BIRTH OF MACHINE AND THE DEATH OF MAN

Description

Machines, from the Maxim gun to the computer, are for the most part means by which a minority can keep free men in subjection. ~ SIR KENNETH CLARK, (Civilization)

Men have become the tools of their tools ~ THOREAU

The real problem is not whether machines think, but whether men do. ~ B. F. SKINNER, in Contingencies of Reinforcement

Our scientific power has outrun our spiritual power. We have guided missiles and misguided men. ~ MARTIN LUTHER KING, JR., Strength to Love

The inventor tries to meet the demand of a crazy civilization. ~ THOMAS ALVA EDISON

We feel that even when all possible scientific questions have been answered, the problems of life remain completely untouched. ~ LUDWIG WITTGENSTEIN

If we can believe advertisements, what matters to people most is the personal ownership of machinery: cooking machines, blending machines, driving machines, picture machines, sound machines, tooth-brushing machines, computing machines, machines to kill insects, deliver intimacy, send messages through wires or the naked air, entertainment machines, shooting machines, and many more mechanical extension devices of our physical self. Indirect control over even more ambitious devices like flying machines, bombing machines, voting machines…. seems to

matter a lot, too. Medical science has machines that will breathe for you, talk for you, hear for you, eat for you, circulate your blood and even sweat for you if you should ever happen to need them. Medical science even now has marvelous machines which will replace parts of human body or do the work of parts that fail.

Surrounded by all-powerful *tools,* man is reduced to a '*tool* of *his tools'*. As the years go by we won't be able to survive without the use of current and future technology. The internet and the cell phone, for example, haven't been around for a long time since millions of years. Can you now imagine living your life without them? We'll continue to depend on technology until that time when we find ourselves lost and confused by them.

This crisis, it bears emphasis, originates in human success or what we call 'progress': humanity's accumulating, accelerating success in acquiring, disseminating, and applying science-based knowledge. Then, at some point within this period, something happened. To take a phrase from nuclear science, human inventiveness reached critical mass, and advance led to advance at increasing speed. Viewed through history's eye, this success has come in a sudden burst. In just the 200 years we call the Industrial Age, humanity became an influence on Earth's fundamental mechanisms. Now this anthropogenic impact threatens to destroy the very environmental conditions that enabled human 'successes'.

The individual has become increasingly dependent on large-scale production and the operation of society as a whole, and relationship are far more complex and interdependent and susceptible to mechanical control than in any earlier period. From the outset, it was clear that mechanization involved a division of labor. That demands submission to controlled environment and this has proceeded until now it is increasingly difficult for man to be in control of any given situation. When his car goes wrong, the owner seldom knows what part is causing the trouble; an elevator strike can paralyze the whole life of New York.

The story of modern society is the story of mechanization of human society – the story of evolution of human life process from automation by Nature to manual operation by man. This is the story of a society of intellectually degenerate human beings who are today completely dependent on a recently inherited, market-led and technology-sustained social system that can no longer be understood nor be controlled. By the time the machinery breaks down, humanity would be too degenerate to care for itself. In the present context, even genetic decay of all life forms is inevitable.

One of the reasons why contemporary man is overpowered by means is because his powers of integration gradually atrophied under the pressures of the fragmented and specialist approach of the nineteenth century. Today's broiler (hybrid) chicken-like new generation humans do not know extempore even to light up a candle when suddenly the electricity fails. Now the crucial question is as to how long the intelligent system can go on building upon itself with more sophistication and more intelligence necessarily being incorporated into them, according to the growing demands of the time. It will soon reach a stage when the collective human intellect go awry – many

later trends are pointers towards that direction – leading to the total system break down.

Two episodes

Consider now two incidents. A repair crew disconnects a pump from service in a nuclear power plant, carefully placing tags on the controls so that the operators will know that this particular unit is temporarily out of service. Later a minor incident occurs, and as the operators attempt to deal with it, they initially diagnose it in a reasonable, but erroneous way. Eventually, the problem becomes so serious that the entire plant is destroyed: Among the factors hindering their correct recognition of the situation is that the tags so carefully placed to indicate the out-of-service unit hangs over another set of indicators, blocking them from view of operators. Could this have been predicted beforehand? May be. But it wasn't.

The nuclear power incident is the famous Three Mile Island event, the worst accident in the history of American nuclear power that completely destroyed the power-generating unit and caused such a public loss in confidence in nuclear power that no American plant has been built since. The operators misdiagnosed the situation, leading to a major calamity. But the misdiagnosis was a perfectly reasonable one. As a result, they concentrated on items they thought relevant to their diagnosis and missed other cues, which they thought were just part of the normal background noise. The tags that blocked the view would not normally have been important.

Consider another example of things that generally goes awry in man-machine synchronization. A hospital x-ray technician enters a dosage for an x-ray machine, then realizes the machine is in the wrong mode and corrects the setting. However, the machine's computer program wasn't designed to handle a rapidly made correction, so it did not properly register the new value. Instead, it delivered a massive overdose to the patient. Sometime later, the patient died of the overdose. The accident goes undiagnosed, because as far as anyone can determine, the machine had done the correct thing.

Moreover, the effect of overdose doesn't show up immediately, so when the symptoms were reported, they were not correlated with the incident, or for that matter, with the machine. When the machine's performance first comes under suspicion, the company which manufactured it explains in detail why such an accident is impossible. The situation repeats itself in several different hospitals, killing a number of patients before a sufficient pattern emerges that the problem is recognized and the design of the machine is fixed. Could this have been predicted beforehand? May be. But it wasn't.

In the hospital x-ray situation, the real error was in the design of the software system, but even here, the programmer erred in not thinking through all of the myriad possible sequences of operation, something not easy to do. There are better ways of developing software that would have made it more likely to have caught these problems before the system was released to hospitals, but even then, there are no guarantees. As for the hospital personnel who failed to understand the relationship,

well, they too were doing the best they could to interpret the events and to get through their crowded, hectic days. They interpreted things according to normal events, which was wrong only because this one was very abnormal.

Over the past fifty years, science has built up a substantial body of experimental evidence that highlights dozens of alarming systematic failings in our capacity for reason. These errors are especially dangerous in an area as difficult to think about as the future of humanity, where deluding oneself is tempting and the 'reality check' won't arrive until too late. How can we form accurate beliefs about the future in the face of these considerable obstacles?

Now I have pointed out the above two incidents just to bring home the general examples of a sticky situation that mankind faces today. However, what this chapter deals with is not about the problems created by the machines and systems that malfunctions, like the two above examples of machines/systems that malfunction, but about the more fatal and more catastrophic ill-effects or after-effects of the machines and systems that are proving highly detrimental to mankind and environment even when they function perfectly in order, and even when they are managed by the best professional experts and in orderly situations.

Clash of two mismatches: The adoption of new technology normally precedes complete knowledge of the repercussions of the technology. For example, we adopted a new system of raising and feeding animals – only to discover that our system helped spread a prion that decayed brains (including, apparently human brains). Imagine if prions had spread far more rapidly and had less effect on cattle and greater effect on humans – anyone who has eaten beef would be at real risk of having their brain turn to sponge.

Likewise, new evidence continues to come to light that cell phones have a greater effect on the brain than was previously thought. Will two or three decades of frequent use from an early age lead to widespread health problems among our youngest generation? In a similar vein, there is speculation that cell phones may be the cause of our current bee shortage – a shortage that threatens a number of crops. We are adopting new technologies every day – and any one of them could have unforeseen effects. In the worst case scenario, one of these surprises could threaten our civilization.

The predicament facing us is the horrible mismatch between requirements of these human-built mechanical systems and human conditions. Machines are mechanical, humans are biological. Machines are rigid and require great precision and accuracy of control. We are compliant. Humans tolerate and produce huge amounts of ambiguity and uncertainty, very little precision and accuracy. The latest inventions of humankind are those of the digital technology of information processing and communication, yet we ourselves are analog devices.

Why do accuracy and precision matter? In our natural world, they don't. We are approximate beings: we get at the meanings of things, and for this, the details don't much matter. Accurate times and dates matter only because we have created a

culture in which these things are important. Accurate and precise measurements matter because the machines and procedures we have created are rigid, inflexible, and fixed in their ways, so if a measurement is off by some tiny fraction, the result can be a failure to operate. Worse yet, it can cause a tragic accident.

The same story is true of time, of facts and figures, and of accurate memory. These only matter because the mechanical, industrialized society created by people doesn't match people. In part, this is because we don't know how to do any better. Can we build machines that are as compliant and flexible as people? Not today. Biology doesn't build: it grows, it evolves. It constructs life out of soft, flexible parts. Parts those are self-repairable. We don't know how to do this with our machines: we can only build mechanical devices out of rigid substances like wood or steel or plastic.

People are compliant: we adapt ourselves to the situation. We are flexible enough to allow our bodies and our actions to fit the circumstances. Animals don't require precise measurements and high accuracy to function. Machines do.

The growth of technology, of the manifold mechanical instruments in the services of our fantasies, has thrown mankind back to an infantile dream of unlimited power. There he sits, the little man, in his room with various gadgets around him. Just pushing a button changes the world for him. What might! And what still further power he envisions! Yet what mental danger!

The growth of technology has confused man's struggle for mental maturity. The practical application of science and tools originally were meant to give man more security against outside physical forces. It safeguarded his inner world; it freed time and energy for meditation, concentration, play, and creative thinking. Gradually the very tools man made took possession of him and pushed him back into serfdom instead of toward liberation. Man became drunk with technical skill; he became a technology addict. Technology calls forth from people, unknown to themselves, an infantile, servile attitude. We have nearly all become slaves of our cars. Technical security paradoxically may increase cowardice. There is almost no challenge any more to face the forces of Nature outside us and the forces of instinct within us. Because the very technical world has become for us that magical challenge which Nature originally afforded.

The growing incompatibility between humans and modern world: First, when man made machine, as a developed form of tool, and started to use it as the extension of his muscle and brain power, machine began to become his convenient and 'obedient' servant. Slowly getting used to the practice, and by giving more and more 'intelligence' to machine – automation – machine emerged smart, amazing and highly 'helpful' to man, only to reach a stage to totally outsmart man from most fields.

The far-reaching result is that today man has not only become subservient to these machines (tools) and to the emerging and dominating mechanical culture but also became substandard compared to the smart machine. Today almost 95% of mankind is either unable to follow or control machine or the machine is unable to provide service to the less 'smart' mankind. Indeed mankind has become a heavy

liability to the hi-tech world today. No wonder, the world today laments that 90% of modern mankind is plainly unfit and unemployable, both in the newly developed technosphere and the traditional biosphere. This is the story of man and machine as having developed to a stage of made against each other.

We have enough reason to believe that there is something seriously wrong with the type of leadership in the world today. The highly globalizing trend in practically every sector due to the growing mechanization of every social affair in the world today has rendered it a purely hi-tech mechanical and scientific affair. In such a situation, how come any non-science type of leadership, be they in the name of democracy, capitalism, socialism or religion can handle the world, let alone govern it or manage it. All these categories of leadership lost their relevance once science usurped the control of the affair of man and his environment from the once long state of human society when Nature was in control. Massive industrialization and mechanization have reduced nations, particularly, the developed nations, to mega social systems on the lines of companies or as mere mega mechanical edifices, the management and maintenance of which are solely the responsibility of hi-tech experts and managers; here politicians of any hues have no role. They are either stupid or are downright cowards if they still continue to mantle their role as the leaders of purely mechanical social systems.

Why is science silent on this gross anomaly in practice in the world today? It all means that either science is basically faulty and fully aware of its pitfalls and unwilling to own up the responsibility or its continued reluctance to spell the beans.

One of the major characteristics of twentieth century modern man's consciousness is its experience of the world as technology. We have thus come to assume the whole universe to be one great machine, full of wiring gears and cogs. Living things are the same components and mechanisms ticking and clicking like a clock. We've become so choked by these over simplifications that we now explain everything from a child's laugh to the great cultures of the world as a collection of only so many mechanically moving parts.

In the age of technology which now surrounds us and which boasts of its triumphs over Nature, one thing is ever more apparent to the anthropologist – the student of man: we have not really conquered Nature because we have not conquered ourselves. It is modern man, 'the wise' as he styles himself, who is now the secret nightmare of man. But we came to admit this sordid reality too late that we cannot go back nor can we do some corrections by avoiding a total breakdown of the present world. There simply exists no soft option for this today.

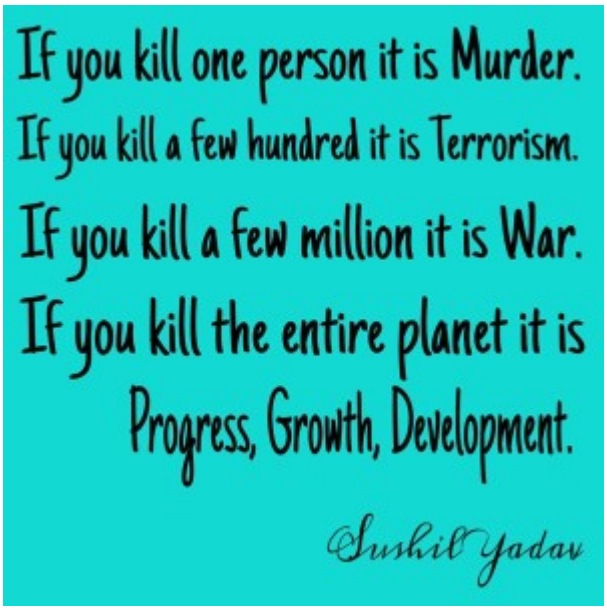
Has the proverbial breaking point in man-machine relation already reached? There need not be any two opinions in answering this question on the affirmative. Just consider what a popular pro-science expert, Don Norman, has to say in this matter. In the singular arena of maintenance of a plethora of different electronic appliances that an average household needs – and Don Norman establishes that an average household requires the upwards of 73 different electronic appliances – what his reasoning known as the Norman's law states that "the number of hours per day

spent maintaining our equipment doubles every 18 months" and goes on to establish that in few years we will spend 32 hours out of each 24-hour day doing machine maintenance alone.

Alexander Chase wrote: "When a machine begins to run without human aid, it is time to scrap it – whether it be a factory or a government". Laws are to man what cage is to the bird. The equations-ridden hi-tech modern society is a fortress-like cage which man has built around him. Here man's effort has been to escape from this captivity for which he only goes on inventing more and more laws and equations – mechanical systems – which alas only make his escape bid more and more difficult and thus putting him in more chains. How long can the hi-tech modern world go on strictly determinist, organized, logical and linear as the hierarchical structure of a pyramid when man basically is unorganized, illogical, complex, multidimensional and only partly determinist? In his temporary and 'compromising' attempt in being mechanically determinist, mechanically organized, mechanically logical and mechanically linear, modern man seems to be ending in much tear and wear, as is evident from the SOS reports of *meltdowns* and the world rushing to his aid with the temporary promises of *bailouts.*

MECHANIZATION

Of the millions of years that man lived on this beautiful planet, the tiny last portion of about the last 300 years is widely described as the Age of Machine. This age is so much unique that it stands sharply different from all the previous ages – in almost all respects – of all cultures and characteristics in human history. And, surprisingly, this age is reasonably viewed as the closing age of mankind.

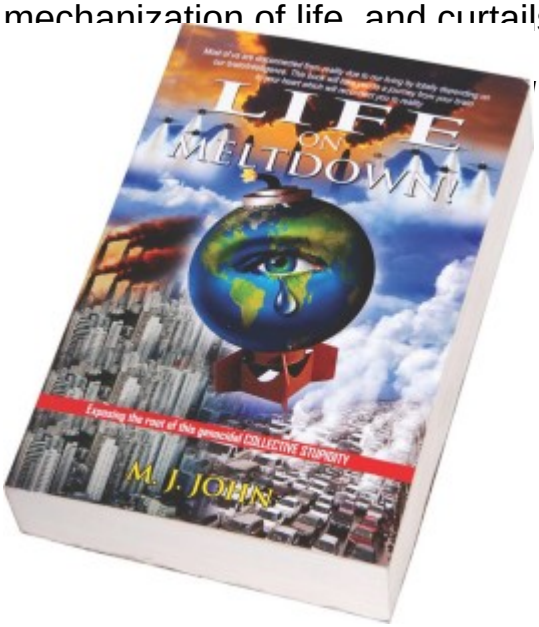


"It is quite clear to me after several years in the environmental movement that all physical problems of man's impact on the environment – pollution of the air and waters, the desecration of the land, the contamination of the food chain – all start within the

environment of man's mind." wrote Maurice Strong, Founder of the United Nations Environment Program and Co-Chair of U.N. Commission on Global Governance.

The scientific mode of thought, having driven religion from pillar to post over a period of several centuries, is facing the final assault of a hitherto vanquished adversary. Denying humans the possibility of ever knowing reality through experience, religions preach a neo-mysticism and a teleological view of life, which is the expression of humanity's loss of faith in itself. This is in contradiction to spiritual enlightenment, which leads human mind to experience the real essence of freedom and the organic wholeness of creation.

Science, attempting to free the mind from the shackles of dogma, emphasized that truth is contained only in that which can be recognized clearly and distinctively. Knowledge is defined as the result of the intellectual analysis of our experience. In this way, however, science created a new barrier beyond which the mind could not elevate itself to higher levels of consciousness. Hence, science could not prevent the emergence of a materialistic dogma that devalues human potential, encourages the mechanization of life, and curtails freedom of thought.



chapter 6 of the book Life On Meltdown

How Societies, by Promoting Collective Stupidity, Choose to Self-Destruct

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