

The Shock of the Old - Technology and Global History Since 1900

~ David Edgerton

Edgerton gives us a masterpiece by talking about technology in a way that makes us introspect and think twice before blindly accepting any technology. The book also makes us revisit the very idea and definition of technology, a term that is closely tied to Information Technology and computers in today's world. The book helps us open our eyes to the fact that "not all technologies add value to human life" and that we must "be selective when we choose what technologies to welcome into our lives and what not to". Let us consider the case of the introduction of tablet computers. Tablets were a pretty big deal when they were introduced. Companies were as focused on developing them as they were on mobile phones. However, we see today, after almost 10 years since tablets were introduced that it is a technology that is largely merged with laptops and is not under much demand.

Edgerton begins by dividing the history into ages: 1) electrification, 2) motorisation, and 3) information technology or computerisation. Economists say that "the economic history has been shaped by a very few 'general-purpose technologies'." These ideally include steam power, electricity, and the latest central technology being that of information and communication technology otherwise known as ICT. Edgerton asks several thought-provoking questions throughout the book. In this context he asks, how exactly are these "general-purpose technologies" selected? He asks "if we can not think of telephony, telegraphy, radio, radar and television without technology, then how does one differentiate between electricity and the information and communication technology (ICT)?"

Edgerton is worried about the technology being promoted for the wrong reasons. The capitalist promotion of technology with financial interests in mind makes it important for people, as consumers of the technology, to be cynical and thoughtful before they make any form of technology an important part of their regular life. Innovation is not 'use'. A piece of tech may look handy. But unless it satisfies a need that currently exists, the significance of the technology is questionable. Although, there are certain technologies whose peak use happens maybe decades after the invention. Thus, the classic notion of "new is the best" is being challenged by Edgerton in this book by pointing out a pretty obvious but less thought about truth that "Invention is not utilization". But utilization is not everything, according to the author. It is very important to judge how much value that technology adds to society and to the lives of people.

The global economy has seen major fluctuations. There are several aspects associated with these changes including political and social ones. For instance, a major change to the global economy happened with the collapse of the Soviet Union with the productivity of former soviet

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states falling by as much as 60%. There were disease outbreaks including HIV/AIDS or malaria. But the author does an intelligent mapping of a country's economy to innovation and technology. For instance, much resources were pooled into the development of transportation technology in the mid 20th century. A lot of focus was given to the development of motor cars and airplanes around this time. Edgerton goes on to claim that "if we imagine a world without cars or airplanes, we can see that the world is no less productive." This is a direct challenge to the idealistic thought put forward by Hegel where more investment would mean better outcome. Edgerton then shifts out attention to railways, a technology that had come into existence a couple of centuries prior to the invention of airplanes. But in 1890, the railways had helped the US economy to reach heights it would have reached only in 1891 or 1892 without the existence of that technology.

The ever-changing technology has made society so obsessed with it that people fail to see the significance of the same at the time of innovation. People see technology for what it actually is only after it reaches a "technological dead-end" and by then the investment on that technology would have reached billions. This shows how people tend to realise their mistakes and understand what's right after the events of history have occurred. Edgerton is of the opinion that "had computers not existed, still, society would continue to thrive as people would continue to use alternatives available to computers. But none of the alternatives function as efficiently as a computer and that is exactly what we must catch."

Edgerton argues in the book that the nuclear bombing of Hiroshima and Nagasaki did not end the world war, contrary to the popular belief and the common historical argument that had the bombings not been done, the Japanese would have continued fighting the allied forces. Edgerton is of the opinion that the time and money invested in developing a weapon that took over a million Japanese lives could have been invested in procuring more equipment which would have helped end the war earlier. "The nuclear bombings of the cities were unnecessary", according to the author, "on a country that was on the verge of surrendering to the allied forces after the Soviet Union had joined the allies". An interesting point to note here is that this case that Edgerton makes gives us a solid proof that he is writing from a humanist or modernist point of view. A major issue posed by nuclear weapons is not just that it causes mass destruction and death, but also that it makes the area uninhabitable due to the radiation that would pertain in the environment. Edgerton makes the claim here in a people or human centric view (modernist) and not from an environmental perspective which can be somewhat linked to post-modernism. This perspective can be seen throughout the book.

The author talks about the peak of technology. For instance, the condom was an invention in the contraceptive space. However, the use of condoms was restricted due to the fact that it was a latex covering. The use of contraceptive pills were on the rise while condoms maintained a low profile. But the 20th century saw a rise in the number of people testing HIV positive. This brought back condoms as a primary form of birth control across the world with the demand rising and subsequently the production of the condoms. Similarly, Motor transportation had become popular in the western countries pretty early. But despite that, the use of horses, especially in the army had started peaking during the World Wars. The British army asserted their dominance by procuring more and more cavalry units, especially horses. The German

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army assembled over 625,000 horses for the invasion of the Soviet Union. The author conveys the message here that the introduction of technology and its utilisation is subject to time. He takes a very interesting example of "horse carts being made of used parts of motor vehicles in the developing countries" to give an abstract idea of the message that he wishes to convey.

The author identifies two different worlds, the rich world and the poor world. He takes the example of corrugated iron roofing to shift our attention to how "it was not invented in the poor world but was exported to it". Soon enough, the corrugated iron roof, a cheap and easily usable building material became a necessity in the poor world. Hence, the production of roofs helped the poor world grow much beyond what was imagined.

The society's buying pattern is hugely underlined when Edgerton identifies the fact that marketing and advertisements has become more important than production itself. "The power of the brand" has become very significant. Besides, the use of cheap labour and mass-production has significantly brought down the cost of production while the efficiency increased manifold. This leads to visible improvement in economic conditions and massive economic growths. "In the story of production, there is often a shift in the employment and output. From agriculture to industry and then from industry to service. The shift from industry to service is in particular very useful to note given that the shift from industry to services is often linked to post-modernist theories", concludes Edgerton. Besides, the modern economies, according to the author, are becoming "weightless and dematerialised".

Like mentioned earlier, invention is widely associated with the world of the rich. It is concentrated on a specific population or geography. But production, on the other hand, is more or less evenly distributed across the world. This brings us to another Marxist ideology that for any economy or society to thrive, there needs to be a strong foundation. And this strong foundation is maintained by the workers of that society. The author then comes to the idea of maintenance. Maintenance, according to him, has been the "realm of the small trader and skilled workers". But the complexity being added makes maintenance more controlled. The multinationals out there are trying to churn money out of their customers in every possible way and want to assert maximum control over each aspect, including maintenance. For instance, the complex electronics embedded into it makes it important for the person fixing or maintaining the car to have the right equipment and knowledge. The maintenance costs of products depends on what it is. Some items have a much lesser maintenance cost as compared to the initial purchase amount. Some even have a fascinatingly high life. But it is likely that maintenance costs and frequency would increase as the product gets older. As the product gets older, it is likely that the product moves from the rich world to the poor world, a clear example of a bourgeois society where the older items no longer remain fit to be a part of the rich world and is henceforth, passed on to the proletariats. Hence, it could be ideally safe to say that "the products of the rich countries may no longer be maintainable in poor countries."

Inventions or inventiveness is often closely related or gives rise to nationalist sentiments and the author talks about this in his 5th chapter "Nations". The author takes specific cases of the discovery of pasteurization by Louis Pasteur, a French scientist, or the "nationalist phase" of the Soviet Union where they took excessive pride in being able to find Russian inventors to develop

key technologies and utilize the same. The author also brings our attention to how the American and British people often tend to laugh at the obsession of other countries with this phenomenon, which is otherwise known as “techno-nationalism” but would themselves never give in to the fact that major inventions including that of the Radar or the television were not pure British inventions. Techno-nationalism often leads to countries spending more into the research and development of technology. Take the case of space exploration in India. ISRO and the success that they have had has given rise to more nationalistic sentiment than any. But the underlying issue is in the fact that the money is being spent and the results are being monitored by agencies that often “equate new with the best” when it comes to technology. And this is exactly why the inventions in the last century is often regarded as “extraordinary for things that haven’t changed, as opposed to things that have changed.” But despite the people and the global governments associating a nationalistic sentiment to the technology, the author points to an interesting fact here that technology, as such, can not be contained. Technology crosses borders, and no matter how hard a nation tries, the benefit of technology can not, for long, remain within a country. India spending money on research and development of technologies would eventually benefit people in the United States and Korea and Japan. This shows the author’s unwillingness to accept the international borders put in place by the bourgeois society. The author also takes this opportunity to bring to our attention how certain multinational corporations, functioning from different countries, have been receiving more returns than the income of certain poor countries. He takes the specific case of how if “Walmart were a country, it would be China’s 8th most important trading partner”. Edgerton also comments on the post colonial world techno-nationalism. He brings to our notice the erstwhile colonies of Britain and other European countries saw “an urge to develop national technologists and national technologies.” And thus, the end of imperialism was a major boost to national technological movements. He also gives an account of postcolonial relations between countries and the impact that it has had on the transfer of technology, industrialisation and globalisation of markets by quoting, “One finds few French cars in India, or British cars in Tunisia.”

Edgerton’s claims of war and military contributing to innovation is an interesting take. World war 1 saw the rise of a new form of warfare, chemical warfare. This was opposed to world war 2 which saw the use of theoretical physics in the form of atomic bombs and more. The very idea that development of better technology with the furthering of time was used for destruction disproves the ideas of Whigs who claim the present is always better than the past. The need to end wars and secure victory along with the idea of minimising the loss of lives on one’s own side made it essential to look for non-traditional and innovative forms of technology to aid the fight. This observation of Edgerton is very interesting given that several military innovations have contributed immensely to the betterment of the lives of people as well. The innovations in the war front have later on been adapted to serve the civilians. Radar is an interesting example. Radar technology is an essential part of civilian navigation including in civilian airplane navigation.

It has been mentioned in the past and it is worth asserting that the author does not believe that “New is better”. Although he holds the opinion that innovation is central to development and prosperity, he believes that unless older technologies can’t be perfected, there is no point in developing something entirely new whose usage has not stood the test of time and would now

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appear “cute” or “fascinating” all thanks to the mindless boosterism given by the capitalists. The author shifts our attention from the narration of history of technology by the privileged to the reality that is the effect of innovation and technology in the world of the poor. “It is not just about the technology that we see around us or have used, but it is also about the society that we have lived in. The poor world has almost always been at war. Millions have been killed and even more have been tortured.” And the author holds the ever changing world driven by innovation and technology responsible for this.

It is interesting to notice how the author associates the poor world much to oriental countries like India, Pakistan, Bangladesh through the book. This points to the idea of Edward Said’s theory of orientalism where the western countries are so used to the stereotyping of the eastern countries as “poor, backward and mysterious” that perhaps the first few countries that the author could associate the word “poor” to were the erstwhile Asian colonies of Britain. Edgerton uses a structuralist concept to explain history. And the underlying structure has been explained pretty interestingly by quoting technological advancements and how they have influenced the events of history. Edgerton concludes by leaving a message that the history of technology and its relation with society needs to be revisited and rethought. And a revision of this relation through history could change the perception of global history like never before.