Some conceptual clarity is imperative. Any "abnormality" - structural like a lump, functional like elevated BP - that is unaccompanied by dis-ease should be seen as a mere abnormality called dysis which is Greek + Old Irish meaning an assumed *abnormality is*. Dysis[13] empowers a medical person to pass a judgment of abnormality but does not permit the right to brand it as disease, pathology, lesion or illness. It has been clearly forgotten that the cardinal function of any pathy or pathist is to ease if and when there is dis-ease. No dis-ease, no diagnosing, no doctoring.

The medical obsession with linking a dysis with dis-ease is best illustrated by the case of an English doctor[14] facing the horror of being stamped as an ulcer patient (on the basis of findings on barium study of the upper GI) when he did not have a single complaint, and being vehemently denied the same diagnosis when his stomach and duodenum were being literally ripped apart with pain.

The evolution[6] of cancer in an individual illustrates the fine distinctions between dysis, dis-ease and death. Cytokinetic studies have shown that from the time of its inception to clinical presentation, a cancer takes 5-15 years during which it is a dysis but no way a dis-ease. And even when detected as a lump, it may not be dis-easing the bearer at all. Many a cancerous dysis lives and dies with the individual without once dis-easing. Hence dysis need not, and often does not, end in dis-ease. As and when dis-ease occurs, if the patient can live with it fine. Otherwise the therapist can ease the dis-ease. Yet it must be emphasized that many a cancerous dis-ease does not end in cancer-death. Like in cancer, so for coronary and for carotid artery disease or for high blood pressure - dysis, dis-ease, and death are often dissociated. The therapist should think twice before exercising his right to treat lest therapist gets read as the rapist.

3. Componential quartet

The material participants in the drama of health and disease are 4 - cell, fibre, fluid, interstitium, acronymizable as CIFF. All the 4 components refuse to fall into the medical obsession of abnormality. Let us see why.

From the time that a cell evolved 4.2 billion years ago[10], it has, as a brick of biology, refused to alter its basic character. From the earliest procaryocyte to the latest Einsteinean neurones that spawned the theory of relativity, the cell, through evolution, through health and disease, has remained just the same. All attempts at nabbing the culprit in the cell in the form of an enzyme/

gene/organelle devilishness have gloriously failed. With regard to the foregoing, some sweeping, reassuring generalisation[14] is in order: "We have learned that cells, whether they are protozoans or human liver cells, duplicate their genetic material in the same way, utilize their hereditary information to synthesize proteins in the same way, handle the transfer of energy in the same way, regulate the exchange of materials in the same way, convert chemical energy into work in the same way, and so on. In fact, it has been disconcerting to those interested in differentiation or in the problem of cancer that so few fundamental biochemical differences can be detected between cells of various types."

The trillion-dollar question is: If a cell per se refuses to be "abnormal", what is it that produces problems. A quartet of cellular features help us resolve the crisis: cell type, number, position, and lifetime.

A. Cell type

The cytogalaxy called the human body is made up of 100000 billion cells. The pioneering work of Leblond[15] allows us to divide them, postnatally, into *non-divisible* or *postmitotic*, and *divisible* or *mitotic* groups. The former comprises the *Perennial* or *Immortal Cell* Population (PCP, ICP) to which belongs the SNM Complex[6] – Sensory receptors, Neurons, Muscle cells. These are cells with conspicuous morphological features, spatially placed by point to point precision as to be, integrally, well-behaved. These cells devoid of "normal" divisibility lack "abnormal" mitosis as well, thus assuring that no *oma* arises from the cells of the SNM Complex.

The mitotic group is subdivided into the Expanding Cell Population (ECP) and Renewing Cell Population (RCP). In the former, mitosis only occurs on demand, in the latter mitosis is its very existence. Both ECP and RCP are further divisible into *reactive* and *non-reactive*. The former group comprising fibroblasts,

angioblasts, and the white cell series is endowed with the general ability to react and thus partake in all forms of inflammation. Sir Howard Florey[16] of penicillin-fame has described inflammation as "the backbone of pathology". It's through inflammation that microbes are repelled, wounds repaired and grafts (not-self) rejected; to restore a cytofibrenetic symphony, that Burnet[17] calls the *The Integrity of the Body*.

B. Cell number

The impeccable precision with which animal form is retained from womb to womb, in health and disease, is owing to the wondrous principle of eutely - the (dynamic) fixity of cell number anywhere in the body. Its (unhealthy) apposite is aneutely comprising hypertely and hypotely. The subtle - as yet undetected - agents that religiously maintain eutely are unknown. Chalones, have been talked about but are yet to be proved.

To have a glimpse of the precision with which eutely is maintained, consider the following: (i) The number of red cells produced/eliminated per second is 2,500,000[18]. (ii) The GI tract throws away (and replaces) $1/22^{th}$ of the total body cell number in 24 hours. The thousand wounding shocks that the human flesh is heir to end up getting repaired by cell numbers that unfailingly restore the *status quo ante*. (iii) The total number of blood cells eliminated/made per day[19] is $5x10^{11}$ which is 500 times more in number than the current human population.

Aneutely is negative, and, positive. Lowering of cell number, leading to hypotrophy or atrophy of the organ, is compatible with symptom-free life - the surviving cells can manage body's functional demands. Symptoms/signs arise when negative aneutely involves areas with very sparse cell reserve such as the optic disc, or the pituitary.

Positive aneutely - more cells per volume of tissue – comprises the bread and butter of surgeons/oncologists. The further subdivision[6] is eucytotic leading to an eucytoma or the so-called benign tumour, and the more-feared aneucytoma - so-called malignant tumour. Eucytomas more commonly spring from the ECP, aneucytomas from the RCP. In eucytomas, the parental-tissue cellular features are retained, the cells stay put, and the aneutely is an outcome of alteration in local factors governing cell number. In aneucytomas, the cell turns anapoptotic, assumes an advanced differentiated state to form "cancer" cells which enjoy laws of their own.

C. Cell position

Human embryogenesis as a miracle comes to pass as each of the over trillion cells knows its precise place. Embryogenic cellular atopy - like oxyntic cells/pancreatic cells in Meckel's diverticulum - are occasional curiosities that obey some herd laws. Generation after generation, and century after century, their incidence remains more or less the same, implying thereby that the atopy occurs, in an individual, at the behest of the herd.

Atopy in postnatal life is called metastasis, and is generally an accompaniment of anapoptotic aneucytosis. Perfectly eucytotic cells can also metastasize, and grossly aneucytotic cells may never.

The metastatic rights of an anapoptotic cell remain sovereign. For the many years that a cancerous focus remains out of bounds of any diagnostic technique, it has all the time in the world to go to all sites in the body. Savoury and Gluckman[20], writing on ENT cancers, generalise that "approximately 4 million tumour cells/gm of tumour are released into the blood stream on a daily basis." This single phenomenon, unchecked so far, and uncheckable for ever, makes *early diagnosis/treatment* as the most consistent fallacy

sold by so few to so many for so long. DATE[6] - Diagnose And Treat Early - dream should scientifically be done away with.

The aforequoted authors[20] end on a reassuring note: "Yet less than 1 percent of malignant cells entering the bloodstream go on to survive." The evolution of metastatic cancer is an outcome of the dialogue between the migrant cell and the host tissue. There too, the statistics remain constant when viewed in a sufficiently large number, over years, showing that there is a method in the metastatic madness, which thus assumes the role of a herd feature and hence integral to the herd, and hence "normal".

That "malignancy" can manifest itself - *in situ* - without any metastatic atopia is exemplified by brain tumours that though microscopically structured benign, can exert malignancy by a wide field of origin. A benign parathyroid adenoma may prove far more malignant than a malignant nodule in the thyroid or prostate, ending as it can in kidney failure. Microscopic judgments of benignancy or malignancy are often out of sync with the clinical realities.

D. Cell lifetime

We pioneered the concept[21] of "Finite lifetime of somatic cells - A basis of finite lifespan of animals" way back in 1969. At the end of its lifetime, guided and governed by its internal clock *cytochron*, a cell decays, dies and disappears, a cascade of events that has now been christened as apoptosis (Gk. *apo*=from, *ptosis*=dropping), which means a cell "falls" to its death, and its oblivion. Dictionaries and cellular/genetic texts synonymize apoptosis with *programmed cell* death. In the same paper, we suggested that if the cell in question has been preendowed with cancer genome (now widely called *oncogenes*), it would free itself from the limitations of mortality and turn immortal. In the present communication, we wish to

> christen this process of a cell immortalizing itself as *anapoptosis* - the polar - opposite, and in a way polar-apposite of *apoptosis*. It is just possible that the telomeric regions of the chromosomes that decide the apoptotic/anapoptotic trajectory of a cell represent the *cytochron*[25] – the cellular clock - that we postulated.

The aftermaths of cellular anapoptosis are too well known as to merit any detailing here. The *apoptosis of vascular endothelium*, from womb to tomb, can mediate *blood vessel disease*. The programmed endothelial apoptosis can mediate a wide array of vascular pathologies ranging from an atheromatous patch maturing into a plaque or an ulcer, or the sudden opening of the walls of a berry aneurysm to occasion cerebrovascular accident, or releasing some hormones as a part of dying throes to occasion spasm/thrombus/embolism of the coronary or cerebral tree. Kurtzke's global survey[22] of *stroke* revealed that at the herd level, stroke looks like a physiological phenomenon as natural and well-timed as the need for reading glasses or graying of hair. By now, it should be evident that positive aneutely can be one of the factors underlying the birth of berry aneurysms and of endothelial plaques, a kind of endothelioma.

The popular phrase *programmed cell death* should be restructured as *programmed cell denouement* sub-classified into apoptosis that can mediate vascular diseases and hence the bulk of pathology, and anapoptosis that, spawning cancer, can account for the major share of the remaining pathologic burden on the human body. Were Hamlet around, he would have bemoaned "the thousand apoptotic and/or anapoptotic natural shocks, that flesh is heir to," and like a good biorealist, would have added, "it is a consummation, devoutly to be wished. To die, to sleep."

The remaining 3 members of the CIFF Quartet are, basically, at the behest of the cells. As are the cells, so are the interstitium, fibres and fluids. Howmuchsoever pathologic the IFF seem, they represent merely altered physiology, in

crescendo or diminuendo. An article[23] in *Nature* (London) on "Demonstration of carcinoembryonic antigen in normal (sic) human plasma" generalised that "with CEA the difference between normal adult plasma and the plasma of cancer patients is quantitative rather than qualitative." Much as it is difficult to find genuinely abnormal cell, so it is difficult to find abnormal collagen. Diseases of collagen – progeria, collagenosis - are as directed by the related cells. The cell, then, is the be all and end all of being and becoming in health and disease, and finally unbecoming as well which is what we call death.

One general conclusion on CIFF is that its components refuse to exhibit a "pathology" that can be nabbed to the advantage of the patient and the credit of the clinician. Modern pathology has had Rudolf Virchow as its grand patriarch[24] – "the greatest pathologist of all time ….. who regarded all disease as disease of cells." Virchow enshrined the *cell theory* in his "most famous work *Die Cellularpathologie* (1858)." Whatever Virchow conceived, the cell refused to deliver.

The poignancy of Virchovean failure is well-illustrated by the cancer-problem. In its search for the villain-of-the-piece, pathologists went from the ordinary light-microscope to electron- to scanning-electron microscope only to draw a blank. They then went molecular, then submolecular, and are now lost in the twists and turns of the double-helix, where periodically sensing the Holy Grail, they cry "Eureka!" and name the oncogenes, without being able to offer a single change in the cause/course/cure of that particular cancer. What holds true for the C of cancer, is equally valid for the C of cessation (death), coronary, carotid, catabolism (diabetes), collagen (arthritis), and congenital malformations. Whatsoever may be the problem, it is not in the cells or fibers, but somewhere else.

A rule-of-thumb classification of diseases of the human soma and psyche has been into congenital, traumatic, infective, neoplastic, degenerative, metabolic, and psychic. Trauma of any sort or magnitude can be pithily portrayed as *ruptured*

anatomy and disturbed physiology, a state of affairs that endows to Modern Medicine its Golden-lettered Triumphs of restoring both systems to *status quo ante*, blessed of course, by the litany that Ambroise Pare[25] lipped: "I dressed the wound. God healed it."

Vis-à-vis infectious pathology, one can generalise that whereas *infection* is yet to be satisfactorily defined, any infection tends to excite the cascade[26] of responses comprising recognition, reaction, rejection, resolution, restoration, very akin to host-*versus*-graft attack. The response-cascade may be arrested at any stage to render the process into a chronic affair. The genius of Pasteur, Lister, Semmelweiss, Domagk, Fleming-Florey-Chain-and Co. created the legend of the medical David slaying the microbial Goliath. The myth and the euphoria lasted a while till it dawned on discerning microbiologists that the microbial biomass outweights the total animal biomass by a factor of 100+, that microbes are the host and we the tolerated, ill-behaved guests who survive at the pleasure of the host, and who often die at its behest.

Having touched upon these areas of pathology occasioned by extrinsic forces, let us look at the remaining roster. Congenital malformations, cardiovascular diseases, cancer, diabetes, degenerative/ atrophic/hypertrophic disorders, metabolic maladies and psychiatric problems are governed by multifactorial/ polygenic inheritance which is the geneticists' way of saying that they know not which gene governs what. In fact no gene does. The *causa causans* of each of these problems is *herdity* – the law of the herd - which dictates that a fixed number of humans will be manifesting the disease at the orders issued by the herd's corporate genotype. So in any group or herd of humans, there will be 1 cleft-palate for every 1000 births, 1 epileptic/ schizophrenic for every 100 humans, 1 cancer for every 5, 1 heart-attack for every 2, one stroke/diabetes for every 10, 1 ALL for every 33,000 individuals. The manifestation of the disease in one spares the rest of the herd, an altruistic role comparable to Jesus bearing the Cross and Lord Shiva sequestrating the poison in his neck to earn the colourful epithet Nilkantha.

The *cause* of most human diseases lies well beyond the human cells /body and any researching on human cells, and tissues is akin to the anecdotal search for a coin under the street lamp because "that's where the light is" although the coin has been admittedly lost in a faraway dark corner. The herd distribution that occasions problems at a personal level is a power that is internal to the herd, well beyond the pathologist's nose and the clinician's competence.

Even in infectious diseases, the force of herd distribution decides who will be the victim and who the witness. If we all are sunk in the microbial ocean and yet can carry through life with but a sneeze, it can only mean that the distributional force chooses to spare the most, and manifest the "disease" in only a chosen few. Not the seed but the soil, not the microbe, but the man matters.

A cell's repertoire of wearing different masks – of health, disease, degeneration, death - are limited whereas the forces and factors that bring this about are legion. Hence a pathological judgment thrives on a few selected verbiage about cytoplasm, nucleus, cellular number, arrangement, and so on. And yet so often, a cell on the verge of apoptosis or anapoptosis refuses to divulge its future by exhibiting any retrogressive sign. Writing on "Red Cell Death", Bessis[18] waxes eloquent: "Like all living *creatures*, the red blood cell comes to its natural end in death. The moment of death, the conception, birth, maturation, and function of the cell, is planned and governed by an inexorable mechanism …. A *microscopist*, a biophysicist cannot yet tell just what characterizes an old red cell, but a macrophage will recognise it immediately. It will throw out its veils in the direction of the aged cell, drag it off, envelop it, engulf it, and digest it."

Reading Bessis between the lines, one can generalise that death is integral to human development, is a function of time, and uses both seeming health and seeming disease to suit its purpose. This single generalisation should explain the rather banal experience of the healthy not necessarily surviving, and the grossly diseased not necessarily dying.

It was Marcus Aurelius, the Roman Emperor-philosopher, who aphorised in the I century A.D. that many a physician contracting his/her forehead over a doomed patient has had his/her own funeral attended by the same patient.

There is a profound Talmudic truth: We do not see things as they are, but as we are. And if we medicos choose to remain ignorant, we end up being arrogant. Etiologizing empowers us to arbitrarily disetiologize. Abnormalizing a BP-level or some blood-level allows the use of some normalizing nostrum. Diagnosing tantalizes doctors who must now treat. The finding[27] that over 60% of hypertensives developed "symptoms" after being jolted into the consciousness of being hypertensive should teach us that quite a bit of symptomatology may be iatrogenic or originate in *Reader's Digest*. The greatest good the cholesterol myth has done is to the makers of saffola oil and the like. How *ordinary* is the experience that the healthy do not necessarily survive and the diseased do not necessarily die! Isn't cause-of-death concept a myth?

The picture is grimmer when we search for the culprits of mankind's mental pathology. A tome titled *Controversies in Psychiatry*[28] has at its first section "The future of psychiatry" wherein the very first, terse statement is: "Bleak, if any!" Modern materialism started with a promise of providing a sense of happiness, a sign of contentment. The greater the materialism, the colder and longer the *Winter of Our Discontent*. Our true weal or WEALTH lie in Water, Earth, Air, Life, Thought and Helios. Having corrupted all these, mankind is still trying to do good by doing so much evil.

The practical, down-to-earth bottomline of all the foregoing is that modern medicine is and will remain PQRST - a Patchwork Quilt Rendering Symptomatic Therapy. The cardinal role of modern medicine is not the search for the cause/course/cure of pathology but the fine art of easing whatever/wherever some dis-ease. As the thoughtful *Oxford Companion to Medicine*[29] sums up: "It needs to be more generally recognised that most of medicine is about relief

of, and comfort in, suffering, and in the main very little to saving life."

It's a general learned and lay misconception that *cure* is the flip side of cause. If you know the cause, you have the cure. Jackson, "one of the great pioneer neurologists," clarified[30] in the past century that anyone who uses the word *cure* to mean eradication of disease should be classified *as a quack of the first order*. Cure comes from (Skt) *car* meaning hand, and it only implies taking care – of being born, living, and dying. It's good even to *cure* death, by helping a person die a good, dignified death.

Retrospection, spection, prospection: recognising non-pathology as the backbone of pathology

The endless and expanding array of optical, biochemical, immunological instruments, most of them computerized, has provided to the modern pathologist the right to chase a pathology to its minutest detail. Add to this, the modern imaging techniques and you have a ringside seat wherefrom to watch the "battle" between the patient and the pathology.

Much of pathology that we see has its roots elsewhere, well beyond the patient, well beyond the lesion. Hence *retrospection* to find *the etiology* is an exercise in endless speculation. The search for the twin culprit heredity and genetics tantamounts to asking a blind man to go into a dark room to find a black hat which is not there. No wonder that a learned work on genetics has been thoughtfully titled as *The Dice of Destiny*.[31] Whenever genes and molecules fail to come to the retrospective etiologist's rescue, medicine has been prone to blame some microbe, some virus. Alas, not one such microbial etiology stands up to the scrutiny of Koch's postulates. The latest in this line is the idea that AIDS is *caused by* HIV, when in fact medicine is uncertain[32] whether the virus in reality exists and/or is capable of being pathologenic. Causology is dead. Why not accord it a decent burial?

It can be safely generalized that the *spection* part of pathology is the bone, meat, flesh and flash of pathology for it entails

detailed gross/microscopic descriptions, too long in verbiage, too short in comprehension. "The more we know about diabetes, the less we seem to understand it." These words of William Boyd[33], penned decades ago, hold solidly true and stand extrapolatable to heart attack, hypertension, stroke, cancer, arthritis. Textbooks and monographs of pathology are replete with a lot of what but precious little of wherefrom and whereto.

The touchingly naïve pathological (and clinical) assumption is that the degree of malstructuring occasions corresponding degree of malfunctioning which in turn spawns corresponding intensity of malaise. In the field of coronary artery disease, wherein sophisticated gadgetry allows precise assessment of malstructure and/or malfunction, the correlation between malstructure malfunction and malaise remains poor. The moral of the story is that clinopathological correlation involves more than meets the pathologist's eye that is wearing biochemical/immunological/microscopical spectacles.

The gravity of the outcome refuses to be the function of the earliness/lateness of the disease as also of treatment. In a series[34] of patients with diseases as varied as cirrhosis of liver, breast cancer, chronic lymphatic leukemia, and myocardial infarction, "the four diseases analysed shared an unexpected relationship of mortality rate to duration of disease: the basic mortality rate remained constant during the course of disease; prognosis was neither better nor worse for patients late in disease than for the patient early in disease." The investigators[38] concluded that some "undefined physiological systems" governed the outcome - yet one more example of non-pathology ruling the pathological roost.

It could be generalised that malstructure/malfunction/malaise is, each, plottable on a gaussean curve, exhibiting thus a wide range, and not one curve is related to or dependent on the other. Hence the perpetual drama, the clinicopathological excitement of predicting/expecting something and ending up with something totally unexpected, different - simply unique. It shouldn't come as a surprise that the assiduously

worked out clinicopathological conferences (CPC), even when conducted at "Mass General" have been described[35] as an "anachronism."

Prospection - telling what *will* happen on the basis of what is seen, is a guessing game that pathology really can't play well. The reasons are neither pathological nor medical but biological. Dysis and dis-ease are not hidebound to each other nor are the two foretellers of death. Modern pathology has a lot to be humble about when it comes to prognosing on a given coronary, carotid or cancer.

Nonpathology Rules the Roost

Like the binary code of any digital processing, pathology rests on the zero of cell and the one of fiber, the two comprising cytofibernetics. The fiber part of it is rough, tough, complex, and permits very little of even theorising. The hope and the waterloo of pathology reside in the cell.

How do we fault the cell? A typical cell is smaller and more fragile than a snowflake - a sort of lifeflake or bioflake. A 100 cells in a file would barely measure a mm. Within a cell, the nucleus - the repository of the cell's mischief - would be just 2% of the cell volume. In this essentially watery microuniverse, how and where would modern medicine locate the pathology and how would it correct it?

A fine metaphor depicting cell's fragility was given by a cytologist[36], *circa* 1967, when he declared that studying a cell given the current array of electron-microscopes and scanning-electron-microscopes is like trying to repair a lady's wrist watch by employing a sledge-hammer. Let it be realised that a cell is too refinedly made as to be a seat of error or misdemeanour. Suffice to give here the acryonym: INNTOE – In Nature, No Terror Of Error.

The above might seem to deny the existing, overwhelming realities of an enormous burden of manifest pathology on mankind. How does a cleft-lip, an Arnold-Chiari

malformation, a retinoblastoma, a gangrene, a renal failure, an infarct come to pass?

The forces that beget the drama of dysis, dis-ease and death are abstract, cosmic, distributional principles that operate to give to mankind its seeming best and the seeming worst. They reside *in between* the "normal" and the "abnormal" and govern both. They are beyond anyone's reach, and hence beyond any conceivable remedy. To have a coronary artery disease or cancer is a phylal or a class feature, as natural to dog as to man. Man sitting atop the evolutionary pyramid is an integral part of it and is governed by the pyramid, base upwards. *The Naked Ape*[37] cannot escape much of pathology that is integral to the phylum, class, order, genus, or species or herd to which any man necessarily belongs. Not to take into account all this, is to be Quixotically tilting at the windmills of biological realities.

Manifest pathology is the phenomenal world that rests on the noumenal universe, that is, of necessity, non-material, impartial, non-pathological. You may know a lot about it without being able to alter it. Gravity was discovered as a unifying force centuries ago, has been worked upon to the minutest detail, and yet gravity cannot be altered whereby an apple may fall up. As Ardrey[7] put it, apple will always, and must, forever fall down.

In recognising the essential non-pathological basis of modern pathology, modern medicine stands to gain in less theorising, less experimenting (and hence kind to the animal world rightly portrayed in a movie as *The Beautiful People*), less investigating, and less treating. Modern medicine can explain away everything without explaining anything. Given this glorious state of ignorance, modern medicine and pathology could come down to its chief role: - to ease whatever, whenever, wherever some disease.

References

1. Gleick J. Chaos: Making a New Science. London: Abacus, 1987.

2. Kothari ML, Mehta LA. Death - A New Perspective on the Phenomena of Disease and Dying. London: Marion Boyars; 1986.
3. Ardrey R. The Social Contract. London: Collins; 1970.
4. Smithers DW. On the Nature of Neoplasia in Man. Edinburgh: Livingstone; 1964.
5. Kothari ML, Mehta LA. The cytoplasmic basis of cellular differentiation - redressing the injustice done to the cytoplasm. J Postgrad Med 1984; 30:199-206.
6. Kothari ML, Mehta LA. The Nature of Cancer. Bombay: Kothari Medical Publications; 1973.
7. Kothari ML, Mehta LA. Cancer: Myths and Realities of Cause and Cure. London: Marion Boyars; 1979.
8. Szent-Gyorgyi's Hypothesis: General Discussion. In: Submolecular Biology and Cancer. Ciba Foundation Symposium 67 (new series). Amsterdam: Excerpta Medica; 1979.
9. Maclean N. The Differentiation of Cells. London: University Park Press; 1977.
10. Loewy AG, Siekevitz P. Cell Structure and Function. New York: Hoit, Rinehart and Winston; 1974.
11. Lewis JH, Wolpert L. The principle of non-equivalence in development. J Theoret Biol 1976; 62:479-490.
12. Proust M. Quoted in Familiar Medical Quotations. MB Strauss editor. Boston: Little, Brown & Co.; 1968, pp 472a.
13. Kothari ML, Mehta LA. Dysis vs Disease. Medicina Futura Homeopathy 1993; 4:36-39.
14. Greene R. Duodenal ulcer. In: Sick Doctors. London: William Heinemann; 1956.
15. Leblond CP. Classification of cell populations on the basis of their proliferative behaviour. Nat Cancer Inst Monograph 1964; 14:119-145.
16. Florey HW. Inflammation. In: Florey L editor. General Pathology. London: Lloyd-Luke; 1970.
17. Burnet M. The Integrity of the Body. London: Oxford University Press; 1962.
18. Bessis M. Corpuscles. Berlin: Springer-Verlag; 1974.
19. Cooper GM. The Cell: A Molecular Approach. Washington: ASM Press; 1997.
20. Savoury LW, Gluckman JL. Cervical metastasis. In: Paparella MM, Shumrick DA, Gluckman JL, Meyerhoff WL, editors. Otolaryngology Vol. III. Philadelphia: Saunders; 1991.
21. Kothari ML. Genesis of cancer - A temporal approach. J Postgrad Med 1968; 14:49-69.
22. Kurtzke JF. Epidemiology of Cerebrovascular Disease. Berlin: Springer-Verlag; 1969.
23. Chu TM, Reynoso G, Hansen HJ. Demonstration of carcinoembryonic antigen in normal human plasma Nature 1972; 238:152.
24. Virchow In: Walton J, Beeson PB, Scott RB editors. The Oxford Companion to Medicine. Oxford: Oxford University Press; 1986, pp 1445.

25. Pare A. Quoted in Familiar Medical Quotations, Strauss MB editor. Boston: Little, Brown & Co; 1968, pp 627b.
26. Kothari ML, Mehta LA. The nature of immunity (Part I & II). J Postgrad Med 1976; 22:50-58, 112-123.
27. Pickering G. High Blood Pressure. London: Churchill; 1968.
28. Fullor Torey E. Bleak at best. In: Bready JP, Brodie HK, editors. Controversy in Psychiatry. Philadelphia: Saunders; 1978, p.1.
29. Cooke AM. Doctors as patients. In: Walton J, Beeson PB, Scott RB, editors. The Oxford Companion to Medicine. Oxford: Oxford University Press; 1986, pp 315-316.
30. Kothari ML, Mehta LA. Personal View. Br Med J 1976; 160:1441.
31. Rife DC. The Dice of Destiny: An Introduction to Human Heredity and Racial Variations. Columbus, Ohio: Long's College Book Co.; 1945.
32. Kothari ML, Mehta LA. The mythology of modern medicine - IV. HIV: Heuristically Important Virus. AIDS: Advances Induced Deficiency Syndromes. J Postgrad Med 1994; 40:42-45.
33. Boyd W. Pathology for the Physician. Philadelphia: Lea and Febiger; 1967, pp 517.
34. Zumoff B, Hart H, Hellman L. Considerations of mortality in certain chronic diseases. Ann Intern Med 1966; 64:595-601.
35. Lipkin M. The CPC as anachronism. New Eng J Med 1979; 301:1113-1114.
36. Lerchenthal CH. Panel discussion: The electrophysical and electrochemical properties of living tissue. Ann NY Acad Sci 1974; 238:233.
37. Morris D. The Naked Ape. London: Jonathan Cape; 1968.
38. Zumoff, B., Hart, H., and Hellman, L.: Considerations of mortality in certain chronic diseases. Ann. Int. Med., 64:595, 1966.

Eight

Cause of Death ~ so~ called: Designed Event Acclimaxing Timed Happenings

Special Article
Year: 2000 | **Volume**: 46 | **Issue**: 1 | **Page**: 43-51

Kothari ML[1], Mehta LA[2], Kothari VM[3]

Abstract

Cause-of-death as an established global medical institution faces its greatest challenge in the commonplace observation that the healthy do not necessarily survive and

1 Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
3 Associate Professor, Department of Medicine, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

the diseased do not necessarily die. A logical analysis of the assumed relationships between disease and death provides some insights that allow questioning the taken-for-granted relationship between defined disease/s and the final common parameter of death. Causalism as a paradigm has taken leave of all advanced sciences. In medicine, it is lingering on for anthropocentric reasons. Natural death does not come to pass because of some (replaceable) missing element, but because the evolution of the individual from womb to tomb has arrived at its final destination. To accept death as a physiologic event is to advance thanatology and to disburden medical colleges and hospitals of a lot of avoidable thinking and doing.

> "It must surprise my readers to find
> how little science knows about death".
>
> **Elie Metchnikoff**[1]
> **The Prolongation of Life: Optimistic Studies**

We know not if any death diminished John Donne, but certainly it diminishes modern medicine, bringing it down a peg or two in its avowed crusade to save any life at any cost. Medical science has taken upon itself such an onerous task for it has convinced itself that death is something that happens for want of something else that the medical science *can* offer, later if not sooner. Hence the macabre but manifest idea of preserving a cancerous cadaver in liquid nitrogen until such time that a *cancer cure* arrives, and presto, the Rip Van Winkle can come back to normal life.

Some Consequences of the Causal Mindset

A general conviction that rides the lay, and more so the learned, mind is: If the cause is known, the cure shouldn't lag behind. So the cliches, like *unnecessary deaths, preventable deaths, premature deaths*. The USA decides that since the life-expectancy of an American is 65, any death prior to that age falls into the premature-and-therefore-preventable lot, totally oblivious to the fact that the magical figure of 65 was arrived at averaging, say, 100+30. Parulkar[2], at a recent

Rotary meet, hurled a *j'acusse* at the Rotarians by declaring that *any death from heart attack before the age of 80 is YOUR FAULT*. Medical men tend to be too poor in biological perspective, with consequences nothing short of tragicomic.

October 10, 1974, the Karolinska Institute awarded the Nobel to Claude, de Duve and Palade with the citation[3] that the three together had demonstrated that "what used to be a cell with often mysterious parts is really a sophisticated organisation with units for the production… of life and units for disposal of worn-out parts, and for defence against bacteria and other foreign organisms." Nowhere is there a mention that the cell has within itself a mechanism to end its own existence, as also of the owner. Little wonder, then that medical curricula, world over, give no room to the most certain event within or without the hospital.

Thanatology that started off with a bang after Kubler-Ross[4] lifted her pen, has ended with a whimper. The psychodynamics that underline the avoidance that greets thanatology in medical circles is rooted in the continuing faith that sees death as but an avoidable failure of modern medicine. Till medical science chooses to come to terms with the integrality, *nay*, the cliché-worn but remarkably well-structured inevitability of death, death will continue to be obscene.

The gigantic edifice of modern medicine rests on an ocean of animal blood. The telling words of Burnet[5], the immunoNobelist provide the basis of the astronomical animal slaughter: "I believe, however, that one might justly summarise American medicine as being based on the maxim that what can cure a disease condition in a mouse or a dog can, with the right expenditure of money, effort and intelligence, be applied to human medicine." Whatever is American, is global, is Indian, and hence so much of animal-experimentation in India.

Tenet of Causalism and Death

Causalism, as a discipline, has a 2-way tenet: For any

causalism to hold water, the cause must be followed by the effect, and, the effect must invariably be preceded by the cause - *without loss of time*. The ordinary observable fact of the diseased often outliving the disease-free puts paid to the causalistic obsession *vis-à-vis* death. The italicized part of the causalism's tenet is impossible to satisfy for, any of the great "killers" - coronary, cancer, carotid (stroke) - take a leisurely long time before they dis-ease or kill. This temporal asynchrony between the presence of disease and the moment of death is the most insurmountable Waterloo of *disease-causes-death* mindset.

Natura non facit saltum - Nature makes no leap. With this in mind, read Pickering[6]: "Thus, the myocardial infarction, the cerebral infarction, or the gangrene of leg which terminates a patient's life may be seen as the final episode of a series which remain silent over a long period of life before they obtrude into his experience and finally terminate it." Please note, in the foregoing, that the so-called cause-of-death is coeval with the moment of death and hence held guilty, although the same disease-process had existed for too long. Talking of atherosclerosis, Boyd[7] poetizes that *it is a song that is sung in the cradle*. And the so-called death-causing disease is never single, or isolated. "Most people who die of neoplastic disease," writes Smithers[8] the noted UK oncologist, "also have a number of other senile changes, which would have carried them off fairly soon in any case."

Once again, Smithers[8] is unable to free himself from the assumed causal link between the "senile" changes and death, forgetting that many a senile outlives a person in the pink of youth. "She was thirty-one. Not old, not young, but a viable, die-able age." (Arundhati Roy)[9]. What medical scientists and practitioners fail to see, the poet in Chesterton saw so clearly.

Six detectives went fishing
Down by the sea-side.
They found a Dead Body

And enquired how it died.
Father Brown he informed them
Quite mild and without scorn:
'Like you and me and the rest of us,
He died of being born.'
Isn't DEATH the 5-lettered obverse of BIRTH
both covering a coin called LIFE?

Death : Designed Event Acclimaxing Timed Happenings

If the whole Earth[10] were to be reduced to the density of a black hole, it will not be larger than a golf ball. If the whole Earth comprises so little of spaceless, pure matter, what to talk of the miniscule men? Alfred Portmann[11], thus, was right when he described *animal life* as *configured time*. The configuration, disfiguration, dissolution of human life is time itself. One dies when, they say, one's time is up.

Conception onwards through embryogenesis, fetal growth, birth, milestones, puberty, sexual maturity and decline, reading glasses and arthritis are all a part of more or less precisely timed trajectory. If configuration is precisely timed, so is disfiguration so that you have repetitive statistics of heart attacks, cancer and stroke, with their age-distributions spanning from one end of the lifespan to another. Dobzhansky[12], the Harvard biologist, calls all stages of human existence as continuing development, whose climactic acme is death. Death is but a step in development, resulting, as some would like to put, in the next birth.

> "As a first generalization, it may be said that the length of life itself, the span of the natural life cycle, is one of the organism's most integral characteristics, genetically programmed in some mysterious way by a kind of biologic death clock. Each species has a characteristic *average* life span. For the mouse, this is two years; for the rhesus monkey, 20 to 25 years; for the African elephant, 70 to 75 years; for the Galapagos tortoise, 100 years; and for human beings, about 85 years.

> Many years ago, the German physiologist Max Rubner pointed out that the total number of calories burned per gram of body weight and the total number of heartbeats in the lifetime of each of these vertebrate species, including humans, are about the same, despite the great differences in their size and life span. Further, the span of human and other animal life correlates roughly with the size of the brain".
>
> **Adams, Victor And Ropper[13]**
> ***Principles of Neurology***

The Biblical *three scores years and ten* and the Vedic blessings of *Satam Jiva Sharada* - May you live a 100 years - comprise human life span, being the maximal time that an individual of that species can live. The average life-time of a group of a herd is the life-expectancy - being about 63 in India and 75+ in the West. Yet death, as a programmed event[14] stalks life from conception to 100 years. The very high mortality at conception dwindles to its minimum at five years after birth (herd quality control), is at its lowest from five to fifteen (herd stability), and, then, obeying Gompertz curve, steadily mounts up (herd lysis) for every year of human existence, doubling every eight years, to reach its high between 45-55 years. Death at 19 is as well-timed and programmed as death at 91.

"The common belief that medical science has greatly lengthened life is a misconception, arising from a failure to distinguish between life span and life expectancy." Having so generalised, Adams *et al* [13] declare that even if *all coronary artery disease* were eliminated, life expectancy would possibly be extended by 3.1 years, and if *all cancer* were eliminated, another 3.5 years. So, even if the circle were squared, and the apple made to fall up, human life-expectancy will remain far short of human life span for most people and will never exceed it. Therefore such Quixotic ideas as *No More Dying*[15] are good on paper, but totally irrational in reality. *Living to 100*[16] is the latest in the line of books that presuppose that any death on this side of 100 or 76 or 65 is an outcome of some

exercise not taken, some antioxidant missed out, some *Methuselah Enzyme*[17] not made available to you in good time.

Chronicle of a Death Foretold

As a designed event, death is thoughtful. Strange as it may seem, it is a common experience that an uncluttered mind gets the whisperings of death's imminence at least 3 days in advance. So the Indian scriptures aver. And so does Aries[18] who studied the modes of dying in medieval Europe. Aries records that, before medical men started to claim and assure that they can pull you out of the jaws of death, a foreknowledge of one's death was a common experience. If someone died without communication to others in advance of the would-be-death, such a person was assumed to have had *mors repentina* - a repentable death. Such a person's burial was not ceremonalised by the church.

The title to this section is the title of a novel by Gabriel Garcia Marquez[19], the 1982 literary Nobelist of Colombia. In contrast to the macabre plot of the novel, one's Foretold Death is a gentle event, rehearsed and rerehearsed for a lifetime before the final dramatic exit. A human being with life-expectancy ranging from conception to 100 years has the maximum of 4 billion heartbeats and 1 billion breaths. Each heartbeats records *the lubb of life and the dupp of death*. More significantly, with each breath one first *inspires*, and then, *expires*. So you expire every moment of your existence till you can expire no more. Death, in a way, is an end to all dying. And Nature in its infinite foresightedness has organised your psyche to feel death's aura 72 hours well in advance.

You Die, You Aren't Killed

If you don't know how to die, don't worry; Nature will tell you what to do on the spot, fully and adequately. She will do the job perfectly for you; don't bother your head about it!

Ambroise Pare[1]
Of Physiognomy

Killer-disease is a favourite phrase of *Reader's Digest* writers and of medical conferences. Heart attack is killer No. 1, cancer No. 2, and stroke No. 3, a rating that has remained unchanged for decades, showing that there is some method even in death's madness. Is one killed, or does one die?

As lexicons[20],[21] imply, *to die* is "to cease to live" whereas *to kill* is "to deprive of life/put to death/cause death of." You *die* yourself - as an active measure. You are killed - by an external agency that did not allow you to die for, in the first place, it did not allow you to live. A knife, a bullet, a vehicular accident, drowning, even a rope round your neck put by your own hands, the cup of hemlock that Socrates was given - all these arrested your living processes and so you were killed. To kill is akin to *quell*, meaning to smother, to extinguish. A glowing candle, not yet at the end of the quota of wax, gets blown, extinguished. You didn't die; you were declared dead after you were killed. It's a pity that as yet the lexicons have no word for death by killing. How about *quelled* = dead by factors that did not allow living?

Thanatologists have talked of, searched for a *death hormone* but have found none. Malarial parasites causing Acute Respiratory Distress Syndrome (ARDS) or cerebral malaria, sepsis following surgery or trauma, even the virus of Guillian-Barré syndrome, one and all secrete no death-causing toxin, but interfere with life-processes. This is where medical science has an edge, a choice. The person did not want to die, and hence could be saved. This classically illustrates the Chinese proverb[1]: A doctor's medicine works on a patient who is fated to survive. This may smack of fatalism, yet the need for the finer distinction between dying and getting-killed necessitates such an approach.

Coming back to the killer-diseases that we all carry with ourselves through life, do they really, can they really kill us? The fact of their being present non-lethally for a long time, the fact that a person with no such disease or such disease in a milder form should die and the diseased/more-diseased should survive denies to these diseases the right of being

killers. You die with them; you don't die because of them, since through all your life, and in terms of cytofibral realities, they comprise, what the lovable rascal Mr. Doolittle said of Elisa in the movie *My Fair Lady*: "Me own flesh and blood!"

Euthanasia Dysthanasia Tachythanasia

The foregoing has now brought us to the intellectually ripe stage of discussing the art of dying. Dying is the final, active act of the living and therefore it is a mere climax to the sustained, uninterrupted art of living, of savoring *joie de vivre*, of feeling happy within and without, in communion with whichever God you believe in, or choose to deny.

To die when you are fully fit to live, when you are manifestly in *compos mentis et somatis*, to die without an identifiable cause rightly so because you were born without any identifiable reason, is to die actively, abjuring the body as an act of programmed will of the body, your final bow to the global audience before, like Rabelais[22], you jestfully declare: "Let down the curtain, the farce is over." Put clinically, you euthanatazie, you die well when you foreknowingly die even when your own doctor felt that you were fully fit to live. Three hundred years before Christ, Aristotle[1] summed up euthanasia succinctly: "It is best to quit life, just as we leave a banquet, neither thirsty, nor drunken."

The lexicographic error is to define *euthanasia* as 'mercy killing;' a classical example of the bad use of a good word. An editorial in *The Medical Journal of Australia* [23] pointed out that by conventional standards and by the law as it is, euthanasia means murder: "Behind this is the blunt fact that euthanasia, for all the mildness of its root meaning, in current usage means the active and deliberate ending of a life - that is killing." A *British Medical Journal*[24] editorial written in a similar vein concluded that what now connotes euthanasia had better be replaced by the concept of assisted suicide. The conundrum is traceable to the fact that, as a cover for our conceptual inadequacies, euthanasia has been forced to mean the monstrous hybrid called mercy-killing.

Many a thought is unthinkable without appropriate vocabulary and a frame of reference. Let us clear the seemingly insoluble confusion and to return to euthanasia its pristine benignity and glory. Towards this, it needs to be realised that we indispensably need new words to keep abreast of new ideas. The intellectual cycle of new concepts spawning new terms that in turn beget newer ideas is the heartthrob of expansion of mental horizons.

Eu- as a prefix clearly implies 'good' or 'well'; thus we have eupepsia, euphoria, eugenics and so on. Euthanasia then means good death, and not, as the *British Medical Journal*[24] erroneously assumed, an 'easy death.' What the so-called euthanasia or mercy-killing purports to provide is a swift end to the process of dying, a quick death that could logically be called *tachythanasia* (tachy meaning 'quick' or 'rapid'). When Sigmund Freud suffering at 83 from an obstinate oral carcinoma for 17 years was injected with four centigrams of morphine by his physician-friend Max Schur, he was not euthanatized, but tachythanatized. Tachythanasia could be defined as a medically-eased-death.

The distinction between euthanasia and tachythanasia is in order: euthanasia is self-earned, self-willed dignified departure unsullied by any medical intervention or condescension. Tachythanasia is a medically offered facility that helps to expedite the task a patient is already engaged in - protracted dying. It should be clear that tachythanasia is not assisted suicide. Jumping into the Thames or off the Eiffel Tower also is not tachythanasia. It is suicide. Dysthanasia, a bad death, on the other hand is, in the opinion of many, a common sin of modern medicine. Medical technology has made dying lonely, gruesome, dehumanised, mechanical, obscene and immensely troublesome. The fact that modern medicine has chosen to distort euthanasia to suit itself, and has not bothered to label as dysthanasia much that it does, speaks of the current intellectual crisis in medical thinking.

The balancing opposite of, and the highway to, euthanasia

is euvivasia - a good life, a yea-saying to life that ends with a yea-saying to death. Describing euvivasia is too tall an order, but an attempt may be made by weaving the theme around Schweitzer's concept - reverence for life. The meaning of existence is to preserve unspoiled, undisturbed and undistorted the image of eternity with which each person is born. A genuine sense of reverence for the elements within and around us can help each one of us steer our life towards imparting to our existence a meaning, towards living a good life culminating in a good death. Only an euvivatic can be, climactically, euthanatic.

How Does One Die?

A way of defining death is to define life; from the womb to the tomb. The human body is an assemblage of different, highly specialized systems that are reciprocally connected to one another and to the external world by the universal network of blood vessels that derive their life-giving throb from a vigorous central pump called the heart. Even the nascent human embryo, which starts as an amorphous mass of cells in no way recognizable then as a human form, presages this need: the very first functioning system it fashions is the heart and its blood vessels that are present by the fourth week after fertilization, at a time when *no* other system is anywhere around. Students of the chick embryo can see, by the forty-fourth hour of the development of a chick, the tiny, bright, red heart with its blood vessels as the island throbbing with life in the otherwise absolutely featureless egg. The cell-to-cell universality of the circulatory system - heart and blood vessels - provides it with the pristine primacy of enlivening and interconnecting all other systems, giving each of them a meaning, a purpose, be it in a fully healthy individual, a deeply comatose patient, or a crusader fasting to death. We can generalize that the heartbeat - as felt over the heart or the peripheral pulse - representing active circulation of blood is the lowest common, debate-free denominator of life. The heartbeat is life. Its absence is death. Human life, in a manner of speaking, is a brief spell of existence between two heartbeats, man's first and man's last.

The unrestricted, unconditional and universal applicability of the above definition of life and death based on the presence or absence of a functioning circulatory system may be realized from the fact that (a) the anaesthetists who take humans into a deep, reversible coma must *keep* the circulatory system going, (b) the cardiac surgeons who, during surgery, put the heart and/or lungs out of action must *maintain* the circulatory system by machines, and (c) the resuscitators who bring back to life a person who has had a cardiac arrest or has been buried and frozen in snow, must, above all, *revive* the circulatory system. If blood is circulating, life is. If not, death is. Needless to say, the above definition of and approach to the ascertainment of life or death is applicable with ease by everyone, everywhere.

Knowing how one's first heartbeat is made to arrive to eventually make oneself may be the best way of comprehending how one is unmade for the final heartbeat to come to pass. This entails referring to the Indian concept of causal or celestial body or *Karan shareer*, subtle body or *Sukshma shareer*, and gross body or *Sthula shareer*. One's causal body is forever, having had had no need to be born and hence having no compulsion to die. Biologic facts fully support this superb concept that is encapsulated in Lord Krishna's four words: *Na jaayate mriyate vaa*.

When, in the celestial scheme of things, one's time to be a body arrives, the causal body, as an integral part of the cosmos, orders the formation of the subtle body. The subtle body, as it were, forms the invisible container into which the body matter is poured. The content assumes the exact shape of the container to accord to an individual tritimensional uniqueness. The nearest evidence of the subtle body is the perilife aura that Kirllian[25] photography so clearly demonstrates. The subtle body is one's matrix, one's angel mother, one's mind, one's interface with the cosmos. And in terms of the first and the subsequent heartbeats, it is the subtle body that powers the heart to do what it does.

When one's time is up, it is the subtle body, at the command of the cosmic causal body, that winds up the game and you declare that the heart has arrested. The sequence *ab initio* and *ab ultimo* is clear: The subtle body arrives first to initiate the heartbeat and the game called life; the subtle body and the final heartbeat leave first, and then the rest of the gross body follows suit. The universal condemnation of suicide is based on the realisation that the deliberate killing of the gross body leaves the subtle body in a lurch with consequences that are right now only in the realm of imagination.

In a life-threatening situation following an accident or infection, the subtle body plays a stellar role. It comes to the rescue of the doctor and the diseased to allow *vis medicatrix naturae* to play a positive role and thus to pull the chestnuts out of fire. No wonder, Ambroise Pare's lasting legacy - *Je le pensay, et Dieu le guarit*[1], meaning, I dressed him and God healed him - still dominates the medical scene.

Perlstein[1], in the early part of the 20th century, uttered an assuring aphorism: "If your time hasn't come, not even a doctor can kill you." It was around Perlstein's time that the truth of his words was experienced in a telling fashion. In 1939, acetylcholine was injected intravenously as a therapeutic convulsant by psychiatrists in the justified expectation[26] that the ensuing fits would be less liable to cause fractures than those following convulsions caused by leptazol injection. Recovery rates up to 80% were claimed in various psychotic conditions. Enthusiasm however began to wane when it was realised that the fits were due to anoxia following cardiac arrest. "Forty seconds after the injection the radial and the apical pulse were zero and the patient became comatose. The pupils dilated …. In about 90 seconds, flushing of the face marked return of the pulse." The trial reports many cases and no death which means *all the cardiac arrests* returned to life. They did so because the acetylcholine had left the subtle body unmolested. May be this is how cardiac message gets rewarded, and the critics of modern medicine are able to declare that many a person survives despite the doctors.

The Moment of Being Born There

Rajan Parab, an intern at Seth G. S. Medical College, Mumbai died in a swimming accident while saving a drowning cousin's life. The small memoir published in his name gave his time of his birth as "Born Here" and of time of his passing away as "Born There." The word death did not feature anywhere.

> One short sleep past,
> We wake eternally.
> And death shall be no more;
> Death thou shalt die.
>
> **John Donne**[1]
> ***Holy Sonnets***

The compassionate causal and the subtle bodies, thoughtfully, create for each dying person a fleeting but eternal-looking moment that heralds either the next "birth hereafter" or being "born there", or, if you are prepared a birth-and-death-free eternity.

The Tibetan Book of the Dead[27] and Indian thought which is in agreement with it, have it that each human being, around the time of death, is bathed in a light - 'brighter than a thousand suns' as the Gita puts it - which gives a glimpse of one's true universal, eternal nature. Having been thus taken to the edge of the infinite, the human being is now given a choice: 'Ask and it shall be given.' Most human beings, because of the state of bondage, end up wishing this and that, and the cosmos obliges; the cycle of birth and death continues. But, on the other hand, if the realization "I am Brahman" has truly penetrated one's being, then one asks for nothing, for how can a Brahman itself ask anything from Brahman? And that, the scriptures say, is the basis of nirvana, moksha, or eternal liberation.

Question of Brain-Dead

Gould[28] has talked of animal life measurable in terms of heartbeats and breaths allotted. Neil Armstrong[1], the pioneer

astronaut put it heartily: "I believe every human has a finite number of heartbeats." A breath, a heartbeat is a measurable, calendar-event that serving as a currency of life allows the temporal measure of a given life.

Thought, on the other hand, is abstract, immeasurable. Its presence or absence, makes little difference to the body's inner clock. Hence the long life that a brain-dead person may have. In recent times, a well-known son-in-law of a leading doctor of Mumbai returned from Japan with encephalitis, turned brain-dead, and survived, through impeccable nursing, for 20 years over.

The issue of brain-dead is important in the current times that sees them as "cadaveric donors." Brain-dead people are heart-alive, and therefore not dead. The solution to the current acrimonious debate about brain-death is the medical candor that sees a live individual as live, and not as dead just because a part of the brain is not functioning. Such an unconscious patient is a live donor, like any other live donor, and should be respected and treated as such.

Life-saving Feathers in Modern Medicine's Cap

Cooke[29], writing in extensive details about doctors in *The Oxford Companion to Medical Studies*, ends on a very humble, realistic note: "It needs to be more generally recognised that most of medicine is about relief of, and comfort in, suffering, and in the main very little to do with saving life." Wildavsky[30], another physician on the western side of the Atlantic, writing on (medical men and manufacturers are) *Doing Better and* (patient are) *Feeling Worse*, is equally candid: "The best estimates are that the medical system (doctors, drugs, hospitals) affects about 10 per cent of the usual indices for measuring health: whether you live at all, how well you live, how long you live... Most of the bad things that happen to people are at present beyond the reach of medicine."

Between Cooke's "very little" and Wildavsky's "10 per cent" let us see where and how really medical science saves life.

Be it an obstructed labour, congenital tracheo-oesophageal fistula or duodenal atresia, polytrauma, angioneurotic oedema, increased intracranial tension, malignant hypertension, hypovolaemic shock, coronary infarction, obstructed bowel, infective peritonitis, cerebral malaria, or ARDS, modern medicine with its in-depth knowledge of normal and disturbed physiology, does its best to restore the disturbed physiology to status quo ante, without so often wanting to or being able to remove the precipitating cause. Thus it gives to the afflicted individual the right-to-live, and thus in a way, the right-to-leave. The latter explains why after the best of physiological restorations the person decides to take leave of the doctor and the world.

Implications for Modern Medicine in Particular and Modern Man in General

This essay begs to have a heuristic value - raising more questions than answers. The following ten points - decalogue - should prove useful.

1. It's time that death as a physiologic event is accorded a place in medical curricula as the discipline of thanatology.
2. Medicine has a triple role – to assist birth, life, and death, to cure them by caring for them. To ease disease, to let alone dysis. The obsession to save life at any cost spawns many a medical and medicolegal battle to the detriment of the patient and the doctor as well. Sir Theodore Fox[31], lately the editor of *The Lancet,* advised that a patient should be allowed to die for "Life is not the most important thing in life."

> Thou shalt not kill; but need'st not strive
> Officiously to keep alive.
>
> **Arthur Hugh Clough[1]**
> ***The Latest Dialogue***

3. The concept of cause-of-death is an enduring and an

endearing myth. The whole institution of the cause of death should be perspectively revised. Giving a cause cannot be, by and large, mandatory. If the lay are advised properly, they might come to accept such cause as "Died Of Being Born (DOBB)" or "Died Of Time's Tactics (DOTT)."

4. Animal experimentation has taught us whatever it could. It is time tissue-culture techniques replace animal sacrifice.

5. Medical science should synthesise scriptures, biology and medicine to drive home the unbelievable reality of each of us being really immortal. Weininger[1] often wondered at the fearlessness that many a common person exhibited about death. He explained it by reasoning that "it is not the fear of death which creates the desire for immortality, but the desire for immortality which causes fear of death."

6. Amongst the many duties that a modern man takes upon himself, dying with dignity is an important one. Death is NOT painful, nor terrible. It's your passport to the next journey.

7. Since death stalks life every heartbeat and every breath, and is NOT related to a disease, the healthy in the pink of health should be humble and diseased ought to be courageous, hopeful and fully involved in the business of living.

8. Point 7 ought to make the avaricious, materialistic mankind let go its hold on "things" to allow Mother Earth to recover from mankind's consumeristic onslaught.

9. Neither five-star-hospitals nor international safaris are a solution to the inevitability of diseasing, and of dying. Both these should be accepted in good cheer, and without incurring financial ruin for self and/or survivors.

10. Pace John Donne, death is never proud. It's the only friend – Param Sakkha - that you genuinely have from womb to tomb, teaching you that nothing is so trivial as to be neglected nor so serious as to be worried about.

Time's Relativity

> Man's own time sense is seldom nearly so precise, and its range has obvious limits. When you are told, for example, that heavy subatomic particles are created in high-energy collisions lasting only a one hundred-sextillionth of a second, but that these same particles "decay" much more slowly, taking a ten billionth of a second, you probably have trouble realizing the distinction between such seemingly instantaneous events. Yet actually the time ratio between them (10^{-23}: 10^{-10} sec.) is the same as that between a second and a million years!
>
> **Guy Murchie**[32]
> ***The Seven Mysteries of Life***

Relativity is at the heart of temporalities of all sorts. *Webster's dictionary*[21] defines relativity as "(a) The quality of variability arising from necessary connection with or reference to something contingent (the necessary connection of beauty to taste or of rights with reference to law), (b) the mutual dependence or concomitant variability of two or more related things, (c) dependence on the subjective nature of man or upon limitations and peculiar character of individuals (the limitations of knowledge)." Time (and space) is, a la Einstein, the free creation of the mind, and has remained free of any precise definition. There are too many times to contend with, for they are all relative.

Vis-à-vis the trajectory of human life which is but a time-curve, there are 4 times that are presently pertinent: (a) physical or chronological (b) milepostal (c) pathological (d) vivothanatological. Physical time, under ordinary conditions on Earth, remains one constant for all humans. Milepostal (milepost = milestone, hence milepostal) time for conception, through embryogenesis, gestation, infancy, dentition puberty, sexual maturity and decline tends to vary so little from one person to another as to form reliable, general landmarks in

anyone's history. Whatever the variations, they are normally distributed, albeit, over so narrow a range that the range is ignored.

With the absolute constancy of the physical time and the near-constancy of the milepostal time serving as the backdrop, pathological and vivothanatological times exhibit the widest range from womb at conception to the tomb at 100 years. The varied pathological processes on the one hand and the occurrence of death at the other hand, exhibit, independent of each other, a wide variation that is governed by the divine distribution called normality. So the occurrence[14] of carcinoma prostate in a newborn, and tongue in a child of 3, of a stroke in a child of 8 and in Winston Churchill fit as a fiddle at 80. One can safely generalise that on a normal curve that stretches from conception to 100 years of human existence are plotted the various pathologies, and the various times of death (vivothanatological times), that working independently, make clinical medicine and pathology into fascinating disciplines characterised by tantalizing uncertainty at every stage, at every age.

Physiologicality of Death : A Summing Up

The terms *physics*, physiology, and physician are rooted[42] in Gk. *physike*, meaning nature, from L. *natus* which is past participle of *nasci* - to be born. The emphasis in all these related terms is an inherentness. In birth that happens to be precisely timed there inheres death that is precisely timed as well. If the making of oneself (embryogenesis) and the emergence of oneself (birth) are seen as physiologic events, why should death which is but the other face of birth and the dissolution thereafter be deemed as a pathological failure?

The Kiplingean 6 teachers - *How, Why, When, Who, Where,* and, *What* - as relate to the still mysterious phenomenon of death hopefully find there appropriate place in the scheme of things in the foregoing intellectual deliberations. The celebrated institution of postmortems and clinico-pathological correlations have failed[14] to assist the Kiplingean teachers

and hence the offbeat path that we have had to take.

We are led to propose that located within the subtle body of an animal is a physiologic mechanism to switch on the heartbeat, as also a physiologic mechanism to switch it off, the will-to-live as also, equally a strong, will-to-leave. Both are time-governed and depend only on time and not on any normality or abnormality of cells or tissues. It's time to offer a decent burial to the long-dead medical institution, called THE CAUSE OF DEATH. Acausalism governs the phenomenon of death. The modern man and modern medicine need to have a new world-view on death, a *todanschauung*, of a new order.

References

1. Familiar Medical Quotations, MB Strauss Ed, Boston: Little, Brown & Co; 1968, pp 79b.
2. Parulkar GB. Heart disease before 80 not God's will but due to our own faults. In: The Gateway - Bulletin of the Rotary Club of Bombay. 1998; 39:1-3.
3. Report, The Times of India (Bombay); 11th Oct. 1974. pp 13.
4. Kubler-Ross, Elizabeth. On Death and Dying. London: Macmillan; 1969.
5. Burnet FM. Concepts of autoimmune disease and their implications for therapy. In: Reflections on Research and the Future of Medicine: A symposium and other addresses, CE Lyght Ed, New York: McGraw-Hill; 1966; 9-28.
6. Pickering G. Degenerative diseases: Past, Present and Future. In: ibid, 1966: 83-94.
7. Boyd W. Pathology for the Physician. Philadelphia: Lea & Febiger; 1967.
8. Smithers, DW. A clinical prospect of the cancer problem. Edinburgh: Livingstone; 1960.
9. Roy Arundhati. The God of Small Things. Edinburgh: IndiaInk; 1997. pp 3.
10. The World's Last Mysteries, Sydney: Reader's Digest Series; 1977. pp 293.
11. Portmann A. Time in the life of the organism. In: Man and Time, J Campbell Ed, New York: Pantheon Books; 1957; pp 308-323.
12. Dobzhansky T. Mankind Evolving. New Haven and London: Yale Univ Press; 1962.
13. Adams RD, Victor M, Ropper AH. Principles of Neurology. 6th edition. New York: McGraw-Hill; 1997. pp 608.
14. Kothari ML, Mehta Lopa A. Death - A New Perspective on the Phenomena of Disease and Dying. London: Marion Boyars; 1986.

15. Kurtzman J, Gordon P. No More Dying: The Conquest Of Aging And The Extension Of Human Life. Los Angeles: J P Tarcher; 1976.
16. Perls TT, Silver MH. Living To 100: Lessons In: Living To Your Maximum Potential At Any Age. New York: Basic Books; 1999.
17. Stewart FM. The Methuselah Enzyme. New York: Bantam Books; 1972.
18. Aries P. The Hour of Our Death. New York: Vintage Books; 1981.
19. Marquez GG. Chronicle of a Death Foretold. London: Picador; 1982.
20. Webster's Third New International Dictionary Of The English Language Unabridged, PB Gove Ed, Springfield: G & C Merriam Co; 1966.
21. The Oxford Dictionary of English Etymology, CT Onions Ed, Great Britain: Oxford University Press; 1966.
22. Rabelais F. Quoted in The Penguin Dictionary of Quotations, JM and MJ Cohen Ed, London: 1964; pp 294.
23. Leading Article: The problems of legalizing euthanasia - and the alternative. Med J Aust 1976; 2:667-668.
24. Leading Article: An easy death. Brit Med Jour 1975; 1:704.
25. Moss Thelma. The Probability Of The Impossible: Scientific Discoveries And Explorations In: The Psychic World. New York: New American Library; 1974.
26. Laurence DR, Bennett, PN, Brown MJ. Clinical Pharmacology. 8th edition. New York: Churchill Livingstone; 1997; pp 402.
27. Evans-Wentz, WY. The Tibetan Book of the Dead. New York: Causeway Books; 1973; pp 2
28. Gould SJ Human babies as Embryos. In: Ever since Darwin: Reflections in Natural history. Great Britain: Penguin Books; 1977; 72.
29. Cooke AM. Doctors as patients. In: The Oxford Companion to Medicine. J Walton, PB Beeson, R Bodley Scott Ed. Oxford: Oxford University Press; 1986; pp 315-316.
30. Wildavsky A. Doing better and feeling worse: The political pathology of health policy. In: Doing Better and Feeling Worse, Health in the United States, JH Knowles Ed, New York: W W Norton; 1977; pp 105.
31. Fox T. Editorial: A private blind alley. Lancet 1972; 1:779-780.
32. Murchie G. The Seven Mysteries of Life: An Exploration in Science and Philosophy. London: Rider; 1978; pp 179.

Nine

Scope and Limitations of Therapies: A Neomillennial Epistemological Evaluation for Helping Medical Practices

View point
Year: 2012 | **Volume**: 58 | **Issue**: 4 | **Page**: 309-313

Kothari ML[1], Mehta LA[2]

Abstract

Medical practice is in crisis – the sophistications are enormous and expensive, and the outcomes leave much

1 Ex. Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Ex. Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

to be desired. An epistemologic evaluation that weighs the scope and limitations of any -pathy or any procedure seems to be the need of the day. As an example, described herein is the logic of such an exercise; and a sample of the exercise itself, taking cancer as an example.

The unimaginable "gadgetic" sophistication of modern medicine (MM) is inevitably pregnant with heightened expectations by doctors and patients. The survival, nay dominance, of maverick works such as Illich's *Medical Nemesis*[1] and Malleson's *Need Your Doctor Be So Useless?*[2] in the teeth of the technological triumphs calls for an epistemological assessment of the global medical scene, all -pathies included.

"As we move into the new millennium, medical practice is going through an uneasy time. None of the richer Western societies have come to grief with how to cope with the increasing expectations of medical care and its spiraling costs." This *fin de millennium* despair of Sir David Weatherall[3] is symptomatic of an illness called medical science,[4] rich in medicolegal wrangles and a tarnished image of hitherto noble profession. All medical -pathies together have enough data to arrive at a state of Patient/Public Rationally Informed; Doctors/Donors Enlightened (PRIDE). The evidence-based PRIDE principle promises to repair and reinforce the bridge of faith, friendship and fraternity that connects the patient to the doctor. Enough goodwill, which can be based on evidence, is in store to inspire us to strive for a litigation-free, love-laden medical practice.

Epistemology, also called gnoseology or gnanology, is the science of evaluating the SCOPE and LIMITATIONS of any idea or action. Eminent anthropologist Ardrey[5] sums up epistemology in 4 words: Apples still fall down. The apocryphal fall of an apple on Newton's pate spawned the universalizing principle of gravitation, working on which for the past 300 years, we know about it to 40 places beyond the decimal point. And yet, gravitation refuses to get dictated by us, and an apple refuses to fall up. So do a gene, a cell, a cancer cell, a collagen fiber or coronary. None of the foregoing

takes orders from any -pathy. The compelling logic behind the epistemologic clarity hopes to serve medical science. We had debated the issue in the *British Medical Journal* (BMJ).[6] What follows is an evidence-based elaboration of the same.

What MM Means

Cure, care, chirurgie, surgery are traceable to Skt. *kar*, Gk. *Cheiros* and L. *Curatio* — all implying hand, and through that, the act of caring. This etymologic elegance makes the EPIC (Every Problem Is Curable) concept applicable to issues ranging from development to death; and common cold to cancer, all of which can be taken care of. The "cure-ative" SCOPE of all –pathies — Heaven be blessed — is limitless.

From Skt. *matra* comes L. *modus*, implying measure, and spawning modern and medicine. Modern is that which is done in measured steps, i.e., carefully; and medicine is that which is administered in a precise measure. Modern medicine never connotes latest/ costly/ imported/ sophisticated acts, but such connotations have suited the 5-star culture admirably.

Skt. *digga*, *disha*, *dakshata* and L. *decree* gift us with the twin words doctor and doctrine, each connoting to teach/guide/ direct. Skt. *patit* = fallen/in distress; and adding the suffix –ent to it creates the word patient, i.e., someone ill-at-ease. Treatment is derived from *tractus* = path, and involves showing to the patient the right direction. Ear after ear (pun intended), it has been universally realized, but, alas, not recognized that the physician's unhurried presence, the patient's words (= history), and the measured (= modern or medical) verbal response of the doctor are the best diagnostic, therapeutic and prognostic agents capable of inexpensive relief and of aborting iatrogeny and litigation.

Trans-science/-technique/-genetics/-molecuar biology/-research

What I like about WHO
Is no one knows what they do.

We still wait to be told
The cure for a cold.

A clerihew by Sir W. M. James

There is a tremendous literature on cancer, but what we know for sure about it can be printed on a calling (visiting) card.

August Bier (1861–1949), a leading surgeon of his time in Germany, medical historian and a philosopher of great erudition

In terms of cause/course/cure, medical systems "fighting" common cold to cancer find themselves unhelped by science, gadgetry, research, genetics or molecular biology. Whatsoever is offered by whichever -pathy is palliation of some sort. "The New Genetics begins to appear like a relentless catalogue of failed aspirations." (Le Fanu J.)[7] Nobelist Burnet[8] makes 2 evidence-loaded generalizations: (a) that "the contribution of laboratory science to medicine has virtually come to an end" and (b) "there has been no human benefit whatever from all that has been learnt of molecular biology." The poly-trans nature of medical science reduces it to more a matter of heart than head, more of compassion than conferences, more of tact than technique - the shift fully justifiable on the basis of evidence.

Basic Binary Blindness

The human body is a binary unit — the cell representing the zero, and the fiber representing 1. Cytology is tottering on a precipice, for the nucleus has been dethroned and the nebulous cytoplasm rules the roost. Collagen, too complex a molecule, beyond all theories of wear and tear, exhibits a pan-mammalian plan whereby collagens of all mammals are strictly comparable, given the life-span adjustments. Albert Szent-Gyorgii,[9] a Nobelist, when asked "What is a cancer cell?" regretted that he even did not know "what a normal cell is." And cancer cell is now deemed to be an irreversibly differentiated normal cell.[10]

No Cause But Course

Bertrand Russell[11] wrote way back in 1918 that causalism has disappeared from all advanced sciences. The survival of causalism in medicine indicates that medicine is neither science nor advanced. The allopathic – "genocentricism" (cancerogen, diabetogen, atherogen, schizophrenogen); the avurvedic lofty *tridosha* of *vatta*, *pitta* and *cuffa*: the homeopathic miasma; the naturopathic toxins have failed to help elucidate the cause of human maladies, for they, truly, are not causal in origin but coursal in nature. And all that the allopathic causalism has spawned is kill-joy preventionism, which has made no dent on the course of all human illnesses. The tenets of causalism ordain that the cause must precede the effect, which must follow the cause without loss of time. The dual facts, viz., cancers occurring despite absence of alleged causes and their not occurring despite the presence of the same, rule out medical causalism.

Physician, Heed Thy Shelf - in the Library!

Globally respected medical thinkers have provided compact concepts on the limitations of MM. Cooke,[12] contributing to *The Oxford Companion to Medicine*, commenting under the heading "Doctors", sums up: "It needs to be more generally recognized that most of medicine is about relief of, and comfort in, suffering, and in the main very little to do with saving life." Bradshaw[13] of Ireland, drawing on *BMJ*, *Lancet*, *JAMA* and *NEJM*, has staged a mock trial, viz., Doctors on Trial, wherein, at the end of a lot of deliberations, the judge concludes: "In view of all this, not to speak of many minor faults, I find western doctors today are certainly more productive, directly or indirectly, of ill-health, in every sense, than of health; and therefore in the terms of the brief of this court I have no hesitation at all in finding doctors 'Guilty.'" The iconoclastic Illich[1] submits: "The pain, dysfunction, disability and anguish resulting from technical medicine make medicine one of the most rapidly growing epidemics of our time." Iatrogeny, in America (and elsewhere), competes with car accidents in terms of morbidity and mortality. Bloomfield,[14] a US physician, on the basis of a personal

iatrogenic tragedy, has poignantly presented the therapeutic double edge: "Every hospital should have a plaque in the physicians' and students' entrances: 'There are some patients whom we cannot help; there are none whom we cannot harm'."

Erich Segal,[15] a doctor writing on Doctors, recalls the 1958 address by the Harvard dean to neophytes: "Gentleman, I urge you to engrave this on the template of your memories; there are thousands of diseases in this world, but Medical Science only has empirical cure for twenty-six of them. The rest is … guesswork." A Stanford dean has reportedly elaborated on the foregoing: "It is generally known that 50% of what we teach in medical schools is correct. The trouble is no one knows which 50%."

The GOLDEN-LETTERED TRIUMPHS OF MM reside in palliation - easing of whatever the "dis-ease"; repair of structural defects, including trauma; implants - dental, valvular, vascular, lentine, cochlear, articular; and managing emergencies. And these are the abiding victories that have earned for doctors, over the millennia, the status of GOD; and in R. L. Stevenson's words, "the honor of being the flower of our civilization". Wildavksy,[16] a US physician, while admitting that "most of the bad things that happen to people are at present beyond the reach of medicine," generalizes that MM is clearly helpful/ successful in 1 out of 10 problems. MM has progressively refined the diagnostic/ therapeutic wherewithal to tilt, in acute emergencies, the disturbed physiologies in favor of survival. However, global survey and experiences confirm, in the best of Medical Intensive Care Unit (MICU) and Intensive Cardiac Care Unit (ICCU), the Chinese proverb: The doctor's medicine works on a patient destined to survive. The **platinum-lettered triumph of mm studded with diamonds and rubies** lies in its ability to relieve the worst kinds of pain expeditiously and effectively. Needless to emphasize, that the whole discipline of anesthesiology is an example of pain-relief, and has paved ways for the extant and expected surgical miracles.

The Story at the Psyche Level Runs Parallel

A huge tome on *Controversies in Psychiatry* has its first section on the "future of psychiatry," wherein the following three are the launching words: "BLEAK AT BEST."[17] Koestler[18] addressed the World Psychiatric Association in 1969 under the title "Can psychiatrists be trusted?" to conclude, after adequate details, in the negative. The 26th edition of Martindale's Pharmacopoeia, in its section on tranquillizers and psychotropic drugs, sounds bluntly candid[19]: "The term tranquillizer is not altogether an appropriate one because many of the compounds to which it has been applied do not differ markedly in their effects from barbiturates given in appropriate dose. Other terms which have been used such as ataractic drugs, psychotropic drugs, and neuroleptic drugs are no more specific in their connotation and offer no advantages over the established, if abused, term tranquillizer."

Desert of Definitionlessness

A definition encases definitiveness that gives direction. But MM is poor on defining normal, abnormal, blood pressure (BP), coronary artery disease (CAD), cancer, diabetes mellitus, hyperlipidemia, infection, fever and what have you. Medical texts — all disciplines — and dictionaries, not excluding the *Encyclopedia Britannica*, use the words normal and abnormal pan-textually without bothering to define them. The latest, 2007, edition of the *Dorland's Dictionary*,[20] now, goes as far as defining the word normal (from L. norma = rule) as "agreeing with the regular and established type;" which raises the question of what really is the regular and established type. The great Virchow declared that a man even under the threat of death cannot define what cancer is. And the high-BP guru, Pickering,[21] lamented that neither he nor his colleagues know where normality ends and abnormality begins. Ardrey[5] clarified that normality is a range, not an average, and is inapplicable at an individual level. So MM, like the stocks and "Sensex," keeps on lowering the levels at which you call it hypertension or hyperlipidemia — a free-for-all with lot of iatrogeny with botched-up bedroom and breakfast.

Disease and Death are Dissociated

It is popularly acknowledged that the diseased do not necessarily die nor the healthy necessarily survive. The Roman emperor Marcus Aurelius,[22] 1st century AD, aphorized: "Many a physician forecasting doom for the patient has had his own funeral attended by the same patient." Hardin Jones,[23] of the National Cancer Institute, concluded from a global survey that not cancer but "some physiologic mechanism" causes death. Such shows repeat in coronaryology, neurology and so on. Thomas McKeown,[24] a prominent public health man in UK, summarized that MM and its physicians cannot be credited with having added to the human life expectancy. Alex Scott-Samuel,[25] community physician, Liverpool, generalized that "the sacrifice encouraged by the radical critics of Western health care in moving away from a tradition of professional dominance may be nothing like as great as hitherto been feared."

Microbiouniverse

The viruses and bacteria, barely visible through the microscope, aggregately create a microuniverse[26,27] that outweighs the total animal biomass — worm to whale — by 100 times. They are the host; and we, humans, the pampered guests. We survive and thrive through their grace. Each human carries[28] on the body 10 bacteria for every single human cell, the bacterial biomass weighing[29] over 2 kg. The facts that the human population has been, recordably, climbing up[30] and up 1450 AD onwards; that after the arrival of antibiotics the survival/ mortality rates of humans have shown no deflection; and that despite crass pollution of air and water, the poorest countries keep on piling up their population, can only mean that the axiom Friendship between microbes and man is a rule; enmity, an exception can be accepted as valid. Koprowski[31] in his address "The future of infectious diseases" in a Ciba symposium on *Man and His Future*, 1963, issued a stern warning: "If a universal antibiotic is found, immediately organize societies to prevent its use. It should be dealt with as we should have treated, and did not treat, the atomic bomb. Use any feasible national and

international deterrents to prevent it falling into the hands of stupid people who probably will still be in the majority in your time as they were in mine." Professor Raeburn[32] writing *in The Lancet*, 1972, on "antibiotics and immunodeficiency", delivered a grave prophesy: "In years to come, the story of antibiotics may rank as Nature's most malicious trick" against mankind. Sanderson,[33] also of UK, generalized that "bacteria have successfully survived the antibiotic era." Antibiotics, at best, are microfluctuators for better or worse.

Doing Better and Feeling Worse – Health in the United States

The above is the title[34] of a multispecialty/ multi-authored tome from the Rockefeller Foundation, USA. Whereas the mighty USA spent a mere 8 to 10 billion dollars per year on health in the 60s and 70s, close to the fin de millennium and thereafter, it has been spending 5 billion dollars a day, which means the manufacturers, hospitals, doctors are doing better, but the patients are feeling worse. We are mentioning this in passing to emphasize that no amount of money can lessen MM's limitations or widen its scope, in USA and in India. Money is not the solution to MM's realistic incompetence.

The above denunciation (10 points) may seem a hyperbole in pessimism. We need to underscore a Russian proverb: A pessimist is a well-informed optimist. Our thoughts and treatise on cancer[35] are 35 years young, in quite a few languages overseas and in India, and have stood the test of time in needing no change even of a punctuation mark. The 10th chapter in the smaller version *Cancer: Myths and Realities of Cause and Cure*[36] of the above-mentioned tome *The Nature of Cancer*[35] is terse: "Cancer is unresearchable," and has remained unassailable. The book on death[37] has two chapters "Trans-science" and "Transtechnique Aspects of Disease and Death", both of which have survived unchallenged. This entire presentation may be taken as a personalized hyper-view, but our work has been upheld on par[38] with such "major antidevelopment thinkers as Masunobu Fukuoka and Gustavo Esteva."[38] We plead in the lines of Michael

O'Donnell,[39] that skepticism is a necessary stimulant that MM desperately needs today.

Set below are 10 compact generalizations[35] made by us on cancer over 35 years ago. We plead that other disciplines may follow suit.

1) "No treatment" is also a form of treatment, and what is "treatment" is a euphemism for palliation
2) Must you treat cancer, be surgical
3) Must you operate, avoid being radical
4) Use anticytotic therapy – chemical or radiational – knowing that you are merely de-celling indiscriminately
5) Avoid overtreating, especially with anticytotic measures
6) Emphasize that the patient's biologic trajectory and not the treatment will determine the outcome
7) Realize that a cancer patient needs, above everything, joie de vivre, which greatly depends on a healthy bowel mucosa and a cellular bone marrow
8) Teach the patient that cancer can be comfortably lived with. Towards this end, use discreetly words and drugs to calm the mind and ease the body
9) Emphasize that other natural or accidental mishaps, e.g., coronary attacks, are more malignant than cancers
10) Deny not your patient a good, dignified death that allows her or him a graceful parting from the near ones. If you taught the patient how to live with cancer, you may as well teach how to die with cancer.

The overweening regard that MM posits in whatever is peerreviewed is understandable, but the same has failed to fulfill its presumed function. A recent editorial[34] in *The Times of India*, Mumbai, October 23, 2008, is titled "Peer-reviewed Rubbish", with an epigraphic note: "Even the respected science journals often publish spurious research." Nobelist Burnet[8] holds no punch in declaring that telling a white lie, for the avowed purpose of getting grants, has turned into a norm in medical research. An anthology[40] of medical frauds by Broad and Wade, significantly titled *Betrayers of the Truth – Fraud and Deceit in the Halls of Science*, is a significant

pointer. The foregoing empowers an average medical student or teacher or researcher to have a healthy disrespect for whatever that passes on as standard MM. John Horgan's profound tome exposes The End of Science and urges Facing the Limits of Knowledge in Twilight of the Scientific Age.[41] Bertrand Russell[11] bemoaned, circa 1930, that modern education teaches more to do and less to reflect. A paradigm shift in medical thought, teaching and doing is warranted.

Medical practice, all -pathies included, is turning into a genureflexopathy — a knee-jerk treatment for every visit, every complaint. Harvard's Jerome Groopman's *How Doctors Think*[42] reveals that, we, doctors, have stopped thinking. Burnet's[8] 1971 prophesy — "The great pharmaceutical houses… may come to feature in history as examples both of the productivity of science applied to industry and the evil inherent in the technological momentum of a competitive industrial society" — is turning into a hard third-millennial reality. The 7-star medical conferences, full of banquets and cruises, portray an unholy alliance[43,44] between marketing and medicine. Either we medicos wake up now or we may never.

References

1. Illich I. Medical nemesis: The expropriation of health. Bantam: NY;1977.
2. Malleson A. Need your doctor be so useless? London : George Allen and Unwin; 1973.
3. Weatherall D. Foreword to concise oxford textbook of medicine. Oxford: Oxford; 2000.
4. Kothari ML, Mehta Lopa, Kothari VM. An illness called medical science. In: Kumar C. editor. Asking we walk: The south as new political imaginary.Banglore : Streelekha Publications; 2007. p. 99-116.
5. Ardrey R. The social contract. London: Collins;1970.
6. Kothari ML, Mehta L. Personal view. BMJ 1976;160:1441-3.
7. Le Fanu J. The rise and fall of modern medicine. Abacus;London 1999.
8. Burnet M. Genes dreams and realities. United States ;(MTP) Bucks; 1971.
9. Szent-Gyorgii A. Concluding remarks. In: Wolstenholme G, editor. Ciba symposium on submolecular biology and cancer. Amdterdam:

Elsevier; 1979. p. 340.
10. Maclean N. The differentiation of cells. London: University Park Press; 1977.
11. Russell B. On the notion of cause. In: Mysticism and Logic. NY: Norton; 1929. p. 18-30.
12. Cooke AM. Doctors as patients. In: Walton J, Beeson PB, Bodley Scott R. editors. The oxford companion to medicine. Vol. 1. Oxford University Press; 1986. p. 316.
13. Bradshaw JS. Doctors on trial. London : Wildwood House; 1978.
14. Bloomfield AL. Personal communication after iatrogenic tragedy (ca. 1930-1956). Quoted In: Strauss MB editor. Familiar medical quotations. Boston : Little Brown and Co.; 1968. p. 636b.
15. Segal E. doctors. NY : Bantam Books; 1989.
16. Wiladavsky A. Doing better and feeling worse: The political pathology of health policy. In: Knowles JH, editor. Doing better and feeling worse: Health in the United States. NY : Norton; 1977. p. 105-23.
17. Fuller T. What is the future of psychiatry as a medical specialty? Bleak at best. In: Brady JP, Brodie HK, editors. Controversy in Psychiatry. Philadelphia : Saunders; 1978. p. 3-12.
18. Koestler A. Can psychiatrists be trusted? Picador. United Kingdom: The Heel of Achilles Essays 1968 – 1973; 1978.
19. Martindale Pharmacopoeia. 26th ed. The pharmaceutical press; 1972. p. 1805.
20. Dorland's Illustrated Medical Dictionary. 31st ed. Philadelphia: Saunders; 2007.
21. Pickering G. Hypertension: Definitions, natural histories and consequences. Am J Med 1972;52:570-83.
22. Aurelius M. Meditations IV. 48. Quoted in: Strauss MB editor. Familiar Medical Quotations. Boston : Little Brown and Co.; 1968. p. 77b.
23. Jones HB. Demographic considerations of the cancer problem. Trans N Y Acad Sci 1956;18:298-333.
24. McKeown T. The role of medicine: Dream, mirage or nemesis? London : Nuffield Provincial Hospital Trust; 1976.
25. Scott SA. Introduction. In: Kothari ML, Mehta L. Authors. Cancer: Myths and realities of cause and cure. London : Marion Boyars; 1979. p. 8.
26. Kothari ML, Mehta LA. The mythology of modern medicine III: Microbe and man (Part 1). J Postgrad Med 1993;39:162-5.
27. Kothari ML, Mehta LA. The mythology of modern medicine III: Microbe and man (Part 2). J Postgrad Med 1993;39:231-4.
28. Sangeorzan J. University of Michigan Medical School Lecture on infectious disease. Michigan University AIDs Course, 1992; Feb, 12.
29. Section: Numbers. Time, NY January 17, 2000, p.12.
30. Pinchuk T, Clark R. Medicine for beginners. London : Writers and Readers Publishing Cooperative Ltd.; 1984.
31. Koprowski H. Man and his future. In: Wolstenholme G, editor. Future of Infectious and Malignant Diseases. Amsterdam : Elsevier; 1963. p. 196.

32. Raeburn JA. Antibiotics and immunodeficiency. Lancet 1972; 2:954-5.
33. Sanderson PJ. Common bacterial pathogens and resistance to antibiotics: Leading article. BMJ 1984;289:10-1.
34. Knowles JH. Doing better and feeling worse: Health in the United States. Norton:NY; 1977.
35. Kothari ML, Mehta LA. The Nature of Cancer. Mumbai : Kothari Medical Publication; 1973.
36. Kothari ML, Mehta L. Cancer: Myths and realities of cause and cure. London : Marion Boyars; 1979.
37. Kothari ML, Mehta L. Death: A new perspective on the phenomena of disease and dying. London : Marion Boyars; 1986.
38. Alvares C. Science, development and violence: The twilight of modernity. Oxford University Press; 1992. p. 138,140.
39. O'Donnell M. A Sceptic's medical dictionary. London : BMJ Books (Wiley); 1977.
40. Broad W, Wade N. Betrayers of truth: Fraud and deceit in the halls of science. United States: Simm and Schuster; 1982.
41. Horgan J. The end of science: Facing the limits of knowledge in the twilight of the scientific age. NY : Broadway Books; 1997.
42. Groopman J. How doctors think. Boston : Houghton Mifflin Co.; 2007.
43. Angell M. The truth about the drug companies: How they deceive us and what to do about it. NY : Random House; 2004.
44. Law J. Big Pharma: How the world's biggest companies control illness. Constable; London 2006.

Ten

White/might Has Rights: Apartheid and Health

Year : 1984 | **Volume** : 30 | **Issue** : 2 | **Page** : 65-8

Kothari ML[1], Mehta LA[2]

We are, world over, trapped in the tyranny of topsyturvy priorities. This unenviable state grips medicine too, so that our 5-star hospitals have patients who have money but no disease and the roadsides and the rural sides have patients who have disease/s but no money. There is an apart-hood that divides the rich from the poor. In Africa, this apart-hood divides the whites from the not-so-whites through the notorious apartheid meaning apart hood. This article is about Apartheid. and Health, as it is found in South Africa, in India and elsewhere.

1 Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Associate Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

South Africa represents the epitome of what a powerful parasitic minority can do to a helpless majority: Relentless exploitation of the able-bodied non-whites to the point of disabling them, coupled with an intelligently executed denial of family hood, food, sanitation, education and medical care to the whole non-white population. The wants of the whites are pampered; the needs of the non-whites are denied. The Carrellian[4] et Bronowskian[2] idea that while all humans are equal the whites are more equal in evolution and in *The Ascent of Man*,[2] has an unmistakable ring of arrogance that finds its brazen acme in South Africa.

Apartheid and Health[1] is a 1983 WHO publication comprising Part I Report of an International Conference held at Brazzaville, People's Republic of the Congo, 16-20 November 1981' and Part II The Health Implications of Racial Discrimination and Social Inequality: An Analytical Report to the Conference.' The 258 pages are a testimony to good printing, text and tables. Sleekly bound in soft, the `book' has a wealth of information and ideas useful for any country, and any system of medicine. Watt,[8] the professor of international history, University of London, has succinctly defined apartheid: "Afrikaans word meaning `apartness' or segregation, applied since 1948 by the dominant Afrikaaner Nationalist Party in South Africa to policies governing relations between white and non-white (African, Indian, or mixed-race) inhabitants of South Africa. Apartheid implies the total separation of races socially, economically, and in the last resort territorially, but its full realization runs contrary to the economic need for a large labouring population in white inhabited areas and the refusal of whites to perform menial duties. In practice, therefore, it requires Africans living in urban areas as aliens of temporary residence, identifiable by passes, strictly limited in freedom and virtually without rights, e.g. subject to arbitrary arrest and imprisonment."

The book under review amplifies the foregoing, drawing the reader's attention particularly to migrant labour, mining, and maldistribution of health, wealth, housing and food. The unprivileged black herded into neowastelands that cannot

sustain him and family, must migrate for menial jobs and mining where, underpaid and overworked, he must fall victim to loneliness, illness, psychic and sexual aberrations, a syndrome that would equally afflict his parents, wife and children at home, may be, for different reasons. "A detailed recent assessment of the effects of migrant labour on the rural periphery of South Africa has pointed out that 'virtually every adult male in the Bantustans is faced with the contradiction that his absence is a condition of his family's survival. But his absence also undermines the conjugal stability from which his family derives its identity.'

By the 1940s there was already a volume of well-developed anthropological literature drawing attention to the consequences of migrant labour for family life. Postponed and broken marriages and the distorted sex ratios were even then leading to high rates of illegitimacy. The lengthy absence of husbands and fathers created problems in the socialization of children, as well as high rates of marital breakdown, desertion and widowhood in the periphery. The preferential access to higher paid jobs for the younger men led to a breakdown in the authority of the elderly".[1] Mining - gold, diamond, metals - meant mining the able bodied of their good health and then dispatching them, off to the countryside as vectors of tuberculosis, malaria, syphilis, psychosis, and alcoholism. Maldistribution of nutritional resources can be gleaned from one glaring fact - while South Africa produces surplus calories per capita, "being one of the richest countries", a black child dies of malnutrition every 20 minutes. What is true of food is true of medical care - the white have heart transplants, the black have some token medical care. "For strangers to South Africa it is the symbolic notice, `Slegs vir Blankes' (`For Whites Only') - a manifestation of the overtly racist laws - which first catches the eye."[1] The whites have all the rights; the blacks, all the blights. In Chile, Argentina, and India, the situation is slightly different; the mighty, the well-to-do, the rich minority enjoy the medical best cum latest; the rest, the vaster majority, are denied elemental medical care. It is an aparthood that is as demeaning as it is in South Africa.

The aparthood on our home front may not seem obvious, but is as pervasive. The urbanization cum industrialization has begotten and sustained the migrant labour system - cities bursting beyond their seams with lonely, desperate, homeless males, and villages breaking down through fragmentation of families, neglect, and urban-biased exploitation of all natural resources. Diseases of the underprivileged - tuberculosis, leprosy, malaria, all water-borne and food-borne infestations- have by now assumed endemic form, an urban achievement that merits an analysis: The migrant labour force in the city so works and so lives that the microbial diseases naturally slated to disappear from among men, is made to linger on, nay, prosper. "Tuberculosis, a disease virtually unknown in South Africa in the period preceding industrial development, is today a condition which dominates the disease pattern among blacks in both town and countryside. Never in history has the social stratification of tuberculosis been as marked as it is today in South Africa, where Africans are about 80 times more at risk from this disease than whites."[1] What is true of South Africa is equally true of India, Egypt or Thailand. Mankind was coming to terms with the tuberculosis bacillus by 1875 by exhibiting increasing resistance which had peaked to the maximum by 1925. Then came industrialization et urbanization with all its attendent quality-of-life-destroying cascade of consequences. And thus we have tuberculosis to stay with us, and the ceaseless scramble for potent antituberculosis drugs and our impotent `Victory over Tuberculosis' campaigns. You move in Bombay, or Rajkot, and in the midst of the consumeristic splendor, the stench in the air fills up your nose, and chokes your alveoli. What price GNP? The consumeristic apartheid holds the wants of man as enjoying a state superior to the needs of man and the dictates of nature.

And, then, there is in our country and elsewhere fiscally-fostered medical apartheid, seen nowhere better than in the bastion of democracy and the Mecca of modern medicine - the USA. Those who can pay, are treated, those who cannot are connived at, elbowed out, or as a leading medical journal put it, "skimmed off." It is significant that the motto of the

AMA - the most powerful medical association in the world is - fee-for-service. USA has the distinction of rechristening medical profession as the Health-care Industry run by the Medical-Industrial Complex with the same ruthless efficiency as the Military-Industrial Complex. India has not lagged behind in importing this moneymaking spirit. The 5-star-hospital syndrome, pioneered by the Apollo, Bombay and Jaslok Hospital, is now gripping India like an epidemic. The common man, the general practitioner and the consultant have started equating the quality of medical care with the quantity of fees demanded. Such a monetary equation is satisfiable only by the elite of India - an utopian state for the miniscule against a state of despair, for the rest. In USA, it is better to die than be diseased. India is fast attaining that unenviable goal. The obsession *Health for all by 2000 AD* inevitably pushes our society towards creating more medical schools; more doctors, more ICCUs, more gadgets most of them imported, manufacturing more drugs and phobias, all these at the expense of a simple formula - edible bread and potable water for all by 2000 AD. Failing the latter practicable goal, all we shall achieve is Hell for all by 2000 AD. In the ultimate analysis, apartheid is the intelligent man's penchant for foisting the patently wrong as right, a trait born out of what Dante called, the use of reason to foster unreason.

The world-wide illusion that in the USA, the best bulwark against fiscal bankruptcy because of medical bills is provided by the Blue Cross, Blue Shield and the like is belied by the singular fact that over 20% of individual bankruptcies in America are caused by medical bills. Ubell[7] reviewing Starr's eye-opening book *"The Social Transformation of American Medicine"*, concludes: "The contemporary message of Starr's book is clear and stark: the advent of corporations into medicine will undoubtedly further aggravate inequality in access to health care. 'Profit-making enterprises are not interested in treating those who can not pay... the two-class (the apartheid that separates those who can pay from those who can not) in medical care is likely to become only more conspicuous'."

Thomas McKeown,[6] after surveying the global scene of medical practice and research came to the sobering, conclusion that the doctor's supreme role is to help/assist the three basic functions of birth, growing and dying. High-flaunted research to cure cancer/heart attack/diabetes, etc. has a la Burnet[3] as much relevance as a dust storm in a distant galaxy. The apartheid of pampering sophisticated medical research institutes and programmes at the cost of India's solvable problems lies at the root of whatever the mighty USA is experiencing, as detailed in "*Doing Better and Feeling Worse: Health in the United States*"[5] a Rockefeller Foundation publication. Medical profession, cure thyself of apartheid!

References

1. "Apartheid and Health.": World Health Organization, Geneva, 1983.
2. Bronowski, J.: "The Ascent of Man." British Broadcasting Corporation, London, 1973.
3. Burnet, M.: "Genes, Dreams and Realities." MTP, Bucks, 1971.
4. Carrel, A.: "Man, the Unknown." Maefadden Publications, New York, 19S1.
5. Knowles, J. H. (Ed.): "Doing Better and Feeling Worse: Health in the United States." W. W. Norton & Co., New York, 1977.
6. McKeown, T.: "The Role of Medicine: Dream, Mirage or Nemesis?" Nuffield Provincial Hospital Trust, London, 1976.
7. Ubell, R.: Book review: "The Social Transformation of American Medicine" by Starr, P., Harper and Row, 1983. In, Nature, 304: 667-668, 1983.
8. Watt, D. C.: Apartheid. In, "The Harper Dictionary of Modern Thought." (Ed. A. Bullock, and O. Stallybrass). Harper and Row, New York, 1977, p. 30.

Eleven

Utopia and Modern Medicine

Article
Year : 1978 | **Volume** : 24 | **Issue** : 3 | **Page** : 131–137

Kothari ML,[1] Mehta LA[2]

At a time when Nobel awards for Medicine chase only the molecular biologists, when the basic-science route is considered *the* way to medical *nirvana*,[7,24,29,33,46] and when Presidents and politicians roll up their sleeves to conquer, say, cancer[27,51] at any cost, it is time to speculate on the shape of medical things to come, by the close of this century.

The air, in countries overdeveloped or otherwise, is of given-enough-dough-anything-can-be-achieved. Assuming the entire OPEC earnings were pipelined to medical research from today, what would Modern Medicine (MM) be in the 21st century? Let us consider the medical futurama in 3 parts:

1 Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Associate Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

(a) where MM is right now; (b) why it is where it is; and (c) what would MM be, given 25 years and money for the asking! Diseases in our medical school days were conveniently classified as congenital and acquired, the latter comprising traumatic, infective, neoplastic, metabolic, degenerative, and psychic; the same classification can be used here.

"It is a sobering thought that after several decades of research, a number of international conferences and many other meetings, seminars and symposia, the problem of human malformations remains essentially unchanged." Having so introduced a symposium, McKeown[42] proceeds to chastise MM further on human malformations - etiology unknown, rate unchanged, relative contribution to infant mortality greatly increased. Trauma, MM can "treat," for God, a la Ambroise Pare, continues to heal the wound with the same pristine secrecy that a century's research[65] on would-healing has not scratched even on the surface. A few things are certain in life, and the rapid appearance of bacterial resistance to a newly introduced drug is one of them.[8] The latest bug to bug antibioticism is the penicillinophagic gonococcus, reported from St. Thomas's.London[43] Dubos[15] begins his chapter with disquieting heading - THE SOCALLED CONQUEST OF MICROBIAL DISEASES - pointing out that there has been no decline in the percentage of hospital beds occupied by patients with infections, as compared to 50 years ago. On the tumor front,[21] the outcome of untold manhours of research and uncountable moneys - now more people live on cancer than die of cancer[3] - has been "precisely nil,"[10] the whole anticancer crusade having been declared as "scientifically bankrupt, therapeutically ineffective, and wasteful."[26] Diabetes mellitus, as a paradigm of metabolic disorders, continues to ail from definitionlessness and is comprehended the less and less the more and more we know about it.[44,50] Cardiovascular disorders have not decided where they etiologically belong and research on its leading members - myocardial infarction, hypertension, strokeoffers nothing special to write home about.[1,6,18,19,37,45,47] On the senescent front, rats kept in a "Rat Palace" senesce the same way as do rats in sewers, forcing the investigators

to declare that degeneration and death are unalterably, and predictably, built into the rats, the rat-findings being comfortably extrapolatable to the human situation.[57] While hopes are raised that some *wundermittel* might prevent the decay of aging,[20,59] Selye[56] concluded a gerontologic symposium on a totally pessimistic note. Finally coming to psychiatric disorders, one has only to see/read *One Flew Over the Cuckoo's Nest,* to realize where the psychiatrists and their patients are.[35,29,64] It may be that the foregoing forced Malleson[41] to write *Need Your Doctor Be So Useless?*, and Burne[11] to candidly declare that MM as an enterprise has virtually reached the stage of zero returns.

Why is MM where it is? The responsible factors operate both within MM, and without. The former include MM's *causalism, experimentalism, compromisism and promisism.* The latter comprise bioforces that are wholly outside MM's *realm - individuality, herdity (herd-ity),* and *temporality.*

Causalism - the kill-joy crusading that makes breakfast butterless/breadless/ sugarless/cyclamateless/coffeeless, and amorous bedtime fraught with cancer has not for once satisfied the basic tenet of causalism: the *cause* must be followed by the effect, and the *effect* preceded by the cause, without any temporal gap in between. Bertrand Russell[54] threw away causalism from "advanced science" long ago, but it seems to survive in MM, probably because MM is neither advanced nor scientific. A direct offshoot of causalism is preventionism which "contains more unknowns than scientific truths."[18] The unmitigated failure of MM on all major fronts is by itself a testimony to the failure of MM's experimentalism. In cancerology, for example, experimentalism has not provided one causative/curative cue that was not known before the experiments were started.[13,32] A learned book[53] purporting to solve MM's problems has a recurring refrain - "the absence of a suitable (animal) model"; yet having admitted so, it goes on to describe one experiment after another, in one section after another. The force that keeps MM's experimentalism alive and kicking has been aptly summed up by Burnet:[9] "I believe however, that one might justly summarize American

medicine as being based on the maxim that what can cure a disease condition in a mouse or a dog can, with the right expenditure of money, effort and intelligence, be applied to human medicine." MM's compromisism. consists in its being unable to define essential hypertension, diabetes mellitus, cancer, immunity, tumour immunity, and so on, and yet spawn on each one of these a burgeoning science - each oversized, amorphous and labyrinthine, with ramifications that have neoplastic autonomy, draining away resources in "a remorseless but seemingly purposeless growth."[38] MM is more political[27,28,29,51] than potent, and hence promisism is its only way of survival. That is how cancer is *cured* every week,[55] and prophylaxis and cure of diseases are promised via *genetic engineering*[52] that also forms the title of a new MM journal.[23]

The more important thwarters of MM are too far from its curative reach, too abstract to be attacked by OPEC opulence. Every human being is governed by the bioforces of individuality, herdity, and temporality-biolaws that can be understood, not altered. Individuality implies, in Dubosian[16] phraseology, unprecedentedness, unparalleledness and unrepeatability, an unsituation from which even homozygous twins are not exempt. Herdity means that every feature - anatomic, physiologic, pathologic - of an organism is a part of the whole herd, enjoying its own place somewhere on the curve of normal distribution and falsely designated *hyper-, eu-,* or *hypo-* by the medical men suffering from diagnosophilia. Temporality or chronicity *(chronos,* time) is a bit difficult to appreciate, but Portmann[48] makes it lucid: "Animal life is configured time."

Individuality rules out our breaking the transplant barrier, even among the inbred animals. No two individuals throughout the history of mankind would have the same "immune" genotype for the individualistic repertoire of DNA is endless - "the figure 256 followed by 2.4 billion zeros."[25] Despite "successful" renal transplants[63] now running into thousands, the problems,[11,14] that plague the procedure remain unabated. Immunosuppressors promote graft-survival - at what overall cost, we do not know - but

MM has no means[11,14] of altering the self-ishness of a single human being, a situation that makes transplant, a hit-and-miss measure for all time to come.

An individual's biotrajectory is an unpredictable element[12] ruling out modern medicine's ability to predict who will get what disease, when, and to what end. Screening programmes will thus always remain a travesty of medical common sense; prognostic judgments shall betray the judge now and again; therapy by rule of the thumb (and so it will always be because of an individual's unpredictability) will boomerang often to prove costlier than the disease. Many a patient, with diabetes far more severe than that of his physician who strives to be fit as a fiddle, will outlive the latter, a thing equally true of heart disease, hypertension or cancer. Physician, better kneel before the nemesis of thy perennial ignorance!

Herdity is the least understood aspect of biology: It is, to use a Galtonian phrase, "the supreme law of unreason" that governs the *distribution* of all phenomena in a herd, thus dictating that someone with carcinomatous stomach dies at 19 and someone at 91, or that someone's serum cholesterol level should be on the "higher" side because someone else has it on the "lower" side, both being normal. The medico is merely nursing an illusion when he relates the "levels" to heart attacks or hypertension. Willis,[62] the tumour pathologist, has alluded to "the smooth ideal curve of the age distribution of a large series" of cancers in general. What is normal, MM seems to forget, is the frequency distribution, that shows itself as the typical bell-shaped Gaussian curve serenely ruling over such mundane things as ocular refraction,[4] red cell diameter,[4] and the effect of pH/temperature on enzyme activity,[30] as well as such anxiety-making things as blood pressure[22] serum cholesterol,[4] IQ,[1] age-incidence at diagnosis of/death from gastric ulcer,[61] duodenal ulcer,"' carcinoma stomach[62] in men and women. The tails of the normal Gaussian curve stretch to infinity,[52] a thing that explains carcinoma tongue in a new born, or a disease-free individual aged 105 years. Summarizing, one may define herdity as a

force that governs the ages, levels and so on, in a herd, the herd controlling the individual and vice versa. "Population thinking denies uniformity and looks to the *range of* diverse individuals within a group. The range, not the average, is the reality."[2]

If, a la Portmann,[48] man is configured time, then man as being time-bound, is unhelpably and unarrestably prone to disfigurement on passage of time. Cancer is not a disease, but a programmed event, strictly obeying the temporal programme within an individual, in consonance with the herd. "Senescence takes a generally similar form in each species, whether judged by the physicochemical changes in collagen, the incidence of degenerative changes in blood vessels or the high incidence of malignant disease .... The essence surely is that there is a genetic `programme in time' laid down for each species. There must be a biological clock and a means by which a series of processes can be made to occur according to the expediencies of evolutionary survival." This *timely* statement by Burnet[10] on human/animal survival and senescence sums up the truth about herd mortality governed by time. The appellation *chronic* is most appropriate for all forms of degeneration ranging from a symptomless cervical spondylosis to a rapidly lethal cervical carcinoma, since both the processes are temporal, or chronic. It is not this gene or that, that mediates the occurrence of heart attack or cancer. It is the time-order that the genes follow in harmony with the herd and in conformity with the individual's programme.

What would, or should, MM be by 2000 AD? By then, it may have freed itself of the anthropocentric do-goodistic cocoon, to view life, disease and death from a wider, biological, perspective. Hopefully, then, MM would be more aware of the ignorance it is steeped in and the uncertainties it faces. When this is made public, more doctors and more patients will abjure "exaggerated opinion of the powers of medicine," a relevant warning-phrase that Jacob Bigelow[5]uttered in the earlier half of the 19th century. "Medicine, like women's shoes, is governed by the dictates of fashion." Having said

this, Humphries[31] suggests that the fashion ought to turn in the direction of economy rather than into that of waste and pollution. If Humphries is heeded to, the *Everest Complex* - "because it is there" - would no longer dominate medical research, although this is a moot point on which, to cite an example, two top men[7,11] from the same leading institute hold polar-opposite views. MM had better bear in mind its rank ignorance on such simple things as wound healing or the definition of a gene, so as to persuade the engineering-proponents[58] into crying a halt. The hazards of tinkering with the genes may more than offset the gains.[36]

Thanatorealism - that death has its own rightful reasons for being around - is gradually dawning upon lay and medical minds.[17,34,36,49] To this robust approach to death, MM may add a robust approach to life by emphasizing a la Thomas[20,60] the built-in durability and sheer power of the human organism, instead of portraying it - as is the raging fashion now - as a teetering, fallible contraption always in need of watching and doctoring. Life may not be demedicalized to the Illichian extreme, but surely, all that is unnecessary - 9/10th of what is prescribed[40] - could easily be done away with, by 2000 kD.

References

1. Anastasi, A.: Differential psychology: Individual differences. In, "Fields of Psychology." (Ed. Guilford, J. P.), D, Van Nos trand. Princeton, 1966, p. 133.
2. Ardrey, R.: "The Social Contract", Collins London, 1972, p. 47.
3. Arley, N.: Applications of stochastic models for the analysis of the mechanise of carcinogenesis. In, "Stochastic Model in Medicine and Biology." (Ed. Gurland J.), Univ. Wisconsin Press, Madison, 196 pp. 3-44.
4. Best, C. H. and Taylor, N. B.: "The Physiological Basis of Medical Practice". Williams and Wilkins, Baltimore, 1961.
5. Bigelow, J.: In, "A Mirror Up To Medicine." (Ed. Corcoran, A. C.) J. B. Lippincott, Philadelphia, 1961, p. 4.
6. Birkenhager, W. H. and Schalekamp M. A. D. H.: "Control Mechanisms in Essential Hypertension". Elsevier, Amsterdam, 1976.
7. Book Review: "Medical Science an Human Goals" by Nossal, G. J. V. Lancet 1: 179, 1976.
8. Book Review: "Acquired Resistance of Microorganisms to Chemotherapeutic Drugs." Ed. Hahn, F. E. Lancet, 1: 458 1976.
9. Burnet, F. M.: Concepts of autoimmune disease and their implication

for therapy In, "Reflections On Research and the Future Of Medicine". (Ed. Lyght, C. E.) McGraw-Hill Book Co., New York, 1967; pp. 9-30.
10. Burnet, M.: "Immunological Surveillance.' Pergamon Press, Oxford, 1970.
11. Burnet, M.: "Genes, Dreams & Realities." MTP, Bucks, 1971.
12. Carrel, A.: "Man, the Unknown", Macfadden Publications, New York, 1961.
13. Dawe, C. J.: Phylogeny and Oncogeny. In, "Neoplasms and Related Disorders of Invertebrate and Lower Vertebrate Animals." Natl. Cancer Inst. Monograph, 31: 1-40, 1969.
14. Dempster, W. J., Melrose, D. G. and Bentall, H. H.: Scientific, technical and ethical considerations in cardiac transplantation. Brit. Med. J. 1: 177-1.78, 1968.
15. Dubos, R.: The evolution of microbial diseases. In, "Bacterial and Mycotic Infections of Man." (Ed. Dubos R. J. and Hirsch, J. G.), Pitman, London, 1965, p. 20.
16. Dubos, R.: Foreword. In "So Human an Animal." Charles Scribner's Sons, New York. 1968, p. vii.
17. Dunphy, J. E.: Annual discourse - On caring for the patient with cancer. New Engl. J. Med. 295: 313-319, 1976.
18. Editorial: Science and preventive medicine. Lancet, 1:620-621, 1976.
19. Editorial: Prevention of coronary heart disease. Lancet, 1:783-784, 1976.
20. Edson, L.: "Where is medical science today? An interview with Lewis Thomas." Span (India), 17: 12-17, 1976.
21. Ellis, H.: Book reviews: "Host Defence in Breast Cancer." by Stoll, B. A., and "Risk Factors in Breast Cancer." by Stoll, B. A. Brit. Med. J. 1:1473, 1976.
22. Emery, A. E. H.: "Elements of Medical Genetics." Churchill, Livingstone, London, 1975, p. 122.
23. Genetic Engineering, 1977, **i**: (Elsevier).
24. Good, R. A . , Day, S. B. and Yunis, J. J.: "Molecular Pathology". C. C. Thomas, Springfield, 1975.
25. Gore, R.: The awesome worlds within a cell. National Geographic, 150:355-395, 1976.
26. Greenberg, D. S.: "Progress" in cancer research-Don't say it isn't so. New Engl. J. Med. 292:707-708, 1975.
27. Greenberg, D. S.: The cancer program: A new burst of criticism. New Engl. J. Med. 293:1379-1380, 1975.
28. Greenberg, D. S.: Kennedy - He has assumed a major role in scientific and medical affairs. New Engl. J. Med. 294: 235-236, 1976.
29. Greenberg, D. S.: Report of the president's biomedical panel and the old days at the FDA. New Engl. J. Med., 294:1245-1246, 1976.
30. Harper, H. A.: "Review of Physiological Chemistry". Lange Medical Publication, Los Altos, 1967.
31. Humphries, S. V., Personal view. Brit. Med. J., 3:538, 1975.
32. Kothari, M. L. and Mehta, L. A.: "The Nature of Cancer", Kothari Med. Publ., Bombay, 1973.

33. Kornberg, A.: Research, the lifeline of medicine. New Engl. J. Med., 234:1212-1216, 1976.
34. Kubler-Ross, E.: "On Death and Dying".Macmillan, London, 1970.
35. Leading Article: Looking after schizophrenics. Brit. Med. J., 2:236-237, 1974.
36. Leading Article: Playing with genes. Brit. Med. J. , 1:302, 1976.
37. Leading Article: Prevention of coronary heart disease. Brit. Med. J., 1:853-854,1976.
38. Leading Article: Disease at the elephant. Brit. Med. J. , 2: 599-600, 1976.
39. Lewis, A.: Schizophrenia. In, "CecilLoeb Textbook of Medicine". (Ed. Beeson, P. B. and McDermott, W.), W. B. Saunders, Philadelphia, 1967, pp. 1464-1468.
40. Lipkin, M.: "The Care of Patients", Oxford Univ. Press, London, 1974, p. 164.
41. Malleson, A.: "Need Your Doctor Be So Useless?" George Allen & Unwin, London, 1973.
42. Mckeown, T.: Introduction. Brit. Med. Bull. 32:1-3, 1976.
43. Medicine: "The penicillin eaters". Time, November, 22, 1976, p. 53.
44. Mirsky, I. A.: Certainties and uncertainties in diabetes mellitus. In "Diabetes Mellitus: Theory and Practice". (Eds. Ellenberg, M. and Rifkin, H.), McGrawHill, New York, 1970, pp. 900-1001.
45. Nixon, P. G. F.: Impending heartattacks. Lancet. 1:34, 1976.
46. Perutz, M. F.: Fundamental research in molecular biology: relevance to medicine. Nature . 262: 449-453, 1976.
47. Pickering, G.: "High Blood Pressure". Churchill, London, 1968.
48. Portmann, A.: Time in the life of organism. In, "Man and Time" (Ed. Campbell, J.), Pantheon Books, New York, 1957, pp. 308-323.
49. Powers, T.: Learning to die. Reflections, 7:1-19, 1972.
50. Pyke, D. A.: Book review: "Diabetes: Its Physiological and Biochemical Basis". (Ed.. Vallance-Owen, J.) M. T. P. Bucks, 1975, Brit. Med. J., 1:531, 1976.
51. Rauscher, F. J.: "The national cancer program and the national cancer act of 1971". Natl. Cancer Inst. Monograph, 1974, 40, 3.
52. Robert, J. A. F.: "An Introduction to Medical Genetics". Oxford Univ. Press, London, 1970, p. 246.
53. Rubin, A. A. (Ed.): "Search for New Drugs". Marcel Dekker, Inc., New York, 1972.
54. Russell, B.: On the notion of cause. In, "Mysticism and Logic". Penguin, London, 1953, pp. 171-196.
55. Rutstein, D. D.: "The Coming Revolution in Medicine". Vakils, Feffer and Simons Pvt. Ltd., Bombay, 1967, p. 9-42.
56. Selye, H.: The future for aging research. In, "perspectives in Experimental Gerontology". (Ed. Shock, N. W.), C. C. Thomas, Springfield, 1966, pp. 375-385.
57. Simms, H. S.: Longevity studies in rats. I. Relation between lifespan and age of onset of specific lesions. In, "Pathology of Laboratory Rats and Mice". (Ed. Cotchin, E. and Roe, F. J. C.), Blackwell Oxford, 1967, o. 733-747.

58. Special Section: "Man into superman". Time, April 19, 1971, pp. 21-36.
59. Stewart, F. M.: "The Methuselah Enzyme". Bantam Books, New York, 1972.
60. Thomas, L.: Notes of a biology-watcher. New Engl. J. Med., 293:1245-1246, 1975.
61. White, F. W.: The incidence of gastroduodenal ulcer. In "Peptic Ulcer". (Ed. Sandweiss, D. J.), W. B. Saunders, Philadelphia, 1951, pp. 185-195.
62. Willis, R. A.: "Pathology of Tumours". Butterworth, London, 1967.
63. Wittingham, E.: Personal view. Brit. Med. J., 1:955, 1976.
64. Winokur, G.: Diagnostic stability over time in schizophrenia, mania and depression. New Engl. J. Med., 290:1027, 1974.
65. Zweifach, B. W. Grant L. and McCluskey, R. T.: "The Inflammatory Process". Vol. III Academic Press. New York, 1974, p. 443.

Twelve

Qualtum Cosmics-and-Chaotics—the Ultimate Tortoise in Physics and Modern Medicine

Journal of Post Graduate Medicine
Year: 1997 | **Volume:** 43 | **Issue:** 4 | **Page:** 85–92

Kothari ML,[1] Mehta LA[2]

Abstract

Qualtum cosmics is the qualitative opposite of quantum mechanics. The flip-side of qualtum cosmics is qualtum chaotics, the two governing much of what is seen as

1 Professor, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.
2 Professor and Head, Department of Anatomy, King Edward Memorial Hospital and Seth G.S. Medical College, Parel, Mumbai, India.

inscrutable in medicine. The Ultimate (Last) Tortoise is close to Einsteinean idea of a Unified Theory, a single concept that can explain whatsoever there is in physics, (and in medicine, or what have you).

March 14, 1979 marked the *birth centenary* of Einstein - in the words of Haldane, "the greatest Jew after Jesus Christ." As a timely tribute to him, we discussed the roles that Time, Uncertainty, Relativity, and Normality (TURN), hitherto in the realm of physics, played in the arena of modern medicine. The TURN concept[1] spawned and sustained "The trans-science aspects of disease and death"[2]. This was followed by "The trans-technique aspects of disease and death" based on SUCHness. - Systemicity, Uniqueness, Cellularity, and Herdity. The TURN and SUCH concepts have stood the test of time to drive home the essential impotency of modern medicine on problems ranging from common cold to coronary or cancer

Much as the term *mechanic* has turned into a discipline *mechanics,* so does *cosmic* becomes *cosmics* and chaotic becomes *chaotics*.., the two implying the *science of order* (cosmos) and disorder (chaos) as rules modern medicine. The appellation *modern* has been retained to drive home the point that no matter how "advanced" the science of medicine, it must obey some ordinary self-evident laws.

Quantum mechanics, is "a mathematical physical theory that grew out of Planck's quantum theory and deals with the mechanics of atomic and related systems in terms of quantities that can be measured"[3]. *Qualtum Cosmics*-and-*Chaotics* is a way of comprehending the cosmic and (seemingly) chaotic mechanisms that impart a qualitative individuality to an atom, a cell, a cancer cell, or a fingerprint. The unprecedented, unparalleled, and unrepeatable uniqueness/individuation that a medical phenomenon exhibits is no will o' the wisp but a predictable outcome of powers cosmic-et-chaotic.

The parable of The Ultimate Tortoise/Turtle (TUT) is worthy of note. In an Indian *purana,* a child asks : "On what does

the world rest?" "On the elephant named *Mahapadma*." "On what does Mahapadma rest?" "On a tortoise called *Chakwa*." The answerer thought he had finished with the child : "On what does Chakwa rest?" "On the next tortoise." "Which is The Ultimate Tortoise?" "No one knows." Einstein spent his lifetime on a Unified Field Theory,[4] a concept to explain all other concepts, a concept that is *ultra qua non*, beyond-which-not. This essay is an attempt at portraying TUT, a conceptology that must satisfy a physicist as much as a physician, valid as much in medicine as in physics. (The Mahapadma-Chakwa theme is best seen in a South Indian temple, the duo flanking the steps to the temple.)

TUT : The Ultimate Tortoise

Theory, theorem, theatre are rooted in Greek and Latin *theorein* meaning to look at, behold, contemplate, or consider. Put simply, it is a way of looking at anything, *with the seeing eye of the inner mind.* TUT is a way of arriving at the final substratum of whatever that there is. In Vedic parlance, TUT is the *addhisthana,* the base/ground/foundation on which the noumenal/phenomenal universe is superimposed and is called *addhyaas.* TUT, one day, may be held synonymous with GUT – Grand Unified Theory.

> The Hindus dreamt that the earth rested on an elephant, and the elephant on a tortoise, and the tortoise on a serpent; and though it may be an unimportant coincidence, it will not be out of place here to state, that a fossil tortoise has lately been discovered in Asia large enough to support an elephant. I confess that I am partial to these wild fancies, which transcend the order of time and development. They are the sublimest recreation of the intellect.
>
> **Henry David Thoreau**[5]
> ***Walking***

The choice of a tortoise is a thoughtful one : The tortoise is "slow but sure"[6] longest-lived among all vertebrates

including man, the longest-lived mammal, its shell can support a weight 200 times greater than the animal itself, highly intelligent, and has its limb girdles, cervical vertebrae and the tail so organised that all of these can be withdrawn, out of sight, under the shell,[7] a feat that no other animal can match.

The tortoise carapace or shell is the all-embracing, abstract *noumenon* that, as it were, puts forth the *phenomenal* universe in the form of its limbs, head and tail. Whatever that is phenomenal has the dual quality of *is there – is not there, asti-naasti,* an outstanding feature of every illusion that *Maya* creates.

The anatomy of TUT can now be spelled out partwise : (1) The *shell* is *Information,* (2) The head is *Cosmos,* (3) The tail is *Chaos,* (4) The right forelimb is *Yin Yang,* (5) The left forelimb is *Hubble-Bubble,* (6) The right rear limb is *Qualtum Commander,* (7) The left rear limb is *TITE Principle.* Let us now see how each of the foregoing fits into medical scheme of things.

Information TITE Principle and Qualtum Cosmics-et-Chaotics

The fleeting, material phenomenal universe has its permanent opposite in noumenon/universal mind/Brahman. The formed universe has its formless substratum. The former *is,* because of the latter. Every *formation* - animate or inanimate, smallest to the largest - is, at the pleasure of, and superimposed upon the substratum of *information*. Information, being neither matter nor energy, occupies no space, covers no distances, is free from the limitations of space and time. The formless Informational Universe - *nouniverse* - is the surest synonyms of Vedantic *Advaitism* and Spinoza's *Monism.*

> No sooner had this idea come to me that I realised what the Buddha was telling us 2500 years ago, when he spoke of the Transparency and self-enlightenment of the law. All things in the universe are related one to the other. The whole can be seen in any part. The

> universe is implicit in a little finger; its ultimate truth is embodied in a single flower.
>
> **Masahiro Mori**[8]
> ***The Buddha in the Robot***

Let us shift from the ulnarly placed "little finger" to the radially placed (left) thumb, and zero in on the print of its terminal phalanx, called LTI or Left Thumb Impression. No two LTI's, even of Siamese twins, have ever been alike. SANA - Snowflakes Are Never Alike - is a wonder that makes each snowflake, made of 100 million million million water molecules, unprecedented, unparalleled, unrepeatable. DNA fingerprinting (DeOxyRiboNucleicAcid Glyphics - DORNAglyphics) is the latest avtar of what so far was Bertillon system of ordinary fingerprinting, both unfailingly reliable.

A snowflake in the Artic had had to be, has to be, will have to be *unfailingly different* from a snowflake in the Antarctic of the remotest past, of the fleeting present, or the most distant future. Moral: All snowflakes of all times communicate with one other. Each fashions its uniqueness - its uniquation or individuation - by taking recourse to the TITE principle: Total Inclusion = Total Exclusion. A snowflake S of the eternal here and now must, without a blink, know of all the snowflakes of all the times and places so as to be able to exclude each of them, guaranting thereby its own uniqueness. What applies to every snowflake applies to every atom, molecule, cell, cancer cell, gyral and sulcal pattern of the brain, dorsal venous pattern of the palm or hand. If every name has the blight of nemesis, it has the blessing of uniquation, individuation that is forever. In noumenal form, the uniqueness precedes the phenomenal form, accompanies it, and outlives it.

Christ, when in the making in Mary's womb, was required to make a fingerprint unlike that of Rama, Krishna, Gandhi, or Gavaskar. So each of these luminaries presented their LTI to Christ so that he could straight exclude them. In return, the noumenal Christ presented his print to each of the

above when being fashioned in the womb. Truly, no men, nor mouse, nor molecule is an Island entire of itself, but an integral part of the main.

Every thing, every cell, every body co-exists, is co-eval, within the cosmic ocean. A wave arises, looks like an individual, a phenomenon, bound to the ocean, and merging into it once its ephemeral, phenomenal stage is over. That particular wave was shaped by the TITE-mold. Needham's poser[9] that "The riddle of form is the fundamental riddle" is resolved by the concept of TITE-mold. Each is shaped by all the rest, and vice versa.

The first-human-being-ever is co-eval with all human beings of all times, for none truly dies for none is truly born. *The Bhagwad Gita*'s assurance that no one dies for no one is born has biological backing. *Gita*'s intuition is the informational law of the universe, that divests you even of immortality for you were nor are ever mortal in the first place.

Qualtum cosmics-et-chaotics is what provides *Quality* to a person or to his/her features. Quality is a *neti neti - not this, not this* concept where you describe a thing or a person or a feature by being truly able to say that it is not this, it is not that, it just is what it is. The cosmics of Quality create a genius, a perfect palate, and its chaotics, integral to it, create a moron, a cleft-palate, a cancer cell. It is interesting that abnormality, literally, contains within itself normality, Chaos is primal, cosmos its child. Organised life, a cosmic event, was spawned in the womb of prelife, which was unorganised cancerous broth.[10] Cosmos and chaos must go hand in hand, for they represent *The Two Hands of God*.[11]

This is an era of Huxley's *Brave New World,* of Dolly, of cloning.[12] In this media hype and brouhaha, it is clean forgotten that cloning is biologically impossible. The Qualtum cosmics sees to it that every ovum and every sperm is individuated. For cloning, the lowest common denominator is an ovum, each being unique. That rules out cloning right away. What the

so-called Dolly-making has achieved is nuclear-swapping. Instead of the zygotic nucleus begetting a baby, another, biopolar somatic nucleus plays the role. Fertilization, as such is diploidization. So what ovular cytoplasm needs is not necessarily a sperm, but a diploid nucleus, for which, it may jetison its own original haploid nucleus.

The informational-interconnectedness solves many an intellectual crisis in physics, and in its synonym, medicine. Einstein's unceasing worry was about the riddle of two far-separated electrons *instantaneously* communicating with each other. The worry can be rested for informational-interconnectedness is beyond both space and time. Even the qualification instantaneous smacks of something happening, when in reality it does not happen. It was Herman Weyl[13] who rightly said : "The objective world simply is; it does not happen."

On the medical front, the uniqueness of each cancer, unpredictable and chaotic as it seems, is a part of a larger, cosmic order. A genius owes his or her faculty to a moron, much as a "normal" foot is at the pleasure of another "deformed" one. The other discomforting corollary is that one's DORNAglyphics, one's genes and one's genotype are a *consequence* of the TITE principle wherefrom orders come to shape and mould an individual. Therefore, genes, whatever they may be, do not give orders, but having received them, merely execute them. The Human Genome project and the dreams of Genetic Engineering must reckon with this bitter-sweet of cosmology.

The cosmic-et-chaotic sweep that *information* exercises is best appreciated by the qualities ascribed to Chaitanya, Awareness, Tao or Brahman, each of which "formless, nameless, the motive of all movements and the mother of all substances"[14] regardless of the fact that It "undertakes no activity, yet nothing is left undone"[14]. Physics has moved from materiality and scientificality to spirituality. It's time medicine follows suit.

Yin yang: yinduction yangduction

This particular volume is the by-product of many years' interest in types of relationship which are at once difficult to express in language and yet fundamental to the order of life itself. I speak of the polar, reciprocal, or mutually sustaining relationship of events and forces that are usually considered to be opposed to or basically separate from one another. These "oppositions" include not only life and death, good and evil, light and darkness, but also the organism and its environment, the self and the not-self, the solid and the space, and the knower and the known. There has always been a certain difficulty in explaining the relationship between these terms as "transactional" - like buying and selling - such that the one term exists only in conjunction with the other. This points to the further insight that what is divided in terms, that is, in thought and language, may be united in fact. To be specific: the individual's sense of basic separation from his universe may be a perceptual illusion based upon inadequate concepts of sensing and knowing.

Alan Watts[11]
The Two Hands of God

A female/woman/lady is the female/male for she incorporates within each synonym the male/man/lad of the species. One is because of the other and vice versa, the polar-apposite, mistakenly called the polar-opposites. That they mutually spawn each other to sustain each other is a cosmic wonder as great as Radha-Krishna, Lakshmi-Vishnu, Sita-Rama and Parvati-Shiva. The Chinese gave this pairing the general name of Yin-Yang, Indians did it genitally: Yoni-Lingam.

The formless Allah, God or Brahman is a sexless, pole-less focal point that on splitting must beget two opposite/apposite poles called yin-yang, yoni-lingam, female-male, (magnetic) north pole - south pole, negative charge - positive charge,

ma-ya. The two poles beget between them a field that fashions all phenomena to beget the manifest, visible universe.

The universe is electrostatically neutral for there is as much positive charge as there is negative charge. This is because a positive charge or a magnetic north pole (Yang) refuses to stay solo and always begets the apposite negative charge or the south pole (Yin).

Yin always induces the formation of Yang (hence yangduction), and vice versa (yinduction). Yinduction and yangduction form the basis of the manifest universe, of matter, of energy, and in the current world scene, of entertainment and communication.

> We shall refer to the principle that expresses man's knowledge of the integrated unity of nature as the principle of *dualistic monism.*
>
> The *Kojiki* makes special reference to the male and female - the yin and yang aspects of each stage and posits these polar forces as the ultimate driving energies within the universe.
>
> Energy throughout the universe always appears in this dualistic structure. At present, no one knows what distinguishes positive from negative charge.
>
> These two poles - the yin and the yang - are, therefore, never distinct; there is always this connecting flow uniting them into a larger whole.
>
> **Nahum Stiskin**[15]
> *The Looking Glass God*
> *… Shinto, Yin-Yang and*
> *a Cosmology for Today.*

The inseparability of yin from yang, and their indistinguishability, is *the* engine of the manifest universe, at once effortless and in need of no fuelling ever. It verily constitutes the stuff of allegedly unfulfillable dream of *perpetuum mobile* – perpetual motion: "The term applied to some theoretical force

that will move a machine for ever of itself – a mirage which holds attraction for some minds….. According to the laws of thermodynamics it is impossible"[6]. The *anomalous expansion of water* has proved physics wrong in a way. Yinduction and yangduction is yet another example where the second law of thermodynamics bites the dust.

There are diverse phenomena that are readily explained by yin-yang symphony, musically called *moto perpetuo,* or the eternal note.

The fact that a light (read, any electromagnetic) wave starting from a galaxy 15000 billion light years away should travel ceaselessly, fuellessly, at the constant absolute speed of 186000 miles per second can have only one explanation: The yin part of the wave induces its yang which in turns induces its yin, *ad eturnum et infinitum*. The word wave is inappropriate for it can, etymologically, waver, and can have a crescendo and a diminuendo. The better would be WyWy, which when spoken reminds you of the two Y's of yin and yang.

In an atom[16], the electron spins round the nucleus at about 600-800 miles a second and the neutron round the proton at 40,000 miles a second, ceaselessly. This inexhaustible power can come only if yin begets yang and vice versa, ceaselessly and effortlessly. Moreover, yin and yang are oppositely directed, to right away explain the ½ spin that every electron exhibits.

DNA multiplication is a very rapid process wherein the Lord first proclaims "I am one I become many - *Eko aham, bahushyam*," and then does so to spawn a whale out of a single cell. At the time of cell-division, or rather cell-duplication, the two helices separate. The yin-helix induces yang, and the yang-helix induces yin, and presto, there are now double helices, two nuclei, two cells. A yin helix exhibits pairacity by re-pairing itself, by a yang, and vice versa.

Cytoreplication is the material basis of the biological kingdom.

Each cell multiplies in a ToFi – Total Fidelity - fashion. This can only happen if the two halves of every conceivable part of a cell begets its polar apposite through yangduction and yinduction.

In the majestic Einsteinean equation $E=mc^2$, C is for the constancy of the speed of any electromagnetic radiation, ranging from a minute microwave to a mile-long megawave. One factor that provides the C is the fact that, no matter what, yin and yang induce each other in such a way that the distance that they cover in a second is 186000 miles or the time that they take to cover this distance is 1 second, be it orbiting of an electron, multiplication of DNA or cell, or a microwave oven.

The current electronic, computer, communication, entertainment, cyberspace and what we will have is basically dependent on the constant speed with which WyWy travels, and the ToFi with which it replicates even the information that it carries in its bosom.

Hubble-Bubble

To the eye of wisdom
size makes no difference.

Alan Watts[11]
The Two Hands of God

Where the telescope ends, the
microscope begins. Which of the
two has the grander view?

Victor Hugo[17]
Les Miserables

Edwin Hubble noted the *red shift* and gave the concept of a universe that is forever expanding. To a school child, the metaphor provided was of a dotted balloon progressively filled with air to carry the (dots) galaxies apart.

As biologists and medical men, our concern is with the

bang-opposite reality of infinitely contracting universe – an unimaginably small bubble that, however, is a perfect match for a very large universe first thought of by Hubble. Cosmologists (and telescopists) think of in terms of "billion-billion-billion-billionth part of a second" and microscopists can complementally think of a billion-billion-billion-billionth part of a millimeter. Chronologists or temporologists (time-scientists) now talk of a femtosecond which is a thousandth of a picosend. "To grasp this, consider that there are more femtoseconds in one second than there were seconds in the past 31 million years"[18]. Even if this is further divided by a billion, it can never tend to be zero-space (or zero-time). Moral of the story is that much as it is difficult to reach the outer limit of the universe, so is it difficult, nay impossible to reach its inner limit. No wonder that our rishis had had to think of God as not only larger than the largest but smaller than the smallest as well.

The burden of the Hubble-Bubble concept is to make clear a point : No space is too small for Nature's working, and therein, no task is too large. The *homeobox concept*[19] in embryology tells us that all fully formed mammalian embryos are of the same size - 2.5 cm. A whale, programmed to be 100 and 100 tons starts as a 2.5 cm individual, as does an elephant. The minutest structure of the animal is there with none of its mega-details compromised, and "enough" of free-space around. So we see a nanobacterium with a diameter of 50-500 nanometers sculpting a shell 2 micrometers in diameter, showing a huge well in its centre[20]. This example well illustrates the fact that "smallness" of space resides in the human eye, not in reality. A mm is one forty billionth of the Earth's circumference. If a mm is further reduced to billion billion of its original, still it won't be zero, can't be zero. "Multiplying zero even by a million (or zillion) would leave us with zero"[21].

The infinite contractibility of the spatial universe, combined with the essential spaceless of information, allows the current information revolution to pack more and more information into less and less material. "The present call capacity of the fiber-optic cable is only a fraction of its potential. `If we had

all the necessary electronic equipment at the ends,' says Frank Gratzer, a manager at Bellcore, `you could carry the entire telephone traffic in the United States with one fiber, and that's at the busy hour, combining both voice and data traffic. The capacity is essentially unlimited.' He adds that it might be decades before we can invent the electronics to harness this capacity, however"[22].

The unimaginable non-materiality of information or *gnan* brings us to reconsider a Vedic blessing.

Om Purnamadah purnamidam
purnat purnamudacyate
purnasya purnamadaya
purnamevavasisyate

Completeness is that, completeness is this
from completeness, completeness comes forth
Completeness from completeness taken away
completeness to completeness added,
completeness alone remains.

An imparter of *gnan* is endowed with the assurance that even if all her/his *gnan* is *given away*, she/he will have lost nothing but the one to whom it is given would have acquired everything. Perfection minussed from perfection leaves perfection behind. No wonder, it was an Indian tradition that a teacher should never charge, for he can't be rewarded materially for the immateriality that he parts with.

Chaos is Superior to Cosmos

Chaos is the current, scientific summing up of science's helplessness. "A state of apparent randomness and unpredictability… the processes which scientists call *chaos* appear at first sight to be random, utterly confused, and disordered"[23]. Heisenberg's *Uncertainty principle,* has been, as it were, one upped by something yet more sinister. You, given all your gadgetic wizardry and learned wisdom, just don't know what the next event will be in the animate and inanimate world. No wonder, a leading lexicon[24] goes on to

define *chaos* as "a state of things in which chance is supreme: nature that is subject to no law."

The word *chaos* has interesting, simple etymology: Rooted in Gk. *khaos* meaning an abyss, something just hollow, vast chasm or void, it has been taken to mean[25] the "primordial formless void." *A Dictionary of Mythology*[26] is kinder to *chaos* when it defines it as "a dark and limitless void, which was all that existed before the creation of the universe."

Chaos existed before cosmos. It thus formed a substratum to cosmos, giving it a background much as the dark background of night allows the stellar cosmos to be delineated clearly. To the human eye, *cosmos* is whatever is definable, limitable, comprehensible. Hence cosmos is necessarily an island of human imagination in the vast and unfathomable sea called chaos. Chaos thus supersedes cosmos. If the universe were to be singly named, it could be called *chosmos*. "Chaos is ubiquitous; it is stable; it is structured"[27]. Could CHAOS read Cosmic Harmony Apparently Orderlessly Styled?

The slur of randomness and unpredictability foisted on chaos is borne out of human arrogance and ignorance. Till we accept that the infinitely and eternally pervasive qualtum cosmics will rule the roost to spring for you yet another surprise, you will beat your chest crying "chaos chaos" which, if you clear your eyes is the other, more fundamental face of cosmos. If cosmos is assigned a big C, then chaos will have to be given a bigger C; and the biggest C to Chaitanya or consciousness that, in one sweep, can accommodate within itself both chaos and cosmos.

> He had gained a specific interest in the heart, however, after he helplessly witnessed the sudden cardiac deaths of two people, one a relative on a summer vacation, the other a man in a pool where Winfree was swimming. Why should a rhythm that has stayed on track for a lifetime, two billion or more uninterrupted cycles, through relaxation and stress,

> acceleration and deceleration, suddenly break into an uncontrolled, fatally ineffectual frenzy?
>
> **James Gleick**[27]
> ***Chaos***

The big "why" in the above, day-to-day global happening is replied to if we think a little deep.[28] With each breath, you first *inspire,* and then *expire.* Inspiration is always followed by expiration, but not vice versa. Expiration or chaos is more lasting than inspiration or cosmos. With each heart beat, the lubb of life or cosmos is followed by a longer dupp of death or chaos. In the case histories alluded to above, the cycle of cosmos-chaos had had to be eventually dominated by lasting chaos.

Superdeterminism: que sera sera

To a medical man steeped in science and *le technique,* granting chaos a place in the scheme of medical things is humiliation. To grant chaos a place higher than cosmos is downright degradation. Let us listen to a *confession* as recent as of 1997: "My reverie led me to wonder why some patients who don't heed our advice do well, while some others who faithfully follow our recommendations have devastating outcomes." (Federman)[29]

First, let us grow epistemologic - to know what we can, what we just can't. *The Oxford Companion to Medicine*[30] is of help : "It needs to be more generally recognized that most of medicine is about relief of, and comfort in, suffering, and in the main very little to do with saving life."

A unhurried, honest perusal of "anti-establishment" medical literature reveals that preventively, therapeutically and progressively, modern medicine can be so impotent that even a stiff dose of technological Viagra would make no change. The avowed failure - *Doing Better and Feeling Worse*[31] - stems from medical men's inability to say "yea" to a number of self-evident truths.

Superdeterminism - "the Buddhist view of reality"[32] - ordains that a person's cancer or coronary is programmed before the person is conceived. The cancer or coronary does not occur, but the flow of the person into a *life-time continuum* gives us that illusion. That being so, there is neither preventing it, nor curing it. What medical men have to cultivate is *Saakshibhav* - the art of witnessing, the quality of witnesses. A sense of wonder for the human organism and for *Vis Medicatrix Naturae*.

What the sense of wonder brings in its wake is the double gift of humility and reverence, an affective state that finds its expression in philosophy. Philosophy, the dictionaries assert[23], is *scientia scientiarum,* the science of all sciences. Today, modern physics bristles more with philosophy than with physics. A similar philosophic bent can be accorded to the physician's art of having to deal with human birth, life, ageing, diseasing, and death. A noumenal approach, going well beyond the phenomenal, is overdue in modern medicine.

References

1 Kothari ML, Mehta LA. The trans-science aspects of disease and death. Persp Biol Med 1981; 24:658-666.
2 Kothari ML, Mehta LA. The trans-technique aspects of disease and death. J Postgrad Med 1983; 29:75-81. PUBMED FULLTEXT
3 A Dictionary of Philosophy. London: Pan Books; 1979.
4 Pais A. Subtle is the Lord…' : The Science and the Life of Albert Einstein. Oxford: Clarendon Press; 1982.
5 Thoreau HD. Walking. New York: Penguin Books; 1995
6 Evans IH. Brewers: Dictionary of Phrase and Fable. London: Cassell; 1981.
7 Encyclopaedia Britannica, Vol. 22. Chicago: Encyclopaedia Britannica Inc; 1969.
8 Mori M. The Buddha in the Robot. Tokyo: Kosci Publication Co; 1982.
9 Needham J. Order and Life quoted by WE Le Gros Clark in The Tissues of The Body. London: ELBS; 1971.
10 Kothari ML, Mehta LA. The Nature of Cancer. Bombay: Kothari Medical Publications; 1973.
11 Watts A. The Two Hands of God: The Myths of Polarity. London: Rider & Company; 1963.
12 Kothari ML, Mehta LA. The cloning bandwagon. Medical Ethics 1998; 1:17.

13 Weyl H. Philosophy of Mathematics and Natural Science. Princeton: Princeton University Press; 1949.
14 Wood E. Zen Dictionary. Middlesex: Penguin Books; 1977.
15 Stiskin N. The Looking-Glass God ….. Shinto, Yin-Yang, and a Cosmology for Today. Brookline: Mass, Autumn Press; 1972.
16 Capra F. The Tao of Physics. New York: Bantam Books; 1977.
17 Hugo V. Les Miserables, "Saint Denis," Bk.III, Ch.3 (tr. By C.E. Wilbour) quoted in Familiar Medical Quotations edited by M.B. Strauss. Boston: Little Brown & Co; 1968.
18 Boslough J. The riddle of time. Reader's Digest (India), June 1991, pp 133-140.
19 Gray's Anatomy. 38th edition. London: ELBS; 1995.
20 Travis J. The Bacteria in the Stone. Science News; 1998; 154:75-77.
21 Spodick DH. Revascularization of the heart - numerators in search of denominators. Amer Heart J 1971; 81:149-157.
22 Chiles JR. Telephone Revolution. Span 1994, pp 28-33.
23 Tulloch S. The Oxford Dictionary of New Words. Oxford: Oxford University Press; 1992.
24 Webster's Third New International Dictionary of the English Language Unabridged. Springfield: G & C Merriam company; 1971.
25 The Oxford Dictionary of English Etymology. CT Onions, ed. Oxford: Clarendon Press; 1966.
26 A Dictionary of Mythologies. MS Shapiro, ed. London: Paladin Book; 1981.
27 Gleick J. Chaos: Making a New Science. London: Abacus; 1987.
28 Kothari ML, Mehta LA. Death - A New Perspective on the Phenomena of Disease and Dying. London: Marion Boyars; 1986.
29 Federman DG. The certainty of uncertainty. Postgraduate Med 1997; 102:33-34.
30 The Oxford Companion to Medicine. J Walton, PB Beeson, R Bodley Scott, editors. Oxford: Oxford University Press; 1986.
31 Doing Better and Feeling Worse Health in the United States, edited by JH Knowles, New York: Norton; 1977.
32 Zukav G. The Dancing Wu Li Masters: An Overview of the New Physics. New York: Bantam Books; 1980.

Appendix

Herein are some of our past articles catering to the themes expressed in the revisiting text so far. They reflect a continuous stream of microbiorealistic thoughts we have been living with. They also throw light on some abstract concepts such as causalism, and scienstition, a word we have coined for (so-called) scientific superstition, We feel that these articles will support the evolution of our HIV-AIDSologic thesis.

(i) The Mythology of Modern Medicine - I Scienstition (Special Article - *Journal of Postgraduate Medicine,* 1993)

(ii) The Mythology of Modern Medicine - II Cocoon of Causalism (Special Article - *Journal of Postgraduate Medicine,* 1993)

(iii) The Mythology of Modern Medicine - III Microbes and Man (Part 1) (Special Article - *Journal of Postgraduate Medicine,* 1993)

(iv) The Mythology of Modern Medicine - III Microbes and Man (Part 2) (Special Article - *Journal of Postgraduate Medicine,* 1993)

(v) The Mythology of Modern Medicine - IV
HIV : Heuristically Important Virus,
AIDS : Advances Induced Deficiency Syndromes
(Special Article - *Journal of Postgraduate Medicine,* 1994)

Special Article

The Mythology of Modern Medicine – I

Scienstition

Journal of Postgraduate Medicine
Year: 1993 | **Volume**: 39 | **Issue**: 1 | **Page**: 45-46

Ostensibly scientific medicine and mythology seem contradiction in terms. Eugene Garfield, famed for *Current Contents* and all that, declared that his organization ISI (Institute for Scientific Information) was a compelling communicational necessity to help every medical Tom, Dick and Harrieta keep pace with the ceaselessly advancing medical scene. An American medical journalist described the USA as "a country in which medical breakthroughs occur with dizzying regularity." Modern medicine, so it would seem, never has had it so good, So, where is the mythology?

Mythology is also a state of the art reality wherein you see what is not there and proclaim what is nowhere around. In Vedantic parlance, the term *mithya* is basic to the Vedantic idea that you, and the world, are NOT what you think they are. So, in modern medicine, no matter how sophisticated or latest, from Harvard or Harley Street, there are a number of concepts and actions that are NOT what the doctors think they are and their patients think they ought to be, and hence constitute its *Mithya-tatva*, its mythology. Under such circumstances, what is passed as science is superstition of a kind, a sort of scienstition.

Fresh from the medical frying pan is a journal BioMed-Magazine for Medical Update.[1] The editorial is pollyannaistic "The specialization in modern medicine is growing very fast… BIO-MED is a multi-faculty medical update magazine, the first of its kind in India which will keep your knowledge updated about the rapidly changing medical scenario, may it be in

the field of diagnostic technology, laboratory equipment, treatment procedures or conceptual changes in the rehabilitation process. The aim is simple: keep you in touch with medical progress." The gloss and the advertisements are enough to tell the discerning eye that the journal will help sell yet more gadgets, more tests, more procedures, more bankruptcies through medical bills. Sir Wilfred Trotter, England's surgeon-philosopher, used to marvel at *the mysterious viability of the false*. BioMed is but an example of prosperous medical mythology, a blanket term for the mysterious viability, *nay* prosperity, of many a patent medical falsehood, as detailed below:

1. Modern medicine is held synonymous with allopathy, a term and concept founded in 1842 by its arch rival Hahnemann to connote a mode of therapy that cures one disease by causing another. Rob Paul to pay Peter.
2. By modern, allopathic admission, in 9 out of 10 problems, modern medicine is symptomatic, palliative – achieving this by suppressing this enzyme here or that chemical there, unleashing in its wake a whole new science of latrogeny, more truly latral Medicine. Peter may feel eased for a while but Paul, ipso facto, must feel dis-eased.
3. Yet, modern medicine's mania for mastering mankind's maladies marches merrily, monetarily, menacingly. Hence the plethora of anti-drugs including, as examples, anticancer, antiarthritic, antidiabetic. Each anticancer drug began as procancer in the animal, and, in the human body, it is anti-every-dividing-cell but never anticancer. An antiarthrtic is antistomach, antibone marrow, antiskin but not antiarthritis. All antidiabetics are hypoglycemic agents, nowhere antidiabetic, and at best, glucostatic agents. Many a therapy – allopathic, homeopathic or Unani – is a doctor's knee-jerk response to a patient's complaint, the anti-prefix being the epitome of this reflex response.
4. Harris popularized the transactional phrase I'm OK, YOU're OK, by his famous book so titled. But in the patient-doctor interaction, the all-too-common assertion by the seemingly learned is I'm OK, You're NOT. In this battle of

the learned *versus* the lay, the contrast between the mere information of the former *versus* the direct experience of the latter is lost sight of. A medical man in the USA, Chad Calland[2], underwent kidney transplants, to experience this interactional lopsidedness:

"Patients on dialysis are accustomed to being told by the doctor, 'You are doing fine' – usually after the latest measurements of electrolytes and creatinine. The patient then thinks to himself, 'If I'm doing fine, why do I feel so rotten?' After undergoing correction of several days' accumulation of metabolites in a few hours, who could feel well with the resultant cerebral edema? Who, with a hematocrit of 17 percent feels well enough to function when he cannot climb his own stairway because of dyspnea?

"After a number of such visits to the doctor, the patient begins to think that perhaps his very real symptoms of fatigue, dyspnea, muscle weakness and so forth are products of a deranged mind, so that he begins to conceal them because he is ashamed. Eventually, the time comes when the patient complains of nothing, and the doctor is thus wholly unaware of these symptoms, just as he is unaware of the other (marital, financial and social) difficulties that the patient is experiencing.

"Patient on hemodialysis know these facts better than the physician does, because the patient alone experiences them – often in isolation. Is it any wonder that the patient feels less valuable than any healthy person and doubts the worth of his struggle? Is it necessary to postulate psychiatric disorders to understand the self-evident?"

5. The medical arena was overcrowded with books and journals. To add to this cacophony have now arrived audio-cassettes, and on-line computers to help the desperately busy medical student/resident/teacher/practitioner/researcher have ready, capsulated access to the latest, the best. All work and no play, no reflection, no repose makes the medical Jack a dull boy.

The literary vanity of the medical mind is exemplified by the way *Current Contents* is propagated: "What is Current

Content? CC is your only personal library of over 1,180 of the world's most important journals… contents of the latest journal issues published and saves your valuable time locating information vital to your professional needs. The compact weekly editions can be carried with you everywhere and read whenever you have a minute to spare. The easy to scan format helps you to keep on top of more than 231,000 journal and book articles published every year in life sciences. Each CC[R] issue contains these weekly features… ISI offers fast, efficient document delivery service." As an outline computer service, ISI also offers CC Search™ and CC Connection™. (ISI: Institute for Scientific Information).

Some phrases in the foregoing have been italicized to expose the mythology of the too busy a doctor. The superscripted CC by R and CCS and CCC by TM betray the colossal business-sense behind these seemingly scientific ventures. This American spirit of free enterprise is advancing its stronghold on the Indian psyche, that by itself is oblivious of a comment that the *Time* magazine made sometime ago: Free enterprise can be free of all restraints.

Walter Alvarez,[3] the pioneer gastroenterologist at the May Clinic wrote his autobiography in which he described the saddest moment of his tenure at the Mayo Clinic. One would have thought it was his day of retirement. Yes, it was, but the sadness was for another reason. That day, he happened to go the Mayo Clinic Library and accidentally picked up Osler's *Aequanimitas*, only to discover that the book had not been cut by any member in the preceding 10 years. No wonder, Sir John Apley lamented that we medicos are overeducated philistines.

The typical successful American physician is supposred to be too busy for his family and hence the divorce rates are so high. What price medical busy-ness! We are all brought up on a diet of enormous medical trash that effectively elbows out philosophy, religion, Shakespeare, Vivekananda and Vinoba Bhave out of our lives. We end up being – the overeducated, *nay*, the overinformed robots, the shallow philistines. Physician, Heal thyself!

References

1. BioMed Magazine for Medical Update 1993;1
2. Calland CH. Latrogenic problems in end-stage renal failure. N Engl J Med 1972;287:334-6.
3. Alvarez WC. Incurable Physician: An Autobiography. Englewood Cliffs, NJ"Prentice-Hall, 1963.

Special Article

The Mythology of Modern Medicine – II

Cocoon of Causalism

Journal of Postgraduate Medicine
Year: 1993 | **Volume**: 39 | **Issue**: 2 | **Page**: 102-104

For pretty long, Modern Medicine (MM) has spun round itself a cocoon of causalism, the nature and the basis of which are best summed up by the adage *post hoc ergo propter hoc* - after this, therefore, because of this. Eat fat and occlude your coronaries, make love and give cancer cervix, or, have a prepuce to prepare for penile cancer. And so on, and so forth. The foregoing filaments of the causalistic cocoon may be good ploys to hide medical ignorance from an inquiring patient or public, but such facile assumptions have spelled for MM, intellectual bankruptcy, endless prescriptions and worse, proscriptions, and spawned experimental slaughter of innocent animals on an astronomical scale. MM, isn't it time to cure your body politique of the curse of causalism?

Before we spell out that MM's causalism and MM's confusion, a word or two on the why of its unending chronicity. Altruism and philanthropism aside, a medical person – of whichsover – pathy – can be comprehensively defined as one who is convinced that he is wiser than the patient's body. Such an individual also gets primed with a loftly litany – Prevention is better than cure. (In MM, so much is talked about prevention, for there is precious little to talk of any cure). So the MM man sets out to prevent a disease by forestalling the cause from conquering the patient, or, to cure the disease by attacking the cause resident in the patient's body. As of today, the whole cause hunt has been truly like asking a blind man to go into a dark room to find a black cat which is not there.

Circa A.D. 1918, Bertrand Russell[1] wrote an essay titled "On

the notion of a cause" in which he declared in his inimitable style: "All philosophers, of every school, image that causation is one of the fundamental axioms of science, yet oddly enough, in advanced science such as gravitational astronomy, the world 'cause' never occurs…. The Law of Causality, I believe, like much that passes among philosophers is a relic of a bygone age, surviving like the monarchy, only because it is erroneously supposed to do no harm." The fact that causalism has survived, *nay* thrived, in MM betrays three possibilities: either MM is no science, or is not advanced, or is neither. Medical philosophers of the level of Smithers[2] and Burnet[3] had to generalize that MM singularly lacks in biological scholarship. It is an arena of enormous affirmative action unbacked by any conceptual clarity.

Fuller[4] puts down, as the earmark of causality, an invariant relation of events in which the cause must precede its effect and the effect must follow its cause, in time. "It is this sense of must which distinguishes causal connection from coincidence." Further, Fuller emphasizes, the effect must immediately follow the cause: "Causality can no more jump gaps in time than it can gaps in space." The invariant relationship that must prevail, but fails to prevail in most of the causalism of MM leads to the following questions:

X causes Y
But why does Y
Occur without, and
Not occur despite, X?

A young lady, the wife of a physician-friend of the authors was detected to have an inoperatable lung carcinoma. About her one could pose a question in Erich Segal's style: "What can you say about a twenty-five years old girl who got lung cancer without having a single puff any time?" Fuller's tenets on causalism can be amplified by an epistemologic necessity called the Bombay Razor[5]: Any proposition that A causes B must in the very same breath spell out why A often fails to cause B and why B manages to occur without A. Fuller's emphasis on no temporal gap between cause and effect must be appreciated in a wider context. Let us concede a situation in which everyone who only lived literally on fat of the land (ghee, butter and what have you) ends up with a heart attack

after, say, n years. Yet fat cannot be incriminated for whatever else happened to these subjects during the interim n years including the mere proximity to a doctor stands as causal to the effect that is seen now.

MM may be diagnosed as having chronic *causitis*, a syndrome some features of which, and the remedy thereof, are detailed below.

Coursality, Not Causality

A zygote – the featureless cellula prima – ends up into a human being of 10^{27} cells through what the embryologists call epigenesis – a perpectival proposition that allows a person's brain, biceps, or bladder to be integral parts of the phased, sequential development that, postnatally, unfolds as uniquely invidualistic puberty, sexuality, menstruation, menopause, stroke, diabetes, cataract, cancer, death – all coursal but not causal in nature. Development, Dobzhansky[6] aphorized, begins in the womb and ends in the tomb, all a part of DNA's Developmental, Nurtural, Annihiliational repertoire resident in the genotype of every cell and manifesting as varied phenotype.

Herdity[5], Not Heredity

The rather useless but uniquitous science of medical epidemiology thrives on the stability of probabilities like one in 1000 newborns having a cleft palate, one in 10 having a stroke, one in 5 having cancer, one in 33,000 having ALL, 2.6 in 100 being low in IQ precisely because 2.6 in 100 have too high an IQ world over, generation after generation. The unswaying nature of such statistics should have taught us long ago that these phenomena occur at an individual level at the behest of the herd whereby its occurrence in one assures the freedom from it in the rest and *vice versa.*

Exigence, Not Environment

(Exigentia = Demand, Pressure, Want, Requirement)

There works in the most modern branches of medicine the rule of thumb assumption that whatsoever cannot be attributed to genes or heredity must have been caused by

environment. This done, man (i) forgot to love and preserve the environmental elements that sustain life, (ii) learnt to fear air, sunshine, food, sex, (iii) failed to see that even in the most smog laden metropolises[7] so man-made "since at least the 17th century," civilizations have prospered, and people have progressively lived longer and healthier, and lastly, (iv) man lost sight of the fact that all environments unsullied by man's industry and exigency are pristinely health-giving. Holding environment as causative is mankind's cunning to be the judge, jury and the executioner when in reality man alone is the culprit.

Penny-Wise, Pound-Foolish

For ghee-gourmets, there is some good news around. Cholesterol-causalism has bitten the dust, for whatever was the alleged gain against CHD (CAD) has been more than offset[8,9] by disastrous disadvantages: "During the past three decades or more, in chasing the phantom of cholesterol, we condemned ghee and coconut oil as atherogenic saturated fats and replaced with so-called cholesterol-free kindly-fat-for-the-heart. Paradoxically, this change has resulted in a sharp rise or epidemic of not only coronary artery disease but also of diabetes mellitus and other disorders of insulin resistance."[9] *Vive le* cholesterol, chapatti soaked in ghee, and all other gourmet's delights.

Burch[10] has raised his cudgels against smoking as the villain behind lung cancer, and has demonstrated, statistically, that those who smoke have a lower incidence of brain and bowel cancers as compared to those who despise Lady Nicotine. In the whole preventive game, MM has made an average human being lose a great deal of his *joie de vivre*, spontaneity, and many a small, convivial bliss of life to give him in return nothing but hollow statistricks. Surely penny-wise, pound-foolish.

Patient, Not the Doctor, Knows Better

Alex Comfort[11], English gerontologist more famous as a sexologist, has portrayed medical men as the anxiety-makers and has praised the astounding resilience of a common man

to rid himself of this MM-foisted illness by successful, admirable ingenuity.[12]

The Lament of a Coronary Patient

My doctor has made a prognosis
That intercourse fosters thrombosis
But I'd rather expire
Fulfilling desire
Than abstain, and develop neurosis.

Fischer[13], the eminent Harvard physician arrived at a conclusion that many a diabetic survives by stealthily eating the bread that his physician has denied. Antia[14], prefaces his 5th Edition on dietetics and nutrition by candidly declaring that our forefathers (rather foremothers) knew a great deal better and more on balanced dietetics than all the texts, tables and statistics of MM put together.

All societal pleasantries, courtesies and convivial sharing involve items – tea, coffee, spirits, tobacco, betal leaf, sex that MM has found fault with. It is indeed to mankind's credit that it gives to MM a double-ear hearing that effectively bypasses the inhibitory cortex.

Empathy, Not J'accuse

Causalism conveniently cooks up a chain of events wherein the patient is seen as the willing accomplice and hence fit to be accused of a misdeed Solzhenitsyn[15] and Cornelius Ryan[16], the eminent literary men, faced such *j'accuse* for the cancer they had had. Pickering[17] deplored that MM has not yet been liberated from medieval idea that illness is the result of a sin that must be expiated by the mortification of the flesh.

The death of causalism should drive home the lesson that in the occurrence of intrinsic diseases like heart attack, stroke or diabetes, the sinner and the saint are not treated differently by biological forces. The long list of cancerologists who died of cancer and cardiologists who succumbed to coronary should kindle in the medical man's heart the flame of empathy for a fellow being in suffering.

Humility, Not Hubris

Rushdie in the closing part of *The Satanic Verses* describeds, in a Bombay setting, the visit by a cardiologist "dripping with self-esteem." Cause as the substratum of the course of an illness makes MM unduly assertive, arrogant, action-oriented, Mr. Know-all. MM behaves like the Queen in *Alice in Wonderland* – ordering the beheading of this cause and that, as a means to prevent/cure an illness.

In the midst of utter intellectual bankruptcy[18], scientists are still dreaming of spotting the cause, curing the cause. A recent issue of Science[19] traces cancer to be a faulty, *oncogene bel 2* which can be set right to enforce the regression of a cancer. Ambroise Pare's *I dressed the wound God healed the wound* has no chance in the arena of hubristic MM.

There are a number of other areas in MM that need a non-causal perspective to set right MM's illness. The utterly inhuman slaughter of animals for laboratory could be reduced to one-tenth of what it is now if causalism is dropped. Microbes as a menace has fostered antibioticism that has produced global immunodeficiency[20] that, in all likelihood, has allowed[21] the Darwinian emergence of the hitherto dormant HIV problem.

In the final analysis, causalism with its attendant cure-all-ism is MM's knee-jerk response to a wide variety of biological phenomenon. And that is decerebrate, spinal medicine.

References

1. Russel B. Mysticism and Logic. New York: WW Norton, 1929.
2. Smithers DW. On the Nature of Neoplasia in Man. Edinburgh, London: Churchill Livingstone, 1964.
3. Burnet FM. Immunological Surveillance. Oxford: Pergamon Press, 1970.
4. Fuller BAG. A History of Philosophy. Calcutta: Oxford and IBH Publishing Co, 1955.
5. Kothari ML, Mehta LA. Cancer: Myths and Realities of Cause and Cure. London: Marison Boyars, 1979.
6. Dobzhansky T. Mankind Evolving. New Haven, London: Yale Univ Press, 1962.
7. Pearce F. Back to the days of deadly smogs. New Scientist

1992; 136:24-8.
8. Schuit AJ, Dekker JM, Schouten EG, FJ. Low serum cholesterol and death due to accidents. Lancet 1993; 341:827.
9. Raheja BS. Quoted in: Polysaturated fats blamed for rise in heart disease and diabetes. Medical Times (Bombay) 1993; XXIII: 1, 6.
10. Burch PRJ. The Biology of Cancer: A new Approach. England: MTP, 1976.
11. Comfort A. The Anxiety Makers. London: Panther Modern Society, 1967.
12. Dershowitz AM. The two models of commitment: the medical and legal. Reflections 1972; 7:42.
13. Fischer MH. Quoted in: Strauss MB Ed. Familiar Medical Quotations. Boston: Little Brown & Co, 1968; 94a.
14. Antia FP. Preface in: Clinical Dietetics and Nutrition, 3r Ed. Bombay: Oxford Univ Press, 1989; v-viii.
15. Solzhenitsyn A. Cancer Ward. New York: Bantam Books, 1969.
16. Kothari ML, Mehta LA. Death: A new Perspective on the phenomena of Disease and Dying. London: Marion Boyars, 1986.
17. Pickering GW. Resident Physician 1965; 11:71. Quoted in: Ref. 13, 1968; 637B.
18. Watson JD. Quoted by Greenberg DS. Progress in cancer research – don't say it isn't so. N Eng J Med 1975; 292:707.
19. Minerva: Reporting on Science 1993; 359:760-1, Br Med J, 1993; 306:664.
20. Raeburn JA. Antibiotics and immunodeficiency. Lancet 1972; 2:954.
21. Kothari ML, Mehta LA. AID is a gift of antibiotics. (To be published).

Special Article

The Mythology of Modern Medicine – III

Microbes and Man (Part 1)

Journal of Postgraduate Medicine
Year: 1993 | **Volume**: 39 | **Issue**: 3 | **Page**: 162-165

Modern Medicine's (MM's) saga is replete with some moving stories of man's valour – rather, medical men's valour – against microbes. Part real, part medicalese, part journalese, such history is standard diet for the lay and the learned, who, by, now, obsessively et compulsively view microbes as assassins,[1] done in victoriously by *The Microbes Hunters* who have been suitably rewarded with Nobel prizes.

All nations, and within a nation all tribes, have their legendary heroes, their Tell, Hood and Rambo, - we *versus* they. We, so brave, so strong, so fair, who thanks to God also being on our side won against they – vicious inhuman, inferior. Whichever impartial historian has managed to study both the so-called we and they, has invariably come to a conclusion that the violence, aggression and ingenuity in any war apart, the we party and the they party could easily swap their stories without loss of romance or flavour. Post-Ehrlich/Koch/Domagk/Fleming/Waksman/and Co., mankind has been the glorious we, and microbes, the despicable they. The time is ripe for some perspectival principles to set the records straight and to save mankind from the vain and disastrous course it has charted for itself so far.

Principle One: The microbial biomass outweights the total animal biomass by a factor of 20.

Correlates and Corollaries

1. The Carrellian *Man, The Unknown* swims in the ubiquitous microbial ocean.

2. Microbes are the HOST, man the GUEST. Microbes do not reciprocate man's paranoia for them, and hence have never viewed man as a parasite, but as a guest whom they serve, in many ways, throughout his lifetime. The "lowly" Schizomycetes, also called nitro-bacteria are present everywhere in humid soil on land, and in blue-algae in waters. They pump the nitrogen-cycle to provide the indispensable, vital proteins for all forms of life. No microbial life, No macrobial life. In the human gut, microbes abound in astronomical numbers and do, besides many roles, the job of vitamin-synthesis. There and everywhere else in the body, they provide *premunition* (from L. fortifying in advance) whereby their presence forbids the entry of other, less customary, less friendly organisms. Premunition has been called the phenomenon of infection immunity.

3. Man's seeming hostness is akin to his playing host, while in the ocean, to a film of sea-water covering his skin, a small quantity of the sea-water having been swallowed by him to line his mucosae.

4. The global, oceanic microbiomass allows a truism: Nature abhors microbial vacuum.

5. Man's perpetual immerson in the microbial ocean provides him with a covering, a film of sea-water over all his surface areas that face the milieu exterieur – skin, all orifices, alimentary, respiratory, genitor-urinary tracts. The covering is a fine film of salt that, as it were, keeps the oceanic salt at bay.

   Taking a cue from embryology, this film, this cover can be called the microbioderm that is external to the ectoderm and internal to the mucosal endoderm. To each species, to each member of the species, a microbioderm is his own finely tuned symbiosis, and commensalism (eating together evolved from Adam's time.

6. A single streptococcus or a mycoplasmal organism has greater genius than all the microbiologists and their labs lumped together. In the ostensible war between microbes and man, it is not important who is right, but who is left.

Principle Two: Friendship between microbes and man is the rule, enmity an exception.

Correlates and Corollaries

The demographic upsurge – human birthquake has been recordedly manifest from 1450 A.D. and thenceforth till today, the slope of the world population graph has continued to rise to the current desperate state, without[3] it having shown any sudden upward thrust because of immunization or antimicrobials. In fact, the biomass will outweigh the whole earth by 2500 A.D. Two subcallories follow.

a. In retrospect and in prospect, if the microbes were really inimical to man, the *Homo proliferativus* could never have turned into the cancer of his own planet.[4]

b. Antimicrobials cannot be credited with the saving of human lives to the point of boosting up their life-expectancy and their number.

Principle Three: Throughout nature, infection without disease is the rule rather than an exception.[5,6]

Correlates and Corollaries

1. Lexicographers fight shy of defining the much-used term infection. Two diverse dictionaries[7,8] copy each other letter and punctuation: Infection – Communication of disease; moral contamination; diffuse influence of example, sympathy, etc., An authoritative text[9] while defining infection declares: Infection is not synonymous with infectious disease.

   A respected text on medicine[10] reassures: "…the mere presence of the organism in the body does not lead invariably to clinical illness. Indeed, the production of symptoms in man by many parasites is the exception rather than the rule, and the subclinical infection or the 'carrier state' is the usual host-parasite relationship. Disease in a clinical sense is not synonymous with the presence of the organism or infection in a microbiological sense. In fact, for most organisms the number of subclinical infections far exceeds that of clinical diseases.

Even rabies virus infection, which was at one time believed to nearly always cause progressive fatal disease in nearly all instances, has been shown to produce a significant number of subclinical infections in both animals and man."

A book on *Antimicrobial Drugs*[11] puts the above a shade differently – "Most infections do not regularly require therapy; they are taken care of by the body's defense mechanisms, and the individual may never be aware of them." How misleading can microbiological lab studies be, and are is betrayed by a learned definition[9] on inapparent infection: "The presence of infection in a host without recongisable clinical signs or symptoms. Inapparent infections are identifiable only by laboratory means or by the development of positive reactivity to specific skins tests." Labs are MM's devices to detect foes where they may be none. Neither the lay nor the learned seem to be ready to proclaim the indispensable friendly, premunitional cover that the microbes provide.

2. Infection, then is a sort of in-faction, a microbial tribe or group that lodges itself somewhere in the body, without in any way being, in the body politique, oppositional. You can't really stay afloat in the microbial ocean without a bit of the brine clinging to you all over.

3. A neonate – human or animal – is born sterile. Yet in next to no time, the whole skin and most mucous membranes get colonized by appropriate microbial flora, a blanket cover that by ordinary definition and understanding is infection.

4. The definitional and comprehensional errors that dictionaries and texts make regarding infection is to mix up microbial presence on the body (a natural, healthy state) with in the body, an unnatural, potentially pathogenic state.

   The human body is a hermetically sealed unit. The skin and mucosae form its external limit, on to which, is overlaid the microbiodermal cover, and which, as Claude Bernard would readily agree, is in contact with the milieu exterior and all its incessant changes. Deeper to the ectoderm and the endoderm, the epidermis and all the

mucosae, is the inside of the body bathed by the milieu interior, whose dynamic, unswaying stability is the Bernardian condition for a state of health.

5. Hence, MM's idea of infection as "the entry and development of an infectious agent in the body"[9] is correct only if it implies a breach in the ectodermal/entodermal/mucosal cover beyond which, into the tissues that are accustomed only to the milieu interieur, do the microbes enter, truly setting up thereby an island of not-self that invites the body's immunological reaction..
6. Having clearly understood the when, where, and how the presence of microbes constitutes not-self, we are in a position to declare that the entire microbioderm – arrived at through wisdom of the entire evolutionary pyramid is a person's or an animal's extended self, an allied force that exceeds in number of 100,000 billion cells of a human being and which does not constitute any not-self, lying as it does, on the body, over the body, outside the body, but nowhere within it.

Principle Four: The human or animal body does not protect itself by its immune system but merely reaches against an alien or innate antigen in big bad, indifferent, good – ways.

Correlates and Corollaries

1. MM has not yet come to deciding[12-14] whether immune system, or immunity is a friend, a foe, or neither. The fact that MM has a vast interminable array of patently immunosuppressive agents but hardly any immunostimulant in its therapeutic armamentarium, loudly proclaims the fact that to MM, immunity is a veritable foe.
2. "One of the key features of SIV- and HIV-induced disease is the nature of the persistent infection. SIV and HIV, like other lentiviruses, have a remarkable ability to persist and eventually to induce a chronic, debitating disease in spite of an apparently strong host immune response to the virus. Infected individuals may remain clinically well for years while maintaining easily detectable humoral and cellular immune responses, only to succumb eventually

to the virus… the basic mechanisms by which SIV and HIV achieve this persistence are not at al understood.[15] AIDS vaccine can aggravate rather than protect.[16]

3. The interaction between microorganism and man that results in infection and disease is complex. Much has been learned about the way in which microbes enter the body, the ways in which they produce tissue injury, the influence of specific immunity and 'non-specific' resistance of the host, and the mechanisms of recovery. Unfortunately, it is not yet possible to transfer in any specific way much of the information that has been acquired to the individual patient with an infection.

4. Microbial illness is interactional – the fault is neither with the microbes nor with the so-called host, but with the way human or animal body reacts to the ubiquitous microbes. This should be clear from a fine summing up by a physiologist.[7] "The innate immunity makes the human body resistant to such disease as some paralytic virus infections of animals, hog cholera, cattle plague, and distemper – a viral disease that kills a large percentage of dogs that become afflicted with it. On the other hand, lower animals are resistant or even completely immune to many human diseases, such as poliomyelitis, mumps, human cholera, measles, and syphilis, which are very destructive or even lethal to the human being."

5. Following the famous theory of forbidden clone that the body gets rid of by immunological surveillance, research labs world over hummed with the idea that immunity is against cancer. Following this Good news, now some Bad news. Immunity actively promotes cancer.[18,19] "Cancers may be associated with or lead to an altered host-immune response; however, the cause-and-effect relationship still remains to be determined."[20]

6. Immunity's BIG Roles in TB and Leprosy. The destruction of tissues in tuberculosis is entirely a job done by the patient's own immune system, for "caseation is associated with the release of cytotoxic material from T lymphocytes which destroy host tissues."[21] A mixture of Good and Bad: "For these reasons, lepromatous leprosy is thought to be the result of poor immune response."[22] Now the indifferent

part: "The Mitsuda reaction is usually positive in tuberculoid patients and negative in lepromatous patients, and is therefore an aid in clinical classification. However because it is also positive in nearly all normal adults, it has no diagnostic value."[22]

Summing up these corollaries, we can safely say that even after centuries of clinical, laboratory and experimental work on the issue of immunity friend, foe, neither, MM continues to be drowned in theories, and the raft that keeps it seemingly afloat is its continuing hubris and the gullibility of the patientkind.

Principle Five: Fever is no fault.

Correlates and Corollaries

1. The greatest single factor in the evolution of vertebrates occurred when the poikilothermic "cold-blooded" – reptilian stage-opted for the homoeothermic – "warm blooded" – state "maintained within a narrow range despite extremes in environmental conditions and physical activity."[23] While MM bends backwards to describe the profound and dynamic complexity with which the human body maintains its normal temperature, it has not had the decency to ascribe to the body equal wisdom as and when it chooses to positively warm up the body to occasion fever. No wonder, you have the antipyretics advertised on media and sold in millions OTC.
2. "Since fever ordinarily does little harm and imposes no great discomfort, antipyretic drugs are rarely necessary and may obfuscate the effects of a specific therapeutic agent or the natural course of the disease. The are situations, however, in which lowering of the body temperature is of vital importance, e.g. heat stroke, post-operative hyperthermia, delirium due to hyperpyrexia, or shock associated with fever and heart failure. Under these circumstances, lowering the temperature is indicated."[24]
3. "Most fever is well tolerated. When the temperature is greater than 40°C (105.8°F) it is a medical emergency… In most instances, antipyretic therapy by itself is not needed except for reasons of comfort or in patients with

fragile hemodynamic states."[25]

4. "In the great majority of infectious diseases, however, there is no reason to believe that pyrexia accelerates phagocytosis, antibody formation, or other defense mechanisms."[24] This magisterial pronouncement by MM ought to be seen in the light of now well accepted principle that the absence of evidence in favour of a phenomenon is no evidence of the absence of that phenomenon.
5. Recent research[26] clearly shows that a rise in body temperature leads to a drop in circulating serum ferritin, whose higher levels are necessary for microbial multiplication. Hence fever is ingenious antibiosis. If the fever is abolished by an antipyretic, serum ferritin levels return to allow resumption of microbial multiplication.

For a world steeped in antipyretics to which the human stomach, skin and bone-marrow have never been able to say yea, the above data should at least convey that fever is highly tolerable, and that is needs to be lowered in some uncommon conditions countable on the fingertips of a single hand. MM's feverishness against fever is not justifiable at all.

References

1. Tainter MG. Medicine's Golden Age: The triumps of the experimental method. Tran N Y Acad Sci 1956; 18; 206.
2. Glemser B. Man Against Cancer. New York: Funk and Wagnalls, 1969.
3. Pinchuck T, Clark R. Medicine for beginners. London: Writers and Readers, 1984.
4. Huxley J. Biological Aspects of Cancer. London: George Aleen and Unwin, 1958.
5. Dubos R. The evolution of microbial diseases. In: Bacterial and Mycotic infections of Man, 3rd Ed. Philadelphia: Lippincott, 1965; 20-36.
6. Wood WS. Host-agent interactions in infectious diseases. In: Internal Medicine – Based on Mechanisms of Diseaes. Saint Louis: Mosby, 1968; 86 – 123.
7. The Reader's Digest Great Encyclopaedic Dictionary. London: Reader's Digest Association, 1962.
8. The New Oxford Illustrated Dictionary, Oxford: Oxford Univesrity Press, 1976.
9. Benenson AS. Control of Communicable Diseases in Man.

Washington: Am Publ Health Assoc., 1990.
10. Petersdorf RG. An approach to infectious disease. In: Thorn GW, Adams RD, Brauwold E, et al Eds. Harrison's Principles of Internal Medicine. 8th Ed. New York: McGraw-Hill, 1977, 757-64.
11. Pratt WB, Fekety R. The Antimicrobial Drug. New York: Oxford University Press, 1986.
12. Burnet FM. Immunological Surveillance. Oxford: Fergamon Press, 1970.
13. Kothari ML, Mehta LA. The nature of immunity, J Postgrad Med 1976, 22:50-8.
14. Kothari ML, Mehta LA. Ibid, 112-23.
15. Desrosiers RC. The simian immunodeficiency viruses. Ann Rev Immunol 1990; 8:557-78.
16. McClure M. Human immunodeficiency viruses. In: Roit IM, Delves PJ Eds. Encyclopedia of Immunology. New York: Academic Press, 1992; 695-700.
17. Guyton AC, Textbook of Medical Physiology, 7th Ed. Philadelphia: WB Saudners Co. 1986:60.
18. Prehn RT, Neoplasia. In: Lavia MF, Hill RB Jr Eds Principles of Pathobiology. London: Oxford University Press, 1971; 191.
19. Editorial Comment. In: Clark RL, Cumbley RW Eds. The year book of Cancer. Chicago: Year Book Medical Publishers, 1973; 346.
20. Ultman JE, Golomb HM. Approach to diagnosis and management in oncology. Loc cit 10, 1736-45.
21. Stead WW, Bates J. Tuberculosis Loc cit 10, 900-12.
22. Shepard CC. Leprosy. Loc cit 10, 913-5.
23. Petersdorf RG. Disturbance of heat regulation. Loc cit 10, 53-9.
24. Ibid, Chills and fever, 59-68.
25. Schroeder SA, McPhee SJ. Common symptoms. In: Schroeder SA, et al Eds. Current medical Diagnosis and Treatment. London: prentice – Hall, 1992; 18-9.
26. Youmans GP, Peterson PY, Sommers PM. The Biologic and Clinical Basis of Infectious Diseases, 3rd Ed. Philadelphia: WB Saunders, 1986.

Special Article

The Mythology of Modern Medicine – III

Microbes and Man (Part 2)

Journal of Postgraduate Medicine
Year: 1993 | **Volume**: 39 | **Issue**: 4 | **Page**: 231-234

Principle Six: Antibiotics are at best microflora fluctuators.

Correlates and Corollaries

1. "INFECTIOUS DISEASES are among the most common problems that present themselves to the physician. Many of them can be treated only symptomatically... It is the contention of those of us who deal principally with infectious diseases that in treating all of these groups there is a tendency to bring about immediate symptomatic relief to the patient rather than to delve into the nature of the infectious process."[1]
2. "There are numerous reasons why a patient may not respond to therapy with antibiotics. One of the major factors is that the wrong antibiotic may have been prescribed, since these drugs are extensively misued by physicians... Antibiotics are commonly administered to hospitalised patients who show no evidence of infection; in fact, in some hospitals much of the antibiotic use may fall into this category. It is also clear that there is a considerable misuse of antibiotics by the patients themselves."
3. "Numerous antibiotics with overlapping spectra are now available, dosages for different infections vary widely, the drugs themselves are potentially dangerous, and their administration entails considerable expense. They should never be prescribed as placebos, antipyretics, or substitute for diagnosis. In the vast majority of instances

in which this is done, patients recover just as they would if no 'therapy' had been given, and the drugs are wasted... Furthermore, antibiotics may select out resistant variants or facilitate the transfer of R factors between both pathogenic and commensal enterobacteria. Resistant variants can then replace sensitive strains and pose the additional hazard of spread to others. Finally, to expose a patient to the risk of drug reaction without proper indication is inexcusable, whether the drug is an antibiotic, a sedative, a laxative, or a narcotic."[3]

4. "The manifestations and outcome of untreated tertiary syphilis were elucidated by study of a group of patients in Norway early in the 20th century. Of these patients, 30% became seronegative; another 30% remained seropositive, the patient dying of unrelated disorders; and remaining 40% manifested the features of tertiary syphilis."[4] The foregoing stands endorsed on a wider canvas, by King and Nicol[5], who mused that "it is one of the surprises of recent medical history that the number of cases of late syphilis has declined progressively despite the fact that very large numbers of early cases must have escaped diagnosis and treatment during the second world war and in the immediate postwar years."

5. "The most obvious determinant of bacterial response to an antibiotic is the presence or absence of the target for the drug action. If an organism lacks the receptor for the drug, it will not respond…. Bacteria often contain the drug receptor but they do not respond because the concentration of antibiotic at the target site is inadequate.. Sometimes bacteria are sensitive to an antibiotic and sufficient concentrations are achieved at the site of action, but the organism is able to escape the consequences of the drug effect.. Microorganisms become less sensitive to antibiotics through a variant of biochemical mechanisms."[2]

6. The future generations will view antibiotics as Nature's most malicious trick on mankind[6]. In fact if a universal antibiotic were to be discovered, it should be treated the way we ought to have treated the atomic bomb - destroy the idea and the thing at the very start.[7]

7. "It is all part of 'the wonderful mystery the all wise God hath made in the creation,' and man, even though he be a microbiologist, must have a care how he tampers with it. The use of a vaccine, perhaps especially a live one, may seem a fairly delicate manipulation of the environment, but it can lead to quite substantial alterations in the microbial balance. Wild polio-virus may be denied its place when attenuated vaccine virus is widely used, but other, enteroviruses may seize the chance to occupy it."[8] If the foregoing is read between the lines, we can safely dethrone all antibiotics, all antimicrobial from their exalted angelic position to spell out what they really are:

    a. From streptococcal to syphilitic infections, more cases recover, on their own, without the antibiotic therapy than with. Many a patient recovers despite the antibiotic/s.

    b. There are too many ifs and buts that govern the therapeutic action of any antibiotic. As a situationa antimicrobial, it has limited scope and unlimited limitations.

    c. If and when an antibiotic works, it can and does serve only as a microflorafluctuator pushing out a group of microbes to allow others to step in - the so-called opportunistic infections. Pray, who provides the opportunity, the invitation, the carte *blanche?* in man's war against microbes, the deployment of antibiotic umbrella is fraught with the umbrella - like in all wars - bringing with it its own occupation army, or it subverting the local innocents into mischief-makers.

    d. Antibiotics of any kind - chemotherapeutic or immunological as by a vaccine - must contend with the cardinal truth: Nature abhors microbial/viral vacuum. Granting that you take microbes as your enemy, antibiosis often only allows you to choose your enemy.

    e. In the whole admirable saga of antibiosis through penicillin and after, sight is lost of the fact that the ravages of microbes against man were precipitated in this century, by man himself in the form of world

wars. The relentless progress in weaponary meant tearing apart of man's skin, muscles, bones and innards and rubbing the wounds with the mud of trenches. The microbes had no other go but to become trenchant. The harmless microbial residents of the microbioderm were pushed into areas ordinarily bathed by the always microbe-free millieu interieur. The human tissues had no other option but to eliminate the non- self elements, a battle that inevitably meant immune-system-initiated tissue destruction, abscesses, septicemias. In this warfare between microbes and man, man fired the first shot. Antibiotics came as exigencies of war wounds. What role can they have in humans whose skin and mucosae are unbreached?

f. Amongst all forms of drug-manufacture, broth dependent antibiotic making is the worst polluter of the water-systems of the world. The pollution has turned pervasive to affect animal bodies and soil as well. It's only the profiteering man that thought of making more beef by adding tetracyclines to cattlefeed. You can now appreciate how the European and American soils were botched up.

Principle Seven: Modern medicine (MM) is largely immunosuppressive.

Correlates and Corollaries

1. A perusal of the tail-ends-indices-of medical or pharmacological texts reveals MM's anti-ism - ant(i)acid, antiallergic, antidiabetic, antihypertensive, anti-immunity, anti-inflammatory, antipyretic, antitussive, and so on.
2. In not a single anti-ism, does MM know what really is the problem, so like in a police-state, it choses to suppress whatever reactivity that the body's innate and infinite wisdom exhibits in the form of some symptoms, some signs. Nowhere in the annals of antihypertensive research/therapy is there any allusion to the 1912 lamentation of Sir James Mackenzie,[9] the pioneer British cardiologist, that a raised blood pressure may be body's wisdom at work for a purpose MM knows not.

3. The global outcome of MM's pervasive and relentless anti-ism has been, for the human body, counterproductive. Antacids also mean rebound secretion and alkalosis. Antiallergens are veiled CNS depressants. Antiarthritics suppress signals from diseased joints to allow more damage. Antidiarrheals, now largely abjured, interfere with colon's cleansing action. Antihypertensives are antipotency. Anti- immunity agents beget endless syndromes. Antipyretics and antibiotics abort the dialogue between the patient and the microbes. Antitussives inhibit the friendliest of coughs. MM's anti-ism has alienated man from so many things within the human body and around.
4. Suffice it to generalize that any patient under any anti-regimen gets physiocompromised in one way or more, in measures minimal to maximal.
5. In the context of the Principle Seven, the leading immunocompromising agents are corticoids, NSAIDs, antipyretics, antibiotics, all anticancer drugs, all immunosuppressants. Raeburn[6] righty bemoaned that the immunodeficiencies in children is a direct result of MM's antibiosis.
6. MM's anti-ism is deplorable on three counts: It allows MM to look knowledgeable when it is rank ignorant; it licentiates it to throw spanners in body's wheels; it weakens the human race globally. It's high time MM opens an anti-anti discipline.

Principle Eight: AIDS is the gift of global iatrogenic immunosuppression.

Correlates and Corollaries

1. A modern *Dictionary of Biology*[10] defines natural selection: "Organisms that are better adapted to the environment in which they live produce more viable young, increasing their proportion in the population and, therefore, being selected." Another dictionary of Modern Medicine adds. "…. the evolution of species results from mutation and selection of organisms that are best adapted phenotypically to survive in their environment, i.e., 'survival of the fittest."[11]

2. The trillion-dollar question has always been: Who selects and what is selected and why? Koestler[12] has been critical of the circular tautology in the theory of *the survival* of *the fittest:* who survives? whichever is fittest; who is fit? whichever that survives.

3. In the microbiocracy ruling the human organism, the proliferative propensity of any single virus or bacterium called X is held in check by the milieu comprising the rest of the microbial galaxy, as also the innate resistance of the human organism. In this dynamic, ever-changing game, the organism X forever seeks an opportunity to assert itself. It is the shift in the milieu that offers the opportunity. So, the milieu leads, the microbe follows. Once the microbe X has an upper hand, it proliferates, increases its corporate genotype, and is now able to dictate the milieu itself. It gets *naturally selected.*

4. Like the herpes viruses, HIVs are inherent to and probably coevolved with primates including man. MM's outstanding iatrogenic contribution has been immunosuppression in one way or another, alteration of microbial flora especially through antibiosis, creating thereby a human herd that is immunodeficient.

5. The global immunodeficiency in the human species has allowed the HIVs to get selected, proliferate, and then to accentuate their success by dictating terms with the milieu by making it more immunodeficient. The 60 years or so of MM's antiobiosis and immunosuppression have allowed HIVs, to reach a critical mass and potency so as to precipitate the first batch of AIDS cases by 1981.

Principal Nine: Reverence for microbes is reverence for macrobes.

Correlates and Corollaries

1. The microbial-macrobial mutuality is from the dawn of creation whereas MM's declared war against microbes is measurable in terms of decades.

2. MM owes to the life-old man-microbe symbiosis a measure of understanding, a modicum of respect, a manner of reverence. This done, MM will learn to appreciate the

inherent benignity of the microbes and the unfathomable wisdom of the human body.

3. A perspectival approach, as attempted in the foregoing, will induce MM to practice more the Hippocratic ethos of *Primum*, *non nocere* - Firstly, no harm, and the Parean humility of *Je le pensay, et Dieu le guarit* - I dressed him and God healed him.
4. The disrespect for microbes on man has been followed by mankind's disrespect for microbes in the soil, in waters, to the utter detriment of life in general and mankind in particular. The time for a sea-change is now.
5. Mankind with all its MM arsenal is in a hopeless minority against the massive, microbial world. If MM does not see the writing on the wall, the Illichean *Medical Nemesis isn't* far.

Principle Ten: The dividing line between therapist and the rapist is very thin.

Correlates and Corollaries

1. "It is necessary only to recall the dangerous or fatal reactions that occasionally follow the use of antibiotics for trivial respiratory infections, the gastric haemorrhage or perforation caused by cortisone administered for a mild arthritis, the fatal homologous serum hepatitis that may follow needless transfusions of blood or plasma, or the arterial thrombosis or arrythmia that may complicate coronary angiography."[13,14]
2. In the commercialised setting of MM, the guiding principle is Fee for Service that gets automatically translated into affirmative action - for every ill, a pill/potion/procedure. For every fever or alleged infection, antipyresis, antibiosis. Both the physician and the patient - the polar-opposites in the therapeutic game - need to cure themselves of knee-jerk- therapeutics.
3. Aseptic surgery/procedure followed by prophylactic antibiosis imply distrust of the former and overtrust of the latter. Surely, there is no room for prophylactic antibiosis.

4. The cult of anti-inflammatory drugs, -oxyphenbutazone being the most commonly prescribed, betrays MM's double ignorance: No one knows how they work if at all, and the fact that *the* inflammatory *response is mankind's only licence* to *survive.*

5. All surface infections - commonly of the mucosae - are in the realm of *milieu exterieur (ME); they* are a problem that the microbes really have to solve among themselves, and they are in situation wherein the production of infection and inflammation have a ready outlet to the exterior. Here, antibiosis is best avoided.

6. For infections deeper to the skin and mucosae, i.e. in the arena of the *milieu inteieur* (MI), there are a number of points that can help towards rational avoidance or use of antibiosis.

    a. A microbe in MI is treated as not-self - recognised, restrained, removed.

    b. Whereas the ME (*milieu exterieur)* areas are swamped by multitudinal microbial species, deeper - W infections tend o be singular whether localised, or systemic. What factors determine this singularity? Man, microbe, or both?

    c. Cordoning off an infective focus, localizing it, liquefying the focus and then attempting a vent to the exterior is an underestimated propensity of human body. And except for the rather lightly-packed craniovertebral canal, most areas in the body allow enough room for the inflammatory tumour to process itself to spontaneous or assisted resolution. Assist the CNS early.

    d. Most broad spectrum antibiotics are bacteriostatic which means the major brunt of 'fighting' the infection is borne by the body itself. Knowing that in the natural course of any infection, more cases recover without rather than with antibiosis, a therapist must give the maximal opportunity to their patients to recover *sans* antibiosis.

    e. The gravest-looking infections have not necessarily

killed their owners, nor have the antibiotics always prevented/cured the infections. In many a 5 star hospital in Mumbai, burst sternal wounds after bypass are quite common and often heal despite antibiotics.

f. In areas where the pus under pressure causes unbearable pain - finger-tips, teeth, bones - relief comes not by exhibition of antibiotics but by assisting drainage.

g. In unplanned injury - accidental trauma – quite often the good general health and civilian nature of injury allows one to allow the patient to recover without antibiosis.

h. The gastritis and altered bowel flora following oral antibiosis is a leading cause of post-operative unease, loss of appetite, loss of weight, and immunodeficiency. A patient who can eat well should be fed well - with food and not fads.

i. Therapists should bear in mind that while seemingly treating a single patient very well and successfully, he may be mistreating the whole herd of humanity. "At the bedside of his patient, the physician sees a very small part of a very large scene. He is often able to destroy the infectious agent by treating its victim with an antimicrobial drug, but, although this may represent one of the wonders of modern medicine, it is really quite a feeble contributor to the solution of the problems of competition between man and microbes, and the latter has already found one answer in infectious drug resistance."[8]

j. A good therapist is one who knows when not to treat.

References

1. Marr JJ. Infectious Diseases. Boston: Little Brown and Co; 1973.
2. Pratt WB, Fekety R. The Antimicrobial Drug. New York: Oxford University Press; 1986.
3. Petersdorf RG. An approach to infectious disease. In: Thorn GW, Adams RD, Braunwald E, editors. Harrison's Principles of Internal Medicine, 8th ed. New York: McGraw Hill Co; 1977, pp 757-764.

4. Romanokwski B, Harris JRW. Sexually transmitted diseases. Ciba Clin Symp 1984; 36:1-32.
5. King A, Nicol C. Veneral Diseases. London: Balliere, Tindall and Casseli; 1969, xii.
6. Raeburn JA. Antibiotics and immunodeficency. Lancet 1972; 2:954-956.
7. Koprowsi H. Antibiotics. In: Strauss MB, editor. Familiar Medical Quotations. Boston: Little Brown and Co; 1968, pp 18a.
8. Christie AB. Infectious Diseases - Epidemiology and Clinical Practice, 3rd ed. Edinburgh: Churchill Livingstone; 1980.
9. Mackenzie J. Quoted by Inglis B. In: Diseases of Civilization. London: Granada; 1981, pp 12.
10. Hale WG, Margharn JP. Dictionary of Biology, New York: Harper Collins; 1991.
11. Seagan JC. The Dictionary of Modern Medicine. Carnforth: Parthenon; 1992.
12. Koestler A. Janus. A Summing Up. London: Pan Books; 1978.
13. Editorial, Care of the patient. loc cit 10, 6-10.
14. Bedell SE, Deitz DC, Leeman D, Dolbanco TL. Incidence and characteristics of preventable iatrogenic cardiac arrests. JAMA 1991; 265:2815-2820.

Special Article

The Mythology of Modern Medicine – IV

HIV : Heuristically Important Virus
AIDS: Advances Induced Deficiency Syndromes

Journal of Postgraduate Medicine
Year: 1994 | **Volume**: 40 | **Issue**: 1 | **Page**: 42-45

"In the Nineteenth Century men lost their fear of God and acquired a fear of microbes." As we approach the end of the twentieth century, the anonymously acclaimed fear of microbes has been superceded by the fear of HIV-AIDS. The pervasive paranoia, understandably, took off from a launching pad in the USA: "THE AMERICAN PUBLIC, Known to the rest of the world as the originator of fads and fetishes, suffers from time to time with a preoccupation over a single disease. Today that disease is cancer." Nay, today that disease is HIV-AIDS. Of all the AIDS given by the calculatedly generous USA to the rest of the world, the current flood of fear is most crippling.

Has the HIV-AIDS cloud any silver lining? What if the HIV is an innocent bystander; a signal directing our eyes to the writings on the wall that loudly proclaim that the so-called AIDS has been precipitated by the so-called advances?

If that is so, HIV is truly a virus with a heuristic value - serving to guide science in the right direction. Before we succumb to the HIV-AIDS-phobia, let us take stock of some glaring discrepancies in the whole game.

1. Causalistic Conundrum - Bombay Razor

Citing Hume, Fuller puts down as the earmark of causality, an invariant relation of events in which the cause must precede its effect and the effect must follow the cause, without gaps in time. "Causality can no more jump gaps

in time than it can gaps in space."[2] The concept of latency that allows as many as 30 years between the exposure to the postulated cause (HIV) and the occurrence of the effect (AIDS) is, because of the irreconciliable temporal gap, clearly against HIV-AIDS causalism. This brings us to the Bombay Razor: Any causalistic proposition *that A (HIV) causes B (AIDS)* must in the same *breath* explain *how A* fails to cause *B* and *how B* manages to occur without *A*. No causalistic proposition, be it coronary, cancer, or common cold has been able to defend itself against the sharpness of Bombay Razor. HIV minus AIDS is too common. AIDS minus HIV is not uncommon[2].

If we are to believe in the authenticated statistics that the chances of HIV precipitating AIDS are 1:10,000-30,000, then, by requirements of the tenets of causalism including Bombay Razor, the burden of science of proving how HIV fails to cause AIDS is 9999 - 29999 times greater than to prove how it did. One can safely conclude that the proposition that HIV is the cause of AIDS is utterly vacuous, nebulous and fails to hold any water in the court of causalistic appeal.

2. Antibody Antithesis - Vaccine Vacillations

"An antibody combines with the antigen that provoked its formation and inactivates its... a protein naturally existing in blood, serum or produced by an animal in response to stimulation by an antigen, which reacts to overcome the toxic effects of a specific antigen."[6] It is good to produce an *antibody.*

With the arrival of HIV-AIDS-phobia, however, *antibody stands* dethroned being no longer an ally to be leaned upon but one to be feared. The Oxford Dictionary[7] of New Words - A popular guide to words in *the news* -1992 expands on the topic: "antibody positive: Having had a positive result in a blood test for the AIDS virus HIV: at risk of developing AIDS. Formed by compounding; having a positive test for antibodies to HIV. Long before AIDS antibody-positive was in technical use for any blood test for antibodies to a virus; it is only in popular usage that it has become specialized almost exclusively to the AIDS sense. This sense of anti body-positive arose during the

mid-eighties, when fear of AIDS was at its height and much publicity was given to it.

"Since infection with HIV could precede the onset of any AIDS symptoms by period of years, and only some of those who were tested positive would in fact develop symptoms at any time, health officials emphasized the need to avoid over-reacting to a positive test and tried (with varying degrees of success) to prevent discrimination against those who were known to be antibody positive. The adjective for a person found not to have been infected or a test with a negative result is antibody-negative, but this is less commonly found in popular sources". So, as the current usage compels us to revise, the HIV-antibody is proHIV anti- patient-body. To add insult to the injury caused by the antibody comes a salvo from a 1992 Encyclopedia of Immunology[8]: "Immunization against HIV could increase the severity of the disease if the virus were to be internalised by antibody-mediated endocytosis." it is disastrous to exhibit an antibody response.

Modern Medicine's love-and-hate relationship with the universal, natural phenomenon of antibody response provokes numerous queries. By what divine right have the AIDSologists decided that seroconversion is bad for the individual? If the HIV is known to lurk quietly for weeks, months or years without exciting antibody response, why not congratulate a seroconverted individual for the fact that long last his/her body has reacted against the virus to create a state of immunity. Isn't it likely that the very reason why thousands upon thousands of seroconverted people carry on "throughout the rest of their lives"[10] without developing any AIDS is precisely because they are endowed with and protected by the antibody against HIV! *Vive la* HIV seroconversion.

And what about the misinformation that the so called seroconversion begets, for "HIV testing frequently misleading in Africa. The tests react to antibodies to malaria as well as HIV, producing upto 80-90% false positives"[11]. Should you still doggedly insist that seroconversion is bad, then why brag about, research

upon, hope for the vaccine against HIV, against AIDS! Cancerologists have spent a living with the Haddow's Paradox:[12] Agents that cure cancer cause cancer. And we know where cancerology stands today - where it was precisely 200 years ago. It is time that researchers drop all their immunologic pretensions vis-a-vis HIV-AIDS.

3. Me Own Flesh and Blood!

That is how Mr. Doolittle describe his daughter Eliza in *My Fair lady*, and that is how we, mankind describe HIVs. "The progenitors of these herpes viruses apparently were present early in evolutionary history, and the viruses have coevolved with their hosts….. this suggests that HIVs are inherently primate viruses and that they were not derived from rodents, insects, fowl, ungulates or other non-primates via cross-species transmission[13].

4. Advances Induced Deficiency Syndromes - AIDS

Scientific advances exert a perversity that most notice not. Sex-typing was an advance that unleashed an orgy of female feticide in avowedly non-violent India. IVF dried up the thin treacle of human compassion whereby an orphan had the chance of being adopted. Mahatma Gandhi was killed by a revolver, Indira Gandhi by a machine-gun, Rajiv Gandhi by a bomb. All through advancing technology! Someone has wryly remarked: When a cannibal starts using knife and fork while eating, do not name it an advance.

Many a technical advances have produced deficiency syndromes: Have a vehicle, walk not, thus rarifying your bones. Have mixers and grinders, chew not and lose your teeth. Have TV/calculator/computer, think not, thus have no mind. Have day-light fixures at night time so as not to see stars, prevent stimulation of rods, have retinal atrophy, get retinal detachment. Before these AIDS, isn't the HIV-AIDS too insignificant?

Our chief concern, here, is with immunodeficiencies occasioned by allopathic medication. The plural in the aforelisted word is to indicate that a variety of allopathic act in different ways at different sites to produce deficiencies of sorts.

Let us peruse but one text, on therapy: *Clinical Pharmacology* by Laurence and Bennett, in its 7th edition, reprinted 1993.[14] Its detailed index boast of nearly 40 anti-drug-groups, many of which are admittedly immunomodulator in the direction of distinct deficiency. Among the agents that could, hopefully, promote immune sufficiency are only two

(i) Interferon whose side effect is bone marrow depression, and

(ii) Anthelminthic levamisole that is, unpredictably, supposed to enhance function of phagocytes and T lymphocytes. One could scientifically generalize that allopathic armamentarium is, so often immunosuppressive in nature.

The most widely used drugs are anti-inflammatory, antipyretic, antibiotic, anticancer, anti auto-immunity agents, each a manifest spoke in the wheels of body's immune mechanism; the oldest among these being aspirin, discovered by Bayer in 1889. Dare your patient have an ache, some wound, some infection, coronary or carotid problem, and she/he has to have one or the other NSAIDs, aspirin leading the band- wagon, and worthy of some discussion as follows.

Aspirin has "strong anti-inflammatory effects,"[14] through its blockage of prostaglandin biosynthesis by cyclo-oxygenase. To boot, it is "highly irritant to the stomach"[14] and causes "erosion, ulceration[19] and bleeding[14]" in the GI tract. What price aspirination of the human body! With aspirin credited as the preventer of colonic cancer, coronary block or carotid constriction, the world is surely in the grip of Aspirin Induced Deficiency State.

The drug pushers, and now the medical texts, make you feel as if inflammation anywhere is an undesirable element demanding a knee jerk response via an anti-inflammatory agent. Howard Florey,[15] the Nobel laureate aphorised that inflammation is the backbone of pathology, a backbone not designed to be broken but to be strengthened. The body politique of mankind has been assailed by NSAIDs since 1889, antibiotics since 1935, corticoids and cancer

- chemotherapy since the 50's so that, at the end of nearly 100 years plus assault on its immunologic wisdom, we have a global human herd, immuno-deficient, in more than one way. AIDS, Acquired Immuno-Deficiency Syndrome is a reality but not of HIV's making. We cannot but agree with Peter Duesberg's contention[11,16-18] that HIV is innocent of AIDS mischief. No wonder The Lancet had to recently editorialize: "AIDS minus HIV?"[19]

Before we close the brief survey of Allopathogenic Immune Deficiency Syndromes, a few words about the modus operandi. NSAIDs directly hack at immunity and hence are immunodepressors. Antipyretics deny the body's right to right temperature, and antibiotics deny the body's right to a dialogue with microbes and hence, both, could be called immuno-abortants. Antibiotics behave as powerful microfluctuators[20] whereby the body is denied its normal flora: "Opportunistic Infection: When any antimicrobial drug is used, there is usually suppression of part of the normal flora of the patient, which varies according to the drug. Often, this causes no ill effects, but sometimes a drug-resistant organism, freed from competition, proliferates to an extent which can even be fatal." Pray, who offers the opportunity to the so-called opportunistic infections?

Towards A Revised Perspective on HIV-AIDS

1. Medicine knows little of AIDS, much less of HIV, having no right to link the two. If HIV were an immunosuppressor, why should there be autoimmunity in AIDS?[21] And why should corticoids work against pneumocystosis in HIV-infected patients?[21]
2. Acquired Immune Deficiency syndrome is a non-specific clinical reality that is merely an extreme manifestation of globally induced immune deficiency in humans, thanks to modern therapeutics.
3. Precisely because of point 2, the hithero dormant HIV virus has got naturally selected, hence accounting for its increasing detection in increasing numbers of human beings, reactive to it or otherwise.

4. Seroconversion is HIV's promotion of immunity. It is a badge of well-behaved immune system and needs to be complimented, praised. Yet, it should never be forgotten that the interconnectality between the virus and the antibody it presumably excites, is far-from predictable; there can be seroconversion in the absence of the virus,[11] and refusal to serconversion despite the virus.[22]

5. There is no need therefore for Crying wolf whenever someone is HIV +ve. This will avoid pernicious paranoia,[23] suicides,[24] and the creation of a novel form of untouchability, worse than lepers or Harijans ever faced.[25,26]

6. Money is where HIV is:[11,27,28] "Because international funds are available for AIDS and HIV work, politicians and health workers have an incentive to classify people as AIDS sufferers... It has become a joke in Uganda that you are not allowed to die of anything but AIDS. A favourite story is that a friend has just been run over by a car, doctors put it down as AIDS-related suicide."[11]

7. The walls of prudish Indian villages and cities are replete with a condom-aid. Every sexual act, world over is now condomed. Apart from the fact that this condommania will forever form a Berlin wall between the vaginal and the penile skins, it will also create an FL tower, not only in Paris but everywhere else. What of the condom-pollution that the already polluted Earth will face?

8. The chance association[29] of tuberculosis and HIV should be seen as what it is - a chance finding, nowhere causally related, except that both may be a result of the immune deficiency mankind has been bestowed with by modern medicine.

9. Rene Dubos,[30] the pioneer microbiologist at the Rockefeller Foundation sounds most pertinent: "It is probably because man has so much less control over the microbial world than the rest of life that microbiological sciences often follow a course outside the main channels of modern scientific thought, and tend to be dominated by a mode of thinking that often appears naive in the light of modern biology. The anthropocentric judgement

of good and bad microbes is philosophically questionable". Modern man's arrogance against the microbes is a direct outcome of his calculated ignorance. Given HIV's naturalness, its right to mutate, and the poor record so that many vaccine-programmes have had, any talk[23,31] of vaccine development is Quixotean tilting at the windmills.

10. HIV must be credited as the Heuristically Important Virus, much as AIDS should read as Advances Induced Deficiency Syndromes.

References

1. Hixson J. Patchwork Mouse. New York: Anchor Press/Doubleday; 1976; 113.
2. Fuller BAG. A History of Philosophy, part II. Calcutta: Oxford & IBH publishing Co; 1955, pp 152.
3. Kothari ML, Mehta LA. Cancer: Myths and Realities of Cause and Cure. London: Marion Boyars; 1979, pp 33.
4. Laurence J, Siegal FP, Schattner E, Gelman IH, Morse S. Acquired immunodeficiency virus types 1 and 2. Lancet 1992; 340:273-274.
5. Wingate P. The Penguin Medical Encyclopedia. New York: Penguin; 1978, pp 36.
6. Stein J, Urdang L. The Random House Dictionary of the English language. New York: Random House; 1967.
7. Tulloch S. The Oxford Dictionary of New Words: A Popular Guide to Words in the News. Oxford: Oxford Univ Press; 1991.
8. McClure M. Human immunodeficiency viruses. In: Roit IM, Delves PJ, editors. Encyclopedia of Immunology New York: Academic Press; 1992, pp 695-670.
9. Anonymous. Studies how AIDS virus hides in body for years Science Update (A newsletter on Indo US scientific co-operation and technological advances in America) 1993; April-May 4-5.
10. Chapel H, Haeney M. Essentials of Clinical Immunology. Oxford: ELBS & Blackwell; 1989.
11. Hodgkinson N. AIDS epidemic in Africa a myth. The Sunday Times (London). Quoted in The Times of India (Mumbai) 1993; March 27th.
12. Resolva-Vasilukova S, Wiliams RJP. A note on cancer and possible relationships to submolecular biology. In: Submolecular Biology and Cancer. Ciba Foundation Symposium 67 (new series) Amsterdam: excerpia Medica; 1979, pp 28.
13. Desrosiers RC. The simian immunodeficiency viruses. Ann Rev Immunol 1990; 8:557-578.

14. Laurence DR, Benneth PN. Clinical Pharmacology, 7th ed. Edinburgh: ELBS/Churchill Livingstone; 1993.
15. Florey HW. Inflammation. In: Florey L, editor. General Pathology London: Lloyd-Luke Ltd; 1970; 22.
16. Duesberg PH. AIDS epidemiology: inconsistencies with human immunodeficiency virus and with infectious disease. Proc Nat Acad Sci USA 1991; 88:1575-1579.
17. Duesberg PH. Retroviruses, as carcinogens and pathogens: expectations and reality. Cancer Res 1987; 47:1199-1220.
18. Duesberg PH. Human immunodeficiency virus and acquired immunodeficiency syndromes: correction but not causation. Proc Nat Acad Sci USA: 1989; 86:755-764.
19. Anonymous AIDS minus HIV? [Editorial]. Lancet 1992; 340:280.
20. Kothari ML, Mehta LA. The mythology of modern medicine III: microbes and man (Part one). J Post grad Med 1993; 39:162-165.
21. Hollander H, Katz MH. HIV infection. In Tiernery LM, Mc Phee SJ Jr, Papadakia MA, Schroader SA, editors. Current Medical Diagnosis and Treatment. Norwalk/Connecticut: Appleton and Lange; 1993, pp 1008-1028.
22. Anonymous. Current Topics. HIV immunity. The Times of India (Mumbai) 1994; Mar 1.
23. Gelman D. A resistance to reason: mind: why do so many people - even some doctors - have an irrational fear of AIDS patients? Newsweek; 1993, Dec 6:64.
24. Anonymous. AIDS-hit man leaps to death. The Times of India (Mumbai) 1994; Jan 13.
25. Pandya SK. The patient with AIDS. Medical Ethics 1994; 1:1-3.
26. Fernandez G. HIV tests on patients: hospital's policy under fire. The Times of India (Mumbai) 1994; Jan 14.
27. Anonymous. Comment: Senseless ACT. New Scientist 1992; Aug 1.
28. Inderjit S. India may lose 10-m. AIDS grant. The Sunday Times of India (Mumbai) 1994; Feb 27.
29. Anonymous. Partners in crime. CARC Calling 1994; April-June:6.
30. Dubos R. Mirage of Health Utopias, Progress, and Biological Change. New York: Harper Colophon Books; 1979, pp 67.
31. Mortimer PP. What is HIV: The virus and the tests. In: Alder MW, editor. ABC of AIDS, 3rd ed. London: BMJ Publishing Group; 1993.

Violence in modern medicine

MANU L. KOTHARI

AND

LOPA A. MEHTA

I. A paradox?

The popular image of a doctor is of an angel in a white coat. Few are able or willing to perceive the reality behind the image and the violence which today is inseparable from modern medical science. This violence is not limited to human beings; it extends to the environment, to animals, to the fiscal fortunes of a person or a society.

Violence as a Term

The root of the words 'violence' and 'violate' is the Latin vim, which is related to the Sanskrit vyas (he goes). The term implies interference that smacks of righteousness, thoughtlessness or willed ignorance. But violence is also transgression of what Einstein called self-evident truth. The perception of such truth does not seem to be a function of 'development', as the tragic experience of the last 200 years shows. Learnedness, industrialization and modern media - indeed, the more we have of these 'achievements', the less we perceive the self-evident truth that 'progress' and violence go hand in hand. With 'progress', more and more leaves are suffocated with grime, deforestation spreads, more fish die and more whales get harpooned, and the balance, the regenerative capacity of nature, is irreparably damaged.

Psychodynamics of Medical Violence

Medical violence is a curious product of the physician's arrogance, trappings of technique, and the laity's love of the fanciful coupled with an undying hope that, given enough money, there is no physical or mental problem that some Cooley or Barnard cannot solve. The ethos has been piquantly summed up by Burnet:

One might justly summarize American medicine (and all those who reverently follow the American lead) as being based on the maxim that what can cure a disease condition (assumed, simulated or natural) in a mouse or a dog can with the right expenditure of money, effort and intelligence, be applied to human medicine.[1]

The quote exposes the man-centred temper of modern medical science. It strives to achieve something for man, against man's disease and man's death. The outcome is that the USA, the UK and India increase their spending to the point of bankruptcy and get less and less of health. The Rockefeller Foundation summarized the current predicament in a book titled *Doing Better and Feeling Worse - Health in USA.*[2] In the midst of the ever-widening gulf between medicine's promise and performance, most people - including doctors and patients - have lost sight of a

self-evident fact, namely that the way to iatrogenic (doctor-made) hell is paved with professedly good therapeutic intentions. The only way out of this mess is, as Ivan Illich suggests, for the laity, the patient, to wake up to the realities effectively kept away from them by the medical profession.

L. Dossey, himself a physician, has bemoaned 'the philosophic backwardness in contemporary medicine', even though any allusion to the word 'philosophy' in the context of modern medicine is a red rag to the medical bull.[3] Medical men dismiss philosophy as incompatible with scientific medicine. Thus, thirteen years ago, a book on cancer, scientifically documented and annotated, was condemned as mere philosophy.[4] During these thirteen years, the only comment the book has elicited from the cancerology establishment, both local and global, is that the book is 'philosophical'. The data in the book have not been questioned; the reasoning has not been found faulty. For establishment cancerologists, the book is philosophy and therefore not worth serious consideration. 'Philosophy', evidently, is not used in the lexicographical sense; it is a pejorative term tagged on to anything the establishment disapproves of - even dissent within the community itself.

Cancerology's obsessive resistance to philosophy has made the discipline, in the words of biologist J. B. Watson, 'scientifically bankrupt, therapeutically ineffective and wasteful'.[5] A panel appointed by the national Cancer Advisory Board, USA, has found that highly reputed scientists could deviate from accepted standards of integrity when tempted to bolster their theorems and prejudices with huge sums of the public's money, and an American scientist has advised other scientists: 'Stay out of cancer research because it's full of money and just about out of science.'[6]

The heartlessness of modern medicine can be directly traced to its calculated myopia. 'I am absolutely convinced', says Victor Frankl, 'that the gas chambers of Auschwitz, Treblinka, and Maidanek were ultimately prepared not in some Ministry or other in Berlin, but rather in the lecture halls of nihilistic scientists.'[7] Hence the mythology reflected in movies like Coma; hence, the recurrent reality in India where surgeons merrily transplant kidneys from the desperately poor into paying patients. It is not uncommon in such transplants for the donor to get Rs 30,000 while the agent makes Rs 50,000 When we questioned the anaesthetist of a kidney transplant team about this, his reply was scientific: 'We are happy if the donor has been clinically and psychiatrically investigated, and rendered ready by the agent.' A recent review of kidney transplants in the *The New England Journal of Medicine* concluded that the ease with which a kidney transplant was done lacked any scientific basis, and medicine did not have answers to the problems the transplant created for its new host.[8] We must thank providence that Christian Barnard failed in his much publicized brain transplant and that a heart transplant is not yet available commercially.

Solzhenitsyn has shown in *Cancer Ward* that the best way of dehumanizing a doctor is to look up to him as scientific. In the west, the popular and the professional media persist in portraying all diseases in paranoic terms - 'This disease is killer number one', 'that disease is killer number n' - while claiming in the same breath tremendous advances made by medical science in its battle against all medical problems. The result is that the doctor sees neither the disease nor the patient. All he sees is some enemy that must be destroyed at all costs. And since no killer disease - cancer, heart attack, hypertension, diabetes - has yet yielded to their ministrations, all that happens is that the frustrated physician wrecks his vengeance on disease and death, with the patient as the battlefield.

Some surveys of the medical scene in the 1980s give a fair idea of what modern medicine is, and will be, all about. To quote D. Horrobin,

Lay organizations, whether charities or governments, do not fund medical research for the sake of culture. They believe that practical benefits will follow. It is gradually dawning on the donors that for the past 20 years practical benefits have not followed. During that time there have been no substantial improvements in morbidity or mortality from major diseases that can be attributed to public funding of medical research.[9]

A. Relman, editor of *The New England Journal of Medicine, com*ments: 'We have learned how to keep alive very old, sick, and feeble - even brain-dead - people as well as infants born terribly deformed.'[10]And a journalist has recently echoed Relman. 'I do know', he says, 'that the miracles of modern medicine can prolong life far beyond the point at which it has meaning.'[11]

Science in this respect has let down modern medicine. Apparently their continuing partnership is a marriage that has soured. Yet the purveyors of modern medicine have a vested interest in the partnership, for it endows them with an invincible halo of propriety and philanthropy. It has allowed the modern medical student, teacher, practitioner, and researcher to completely ignore the fact that most human diseases and death are not only beyond science but also beyond technique - extant, evolving or envisaged.

The mindless craze for gadgets and chemicals leads medical men to create a modern medical police state where symptoms are suppressed and signs are erased. When a child has upper respiratory infection, the body enters into a dialogue with the microbes under an optimal thermal state. But this is deemed as 'fever' by the doctor. Drugs are given to bring down the fever, and antibiotics are administered to knock the microbes out. A peace talk is thus aborted, the child acquires lifelong immuno-deficiency and his natural growing-up is thwarted. Commenting on this common scenario, the English microbiologist J. A. Raeburn has prophesied, 'In years to come, the story of antibiotics may rank as Nature's most malicious trick.'[12]

A healthy adult is sent for a 'regular medical check-up', considered a business venture in medical circles, and walks out a depressed, harried patient. The reason may be that the doctor has detected a sign as yet nowhere defined but called high blood pressure. What had not bothered the patient ever must now be annihilated to ease the scientific conscience of the doctor. There is no field of medicine in which this police-state approach does not pose a physical, mental, and fiscal hazard for the patient.

The patchwork nature of such doctoring, and the hazards it poses, can be guessed from a recent medical tragedy. In an editorial in *The Lancet* of 29 January 1983, the story of the benoxaprofen (Opren) was reviewed in the wake of allegations in the media that approximately 60 avoidable deaths had occurred in Britain as a result of an 'unscrupulous pharmaceutical firm, feeble watchdogs and gullible doctors'. The firm had promoted benoxaprofen with the willing collaboration of the media that later turned critical of the drug.[13] The verdict was updated by *The Lancet* in 1984 under the heading 'The Seven Pillars of Foolishness', describing how the practice of medicine had caused the death of patients worldwide, thanks to seven suppressive 'cousins' called anti-arthritic drugs, promoted through collusion between doctors, media, government bodies, bribery and corruption.[14] Such tragedies will continue to occur till mankind wakes up to the realization that modern medicine has not and cannot live up to its claims.

If scientism accounts for the violence done to man by medical men, anthropocentrism promotes the violence done to animals. The medical student is brought up on a regime of the dissected frog in the physiology lab; of the experimented-upon dog, killed and dumped into a bucket in the pharmacology department; of the caged monkey, manipulated and tortured in the psychiatry lab. At medical science conferences, papers written with the blood of tens of thousands of experimental animals are deliberated upon. The FDA does not object to poison being administered to unwilling animals if, as a drug, it can be 'cleared' as safe for human consumption. Neither William Blake's maxim that 'everything that lives is holy, life delights in life', nor the Vedic message *isavasyam idam sarvam* (God permeates everything) is ever made known to modern medical persons. The outcome is that in trying to do good to man by doing harm to animals, the doctor loses the art of hearing the cries of suffering animals. And once he gets used to ignoring a dis-eased animal, as Solzhenitsyn seems to recognize in his *Cancer Ward,* he learns not to listen to a dis-eased human being.

Victims of Medical Violence

The word victim may be derived from the Indo-Aryan ancestor of the Sanskrit word *vinaki* (he separates/singles out/sets apart). It implies an individual who will be differently and damagingly treated by the person who sets him apart. Modern medical practice has an unwritten law which does precisely that: when dealing with the same disease, treatment is reserved for the patient, restraint for the doctor when he happens to be a patient.

Erik Erikson lays down the golden rule for medical men: 'Do, or not do, to another what you would wish to be, or not wish to be done by.'[15] Erikson elaborates upon this by giving the Talmudic version of the golden rule: 'What is hateful to yourself, do not to your fellowmen. That is the whole of the Torah (the essence, the law, the truth), and the rest is but commentary.'

Medical practice is just the opposite. We recall a case in which we assisted, early in our medical training. In those days, the operation of the portacaval shunt had become fashionable in medical practice; it offered rich cinema stars a way out of their alcoholic lives, cirrhosis, portal hypertension and the danger of bleeding to death from their oesophageal veins. The surgical chief wanted experience in this kind of surgery and he asked the resident medical officers to keep a case ready. Eighteen-year-old Janardan, the only child of a widow, was admitted with seemingly matching symptoms. On doing the preliminary splenoportogram, the senior doctor discovered that the proposed operative site was but a jungle of veins. On the pre-operative day, the resident medical officer said to his chief, 'Sir, I am afraid we shall nick the vena cave and the patient might bleed to death.' The chief's answer was, 'Doctor, as far as it is not my vena cave, I am not worried.' Janardan was operated upon; he died on the table. The surgeon, the resident doctors and the students obviously knew everything save the golden rule.

Walter Alvarez, the eminent gastro-enterologist, muses over the golden rule in his autobiography, *Incurable Physician.* Referring to the 'curative' and radical surgery of duodenal (peptic) ulcer done routinely on patients, Alvarez observes:

One highly significant fact that shows how the physicians and surgeons in Rochester really felt about the operations for duodenal ulcer was that in all my 25 years at the Mayo Clinic I can remember only one of the many members of the staff with an ulcer who was operated on, and he was driven to it late in life by a complication.[16]

At our medical school, too, we have seen the most adventurous peptic ulcer surgery perpetrated only on patients; in the last thirty years not one member of the senior/junior staff has taken benefit of this assuredly curative surgery.

In another case we came across, a newborn child developed gangrene of the whole lower limb following a misdirected glucose injection. The mother was told that amputation was necessary to save the child's life. But the mother went away; she returned after a year with the child's limb intact and largely functional. Then the pediatricians decided to do an angiogram (to find out how the limb had managed to survive) so that they could present a paper in a scientific conference. We asked the worthy gentlemen about the proposed angiogram, 'If angiogram on an absolutely healthy artery can lead to an arterial shut down and gangrene, don't you think the chances of losing the limbs are infinitely greater in a situation where circulation is already compromised?' The answer was, 'We need the angiogram so that we can present the circulatory dynamics to the scientific audience.'

A study undertaken to determine to what extent doctors, faced with the prospect of having cancer, practiced what they preached, revealed some startling facts: Doctors, the 'disappointed' investigators generalized, (a) do not seek an early diagnosis, (b) permit 'unjustifiable delay' before 'curative treatment' is started, and (c) choose as their initial consultant a physician whose culpability for delay is as great as that of a general practitioner.[17] As the *British Medical Journal* recently editorialized, doctors investigate and treat themselves or their relatives inadequately by conventional medical standards.[18] The *British Medical Journal* asked the Director of Surgery at St Mary's Hospital, London, what he would do if he had cancer of the rectum. His answer was:

I am absolutely certain - and this I am sure will bring the wrath of most colorectal surgeons on my head, but no matter- - I would not have an abdominoperineal resection with a colostomy. However managed, however much we delude ourselves, a permanent, potentially incontinent abdominal anus is an affront difficult to bear, so that I marvel that we and our patients have put up with it so long. It says much for the social indifference of the one and the social fortitude of the other.[19]

Teachers in medical colleges are known to ask their colleagues to promise that, should they have a heart attack, they should not be put in the intensive care unit, known in the US as the pressure cooker. The way the psychiatric and the nursing staff view (and treat) themselves is startlingly different from the way they handle the patients. It would be interesting to find out how many psychiatrists have undergone electro-convulsive therapy, and how many had had the horrifying and now-discarded prefrontal leucotomy that won for its inventor a Nobel prize.

This divide, this doublespeak and doublethink by medical men, lies at the root of the moral issues of modern medicine. If the divide had not been there, most pills, potions, and procedures would have been abandoned a long time ago. According to a global estimate made by medical researchers, nine out of every ten prescriptions of procedures are unwarranted.

The twenty-first century computerized technology in the American medical scene also frequently leads to financial disaster for the patient. Every fifth case of personal bankruptcy in the US is due to mega-size medical bills. In big cities in India, too, when the cancer/heart/kidney failure patient, after hectic treatment, dies, it is the family that has to be 'buried'. In the case of a number of illnesses - heart attack, stroke, cancer, kidney failure - which, by modern medical consensus, are terminal and which even after treatment can only minimally restore the patient's

productivity, the doctors' bills are back-breaking. We are obviously still under the spell of the myth that the millions of the Shah of Iran or of film star Nargis Dutt could buy for them a cure for leukemia or biliary duct cancer. The Shah, precisely because of the astronomic fees he could pay, was given the wrong treatment by a wrong set of specialists. After his premature death, his American, French, and Egyptian doctors engaged in a mud-slinging match as to who really killed the Shah. Nargis Dutt's 'cure' became known only for the millions spent and the number of propitiatory runs her cinema star husband, Sunil Dutt, made round the Sloane-Kettering Institute. Nature has an innate sense of equality, a sense of democracy. In all the major illnesses that modern medicine is researching upon and treating, neither the scope of the treatment nor the quantum of money spent makes any difference to the outcome. This is so, because all these problems are, and will be, trans-technique, well beyond the might of modern medicine.

It is common experience that, on a given case, the proposed diagnostic/therapeutic thrust ranges from extreme conservatism to surgical ultra-radicalism. After attributing such diversities to the physician's idiosyncrasies, two investigators say:

Perhaps all these factors are involved in clinical controversies, but we propose that one explanation has not been sufficiently recognized: that it simply makes no difference which choice is made. We suggest that some dramatic controversies represent 'toss-ups' - clinical situations in which the consequences of divergent choices are, on the average, virtually identical. The identicality of the consequences, *no matter what the investigations and what the therapy,* is a function of the basic fact that the problem being tackled is beyond the limits of technology.[20]

The 'toss-up critique' takes away from modern medicine any justification for its current craze of creating - more as an industry than as science - five-star hospitals with their lethal bills in India. Bombay, Madras, Calcutta and Delhi are already caught in the whirlwind, and even such small places as Rajkot and Indore are joining the bandwagon. These palatial hospitals thrive on the creed of fee-for-service which happens to be the motto of the world's most powerful (American) Medical Association. Translated, it means no service without fees, and, often, unwarranted services for generating fees. This twofold victimization - of the poor by denying them the right to treatment, of the rich by exploiting them - stems from the fact that doctors, and medical students themselves, do not know what it is to spend on investigations and treatment. The students get treated as VIPs in the hospitals where they grow up; the practicing doctor gets treated free, partly because of professional courtesy and partly with the idea of promoting one's practice through the doctor so obliged. The net result is that the medical man does not have to go through the experience of financial difficulties that alone can teach him to be considerate towards the patient's purse.

Yet another reason for the malady is the paroxysmal urge to organize and attend conferences/congresses/workshops/and the like, as an endorsement of medical claims to progress and the singular medical inability to own up to past mistakes and the absence of any genuine breakthroughs. VIPs inaugurate such conferences, the media give glowing coverage to them and the common man and his doctor continue to be convinced that medicine is marching ahead. Out of this institutional combination of conferences and the media is born what a physician has called 'the international safaris' - the people's readiness to squander all that they have in the hope that, given enough money, the medical Mecca of the west can cure anything.

The animal world comprises the largest victim-population. Medical researchers experiment upon animals with the idea that human beings and animals share what Romer calls a common vertebrate plan. The medical researcher is always ready to transfer the clinical gains from animal study to his practice and patients, but loses sight of the fact that, because of their very likeness to human beings, animals deserve a better deal.

Animals are blinded, dropped in boiling water, burnt on hot plates, frozen in dry ice. They are allowed to bleed by exposing the carotid artery or by incision through the jugular vein. Electrodes are implanted in the brain to stimulate pain centres; they are subjected to huge doses of radiation and then forced to run on a treadmill to see how long they can survive. They are deafened, mutilated, exposed to infection, and driven mad. Babies are removed from their mothers to study the effects of deprivation. Free-ranging creatures are confined for years in small cages or, worse, in harnessed chairs. They are starved or forced to inhale carcinogenics or toxic material, till they die. Auschwitz, Dachau and the Gulag survive for the animals.[21]

We know from our everyday life that animals have feelings and that they experience sensations. They are born, they live and they die; they express fear, love, terror and pain. Ecologically, humans have evolutionary roots in the same world as other creatures. If we are dedicated to human service, part of our duty is to share our human rights with other creatures. We have no right to exploit, kill and torture them for our own selfish purposes. Yet the book, *Search for New Drugs,* complains, chapter after chapter, that animals suitable for experiment are not available, and then goes on to describe the trials and experiments involving the torture and death of hordes of animals.[22]

Admiration for non-human life is something the medical student learns to keep away from his consciousness. Initially, he is too busy making a career; later he is too busy treating humans. This lopsidedness may be as old as medical practice. The *Sushruta Samhita* advocates the peacock and the snake as a diet for improving the intellect and the swan as curative for nervous diseases.[23] No wonder, medical studies and practice create technocrats who are, in the words of Sir John Apley, overeducated philistines. One cannot expect them to have read an observation in Walt Disney's *Wonders of Nature:* 'People who have looked into its [the walrus's] watery eyes after it has been harpooned see an expression of amazement and disappointment that there is such cruelty in the world.' A vegetarian Indian doctor prefers not to think that the liver extract he has injected into an equally pious patient for a tidy sum comes from some slaughtered animal. He does not even know that the drug has passed through the patient's body (thrown away by the patient's liver that never needed it in the first place) into the sewers to fatten roaches and rats.

But the greatest victim of medicine is nature herself. The word 'physician' is derived from the Greek physike which means the science of nature. A physician should, therefore, be a naturalist. But anthropocentrism, the lure of money, and the awe of modernity has killed the naturalist. Two hundred years after his death, Voltaire stands vindicated; 'Doctors are men who prescribe medicine of which they know little, to cure disease of which they know less, in human beings of which they know nothing.' The little the doctors know of drugs turns them into purveyors of violence: iatrogeny, or doctor-caused-diseases, becomes a new category by itself.

The Rhine and the Ganga are choked by effluents discharged from the antibiotic plants. Drugs that are patently poisonous (such as methotrexate, which owes its origin to the vesicant action of the gas nitrogen mustard used in World War I) are used by cancerologists, transplantologists and rheumatologists, upsetting thereby microbial ecology so vitally that microbes that were

benign turn inimical to humans. Nobel-Laureate Burnett has prophesied that history will show up the pharmaceutical houses of the mid-twentieth century as examples both of the productivity of science applied to industry and of the evils inherent in the technological momentum of a competitive industrial society. This reminds one of Raeburn's pronouncement on antibiotics, to which we have referred earlier.

From the 'little' they know of diseases, doctors imagine, see and show a shadowy enemy. All major diseases remain, to use oncologist Brooke's phrase, discreetly silent for a greater part of their existence in the human body. G. Pickering, a world authority on high blood pressure, has analysed the inherent benignity of disease:

The myocardial infarction, the cerebral infarction, or the gangrene of leg which terminates a patient's life may be seen as the final episode of a series which remains silent over a long period of the patient's life before it obtrudes into his experience and finally terminates it.[24]

Yet, the proponents of cardiology and cancerology continue to speak of early detection and treatment, a ploy that brings them credit should the patient survive, and no discredit should the patient die (obviously for not having sought the doctor's help early enough). The roster of cancerologists who died of an undiagnosed or late-diagnosed cancer and of cardiologists who died of 'hears' disease ought to be made public knowledge. If there were a naturalist in a doctor, the doctor would view a disease as but a part of human physiological development that reminds the doctor and his patient alike of the perennial proximity of death.

Alexis Carrel, Nobel-Laureate and the father of modern cardiovascular surgery, wrote a small classic, *Man, The Unknown.* It suggests that medical men, even as of today, know little of the *homo sapiens.*Medical students and teachers often see a patient as a nuisance attached to an interesting disease. Appropriately enough, at teaching institutes, patients are identified either by the diagnostic tag they bear or by their bed number, never by their name. In *Anatomy of an Illness,* Norman Cousins describes his experience as a patient and concludes that modern hospital is the last place for any sick patient to be in.[25]

II. Modes of professional violence in medicine

We have earlier referred to Duke's *The Seven Pillars of Foolishness.* After detailing the ingenious ways in which drugs are pushed by multinationals for profit, Dukes concludes:

There is an unhappy turn of phrase currently going around in medical meetings which refers to patients as 'the people out there...' Perhaps that is merely symptomatic of the wrong-headedness which besets the world of drug experts. The patients are indeed out there, and the drugs are in here with us, being coddled in warmth. It may be the destiny of the clinical pharmacologists to bring drug policies and policy-makers back where they belong, at the bedside and in the consulting room, with the patient every patient - at the heart of things, whilst the chemists, the stockbrokers, the image makers and the detailmen wait, cap in the hand, at the door for judgement to be pronounced.[26]

Richard Asher, one of the outstanding medical thinkers of our time, has described 'the seven sins of medicine' as obscurity, cruelty, bad manners, over-specialization, love of the rare, stupidity and sloth.[27] In their defence, doctors may argue that what Asher and Dukes have described are human foibles common to all professions, from priesthood to plumbing. Perhaps the Schweitzerean streak does guide most medical practitioners to serve their patients, but we

want to draw the reader's attention to the unwitting violence that a medical practitioner inflicts on the patient through aetiology (causology), diagonsis, investigations, treatment, prognosis, research, and image-building.

A leading hospital in Bombay has on its outer walls a prominent inscription: The sick person is my God. According to the Christian scriptures, God can be served by the path of Mary - the path of contemplation, or/and by the path of Martha - the path of action. In a setting where the doctor is the saviour and the patient a victim of a disease, the path of Martha dominates. The patient buys the action, the doctor sells it - fair professional exchange that ignores the equally important but more difficult path of Mary. The latter is the path of restraint, 'inaction', a greater faith in The Wisdom of the Body,[28] a healthy scepticism of the physician's powers, and an awareness of the dangers that every new 'miracle' drug or gadget is pregnant with. Alexander Solzhenitsyn says at one place in his *Cancer Ward:*

Was it possible? Could the question arise of a doctor's right to treat? Once you began to think like that, to doubt every method scientifically accepted today simply because it might be discredited in the future, then goodness knows where you'd end up. After all there were cases on record of death from aspirin. A man might take the first aspirin of his life and die of it! By that reasoning it became impossible to treat anyone. By that reasoning all the daily advantages of medicine would have to be sacrificed.

It was universal law: everyone who acts breeds both good and evil. With some it's more good, with others more evil.

The medical man, la Solzhenitsyn, is in the unenviable position of 'do and be damned; do not and be damned'. But if nine times out of ten the physician is either ineffective or his action is unwarranted *vis-a-vis* the self-correcting marvel called the human body, then the path of inaction/contemplation could well be preferable. We amplify below this proposition through a discussion of the hazards of active, aggressive medical practice.

Aetiology

Bertrand Russell said as early as 1918 that causation as a concept had disappeared in all advanced sciences. Its survival, indeed, its prosperity in medicine, implies that medicine is either not a science, and/or is not advanced. The fact is that all the major maladies - heart attack, cancer, hypertension, diabetes, arthritis - have no identifiable cause. A search for the cause justifies highly funded research. Its assertion, in practice, makes the clinician look learned. Its eventual unravelling holds out for everybody the hope of a cure - 'the pot of gold at the end of the rainbow of medical research',29 as M. Burnet describes it. Even in a manifestly casual event, such as an infection, from Pasteur's time to ours, we do not know whether it is the seed (microbes) that is causally important, or the soil (the human body).

Anxiety-making, Alex Comfort says, is the curious preoccupation of the medical profession: 'Warn against the signs of cancer and cancerophobia becomes a disease more terrible than the actual malignancy.'[30] And the doctor indulges in his penchant for aetiologizing - coitus causes cancer, coffee causes heart attacks, bread causes peptic ulcers, and so forth.

So, life for the common man, especially for one fed on the popular journals, is filled with one cancerogen after another and one nosogen (disease-begetter) after another. For him it becomes a series of dilemmas: whether to breathe (oxygen causes cancer), eat, drink or smoke

(if you do, you get lung cancer, if you don't you get bowel/brain/uterine cancer), marry and breed (breeding gets you cancer of the cervix; if you don't, then cancer of the breast or the uterus). Each and every such act is fraught with the danger of some serious disease.

Such rabid cancerogenism has not produced health; it has produced only global cancerophobia. Should people eat, drink, breathe, or make love? The answer is not easy in many societies. For instance, when it comes to cancer, the American society and the many societies which follow it as a matter of faith cease to be sensible: they alternate between states of panic, fear, irrationality, and paranoia. For this, Ingelfinger blames doctors, cancer societies and, of course, the media which specialize in converting trivia into sensational news.[31]

Fortunately, there is the astounding resilence of human common sense against the anxiety-makers. As the popular limerick goes,

My doctor has made a prognosis
That intercourse fosters thrombosis
But I'd rather expire
Fulfilling desire
Than abstain, and develop neurosis.

Diagnosis

Dr Travis said, 'There are some words that always shock the layman. I wish we could call cancer by a symbol like H_2O. People wouldn't be nearly so disturbed. It's the same with the word angina.' - Graham Greene

To doctors, diagnosis is merely a word; to patients, it can be a sentence. The very word cancer, psychoanalyst Karl Menninger points out, kills some patients who would not have succumbed so quickly to the malignancy from which they presumably suffer. A patient once committed suicide on being told that she had breast cancer. Not all diagnoses of cancer are correct. Nor do proven cancers kill. But it is the word and the diagnosis of the doctor that spells death for the patient. What is true of cancer holds true for heart disease, high blood pressure, diabetes, and so on. Doctors are wont to diagnose a disease even in individuals fully at peace with themselves, for diagnosed illness is the first, unquestionable link that binds a person to a doctor. Fischer, an eminent American physician, asks of doctors, 'Do you ever ponder the advisability of *not* making a diagnosis and thereby avoiding a death sentence?' A surgeon from Bombay was hurriedly pushed into a diagnosis of cancer of the rectum and as quickly relieved of his rectum, anus and natural passage, only to learn on a revaluation of the slides that his rectum had been noncancerous. For over thirty years he has been moving around with a colostomy bag.

Whatever cancerology may self-confidently claim, even the most powerful microscopes do not provide infallible signs of cancer. Cancer gets diagnosed when it is absent, and vice versa, depending 'on the barometric pressure and perhaps the bowel tone of the pathologist himself'. In a book published nearly thirty years ago, an English doctor describes the horror of being stamped as an ulcer patient when he did not have a thing to complain about, and being vehemently denied the same diagnosis when his stomach and duodenum were being literally ripped apart with pain.[32] The fact is that as many as 33 per cent of ulcers do not show up on X-ray investigations. To the cardiologists' itch for diagnosing heart disease on the basis of the

electrocardiogram, Harrison, a senior American physician, has given the name ECG-itis, a disease that commonly afflicts heart specialists.

A psychotic, it is said, is one who builds castles in the air; the neurotic lives in it; the psychiatrist, on the strength of his diagnosing ability, is the one who collects the rent. In the wilderness of modern psychiatry, we had better listen to Peter De Vries, Arthur Koestler, and Isaac Singer; each one of them conveys tellingly modern psychiatry's befuddled diagnostic jargon. Says De Vries:

In the beginning was the word. Once terms like identity doubts and midlife crisis become current, the reported cases of them increase by leaps and bounds affecting people unaware there is anything wrong with them until they have a load of coinages. (Such upswings in the number of cases diagnosed as 'cancer' or 'heart' are common and are pretty commonly christened as pragmatic diagnoses. The pragmatism resides in the remunerative nature of the diagnoses. No wonder there is a distinct clinical entity called chronic remunerative appendicitis!) Once my poor dear mother confided to me in a hollow whisper, 'I have an identity crisis.' I said, 'What do you mean?' She said, 'I no longer understand your father.'[33]

Can psychiatrists be trusted? Addressing the World Psychiatric Association in London in 1969, Koestler posed this question, and then proceeded to answer it himself:

This predicament is, of course, most drastically reflected in the field of diagnosis and classification. As I seem to be the only outsider at this Congress of Psychiatrists, we must assume that I have been invited to represent that infernal nuisance in the psychiatrist's life, the patient. As a rule, of course, there are too many patients to one psychiatrist, whereas here the situation is reversed. But at the same time it reflects a different aspect of reality, for the single patient is potentially liable to be diagnosed and categorized in a great many different ways, depending to some extent on the psychiatric school, the ethnic background, and apparently even the age-group to which the diagnostician belongs. Thus, should I have the misfortune to be admitted to a mental hospital in England with a somewhat complex symptom-picture, I would have a ten-times higher chance of being classified as a manic-depressive than if I were admitted to hospital in the United States; and taking my specific age-group into account, the ratio of United Kingdom to United States of patients diagnosed as manic-depressives becomes 21 to 1. On the other hand, if I were to go off my head in America, I would stand a ten-times higher chance of being classified as a case of cerebral arteriosclerosis than in England; and a 33 per cent higher chance of being classified as a schizo. In the States I might also be found to show a 'psycho-depressive reaction', a category non-existent in England and Wales.

I am quoting these figures from Morton Kramer's remarkable paper on 'A Cross-National Study of Diagnosis'.[34]

A diagnostic word is used easily but defined with the greatest difficulty. High blood pressure and diabetes are examples of diseases in search of an agreeable definition. Isaac Singer recognizes this explicitly:

The nosology of insanity, the etiology, the symptomatology, pathology, diagnosis, prognosis, the care - how nicely the textbooks classified everything! How accurately they defined the idiot, the cretin, the imbecile, the epileptic, the hysteric, hypochondriac and neurasthenic. Instead of admitting that little was known about what went in the human brain, either healthy or sick, the professors stacked up Latin words.[35]

The term diagnosis connotes 'distinguishing through knowledge'. It seems doctors do distinguish, but without knowledge. That is why the same patient/slide/X-ray/ECG is diagnosed as 'x' by one, as 'y' by another, and as neither by a third. When doctors do not know about a patient's disease, a popular saying goes, they get away by giving it a name.

Investigations

Most of the tools a doctor used 25 years ago fitted into a small black bag. Today the typical American physician owns or has access to $250,000 worth of diagnostic equipment. Whenever one tries to link the development of new technology with any improvement in healing, the empirical response is the same: there is none. - *William Knaus*

Given the ever-expanding arsenal of computerized electronic gadgets - CT scan, auto-analyser, PET scan, NMR scan, ultrasonography - the modern medical man looks like a supersleuth, a Sherlock Holmes backed by a Watson carrying with him the latest off the IBM assembly-line. But there the analogy ends. In none of the Conan Doyle stories do the sleuths end up hurting their clients. In the medical field, they do. The seemingly powerful medical men and machines can often be impotent to do any good, but they always remain potent to do harm.

'Invasive investigation' is a medically respected term; it clearly indicates what such a mode of investigation is - actively invading the patient's body by needles and knives, catheters and scopes. A woman of 40 is fully at peace with her hypertension. The latest in the field is to 'work up' such a case by aortography. The needle put into the aorta ruptures it, and the patient dies of a sudden, uncontrollable internal haemorrhage. A man of 75 pleads to be left alone, but a scopy is done for locating his suspected oesophageal lesion. The scope penetrates the oesophagus, touching the heart and causes cardiac arrest. The arrest is revived but a little too late. The patient, now turned vegetative, dies at the end of ten days' struggle. A tumour of the retina is suspected. The only way to ascertain its presence and nature is by the removal of the eye. But one in four such eyes turns out, after it has been gouged, to be noncancerous - a horrendous price to pay for investigative aggressiveness. Many an invasive technique is used because of the 'Everest complex' - it is done because it is there. The victim of the invasion is the patient whose quarrel with the alleged disease is more in the physician's mind than in the patient's body. Pickering cites his personal experience with a woman with mild elevation of arterial pressure, 'too mild in my opinion either for investigation or treatment, whose kidneys were destroyed by aortography. No well-intentioned invasion of any tiny, peaceful nation by a superpower for the purpose of saving it from an enemy has ever done the country or its people any good.'[36] Well-intentioned or not, invasive investigation always extracts a price from the patient.

Electronics are supposed to give us instruments with *divya-chakshu* or magic eyes that tell us all about the patient, without the doctor even touching the patient. This is called non-invasive imaging. The NMR, soon to replace the CT scan, is promising to tell us all. But there is a snag. While the some of the patient escapes invasion, the mind is not spared. A xerograph of the breast raises the suspicion of a tumour, an ECG has the same learned question marks over its hieroglyphics. The cancer/coronary disease may eventually prove to be absent, but it rapidly spreads in the patient's mind. The voluminous iatrogeny that the medical check-ups and screening programmes produce was foreseen by Marcel Proust at the beginning of this century:

For one disorder that doctors cure with drugs (as I am told that they do occasionally succeed in doing) they produce a dozen other in healthy subjects by inoculating them with that pathogenic agent a thousand times more virulent than all the microbes in the world, the idea that one is ill.

Treatment

'The art of therapeutics', Bodley Scott said, 'is based upon the touchingly naive assumption that there is an answer to every question it poses.' How uncomfortably true that is, and how few people have the courage to say it.

We always say 'What is the treatment of this disease?' rather than 'Is there any treatment for this disease?' Deriving from this we obtain an uncomfortable concept which I believe to be true, but which I find too depressing to accept. This is it. It is better to believe in therapeutic nonsense than openly to admit therapeutic bankruptcy. - Richard Asher

Modern medical practice is like a game of conditioned reflexes that makes a doctor treat every complaint of the patient. The patient's readiness to pay the bill reduces the willing medicalman into giving therapy, rational or irrational. Consider the heart or coronary bypass. A monograph on the subject by T. A. Preston traces the history of such surgery from 1899 to the 1980s, to conclude that surgery, however sophisticated, makes no difference to the patient's chances of survival. In a chapter titled 'Economic factors in coronary artery surgery' the author points out that the routineness of this surgery is rooted in economics:

Having had a general view of the economics of coronary artery surgery, what should we conclude about the influence of economics on the incidence of the operation? First of all, the mere fact that this is big business has no bearing on its justification. Certainly the equipment suppliers and the hospital personnel involved in supporting the operation have no direct influence on the numbers of operations performed. But, indirectly, as pointed out by Ross, the existence of machinery and personnel tends to encourage their use. Certainly if the operation were an unqualified success in relieving the symptom and prolonging life, it would be a justified economic luxury despite the excess profits of some. But the real question is *whether the economics* of the medical situation influences the medical decision-making process with regard to the performance of the operation. The overabundance of surgeons, the dependence of most adult cardiac surgeons on coronary artery surgery for most of their business, the organization of medical health care delivery and fee payment, and the absence of economic restraint on the consumer are all too powerful forces that make it highly likely that coronary artery surgery is performed more often in the United States than it would be under a different economic system. Although it is impossible to determine the percentage of cases that would not be operated in the absence of economic incentives, the conclusion is inescapable that financial remuneration enters the medical decision-making process.[37]

The problem has moved from medical science to the morals of the market. Every year India loses some millions of rupees worth of foreign exchange when Indians go abroad for buying this surgery. Even surgeons in India are doing it for astronomical fees. Wilfred Trotter, the eminent English surgeon, called such situations 'the mysterious viability of the false'.

The fiscal, physical and mental violence that medical men inflict on the patient stems mostly from *routine* medical practice. A fever is suppressed but immuno-deficiency is also induced.

Children and adults are given sugary syrups that silently nibble away at the teeth. Analgesics and antipyretics fire the alimentary tract, kill appetite, induce sometimes fatal, gastric haemorrhages, produce skin rashes, inflame the kidneys, or suppress the bone marrow. Antibiotics displace all friendly microbes, only to replace them with alien, resistant ones. Tranquillizers disturb sleep rhythms. The *BMJ* and *The Lancet* have editorialized on the violent behaviour resulting from tranquillizer use. 'III health is big business, doctors and many others make their living by it, and pharmaceutical firms their fortunes.' This summing up by an eminent Canadian psychiatrist in his *feed Your Doctor Be So Useless? is* a sad commentary on the direct and indirect violence that results from modern medicine.

Prognosis

Medical colleges, books and journals tell us how much is or can be wrong with the human body, without having any time or inclination to learn how well the body manages to do without medical supervision. The doctors, however, have it both ways: If the patient dies, it is the fault of the disease; if the patient survives, it is thanks to medical magic. Probably this is as old as medical practice. Hippocrates advises a doctor to so cultivate the art of prognosis that he would be able to win credibility and esteem, on the one hand, and find the patient guilty, on the other.

In this guessing game, the doctor has everything to gain, the patient everything to lose. As we have already said, a prognosis can kill a patient long before he dies. Moreover, one can say unequivocally that there has not been, nor will there be any clinical or technological method that can enable doctors to make perfect prognoses. All doctors prognose at the individual level on the basis of statistics. 'In individual prognosis statistics function only as a weather vane. From them, the practitioner recognizes the wind direction. He knows nothing of wind velocity, or of weather conditions such as temperature, humidity, or visibility.'[38] A young boy of 19 was examined by a top cancerologist for a sarcoma just above the knee. An urgent amputation at the hip was advised as a life-saving measure. The mother asked the cancer surgeon what he would do if it was his son. She was told, 'Don't ask me such hypothetical questions, for my son does not have such cancer right now.' The distraught mother then sought the opinion of a pathologist who said that, since in any case the life-expectancy was not more than six months, it was better that the boy went to the grave with both his limbs, without the benefit of any treatment. It is 16 years since that prognosis, and the boy is alive and well. *Circa* 1955, Solzhenitsyn's stomach trouble was diagnosed as cancer - 'I give you 3 months, no more than that', the surgeon told him. In a society where personal profit is not the major motive in medical life, Solzhenitsyn has already survived for more than 30 years. As regards medical prognosis, the Taoistic creed of 'those who speak do not know and those who know do not speak' ought to be the guilding principle.

The converse of the prophecy of doom is the prediction that 'all will be well' if the patient takes recourse to the technological utopia of modern medicine. A young girl was diagnosed to have cancer in the middle of the thigh bone. The cancerologist declared that as the cancer was restricted only to the middle of the bone, she should be sent to the USA for excision and replacement of the excised part by a bone graft. The trip, the surgery, and the expense of Rs 400,000 could not save the girl. She died of cancer in less than four months. In the fields of heart/kidney/liver disease, it is the *good* prognosis based on high technology that reduces many a family to penury. If those who prognose doom are doctors who see death when there may be life, the prognosticators of cure deny the possibility of death when in fact it stares them in the face. As in physics, so in medicine; one can be certain only of uncertainty.

Experimentation/Research

All this is unhappy stuff for someone to be writing who has thoroughly enjoyed a professional career in laboratory research on infectious diseases and immunology. None of my juniors seem to be worried as I am, that the contribution of laboratory science to medicine has virtually come to an end. The big-medical sciences all continue to provide fascinating employment for those active in research and sometimes enthralling reading for those like me who are no longer at the bench but can still appreciate a fine piece of work. But the detail of an RNA phage's chemical structure, the place of cyclostomes in evolution of immunity or the production of antibody in test-tubes are typical of today's topics in biological research. Almost none of modern basic research in medical science has any direct or indirect bearing on the prevention of disease or on the improvement of medical care. - Macfarlane Burnet

This obituary of laboratory research has been written by an eminent immunologist who also happens to be a Nobel Laureate. Yet, like 'priesthood' or 'patriotism', the terms 'experimentation' and 'research' in medical science continue to be unquestionably sacred. Ask the lay or the learned, and the reply would still reflect the optimism of an earlier age.

To some extent this is understandable. The modernity of medical science derives its sustenance from the picture of white-coated scientists poring over test-tubes and peering into microscopes to wage an unflagging battle to defeat the enemy-disease. The medical student, teacher, practitioner or researcher, all move in a world imbued with the 'scientific temper', dreaming of or actually doing experiments or research. On cancer alone, the global output exceeds 700,000 publications per year. Even though no cure is in sight, according to Davis, the American Cancer Society's science editor, cancer research is more rewarding than research on heart disease, stroke, influenza, pneumonia, diseases of early infancy, diabetes, cirrhosis of the liver, arteriosclerosis, emphysema, nephritis and nephrosis.[39]

A popular quip in medical colleges is: 'Maybe the dean cannot read, but he can count.' So, the motto of the college, like that of doctors the world over, is: publish or perish. 'Virtually any article submitted, whatever its merit or lack thereof, eventually finds publication as it filters down the cascade of journalistic acceptability.' This observation by L. H. Smith, Jr., in his 'Foreword' to Cline's *Cancer Chemotheraphy,* seems to offer an explanation of what Smith calls the 'population explosion of books (and articles) greater than that of men'.[40]

Some years ago, *The Lancet* published an imagined conversation between Socrates and Democritus in which the former asks why these days one does not find professors in a medical college who really know about their patients and can take care of them. Democritus replies that most of them are busy in the laboratories writing 'dialogues' and thus have little time to be with or to learn about human beings.

The beast of burden in the gargantuan medical research enterprise is the common man, the patient. If a drug, instrument or operation is evolving, it is through a trial on the patient. If it has already evolved, the pharmaceutical firms want 272,000 patient years of experience (gained in five years) and the surgeons start on building up a series. If Dr Sensible only operates when he must, and Dr Glamour operates on anybody who comes his way, Dr Glamour shortly gets known in the market as the one with 'a large series'. There are few drugs or operations that are not in fact experimental. Medical students learn of peptic ulcer surgery as being 'curative' when medical therapy fails. And yet, to quote Ian Aird, 'Every operation the surgeon performs for ulcer is an experiment, even though it is a logically necessary and probably desirable

experiment.'[41] This generalization needs to be compared with the advice of the British surgeon J. Fry: 'Leave an ulcer alone, and it invariably burns itself out in a few years' time.'[42] The millions of surgeries for peptic ulcer performed by doctors on their patients (but rarely, if ever, for their own ulcers) represent a gigantic experimental research that, as yet, seems, *pace* Aird, neither logical nor necessary.

The 'academic' spirit and the thirst for 'knowledge' have often led to the use of 'human guinea pigs' for research. The recent media concern with Dr Josef Mengele, the Angel of Death, is not irrelevant to our times.[43] For his case has provided a design for 'healing' that is no longer unknown to us. That the multinationals and the big national companies do their drug trials on third-world peoples is common knowledge. Some years ago, when US researchers chose to make a controlled trial on the effectiveness of penicillin on syphilis, the control group denied penicillin was the back inmates of a prison. Another researcher wanting to study the role of the thymus removed them from the young patients operated upon for altogether different reasons. The 'clinical trials' on poor people and on prisoners, on payment, in both rich and poor countries only testify to the fact that while to medical researchers all patients may be human, some are certainly less human than others.

Professional Image Building

Image building is chronic to the medical profession. Occasions for it are provided at gatherings called conferences, seminars, symposia, workshops, brain trusts, congresses. The subjects of discussion range from dyspepsia to death. When they meet, everyone is free to talk; no one needs to listen. The torrent of words thus discharged finds its way into sleekly bound volumes with attractive and grandiose titles ('recent advances', 'modern trends', 'current concepts', 'latest developments', and so on). Such volumes project the image of a medical system perpetually on the move forward, and convince the laity of the importance of all that the learned doctors say and do. Ultimately the doctors, too, come to believe their own inflated claims.

Though as incurable as cancer, image building differs from cancer in being extremely contagious. It affects both generalists and specialists. The most severely affected is the doctor's vision, particularly the ability to read the writing on the wall. While the pharmaceutical firms and the gadget-makers foot the bill, the medical men confer, discuss, debate and publish to create a sense of well-being and to promise a technocratic utopia.

Koestler has christened the conferees 'call girls'.[44] It is an appellation which seems more and more justified. Each recent advance claimed at a conference consists in devaluing an earlier claim. Here is an example from *Important Advances in Oncology 1985:*

As recently as 25 years ago, the management of early carcinoma of the breast in the United States was routine: Virtually all patients underwent radical mastectomy. Since then, new concepts and approaches have been introduced, and there is now considerable uncertainty and controversy about the optimal treatment of this disease.[45]

Even more telling is the summary of the situation by Hedley Atkins: 'Our recent studies of breast cancer have made such progress that we now realize that none of us knows how to treat it.'[46] Boyd, the eminent Canadian pathologist, pronounces a similar judgement on diabetes: 'The more we know about diabetes, the less we seem to understand it.'[47] This judgement can be extended to all other disciplines of medicine.

As if in response to such judgements, doctors today make greater efforts at image building; so do purveyors of medical goodies. The public gets more and more confused and, in the absence of a sharp critical consciousness, continues to believe medical claims. The global image-building movement has successfully spawned the medical-industrial complex, the 'mediplex'.[48]

A medical-industrial complex of profit-making companies is already firmly established. Profit-making conglomerates own chains of hospitals, nursing homes, kidney dialysis centres, diagnostic laboratories, pharmacies, medical office buildings, ambulatory surgical centres, and shopping mall emergency centres. In the 1970s these chains grew faster than the computer industry. They will inexorably restructure - and could conceivably take over - medical care in the United States.[49]

In Bombay, cardiologists are putting up a multi-million dollar cardiac complex financed by a major national bank, largely to house intensive-care units and to do bypasses, although these now stand condemned in saner medical circles.

The violence of the medical-industrial complex is manifold: (1) medical care is now for those who can spend huge sums or are prepared to run into insolvency; and medical bills are now made with the same detachment as bills in a five-star hotel; (2) the wall of gadgetry that separates the clinician from his patient is growing more impenetrable; (3) the patient is effectively shielded from his/her kith and kin, and the milieu in which a patient is kept is becoming truly sterile; (4) medicine has turned from the art of caring into a technique of management; human health is a business, an industry, and the mediplex now has, like the military-industrial complex, its unofficial dogs of war; (5) there are bewildering contradictions of the kind represented by the typical medical journal carrying both half-page editorials on the ill-effects of antibiotics and full-page coloured advertisements of antibiotics. (Likewise, while cola drugs are said to produce peptic ulcer, the symposium on peptic ulcer at the annual meeting of the Association of Surgeons of India was funded by a leading cola-drink manufacturer.)

III. Alternatives for a way out

We set out below some principles that provide common-sense approaches to medical care: (1) do no harm; (2) ease the dis-eased; (3) free the patient from dependence on the disease, drugs and doctors; (4) avoid violence in thought, words, or action. The compendium is for the perplexed amidst a kaleidoscope of deceptions. It is derived from certain basic principles.

Natural

A physician (*physike,* after all, means 'nature') should be a naturalist engaged in the study and service of man. He should learn to make the most of vis *medicatrix naturae* (the healing power of nature) by appreciating, trusting and promoting what physiologist W. B. Cannon has called 'the wisdom of the body'. T. McKeown underscores this by summarizing the basic functions of a doctor as limited to assisting the natural functions of birth, life, and death.[50]

Epistemological

We shall never know the cause and the course of any illness in a patient, especially if it belongs to the great common mass of intrinsic diseases. Lewis Thomas has rightly called human ignorance the greatest discovery of the twentieth century. J. Bigelow's statement that 'most men

form an exaggerated opinion of the powers of medicine' has as much relevance today as it had when it was formulated a century earlier.[51]

Experiential

While the doctor only studies a disease, the patient experiences it. Therefore it is the patient who has firsthand knowledge of the disease. This truth, when driven home to a patient, has the potential of coverting a dependent, desperate person into a self-respecting, responsible, self-caring person. 'Many a diabetic patient', Fischer says, 'survives by stealthily eating the bread his physician has denied.' This applies to most forms of therapy.

One-third of all patients who die in the Beth Israel Hospital, Boston, undergo cardiopulmonary resuscitation. And of those who recover from resuscitation one-third say that they had not wanted to be resuscitated and would not want to be in the future. Now that cardiopulmonary resuscitation has become so common, should not patients be asked about their views before the event? The Boston study showed that doctors were frequently mistaken when they relied on impressions rather than direct questions.[52]

Be it cancer, coronary or kidney failure, the doctor should furnish the data, the patient should make the decision.

Candour

'Nature has planted in our minds', Cicero declared around the beginning of the Christian era, 'an insatiable longing to see the truth.' The longing grows stronger in a patient who has smelled the truth that the physician has denied. 'In my experience... it does not usually work out in the long run to be seduced into telling the untruth.'[53] This statement by a cancer therapist is matched by one made by a cancer patient: 'The time to be honest about cancer is now.'[54] The plea is supported by the American physician-philosopher Richard Cabot: 'I have never known a man or woman made worse by telling them the truth.' Truth, however, is the first casualty in a profession that still clings to the medieval maxim: In the presence of the patient, Latin is *the* language.

Candour in medical practice builds the bridge of friendship and co-operation between the physician and the patient, a partnership of shared knowledge and ignorance, strength and weaknesses, assets and liabilities. No false promises, no false expectations; no dubious plans, no ruinous expenses; no subterfuges, no longer the air of fear and mystery that otherwise marks every encounter. (For a touching description, see Martha Weinberg's *Heart Sounds.)*

Hierarchical

The one teacher that a medical student and a practitioner can always learn from is the patient. A doctor does not treat a patient; he interacts with the patient to help the patient. 'The most important person in the operating theatre is the patient.' This is how the eminent surgeon Russel Howard puts it in an effort to demystify his profession.

The honour accorded to doctors by lay persons stems from their fear of disease and death. It makes them glorify the physician and thus reverse the moral hierarchy that should guide the medico-legal system. It should be noted, however, that the hierarchical reality has somewhat altered since the rise of malpractice suits in the West. The new, uneasy and estranged

relationship between patient and doctor is traceable to many a violation of the code *of* conduct, which the modern doctor will have to relearn.

Professional

From a clinical point of view, sickness, illness, disease and patient have not been satisfactorily defined. It is impossible to be 'sick' because of cancer; only temporary maladies qualify as sickness. That disease really means dis-ease has been forgotten, and it is customary now to talk of disease of the oesophagus or of the dis-eased aorta. A person with arteriosclerosis from head to foot or with 'hypertensive cardiovascular disease' may be more at ease than a person with no diseased organs or tissues. An Englishman, carrying on him a large sebaceous cyst that fetches him two guineas for every appearance at professional examinations in surgery, does not have any disease, but only a sebaceous cyst. Our inability to distinguish between asymptomatic structural or functional alterations - a breast lump, raised blood pressure, high blood-sugar level - and true disease makes us rush into 'treating' every such 'patient'. What Asher says is pertinent here:

I am only anxious to demonstrate how an observation can be interpreted in entirely different ways, according to whether you assume the condition is an illness or not, and to show how easy it is to make such an assumption without knowing it. You cannot say what things are abnormal till you have agreed on what is normal. You cannot describe disease without describing ease first.[55]

The saddest part of medical science is its inability to define the 'normal'. Psychiatrists find every human being abnormal in one way or another.

If disease becomes our key term, a patient becomes a person who is ill-at-ease or, more appropriately, dis-eased. A physician then turns into a person whose professional role consists in easing the dis-eased. Some corollaries follow:

1. When there is no dis-ease, there is no patient and there is no need for a doctor.

2. Whosoever eases the dis-ease is *the* doctor. This generalization admits of a holistic approach that sanctions any medical system (-pathy) to the extent it works for the patient.

3. Hoerr's Law asserts: 'It is difficult to make an asymptomatic patient feel better.'[56] Stated differently, it is easy to make the asymptomatic patient (a person at ease, and therefore not dis-eased, therefore not a patient) feel worse. So, in many a routine medical check-up, a *person* walks in and a *patient* walks out.

4. The idea that the chief role of a medical system is to take care of the dis-eased gives the system only a palliative role. This is as it should be. Oliver Wendell Holmes has described his teacher, Dr Jackson, as one who never talked of curing his patients, 'except in its true etymological sense of taking care of him'.[57] Holmes goes to the extent of generalizing that 'the doctor who talks of curing his patients belongs to that class of practitioners known in our common speech as "quacks". '58

Modern medicine is in need of humility; it must give back to 'cure' its etymological meaning. It must recognize that with a concerned physician around, no disease, no death, is incurable. A drug to ease, a procedure to palliate, a word of cheer, the graceful stoicism to hold the dying

patient's hand - all this and more falls within the curative competence of a compassionate clinician.

Biological

Health is far more universal than disease. With the microbial biomass outweighing the total animal biomass twenty times over, with the world full of carcinogens, with pesticides constituting a part of mother's milk, with every machine and electrical gadget causing noise pollution, it is not at all surprising that we fall ill. But it seems a wonder of wonders that most of us carry on merrily into old age. The diseases that fill up the medical lexicon are legion but they should not detract from renowned pathologist W. Boyd's reassuring remark: 'When all the natural frailties of our bodies are considered, it seems strange that a harp with so many strings should stay in tune so long.'[58]

An appeal for donations by the renowned Imperial Cancer Research Fund, England, tells the truth effectively: 'It is good to remember that most people live out their lives untouched by any form of cancer.'

Trajectorial

Adolph Portmann observes that animal life is configured time.[60] When time shapes itself, a human comes into being. As a function of time he or she cuts teeth, the voice cracks, menstruates, grows to be a diabetic, cancerates, pushes up the blood pressure beyond the medically-assumed normal, needs bifocals after the age of 40, gets his coronary arteries blocked, and so on. Most of this is a part of growing, a function of time, and blissfully, discreetly, very, very silent, right unto death. Thus, any pathology, accidentally discovered, is best left alone.

Aetiological

Fabricating theories about the cause of a disease is a favourite medical exercise that justifies the oddest and cruellest of researches, makes the medical man look learned, and reduces the patient to a beast of burden, carrying a heavy load of guilt and repentance. Aetiology is a variant of the *karmic* theory wherein a current tragedy is linked to an alleged sin in the distant past; it makes the illness more insufferable.

Any form of aetiology has a ring of *j'accuse* aimed at the patient; it tends to divest the physician of compassion for the distressed patient. Aetiology promotes the illusion that every conceivable thing or action can be a cause of illnesses such as cancer or coronary attacks.

From alleged slips in eating, drinking or love-making doctors have now moved on to the patient's psyche as causing or aggravating an illness.[61] We may soon hear a doctor telling a patient that it was not smoking or sex that caused his or her cancer, but the patient's mind was devoid of the right kind of positive thinking. 'So I wouldn't be surprised', Oleg, the hero of Cancer *Ward,* observes, 'if in a hundred years' time they discover that our organism excretes some kind of cesium salt when our conscience is clear, but not when it is burdened, and that it depends on this salt whether the cell grows into a tumour or whether the tumour resolves.' The popular formulation in the United States, 'what we eat eats away as cancer', has inspired the otherwise severely scientific *Science* to put on its cover green and red diamonds with the heading: 'The Green Diamond - Eat, The Red Diamond - Die'.[62] The aetiologic scienticism that

declares that if you eat the red-diamond food items, you get cancer and die is totally unaware of another American finding: in *Seeds of Destruction,* the first chapter says of the 'role' of cancer in a patient's death, 'Cancers are generally not in themselves fatal; that is, with rare exceptions, they do not produce toxins, or otherwise kill the host directly.'[63]

From such experiences follow some guidelines for doctors:

1. Aetiology is retrospective speculation that is best avoided. 2. Do not theorize about causation.

3. Remember that the human frame - yours or the patient's - is heir to diseases merely as a function of time.

4. Even if you *are* convinced about the fault of the patient, do not be explicit about it if it is too late for him or for you to correct it.

5. The acronym DOMP (diseases of medical progress) and the expanding ailments labelled iatrogeny compel us to recognize that, often, the doctor is the aetiology of many diseases. 6. Aetiology-hunting keeps on changing like fashions.

Asher says:

One might just as well argue that the use of wrist watches was becoming increasingly common compared to the Victorian times, and that therefore the increasing incidence of peptic ulcers was attributable to the wearing of wrist watches. Among the guesses, presumptions and conjectures is the assumption that the speed of civilization always involves stress and strain. Crossing the Pacific in a Comet is less strain than crossing it in a coracle, and cave-men were probably as much troubled by shortages of suitable flints as modern man is troubled by his income tax.

The danger of psychosomatic explanations for unexplained diseases is that it is so easy to find them and they provide a comforting illusion that something has been explained, when it has not.

It is important to realize that ideas are much easier to believe if they are comforting, and that many clinical notions are accepted because they are comforting rather than because there is any evidence to support them.[64]

Statistical

For medicine, the twentieth century is an era of statistics - satisfying to collect, perfect for publishing papers, impossible to integrate. Statistics are an outstanding failure in modern medicine.

The confusion created by statistical data spawned the concept of statistical significance. It was assumed that if significance was established, a theory was validated. Modern medicine has now become more conscious of the insignificance of statistical significance.[65] A 1918 confession by two medical men, on cancer, is equally applicable to other diseases today:

A generation of workers have laboured with great industry, intelligence, and patience, and a mass of information has been collected, but when it is sifted carefully, we find ourselves very

much where our forefathers were, so far as any clear ideas of the cause and nature of cancer are concerned. But what is most disappointing, we are precisely where they were so far as the treatment of the disease is concerned. All that they knew was that the proper thing to do for cancer of the breast was to remove it. All that we know is to remove it.[66]

Knebel, bored with the figures that studies on smoking perpetually produce, concluded: Smoking produces statistics.

Most medical men are unaware that statistics can be easily fudged. A cardio-radiologist may overread the degree of coronary artery blockage, his bypass-friend may underread the post-operative psychoses and other complications; and they may nevertheless produce statistically the most alluring results. As D. H. Spodick observed on the coronary bypass: 'Even after contrary results begin to appear, those who develop a new medical or surgical therapy rarely issue negative reports.'[67] Medical men are not exempt from the belief that what the majority does must be right.

Some morals for medical men follow from this:

1. Take statistics with a pound of salt - be it a learned paper from a doctor or a colourful handout from a multinational pharmaceutical firm.

2. In a one-to-one encounter with the patient, that is, in bedside or clinical medicine, trust what you see in the patient, what the patient feels, and what your horse sense says. Often, therapy acclaimed today is therapy condemned tomorrow.

3. In a teaching or a research institute, (a) avoid the 'common man' as one more statistical figure; (b) resist the temptation to build up a series; (c) refrain from making up your mind about the worthwhileness of a drug, surgery or equipment in advance lest your clarity should suffer; and (d) drive home to your students and colleagues the inherent limitations of statistics.

4. What medical statistics reveal may be interesting, but what they conceal is vital. Remember the non-swimmer statistician who got drowned trying to wade through a river with an average depth of three feet.

Diagnostic

The doctors found, when she was dead,
Her last disorder mortal.

- Oliver Goldsmith

1. A diagnosis is not an obligatory function of the clinician. When diagnosis is not clear - a situation all too common in the clinic - the best thing is to own up one's ignorance, and treat the patient for the symptoms.

2. A diagnostic label is no virtue. Asher cites two interesting examples:

'I seem to have an inflamed tongue, doctor. Will you look at it?'
'Ah, yes, You've got glossitis.'

'What is this strange condition with red things which expand from the centre in widening circle?' 'That', says the dermatologist, 'is erythema annulare centrifugum.'

The classical diagnostic label that physicians use when confronted by a confounding fever is PIO, pyrexia of unknown origin. A more sincere acronym would be FIKNA, fever I know nothing about.

3. While diagnosing, avoid eponymous terms - Kimmelstiel-Wilson lesion, Guillian-Barre syndrome - especially on the paper carried by the patient or his relations. In place of Kimmelstiel-Wilson syndrome, it is simpler to write diabetic nephropathy/nephrosis; still simpler to write kidney-damage because of diabetes, or, simply diabetic kidney. The authors had a case when a father came rushing, carrying a case paper issued by a consulting surgeon carrying the frightening diagnosis of acute omphalitis, which, translated, only meant a little gravel in the umbilicus of a playful girl, the gravel giving rise to some excoriation of skin and needing only cleaning in place of the antiseptics and antibiotics prescribed.

4. Etymologically, 'diagnosis' means a state of knowledge.

In reality it is a state of circumscribed ignorance, a state of doubtfulness. The diagnosis of hypertension is an act of faith the world over; it is based on the fallacy and unreliability of an average which does not exist in real life.

5. The diagnostic zeal of a clinician should be commensurate with the patient's unease and need. Often, an interesting case means a patient well-at-ease (and therefore, not really a patient) and a clinician uneasy about some finding he cannot reconcile with.

At the end of the range is a patient, say, riddled with secondary cancers, the primary source being unknown, and unlocatable. It is pointless to subject such a patient to biopsy/scopy to establish *the* diagnosis. For, even if located, it in no way helps the clinician or the patient.

6. WHO have popularized three errors globally: it introduced in 1953 a definition of 'health' that makes everybody feel diseased and hence in need of diagnosis and treatment. Peter Sedgwick[68] has listed the side effects of the WHO health-concept as: (a) a progressive annexation of non-illness into illness; (b) the spread of the idea that the future belongs to illness, and (c) that we are going to get more diseases, as our expectations of health become more expansive and sophisticated. Every hospital admission, by WHO requirements, carries a diagnostic label. The result is a global epidemic of diagnosis.

Another kind of error is to classify real and imagined diseases and to codify them by numerals, making it imperative for all hospitals to give numbers to their patients accordingly. The person in the patient is forgotten - as Norman Cousins vividly experienced - and a diagnostic tag, a classification or a code number becomes the driving force for the hospital staff.[69]

WHO's *coup de grace is* its insistence that every death be recorded with its cause, that is, a specific diagnosis.

Investigational

Often medical men ask their investigations to do too much for them; and the inflated expectations create problems. Any investigation into any disease process reveals just one

aspect of it, which does not necessarily enable the physician to alter the course of the disease for the better. If investigation or a set of investigations revealed the cause, the whole cause, and nothing but the cause, and if, but only if, the cause can be eliminated without eliminating the patient, the exercise would be justifiable. Very few illnesses fulfil these conditions. Examples are a foreign body in the eye, an abscess, an obstructed delivery, a fracture with bony displacement.

Worldwide investigations into medical investigations allow some generalizations:

1. Laboratory error may be the source of unexpected, unexplained abnormal results, for no laboratory is perfect. A proportion of patients who had unexplained results can turn out to be 'normal' when the tests are repeated.[70]

2. A majority of unexpected, unexplained abnormal results could be explained if more appropriate normal values were used in the interpretation of the results. (The term 'reference values' is preferable to 'normal' values.) The 'normal values' commonly quoted in the literature have been obtained from male medical students. It is now realized that virtually all serum biochemical factors alter with age and there are differences in concentration between the two sexes.[71]

3. If each person was subjected to twenty different tests, 66 per cent of healthy people would show one or more abnormal results.

4. Point 3 begets 'false positive results' which in turn spawns what Rang calls 'the Ulysses' syndrome'.[72] The characteristic features are mental and physical disorders which follow a false positive result. The syndrome has been named after Ulysses because patients afflicted with it, though healthy at the outset, make a long journey through a large number of awe-inspiring investigations and go through a number of adventures before returning to their point of departure.

The Ulysses' syndrome should be distinguished from an iatrogenic disorder. The syndrome is a side-effect of investigation, not of therapy. The first aetiologic factor in the Ulysses' syndrome, Rang says, is 'the mischievous investigation'. He points out that every unnecessary investigation exposes the patient to the risk of the Ulysses' syndrome. Such unnecessary investigations are produced by (i) mass screening; (ii) insurance coverage of the cost of investigation; (iii) resident doctors in hospitals carrying out investigational overkills to avoid criticism by other staff members; and (iv) lab-request forms on which are listed such long menus of investigations that the doctor who asks only for one or two tests feels that he is rather old-fashioned or has an uninteresting practice. The Ulysses' syndrome is now threatening to become endemic; it is now an euphemism for what we call DIID (diagnostically induced iatrogenic disease/disorder).

5. Laboratory is therefore best avoided.

6. Any investigation, therefore, be it a blood count or a CT scan, should be ordered only if the data already obtained demand the count or the scan, never as a routine.

7. Much of the cost spiral in the health industry is a byproduct of 'routine' investigations medical men can well do without.

8. A dispassionate, epistemological evaluation of the technological gains of the modern medical system reveals them to be in the areas of imagery, accessibility, analysis, association and amplification.

The more the science and the art of the physician interact, the greater is the variety of means by which medical imagery can be obtained. Yet, to take but one example, X-rays, xero-radiography and computerized-tomographic (CT) scan, ultrasonography and nuclear-magnetic-resonance (NMR) imaging, all leave a cancer where it was - diagnosed a little too late. The cannulation of the pancreatic duct or artery for the diagnosis and treatment of pancreatic cancer, or the ability to enter the skull to treat brain cancer leaves the cancer's autonomy untouched. Increasingly refined biochemical techniques allow many substances to be measured with pico-precision (pico = $1/10^{12}$), and analytically tell us a lot about heart attack, diabetes mellitus and rheumatoid arthritis, without predictably and/or favourably altering the course of the disease. Epidemiology connects the husband's cigar to the wife's cancer, coffee to cardiovascular disease, and refined sugar to peptic ulcer - an associative exercise that makes more anxiety than sense. The electron microscope amplifies the size of a T-lymphocyte any number of times, only to amplify our ignorance of the cell to the same magnitude.

Therapeutic

The term therapist is made of two words. The popularization of the words 'radical' and 'super-radical' and the like for treatment, without medical science having been able to confirm their gains, are pointers to the fact that the therapeutic enthusiast has satisfied himself at the cost of the patient. Radicalism in cancer therapy is dead.

Science in 1980 said; 'The desire to believe in progress in cancer treatments is so profound that people (lay and learned) don't want to hear the disbelievers.'[73] Cancerology, rife with all forms of therapy, still does not really know what to do about a cancer case. 'The entire field of orthodox oncology will disappear', an American medical heretic recently declared, 'as chemotherapy, surgery, and radiation for cancer are revealed as fundamentally irrational and scientifically unsupportable.'[74]

The medical *id*  *e fixe,* that when everybody gives some therapy it must be right, is scientifically wrong, be it in cancerology, cardiology, diabetology or arthrology. What has not seeped into the medical and lay consciousness is that, for intrinsic diseases, there is no therapy and, for extrinsic diseases, the body often recovers on its own. With this preamble, a few points are in order:

1. Every treatment is unique: no treatment is also a form of treatment, and what is treatment is often a euphemism for palliation.
2. If you treat, make the most of the gains possible through readjustments of the patient's life-style. Many a patient of hyperacidity/peptic ulcer can cure the illness by a relaxed meal, chewed deliberately.
3. If you must use drugs, avoid combinations so that should a mishap occur you know what it is due to.
4. If you must operate, inflict minimal trauma.
5. Emphasize that therapy helps the body that basically heals itself.
6. Realize that a patient needs, above everything, *joie de vivre* which greatly depends on good mood, good food, good air and sunshine.

7. Remember that the chief function of the therapist is to liberate the patient from his dis-ease and from dependence on the doctor.
8. Teach a patient that many a disease can be comfortably and creatively lived with.
9. A part of the therapy is to teach the patient that disease is no enemy, that more often than not it is one's own flesh and blood, an 'ill-fated thing, but one's own'.
10. The ultimate in therapy is not only not to compromise with death, but rather, to facilitate a good, dignified death. If you teach your patient to live with a dis-ease, you may as well teach him to die with that disease.

Towards Minimal Violence in Medicine

The encounter between the patient and the physician is between the patient's body, mind and soul and the expertise of the physician. While the scope for doing good to the patient is substantial, the chances of hurting the patient are equally substantial.

The attempt should be to maximize the patient's ease, and to minimize violating his well-being. This can help the clinician and the patient minimize violence in medical practice. A litany by Sir Robert Hutchison sums up succinctly the art and the science of therapeutics:

From inability to let well alone, from too much zeal for the new and contempt for what is old; from putting knowledge before wisdom, science before art, and cleverness before common sense; from treating patients as cases, and from making the cure of the disease more grievous than the endurance of the same, Good Lord, deliver us.

Notes

1. F. M. Burnet, 'Concepts of Autoimmune Disease and Their Implications for Therapy', in C. E. Lyght (ed.), *Reflections on Research and the Future of Medicine* (New York: McGraw-Hill, 1967), pp. 9-24.
2. J. H. Knowles (ed.), *Doing Better and Feeling Worse: Health in the United States* (New York: W. W. Norton, 1977).
3. L. Dossey, 'Space, Time and Medicine', *ReVision,* 1982, 5, pp. 50-62.
4. M. L. Kothari and Lopa A. Mehta, *The Nature of Cancer* (Bombay: Kothari Medical Publications, 1973).
5. M. L. Kothari and Lopa A. Mehta, *Cancer: Myths and Realities of Cause and Cure* (London: Marion Boyars, 1979).
6. J. Hixson, *The Patchwork Mouse: Politics and Intrigue in the Campaign to Conquer Cancer* (New York: Anchor Doubleday, 1976).
7. V. E. Frankl, *The Doctor and the Soul: From Psychotherapy to Logotherapy* (Harmondsworth: Penguin, 1973).
8. R. D. Guttman, 'Renal Transplantation', *New England journal of Medicine,* 1979, 301, pp. 1038-48, 975-82.
9. D. Horrobin, 'In Praise of Non-Experts', *New Scientist,* 1982, 94, pp. 842-4.
10. A. Relman, 'Comments on Forces Reshaping America', U.S. *News and World Report,* 1984.
11. Jean Mockbee, 'Mercy Killing' (letter), *Time,* 16 September 1985, p. 2.
12. J. A. Raeburn, 'Antibiotics and Immunodeficiency', *Lancet,* 1972, 2, pp. 954-6
13. A. J. Smith, 'Personal Viewpoint: David and Goliath', *Medical Journal of Australia,* 1983, 2, pp. 291-2.

14. M. N. G. Dukes, 'The Seven Pillars of Foolishness', in *Side Effects of Drugs Annual, 8* (Amsterdam: Elsevier, 1984), pp. xvii-xxiii.
15. E. H. Erikson, 'The Golden Rule and the Cycle of Life', in R. J. Bulger (ed.), *Hippocrates Revisited* (New York: Medcom, 1973), pp. 181-92.
16. W. Alvarez, *Incurable Physician: An Autobiography* (Englewood Cliffs, N.J.: Prentice-Hall, 1963).
17. G. E. Robbins, M. C. Macdonald, and G. T. Pack, 'Delay in the Diagnosis and Treatment of Physicians with Cancer', *Cancer,* 1953, 6, pp. 624-6.
18. Editorial, 'If I had', *British Medical Journal,* 1978, I, p. 874.
19. H. A. F. Dudley, 'If I had Carcinoma of the Middle Third of the Rectum', *British Medical Journal,* 1978, I, pp. 1035-7.
20. J. P. Kassirer, and S. G. Pauker, 'The Toss-Up', *New England Journal of Medicine,* 1981, *305,* pp. 1467-9.
21. Nergis Dalal, 'Slaughter at the Altar of Science', T*he Times of India,* 23 August 1981, p. 1.
22. A. A. Rubin (ed.), *Search for New Drugs* (New York: Marcel Dekker, 1972).
23. S. K. Pandya, 'Book review of *Sushruta Samhita (A Scientific Synopsis)', Journal of Postgraduate Medicine,* 1985, *31,* pp. 180-1*.*
24. G. Pickering, 'Degenerative Diseases: Past, Present and Future', in C. E. Lyght (ed.), *Reflections on Research and the Future of Medicine* (New York: McGraw-Hill, 1967), pp. 83-99. See also G. Pickering, *High Blood Pressure* (London: Churchill, 1968).
25. N. Cousins, *Anatomy of an Illness* (New York: W. W. Norton, 1973).
26. Dukes, 'The Seven Pillars of Foolishness'.
27. A. F. Jones *(ed.), Richard Asher Talking Sense* (London: Pitman, 1972).
28. W. B. Cannon, The *Wisdom of the Body* (New York: W. W. Norton, 1973).
29. M. Burnet, Genes, *Dreams and Realities* (Bucks: MTP, 1971).
30. Alex Comfort, *The Anxiety Makers* (London: Panther, 1968).
31. F. J. Ingelfinger, 'Cancer! Alarm!', *New England Journal of Medicine,* 1975, *293,* pp. 1319-20.
32. R. Greene, 'Duodenal Ulcer', in *Sick Doctors* (London: William Heinemann, 1956), pp. 726-44.
33. P. D. Vries, quoted by P. Gray in 'How the Sexual Revolution Began: Slouching Towards Kalamazoo', *Time,* 11 July 1983, p. 58.
34. Arthur Koestler, 'Can Psychiatrists be Trusted?', in *The Heel of Achilles: Essays 1968-1973* (London: Picador, 1976).
35. Isaac B. Singer, quoted in 'The Estate', Time, lo April 1978, p. 58.
36. Pickering, *High Blood Pressure.*
37. I. A. Preston, *Coronary Artery Surgery: A Critical Review* (New York: Raven Press, 1977).
38. H. T. Hyman, quoted in M. D. Strauss (ed.), *Familiar Medical Questions* (Boston: Little, Brown, 1968), p. 461 a.
39. Quoted by D. S. Greenberg, 'The Press and Health Care', *New England Journal of Medicine,* 1977, 297, pp. 231-2.
40. L. H. Smith, Jr., 'Foreword', in M. J. Cline, *Cancer Chemotherapy I* (Philadelphia and London: W. B. Saunders, 1971), p. v.
41. I. Aird, *A Companion in Surgical Studies* (Edinburgh: Livingstone, 1968).
42. J. Fry, 'Peptic Ulcer: A Profile', *British Medical journal,* 1964, 2, pp. 809-12.
43. 'World: Visions of Hell. Pursuing the "Angel of Death" ', *Time,* 18 February 1985; 'World: A Manhunt Leads to Bones. Brazilian Police Claim to Have Found Josef Mengele's Remains', *Time,* 17 June 1985, pp. 20-1; 'Friedrich O. Mengele: Non Requiescat in

Pace', *Time,* 24 June 1985, p. 17; 'World: Absolutely No Doubt: Investigators Conclude that the Mengele Mystery has been Solved', *Time,* 1 July 1985, pp. 22-3
44. A. Koestler, T*he Call Girls* (New York: Dell, 1973).
45. J. R. Harris, and S. Hellman, 'Limited Surgery and Radiation as Primary Local Treatment for Carcinoma of the Breast', in Y. T. De Vita, Jr., S. Hellman, and S. A. Rosenberg (eds.), *Important Advances in Oncology,* 1985 (Philadelphia: Lippincott, 1985), pp. 243-53.
46. H. Atkins, quoted by W. P. Greening, 'Role of Surgeon on the Management of Breast Cancer', *Journal of the Royal Society of Medicine,* 1980, 73, pp. 837-8.
47. Boyd, *Pathology for the Physician* (Philadelphia: Lea & Febiger, 1967).
48. A. S. Relman, 'The New Medical Industrial Complex', *New England Journal of Medicine,* 1980, 303, pp. 963-70.
49. H. J. Geiger, New *York Times, 9* January 1983. Quoted in 'lo Forces Reshaping America', U.S. *News and World Report,* 1984.
50. T. Mckeown, *The Role of Medicine: Dream, Mirage or Nemesis?* (London: Nuffield Provincial Hospital Trust, 1976).
51. J. Bigelow, quoted by A. C. Corcoran, in *A Mirror upto Medicine* (Philadelphia and New York: J. B. Lippincott, 1961), pp. 4-5.
52. 'Minerva: Views', *British Medical Journal,* 1984, 281, p. 1461.
53. H. W. Jones, 'Comment on Should the Doctor Tell the Patient that the Disease is Cancer?', by V. A. Gilbertsen and D. H. Wangesteen, *Cancer,* 1962, 12, p. 82.
54. J. Graham, 'A Time to Live', column in *Chicago Daily News* and *Chicago Sun-Times,* 9 July 1977.
55. Jones, *Richard Asher Talking Sense.*
56. S. O. Hoerr, 'Hoerr's Law', *American journal of Surgery,* 1962, 103, p. 411.
57. O. W. Holmes, 'The Doctor Speaks to the Theologian', quoted in Corcoran, *A Mirror upto Medicine,* p. 365.
58. Ibid.
59. W. Boyd, *A Textbook of Pathology: Structure and Function in Disease* (Philadelphia, 1970).
60. Adolph Portmann, 'Time in the Life of the Organism', in *Man and Time* (New York: Pantheon, 1957), pp. 308-23.
61. L. Jaroff, 'Medicine: Can Attitudes Affect Cancer?', *Time,* 24 June 1985, p. 43; Dera Roman, 'Health and Happiness' (letter), *Time,* 15 July 1985, p. 1.
62. Cover, *Science, 22* September 1983, 221.
63. *Seeds of Destruction: The Science Report on Cancer Research* (New York: Plenum Press, 1975).
64. Jones, *Richard Asher Talking Sense.*
65. R. D. Iliff, 'The Significance of Statistical Significance', *New England Journal of Medicine,* 1983, 308, p. 396.
66. Deaver and McFarland, *The Breast: Its Anomalies, Its Diseases and Their Treatment (1*918), quoted by J. E. Barker, in *Cancer: The Surgeon and the Researcher* (London: John Murray, 1982), p. 24.
67. D. H. Spodick, 'Revascularization of the Heart - Numerators in Search of Denominators', *American Heart Journal,* 1971, 81, pp. 149-57.
68. P. Sedgwick, 'Illness - Mental and Otherwise', *The Hastings Center Studies, 1*973, I, p. 37.
69. Cousins, *Anatomy of an Illness.*
70. T. P. Whitehead, 'Pros and Cons of Routine Screening', in A. F. Lant (ed.), *Advanced Medicine Symposium II* (Pitment Medica, 1975), pp. 303-5.
71. Ibid.

72. M. Rang, 'The Ulysses' Syndrome', *Canadian Medical Association Journal,* 1972, 106, pp. 122-3.
73. 'Invincible Ignorance', *Science,* 1980, *209,* p. 793.
74. R. S. Mendelsohn, *Confessions of a Medical Heretic* (New York: Warner, 1979), p. 287.