III-15. Greed and Grab

Mahendra Kumar Jain, Quarterly Review of Biology 73: 329-332, 1998: Greed and Grab: Many Are Called Yet Few Are Chosen. Review of: **Guns, Germs and Steel: The Fates of Human Societies**, *By Jared Diamond. New York: W. W. Norton & Co. 1997.*

Professor Diamond has given us another perceptive book with broad implications. In a thought-provoking way, with a human touch and intuitive continuity, he discerns patterns of human and technological evolution since the end of the last Ice-Age. The arguments, based on facts established by both radio-dating and genetic methods, flow with celerity and ease. The book draws from many disciplines with suggestions for further reading, yet it transcends academic limitations.

The premise of the book, "Why many are called, yet few are chosen," explores biological variables as the basis for the development of technologies. Important among the factors that shaped the evolution of complex human societies and their technological innovations were the environmental and biological constraints. Effects of broader patterns of interactions of different human groups with each other, and with plant and animal species resulting in domestication and depletions are identified and judged.

Primarily, the book identifies the expansion trajectory of a group of Eurasians, whose descendants now dominate the consumption of virtually all non-renewable resources at a per capita rate that is 30 to 100 times higher than that by the other less-developed 80% of the world population. Also, computed as

pressure on resources, the population increase in the developed countries is more than 10-times higher. Clearly this is unsustainable, and its inevitable long-term impact can only be guessed at. Since consumption and technological developments have gone hand-in-hand, what can we learn from Diamond's inquiry into the course of development of our technological civilization during the last 12,000 years?

At a fundamental level, as with any important lesson from the past, the arguments in the book bear on broader contemporary issues. A more provocative and perhaps compelling case emerges if one takes the liberty of extending to our present situation these patterns of behavior from the past that Diamond has identified. From this point of view, resource constraints and geopolitical borders that shape pressing problems of development and survival in the form of economic and market forces become almost invisible. When selectively applied in the guises of various rationalizations, these forces lead to subjugation and *de facto* genocide.

Diamond points out that until about the beginning of the 16th century, people from areas north and west of the Alps contributed little technology of significance; they were mainly recipients of developments made in the regions bordered by Ethiopia, India, China, and the shores of the Caspian and Eastern Mediterranean sea. Examples of such basic technologies include domestication of plants and animals, coupled with the use of the plough and the wheel to harness animal power, permitting the transition from hunter to herder and from gatherer to farmer. Soon after, by the fifth millennium B. C., in these areas urbanization, social and administrative organizations, metallurgy, written language and mathematics began developing as a necessary consequence. Unique factors contributing to this burst

of innovation so soon after the end of the Ice Age included a fertile land mass with a climate favorable for agriculture, generous availability of a genetic stock of seeds and animals suitable for domestication, and human migratory patterns that promoted continuous development through exchange of materials, ideas and experiences. Not surprisingly, there are very few other instances of independent or parallel developments because such a confluence of factors was not to be found elsewhere at that time, which only attests to the critically fundamental role such factors, played in the initial surge of innovations.

It is puzzling that many of the technological innovations from East turned into means of exploitation in the West. The Steel from South India was used by the Assyrians to make Damascus sword, and it was later turned by Romans to arm with short swords their colonial armies of peasants. Moral and ethical ideas have been turned into War cries. The black-powder technology from China was turned into guns and cannons. Technology of paper in combination with printing was first used to proselytize the masses.

Innovations from the East, such as horses and carts, were brought to central and western Mediterranean shores by Persian invaders. Phoenicians introduced ships to this region. Possibly attracted by riches and knowledge, and inspired to eliminate once and for all the threat of the Persian Empire to Greece, the army of Alexander swept through Central Asia to the borders of India. These events accelerated a westward transfer of technologies, funneled through Greece that transformed the hunters of Europe into organized seafaring societies during the last two millennia. By the middle of the current millennium, this transfer also

resulted in the translation and re-interpretation of the compilations and libraries, accumulated by Arabs at the beginning of the millennium, that fell into the hands of Christian monks and European universities. Without this interpretation, and grand synthesis of the events spanning the last three millennia, the achievements of the ancient Greek world, to which modern European civilization owes its roots, stand in isolation as a discontinuity.

To put it simply, as is often appreciated by those engaged in intellectual pursuits and practical innovations, useful technologies developed cumulatively, though not successively. Simpler technologies beget more complex ones, and innovations rarely thrive in isolation. Collectively developed technologies create value, and markets make the intellectual property available to the society at large. However, narrow and stifling profit-oriented definitions of innovation as a matter of course deny the value of incremental motivations from the parallel technologies and empirical observations. Along these lines, the damage to the free exchange of ideas and innovations from the recent spate of patents on DNA sequences is just beginning to be apparent.

The arguments in the book for the development and transfer of technologies have broad implications. Although not the main theme of the book, it does squarely demolish theories perpetuated in terms of the genetic (Bell-Curve), philosophical (Greek), or cultural (Christian, Confucian, Brahminical) notions of superiority of a sub-group as the basis for technological progress. Although such arguments have never withstood critical scrutiny (Gould, 1996), such self-serving sound-bites promoting mismeasures of man have been used as ploys for indoctrinating the soldiers and workers needed to maintain and mobilize the

structures for the subjugation of others, and also to lower the morale of the opposition to better support a colonial mind-set.

Unquestionably, the human interventions that lead to large-scale technological innovation and implementation not only unleash forces of greed and grab, but also lead to biological catastrophes and environmental disasters. During the last 500 years, the Europeans, physically armed with "guns, germs and steel," and blessed with missionary zeal under the garbs of various rationalizations, have moved far beyond their borders to occupy three other continents, both controlling resources, and subjecting innocents to genocide and cultural propaganda as well. The move has motivated technologies that support the war efforts and an expansionist agenda, *albeit* other innovations follow incidentally. Following in the footsteps of Romans and Crusaders, the colonial notion of power still persists. As global imperialism it relies on the knowledge, labor and resources of others assimilated by missionary, mercenary and market forces. This pattern of unprecedented exploitation continues as "progress" and is defined by aggression, control and subjugation. From this point of view, rationales for protracted geopolitical and economic policies perpetuated in the second half of this century, for example, with regard to the control of petroleum and mineral resources, are not fundamentally different from those that motivated "winning the American West" by destruction of the food-supply (buffalo herds) and infection of the native populations by sending them blankets pre-used by smallpox patients. In a short period the guns and germs of the U. S. Whites destroyed 95% of the native North American population of over 20 million. They also eliminated the diversity and genetic viability of these human populations, as well as a large number of other species deemed necessary for progress at the time. All this

was done in the name of bringing civilization, religion and culture to the barbarians, although the methods, motives and point of view now appear to be far more sinister.

In many cases, given the late transition from a hunter-gatherer society to one of farming and production, there has not been enough time to develop less violent means for conflict resolution. In this sense, the European grab for land and power by exploiting serendipitous accumulations of useful technologies at the right time is not unique in world history. Armed with divine blessings, Mongols, Incas, and the like in their own ways also terrified large groups of people for the benefit of a few who over-consumed resources. Even in this century, the colonial powers, Nazis, Soviets and Chinese with their own agendas have subjected large populations to plunder and murder. What are particularly threatening about this latest march of history that we are being swept along with are the unprecedented rate of dissipation of international non-renewable resources and the degradation of the global environment in order to maintain an unsustainable way of life. Ominously, a growing percentage of the world population is being subjected to the onslaught of technologies controlled by the few, without being even aware of the consequences. Of course, once the problem is recognized in earnest, the hope is that solutions will be found. What is the cost? Coming to an agreement and striking a balance is a collective task.

Like evolution, although on a somewhat different time scale, democratic and market approaches maximize the potential of most individuals in a group, and thus increase the chances of success of a sub-group. Technologies help in fulfilling the promise of this premise by permitting more people to perform skilled tasks. For example, a considerable amount of skill is needed to use a bow and arrow. Guns, requiring far less skill,

turn more people into effective hunters, and possibly indiscriminate killers. Like evolution, technological, market and democratic processes also lead to distortions and dead-ends. So a key question emerges: what ends are to be achieved by the powerful means at hand? Also, can individuals and sub-groups be protected from the meaner edge of such tools, methods and institutions, which are increasingly more powerful, distant and broader in scope?

If cleverly used, established human-friendly technologies make up for talent. Also, material progress promoted by technologies helps in controlling the drudgeries of life for most people. One may wonder what factors contributed toward the rapid development of technologies led by the Europeans during the last 500 years, and what we can learn from this experience. Development of new energy sources and machines have opened new territories, improved productivity, and ostensibly freed a greater fraction of the population for innovations. The ideal of democracy extends the promise of such prosperity to "all," yet a lack of political will promotes unsustainable consumption patterns. The failure of the self-regulatory aspects of the market forces is, for example, obvious in the experience of the last 50 years with tobacco, asbestos, DDT, and the arms industry. Other time-bombs with global implications are ticking away in the form of excessive use of fossil fuel and antibiotics. While for-profit industries transfer social costs to the society-at-large, the environmental costs are being increasingly transferred far away from the consuming nations.

To promote consumption mechanisms have evolved to control marketing and distribution, while the social and environmental costs of over-consumption are transferred across international boundaries without benefit of the checks that a

functional democracy can implement internally. As a result, the reality of the damaging consequences of open international markets is virtually dissociated from concerns for the international community. With the realization of this fundamental contradiction, the forces of greed extract value by exploiting local in-equilibrium, rather than by creating value in harmony with broader interests. Treatments prescribed by the international agencies for the economic ills are often formulated by banks and institutions with an indoctrinated faith in their efficacy, which may be as misplaced as that attributed to the usefulness of blankets pre-used by smallpox patients. It is not surprising that often such international cure-alls are not favorably received.

In short, the rational ideals of democracy and markets can and do degenerate at times into a schizophrenic world-view at dissonance and in-equilibrium with itself. The reasons for this are quite fundamental: democratic solutions within national boundaries cannot control international and global exploitation by the consumer markets.

From this remarkable inquiry by Jared Diamond emerges a lesson, which, without blaming the victim, interprets long-term developmental events and patterns in terms of the biological, environmental, and resource variables. Many were "killed, infected or driven off" for the technological progress claimed by the few. As we sit back, it is reasonable to ask, can short-term market forces governed by instincts of grab and greed be trusted to promote the wide-spread use of technologies, especially the ones that impact all of us by promoting an unsustainable consumption behavior? Or is it time to more actively balance the interests of all? Obviously, an acceptable answer must have something to do with well-being and survival in the broad

biological context of live and thrive by letting others live and thrive; i.e., with little reliance on germs, guns and grab.

In writing this book-review I have greatly benefited from insights and comments from Professors Otto Berg, Prasad Dhurjati, John Wriston, and from numerous discussions with others who also tolerated my provocative style.

Gould, S. J. 1996. The Mismeasures of Man, W. W. Norton & Co., New York. pp. 444.

Against Gods and Humbug