



VOLUME 1

# The Greening of Pharmaceutical Engineering

Practice, Analysis,  
and Methodology



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Practice, Analysis, and Methodology

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# Preface

In the double-barreled sense of the ancient Chinese proverb about “living in interesting times”, the epoch we moderns inhabit is “interesting” indeed. Everything jumps out in the form of contradiction upon contradiction.

We are witness to unprecedented progress in technological development. Meanwhile, no less a personage than Nobel Chemistry Laureate Robert Curl can suppress mentioning that our era is a ‘technological disaster’ pregnant with as-yet-unknown portents.

Acutely attuned to signs of open savagery and other lesser levels of indifference and lack of empathy, we proudly assert our embrace of modern-day Enlightenment on an ever-more-encompassing scale. That said, whence the dissonant drumbeat emanating simultaneously from some of the most ardent supporters of modern European capitalism? Pope Francis insists with the greatest indignation that unfair economic structures today are devastating entire continents (like South America, his home continent), compounding huge inequalities within and between countries. As His Holiness himself acknowledged, these inequalities themselves constitute acts of the most unbridled terrorism, threatening all while apparently not actually aimed at or singling out any one country or people over others.

Those ruling us from on high deceive others, if not themselves, that we have reached the pinnacle of human equality and democratic values. Meanwhile, cognitive dissonance is fuelled by such Nobel Peace laureates as U.S. President Obama and the Egyptian politician Mohamed el-Baradei accepting without elaboration that such rights in practice belong only to a small group. This is no longer in the realm of Noam Chomsky’s “manufactured consent”. This

is deliberately-fostered disinformation trundled out in a form created and purveyed in Hollywood movies populated by some of the most accomplished actors of our time such as Jack Nicholson's portrayal of the eternally victimized Josie Wales in *Cool Hand Luke* being casually yet viciously brutalized by the Sheriff, his tormentor, who "explains" to the audience that "What we have here is a failure to communicate."

The realities rendered utterly incoherent by such twisting and reversal of roles include the news of the July 2013 military coup led by General Sisi, the US War College graduate and treacherous Defence Minister in the cabinet of Egyptian President Mohammed Morsi. President Morsi stands indicted before the entire world, and sentenced to be hanged as the first ever democratically elected president of Egypt. The US celebration of this latest outrage is foisted on the world in an utterly disinformed and disinforming headline: "Kerry Lauds Egypt Military for 'Restoring Democracy'".

We continuously hear about the threats to human existence that loom, while the effort to find serious possible solutions is accompanied by extremely toxic slogans developed over the last 20 years such as: 'save the planet and decrease population', and 'save the planet and plant trees', etc. While the intention may seem pro-Humanity, the complete absence of anything scientific in the foundations of these propositions ... .. that reduce the serious search for a truly balanced application of actual natural law to nothing but sloganeering.

Meanwhile, the sphere of human-set judicial law, outside the realm of formal science, is attacked via the same disinforming methodology. Thus, for example, revising our laws, claiming we are reaching pinnacle of justice, only to read (with a gasp) in the *Washington Post* that "US Court System Criminally Unjust".<sup>[1](#)</sup>

- We brag about how we have so many breakthrough technologies in medical science, resulting in record breaking profit for every new medicine, yet we discover there is no cure to a single medicine. We brag about saving children at birth and prolonging life expectancy only to discover record breaking rate of abortion and suicide (1.5 million per year in USA alone).

When it comes to the driver of modern civilization, viz, Economics, we have confronted or sided with either of two arguments that seem to have derived opposite conclusions from the same initial premises. On the one hand, Karl Marx — whose productive period extends from the 1840s to the 1880s — believed capitalism was a mug's game that must reach a day of reckoning between the wage-enslaved workforce and the owner-employers who hoarded to themselves all the value added by the workers' collective labor even as the average rate of profit continued to fall. On the other hand, Simon Kuznets in the middle of the 20<sup>th</sup> century, leader of an entire line of Nobel-Prize economists, made the case for inequality gaps growing smaller as we become more sophisticated as a human race, siding essentially with the Grand Equilibrator, extremely successful stock-market pirate, and policy god of post-World War Two Western welfare economics John Lord Maynard Keynes. As the Keynesian consensus broke down at the US-led World Bank in the 1970s, between these poles the ultimate rebalancing role would be played by Prof. Joseph Stiglitz — the profiteer-turned-'prophet', Nobel laureate economist and World Bank employee who rose to broader public fame castigating the International Monetary Fund (IMF) for offering 'remedies' that made things worse in the so-called developing economies of the Third World/Global South. Amid a steady and massive output of all manner of prescriptive policy studies and experiments, the true expertise of the

Stiglitz camp and its following seemed to be the turning of slowdowns into recessions and recessions into depression.

Today, there is no consensus as to who is the Prophet and who the Profiteer. Nevertheless there are these facts to that tell us whatever we need to hear about the state of the world today.

- Data from tax returns show that the top one percent of households in the United States received 8.9 percent of all pre-tax income in 1976. In 2012, the top one percent share had more than doubled to 22.46 percent.
- The total inflation-adjusted net worth of the Forbes 400, an annual listing of America's richest individuals, rose from \$507 billion in 1995 to \$1.62 trillion in 2007, before increasing again to \$2 trillion in 2012.
- Estimates from the Credit Suisse Research Institute, released in October 2010, show that the richest 0.5 percent of global adults hold well over a third of the world's wealth.
- Approximately one third of annual deaths in the United States, epidemiological researchers believe, can be credited to the nation's excessive inequality.
- Approximately one third of annual deaths in the United States, epidemiological researchers believe, can be credited to the nation's excessive inequality.
- In USA, non-white families make in average 65% of the white families (as reported in 2010). In the mean time, white families claim about six times the net worth of non-white families, a gap that has changed little over the past generation.
- In terms of global disparity, world's wealth owned by the richest 1% increased from 44% in 2009, slated to be over 50% of the world's wealth by 2016.

What exactly is the mechanism that has made it possible for the capitalist world to create such an imbalance? It is increasingly clear that the machineries of war, coupled with

'health care,' have become fuel for the ultimate train wreck that has become the economy. Even in the United States, the question being asked is: have escalating health care costs contributed to the huge economic gap between America's rich and the rest?

This matter is considered debatable. However, what is not debatable is the fact that, from 1999 to 2009, rising health care spending—both on premiums and out-of-pocket costs—totally erased wage gains for a typical family. By 2012, more than one in four families experienced financial burdens of medical care. In 2013, per capita national health expenditure was \$9255 (17.4% of GDP). In the meantime, families with incomes at or below 250% of the federal poverty level (FPL) were more likely to experience financial burdens of medical care than families with incomes above 250% of the FPL. Families with children aged 17 years and under were more likely than families without children to experience financial burdens of medical care.

This makes the most promising section of the society the most vulnerable and the worst victim of profiteering of the pharmaceutical industry. Not surprisingly, the rates of childhood asthma, overweight/obesity, learning disability, ADHD, food allergies, seizures, autism, and overall chronic illnesses all skyrocketed as well.

In the meantime, the cost of pharmaceutical stocks have been on fire for years now. Some of the biggest income-earners are generated by drugs that supposedly help manage 'incurable' conditions. With that comes the increasing numbers of profit margin, some (Pfizer) raking in as much as 43% profit. In 2014, the average return on pharmaceutical company stocks 32% in USA as the 'addiction' to pharmaceutical drugs has surpassed that of illicit drug. Today, United States represents 5% of the world's population yet consumes 50% of the world's prescription pills and over 80% of the world's prescription

narcotics. Then there is prescription drug abuse with reported 2 million Americans that abuse prescription pills every year. There has been 80% increase in doctors prescribing illegal drugs. This is not a coincidence and this process has a new co-conspirator, the FDA.

This new scheme began after PDUFA Prescription Drug User Fee Act was passed in 1992. This act allows FDA to collect funds from pharmaceutical companies to fund new drug approval process. Today, that bill stands at an average of \$350,000 per new drug application. This process makes it impossible to carry out independent research on the long-term impact of any drug.

The society has moved from addiction to drugs to addiction to prescription drug and the entire world is paying the price. The drug business globally has raked in \$731 billion in 2007, \$967 billion in 2012, and projected to rake in some \$1.2 trillion in 2017. Today, the United States is the sickly society and tomorrow it would be the entire world.

So, how do we clean up this mess? One thing we cannot do is sanction another epidemiological study or another twist to the current closed loop of fear → sale → Security → fear. Every time there is an epidemiological study, soon appears another study that nullifies it as long as the first study gives the slightest hint that a particular medicine or a new science technology or a diagnostic tool may be the one causing the disease or at least making it worse, e.g. birth defect with antidepressant, vaccine with Autism, ADHD with artificial, microwave, the list is endless.

Also, we cannot agree on disagreeing and settling instead for the so-called 'lesser evil'. History tells us, both of these evils are necessary for creating spiralling down our civilization into the sewage of obscene disparity. This book deconstructs all the dubious yet unchallenged bits and pieces of the most prominent theories, be they from social science or the so-called "hard" sciences. We do so by

uncovering and exposing how absurd the fundamental premises of these theories are. It is shown in clearest terms how these theories are the reasons we couldn't get out of the Einstein box and the entire civilization was inescapably trapped. In this way, all paradoxes turn out to be either apparent or outrightly false, and can then be safely removed. This lays the foundation for a set of correct theories with fundamentally sound premises. (That begins in Volume 2.)

1 Meanwhile, prison systems generate brisk profits, and no wonder: with numerous privately-owned and -operated "detention centres" sprinkled along the US-Mexican border from California to Texas populated mostly with "illegal immigrants" branded as such by immigration judges who send them there while sitting on or "advising" the boards of these corporations. The authors became aware of this level of decay from the personal experience of the life-partner of the eldest granddaughter of one of our wives.

# ***Chapter 1***

## **Introduction**

### **1.1 Opening Remarks<sup>1</sup>**

A professor of medicine in Canada was asked if there is any cure in modern era of any contemporary disease. After some reflection, he named penicillin as the only medicine that cures a disease. “Why then do physicians routinely ask if a patient has ever taken penicillin in his lifetime?”, he was asked. This time the professor was quick in replying, “Oh, that’s because today’s penicillin is synthetic (artificial)”. Of course, that poses the pointed question of whether there is any medicine today that is not artificial. The same question was posed five years later, this time to an American professor of medicine. He couldn’t come up with any medicine. When the name penicillin was mentioned to him, he quipped, “Oh, penicillin is the proof that modern era has no medicine that cures; it only delays the symptoms”.

This book is about finding cause of diseases and proposing cures. Taking the time to look into the real science and moving away from dogma science that has incapacitated European education system for many centuries, this book invokes a paradigm shift.

The starting point of this book is: Nature is perfect. This is not a new theme *per se*. It is a new, indeed revolutionary, theme that is fervently disallowed with a near-fanatical obsession in our current era. The ancient Greeks had this theme, as did the ancient Chinese, Indians, and Mayans. This theme reached its culmination in the works of

Avicenna, the father of modern medicine, whose most famous medical work, out of nearly 450 treatises, includes the 14-volume *Canon of Medicine*. The *Canon of Medicine* covered every single subject of medicine, all of the known diseases and treatments, methods for testing new treatments, diagnosis, etc. It was a standard full-version medical textbook, used for centuries all over the known world including Europe until the 17th century. Avicenna looked at the theoretical aspect, covering fields of cosmology, the temperaments and humours, etc. He then examined basic anatomy, physiology and psychology. In the second part, he examined health disorders. There, he covered definitions, causes of disease, dietetics, pulse, urine analysis and so on. Finally, he looked at treatment of disease and preservation of health.

Today, meanwhile, we don't know the root cause of a single disease, let alone knowing the cure.<sup>2</sup>

Today's medical science does not include determining cause of a disease, let alone suggesting a cure. Every theory of diagnosis, prediction, and remedy involves dogmatic premises that go unchallenged for centuries. Basically, the modern medicinal system has four major shortcomings. They are:

- the cause of deadliest diseases are unknown;
- when the origin of a disease is believed to be bacterial, all antibiotics used are synthetic;
- vaccines are introduced without knowing the cause of a disease that they are supposed to immunize against; and
- the role of lifestyle on human health is not understood.

In terms of science, it comes from (all these are "New Science"-related):

- conflation of human traits with Godly traits;
- incorrect and illogical narration of origin of universe, universal order, and life on earth;

- incorrect and illogical characterization of nature and sustainability criterion;
- disconnection of conscience from humanity;
- lack of characterization of human thought material (HTM);
- disconnection between matter and energy;
- absence of scientific criteria for defining disease and disorder;
- disconnection between mental and physical disorder; and
- theories of illogical and incoherent fundamental premises.

The above shortcomings have rendered modern science incapable of cognizing in the right direction, the direction in which cognitive processing of data is completed to some explicit point. Everything is done to justify the conclusion in an overt display of preposterous cognition — which is more illogical than dogma. In social science (as well as medical science), the crisis is most acute. We don't even know what makes a human. If one goes by the definition of 'selfishness defining humanity' and/or 'making tools is the sign of human intelligence', violent chimps that make tools to hurt others are humans (Viegas, 2015), along with feuding Neanderthals in Europe (National Geography, 2008). If we have to go by DNA similarity or complexity, plants would be more human than humans. In defining humanity, everything is on the table — except ... conscience! Scientifically, conscience should be the criterion that defines humanity, but Europe disconnected conscience from Humanity soon after dogma became enthroned. This is just the beginning of cognitive malfunction that created today's technological disaster and infinite social injustice. Masked for centuries in the form of generalized Eurocentric bias valorizing any scientific finding in Europe or America ahead of science

produced outside Europe, this has been difficult to isolate, challenge or eliminate.

A component piece of the theoretical outlook framed by the present work is the notion that anyone other than the human being has no need of empathy in order to act conscientiously. On the contrary: they are part of universal order and hardwired to be conscientious – as part of the universal order. Humans need to be conscious about their intention and have the ability to act on self-interest in the short term or self-interest in the long term (this is acting on conscience). This notion in itself is *not* Eurocentric: indeed it is captured in the concept of *karma* and is very old. New Science — which is Eurocentric at its core — disconnected this process and everything became about self-interest in the short term. Dogma, meanwhile, was useful for the anti-social purposes of unjust rulers in the East no less than in the West. The bifurcation between science and nonsense became possible and actual to the extent that dogma and Eurocentrism shared a common aim.

This understanding of the matter helps illuminate why it is no surprise that today we cannot explain any phenomenon without resorting to dogmatic assertions and spurious justifications. This ranges from diagnosis of a disease to prediction, from remediation to prevention, and from simplest of disorders to deadliest of diseases. We do not know what causes addiction, light pollution, noise pollution, and numerous other insults to the environment and human thought material, let alone attempting to remedy them. In the meantime, drugs, vaccines, and perpetual therapies and ‘management tactics’ continue to sell at an unprecedented pace and economy. The driver of this runaway train bound for ‘technological disaster’ continues to flourish, keeping all concerned content with the status quo.

Another element that frequently goes missing in medical scientific research is what the authors call ‘metadata’.

In this book, the authors set up logical theories that address the above shortcomings and properly defines what constitutes disorder, both mental and physical. It then presents a guideline for preventing and correcting disorder, both cognitive and physiological.

## **1.2 Are we Trained to Develop Contempt for Conscience and Addiction to Selfishness?**

Plato said, “Strange times are these in which we live when old and young are taught falsehoods. And the one man that dares to tell the truth is called at once a lunatic and fool.” Few question the notion that this ‘strange times’ is now when it comes to politics. However, fewer understand the science behind this ‘strange times’, even fewer appreciate how this ‘strange times’ have pervaded all aspects of our civilization, and practically no one sees this as a problem in the science and technology development sector. Many dislike the current system but few see the big picture and the direction that our civilization is moving and none can tell us how to fix the system.

According to former U.S. President George W. Bush, the Department of Homeland Security in Washington, DC and many others, the maintenance of beliefs by any individual that counter officially accepted views is a personality disorder of such toxicity as to mandate deployment of an entire system for attacking the psyche of such individuals until they “crack” or are destroyed. As a 2006 article in the *Sunday New York Times Magazine* disclosed, this was indeed the object of an elaborate and carefully-planned program of

government-funded research. As part of this research, an entire regime of randomized psychological “torture-testing” of people was launched and justified as an effort to catch lies and liars in general on the basis of refining and overcoming the defects of polygraph technology in particular. To grasp the decadence implicit in this proposition, consider the underlying logic of this matter launched during the Bush Administration and continuing to date:

- Either you are with us or you are with the terrorists (MAJOR PREMISE)
- Those who are with us never lie (MINOR PREMISE); therefore
- All liars must be terrorists and all terrorists must be liars (CONCLUSION)

The authors have been striving more than a decade to further develop a genuine paradigm shift emerging in the education system that teaches real science and avoids dogma ‘science’ (Islam et al., 2013). Well aware, meanwhile, of the fact that ‘paradigm shift’ is a popular buzzword, we have anticipated readers’ skepticism about such a claim and now hoist the following flag from our mast.

## **1.3 Metadata**

It is to be expected that Humankind’s consciously-collected and recorded collective medical knowledge would predate the rise of European civilization. Relative to the length of time humans have been present on the Earth, on the other hand, this development is not so far back as many might think. Early in the 20<sup>th</sup> century, records of such knowledge were known — from findings of collected by archaeological expeditions organized from the UK and Germany in the late 19<sup>th</sup> century — to date back to at least the 3<sup>rd</sup> millennium

BCE.<sup>3</sup> More recently, even earlier records of acupuncture and other Chinese medical practices have been dated as far back as the 5<sup>th</sup> millennium BCE.<sup>4</sup>

With these earliest instances, however, we generally lack significant information about the depth of theoretical understanding attached to these evidences back in their own time. As a consequence, systemic explanations of these medical practices could not be provided. At the same time, the importance of immediate specifics of, and conditions surrounding/attending, what was recorded loom correspondingly large.

The possible scientific value or significance of the information content of such specifics is thus entirely tangential. At the same time, until more information is available to fill the void, these specifics are not without some potential probative value. Their value is very much like that of the metadata generated with computerized logging of data being generated by or within any activity that has been placed under some kind of organized observation. Generically speaking: in this sense, such pieces of associated information — data falling outside the immediate focus of interest — can be considered to constitute the metadata of the phenomenon.

The idea of metadata has become widely popularized in connection with Edward Snowden's disclosures of the methods and procedures of intelligence-gathering efforts applied by the National Security Agency on the global public, not excluding citizens and residents of the United States itself. The impression has been left (without being explicitly affirmed), that metadata are a phenomenon peculiar and specific to large-scale computerized data collection.

Such a conclusion is a hasty and extremely important unexplored assumption. **All real, meaningful data of human experience have metadata associated with**

**them.** At the same time, in the conventional scientific knowledge-gathering model followed by millions of scientific workers every minute of every day, the value of a wide range of metadata is largely discounted, and not entirely without good reason. For example: even if a completely-made-up story about a young Isaac Newton being inspired to cogitate on the notion of gravity and free-fall acceleration while sitting under an apple tree were factually true, its probative value and significance for theoretical physics would remain extremely moot (some would say: completely irrelevant). Gravitational forces are not in themselves sense-data, but rather a product of cognitive processing of certain sense-data. But then, even if we qualify it as metadata, it is useless and irrelevant for theorizing about physical principles, and any its possible significance appears to have nothing to do with the actual aim of any given scientific investigation. But now consider the weighing of evidence in the justice system. Anyone working in that system, from the most senior of judges to the lowliest police detective, will admit that some metadata possess enormous forensic value, to the extent that they serve to throw any light on the who, where, what and why of crimes and crime-related events, making it possible to include or exclude certain guesses about the possible interconnected significance of the time, place or order of those events.

It is the authors' contention that similar value should be attached to the metadata generated by any studies of investigations of the human organism. This is where any unstated conventional assumption that all scientifically gathered data be pure, unalloyed and unbiased could prove highly misleading.

In a certain sense the authors have been here before. In our last volume (*Reconstituting the Curriculum* [Wiley 2013]), several key theses to illuminate the notion of "human thought material" (or HTM for short) were

introduced. The book itself, which at one level exhaustively catalogued issues arising in the field of curriculum development in public primary and secondary education, became an extended gloss and investigation of many aspects of the HTM concept. Unexpected sources — such as the Holy Qur'an, the standard collections of hadiths about the life and conduct of Prophet Mohammed and capsule histories of the most significant work and contributions of rightly-guided caliphs over the last 1400 years — were mined for surprising confirmations of the essence of the HTM concept. The key point is: accomplishing this aim could not begin to be accomplished adequately at less than book length. Similarly, the role of metadata in everything — from profiling to establishing orders of relevance of very different sources of nonetheless scientifically useful information from the medical sciences — needs to be explored at book's length. This is that book.

# 1.4 INTRODUCING CHAPTER TWO: What's Behind Giving Up Honey and Promoting Aspartame as the Cure, i.e., Dumping the Natural Option in Favour of the Artificial One?

Chapter 2 presents the current state of the world and how we got here. In no uncertain terms the direction of our civilization is shown through the following quotes:

*An Arab is no better than a non-Arab, and a non-Arab is no better than an Arab; a red man is no better than a black man and a black man is no better than a red man - except if it is in terms of piety. — Prophet Muhammad, 632*

*I, as much as any other man, stand in favor of having the superior position assigned to the white race ... I have no purpose to introduce political and social equality between the white and the black races. — Abraham Lincoln (still a backwoods Illinois politician and lawyer but married to Mary Todd, daughter of a wealthy & politically highly-connected family of slaveowners), 1858*

Abraham Lincoln's statement creates an apparent paradox not unlike the election of President Barack Hussein Obama<sup>5</sup> to the same office centuries later. These contradictions

make dogmatic cognition look logical, especially one is faced with calling this system 'the best we can have'. If this paradox is not corrected by changing the first premise, other paradoxes arise<sup>6</sup>. Of course, observing and writing *post* 9-11, 'Islamic terrorism' emerged as the most overused term in the media. If 'Islamic terrorism' is not recognized as anything but an oxymoron, then terrorism becomes equated with 'opposing the Establishment' and any possibility for invoking a paradigm shift is disrupted if not completely blocked.

[Picture 1.1](#) shows the inside of the White House during Lincoln's presidency, contrasted with the replica of Prophet Muhammad's house in 7<sup>th</sup> Century. It was the same time that the Persian and Roman empires were erecting some of the most spectacular icons of lavishness that dwarf today's most extravagant lifestyles. Now, if the picture at the bottom is considered to be savage, then we have indeed progressed throughout centuries. If that is true, we have indeed turned the picture of social progress upside down, showing all decline as progress and *vice versa*. After that, everything is paradox. Prophet Muhammad was also the same man that said, "Every illness has a cure, and when the proper cure is applied to the disease, it heals by Allah's Will", setting stage for natural cure for everything. All of a sudden natural solutions become matters of terrorism and subversion of the State.

**Picture 1.1** Lifestyle of two icons of two contrasting civilizations: the top photo depicts the White House during Lincoln era. The bottom photo depicts a replica of Prophet Muhammad's residence. Once these icons are set as standard, divergence occurs and nature of the divergence cannot be objectively analyzed unless one is prepared to look at the first premises that these icons happen to reference. Any paradigm shift must include a fundamental change — a change in the first premise.