

## Book Review

### Unbound (English)

How eight technologies made us human and brought our world to the brink

Author: Richard L Currier

*Paperback: 424 pages*

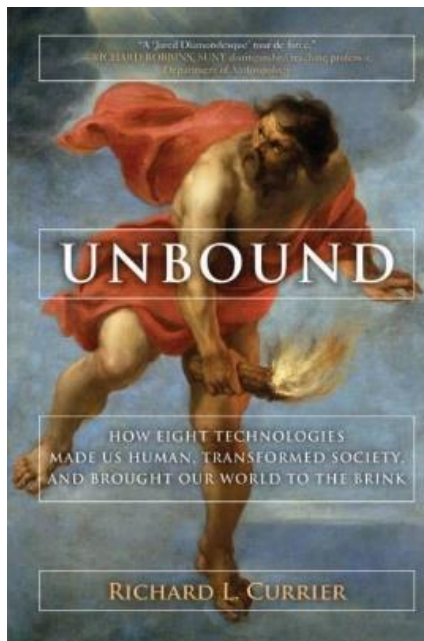
*Publisher: Arcade Publishing; Reprint edition (August 8, 2017)*

*ISBN: 978-1-62872-522 -3 (Hardback)*

*ISBN: 978-1-62872-752-4 (Paperback)*

Reviewed by: S.P. Singh, Editor-in-Chief, Human Biology Review

*Citation: Richard L. Currier. 2019. Unbound (English) How eight technologies made us human and brought our world to the brink. Book Reviewed by Singh SP. Human Biology Review, 8(1), 77-82.*



Title of the book (Left)

Richer L.Currier – The author (Right)

‘Unbound - How Eight Technologies made us Human and brought our world to the brink’ a book written by Richard L. Currier. is a thrilling book unravelling the mysteries of Human Evolution from the ape-like ancestors to the modern day humans. He visualises this cultural revolution from the perspective of eight technologies in transforming and making us humans and also bringing us closer to the brink of extinction. The technologies which changed us include 1) spears and digging sticks, 2) fire, 3) clothing and shelter, 4) symbolic communication, 5) agriculture, 6) technology of interactions, ships, writing, wheel and birth of civilization, 7) precision machinery and 8) digital information. While proving his points of evolutionary history, he brings in evidences from past civilizations and present day tribal and hunter gatherer societies as well as the primate behaviour. The theories constructed by him are logical and convey a story which seems quite realistic. The narrative of Human Evolution revolves around the above mentioned technologies which provided the necessary inputs to unleash the potential of systematic transformation of human societies. The cultural revolutions took place through fission and fusion of societies theory proposed by the author at many stages of human evolution. Nature favoured our ancestors with suitable morphological changes for

upright posture and bipedal locomotion. While becoming the master of our planet, we have shown how irresponsible we are! Destroying the fauna and flora, misusing fresh water resources, polluting the planet, using plastics, and alarmingly depleting the natural resources and fossil fuel, we have brought the mankind to the brink of extinction. The new and ambitious prospects of NASA programmes and reusable rocket technology of SpaceX by Elon Musk may make it possible to inhabit Mars but artificial intelligence on the other hand may pose serious threat to the human race.

*Chapter 1 The primate baseline: Tools, Traditions, Motherhood, Warfare and the Homeland.*

We have the anatomical evidences of primate ancestry. Like primates our hands were suitable for grasping, but our foot was unlike that of primates who used it for climbing trees. The human face is hairless around the eyes, ear and nose, and resembles that of primates. The author opines that the primates and humans have many morphological and behavioural similarities which include friendship, sex, social hierarchies, concept of homeland and group solidarity, and collectively this makes a unique springboard for our species to leap forward.

*Chapter 2. The Technology of spears and digging sticks: Upright posture and bipedal locomotion*

The story of our journey started about 5 million years back with our ape-like ancestors. The technology of spears and digging sticks invented by them resulted in slowly developing the upright posture for walking and running. Anatomical changes for bipedal locomotion took place during that time. The arsenal for evolution in the line of humans was almost ready. The present day chimpanzees also exhibit the intelligence to use the digging sticks. Jane Goodall found chimpanzees using twigs and small wooden sticks for termite hunting from their holes, using big leaves to cover their head during rains and small sticks as spears. Australopithecines, the earliest hominids had pelvis, long bones and knee joint quite similar to the modern day humans (Lucy – the female Australopithecus lived in Africa around 3.2 million years ago had upright posture with protruding mouth and a small brain.). Among these animals with the passage of time, the canine teeth had become quite shorter and inconsequential for self-defence. In the absence of claws and sharp canines, the hominids must have carried weapons to neutralize attacks by predators. Carrier debunks the savannah based theory of upright posture of Lucy on the basis of Ardipithecus who lived a million years before Lucy and lived in jungles and trees but had the anatomical structures for upright posture. Unlike other predators, the hominid females had limited role in hunting because of the care of the infant. The hominid mother had to carry her infant in the arms because it won't cling to the mother who would refrain from holding the weapons not to hurt her child. Hence the hunting exploits of father, and the dugout tubers and roots by the mother must have been shared together thus setting in place the foundation of the family. The hominids revolutionized sex by having endless estrus thus breaking away in a big way from other primates. Strong bonding between male and female hominids emerged.

*Chapter 3. The Technology of fire: Cooking, nakedness and staying up late*

The use of fire in the beginning and then control over it propelled the hominid evolution much further. Unique bipedal anatomy of hominids made it possible for them to control fire, take it to the caves, permanently driving away the predators and other inhabitants of the caves and ultimately made them as their safest living places. This caveman is the new successful human. Only the 'freed hands' of the hominins were able to carry fire which other animals being quadrupeds couldn't.

Fire made it possible to cook meat and vegetables which improved their digestive and nutritive value and hence proved useful to the humans. Rapid increase in brain size by a factor of 3 of emerging humans in the last two million years took place which was responsible for development of language, culture and technology.

The caves with controlled fire made the hominins safe and that resulted in more wakeful hours. Now these creatures could stay late into the night whereas generally no other animal is able to remain active during night. The now available extra time may have been used in cultural activities of storytelling, sharing experience, strengthening relationship ties, tool making, weaving, eating during night were now possible due to the more time availability. The technology of fire and caves made these activities possible. The hominins who lived at that time were the *Homo erectus*. They used fire, had short teeth, very large brain and lived around 1.5 million years ago.

Loss of fur of hominins seems to be a natural selection to fire technology. Individuals with less body fur were more successful in handling fire than the others and the final result was that humans became naked in due course of time. It is that time when hominins started inhabiting the caves.

The author speculates that the universal practice of living in enclosed spaces with solid walls and roofs had a strong connection to the cave dwelling of our ancestors. We the descendants of tree dwelling ancestors for 55 million years lived and died in the open forest, but now are no longer able to live in the open.

*Chapter 4 describes the technologies of the clothing and shelter (Hats, huts, tonga and tents).* Evidence suggests that the stone scraper tools as old as 780,000 years old contained traces of meat and fat which indicated that our ancestors removed flesh from skins of animals for use as clothing and shoes. Neanderthals wore whole hides of animals whereas Cro-Magnons stitched the skins to suit them. Brain and head size had been increasing with time thus adding ammunition to the human evolutionary process. But it was becoming difficult to give birth to the new-born with large heads. Perhaps the humans started giving birth prematurely at 9 months instead of estimated 12 months of gestation as mammalian rules of gestation suggest. Human brain is less developed at the time of birth than that of mammals and primates, and hence human infants needs more care and protection. In order to protect the totally dependent new born, huts and clothes were invented. During the ice ages *Homo erectus* moved North during warm times and southwards during winters. Neanderthal diet was mainly composed of meat. They were good hunters who hunted megafauna of that age and were mainly responsible for the extinction of some ice-age mammals including the mammoth.

*Chapter 5 discusses the role of the technology of symbolic communication (Music, art, language and ethnicity)* in pushing forward the frontiers of human evolution further by crossing the crucial barriers of intergenerational exchange of information. The large scale exposition of music, art, drawing and painting were the highlights of the cave dwellers' culture. Palaeolithic art of paintings deep inside the caves were of very original shape and quality which depicted mammoths and big animals perhaps as magical spells to be successful in hunting. One very fascinating find is that of 'Venus' figurines created by Cro-Magnons some 40000 to 10000 years back as symbols of fertility. The markings by *Homo heidelbergensis* on animal bones indicated some sort of counting of numbers. By the time of Neanderthals, wearing of jewellery and decorative articles on the body, and the tradition of burying their dead became quite common. The author discusses the role of petroglyphs created by Cro-Magnons for the first time as an evidence of the use of language. Neanderthals were using the spoken language but lacked the talent of the narrative whereas the modern humans were able to do so. Music

followed the use of language and the musical instruments were created by simply modifying the bones and wooden pieces. The cultural revolution with language communication made it possible to have more people for interaction in the groups and hence the population size increased. The fission-fusion process now tilted in favour of fusion of groups with communication as a tool.

*Chapter 6 takes up the issue of the next technology 'The technology of agriculture' which created permanent settlements and the creation of wealth. Agriculture started around 12000 years ago. Most of the hunting-gathering culture disappeared due to the agriculture between 12000 to 4000 years from now. The fertile crescent stretched from Nile to Persian Gulf. This area was inhabited by natural wild varieties of first plants and animals to be domesticated.*

*Natufians* was the group of people who lived in Fertile Crescent some 17000 years ago. Evidence suggests that they used small sickles of microliths and attached them to curved wooden handles to cut wild wheat. The first big leap forward was taken around 11000 years ago with the technology of agriculture. Now started the growing of wheat and other grains and the agriculture became the main source of food. At that time the houses were made of mud bricks and the floor was made of cement like lime.

Initially there was a practice of building granary outside the houses which was a common property shared by all. Still there was no wealth in the society. Once the agriculture flourished, enough food grains were available, people started storing grains in their own homes. It laid the foundation of personal wealth. The children inherited the goods and other things from their parents and for the first time in the history of mankind they became rich or poor. The gulf between rich and poor started increasing, thus dividing the society on economic basis. Barter system was invented when some food grains of one variety were in excess and others deficient. The society was divided into rich and poor proof of which came from the burial rituals of Neolithic societies around 7500 years ago, the rich placed stone adzes near the burial sites while the poor didn't.

Hunting instincts of humans suggest the inherent aggressiveness and warfare tendencies among the hunting gathering societies but these tendencies expressed themselves once the issue of disputes of land and resources arose. Mass graves of Neolithic people were discovered where the heads of people were cut off and bodies were scattered around indicating warfare.

*Chapter 7 is about the technologies of interaction (Ships, Writing, the Wheel, and the Birth of Civilization).* Large scale inventions of tools took place, giving rise to the trades of carpentry, building houses and wood working tools. Now the major civilizations thrived on the river banks in Mesopotamia, Egypt, India and China. Ships and boats became the favourite transports

Neolithic people of Eurasia started rearing horses for meat as it is able to feed itself in a snow covered pasture. The wheel was invented and it resulted in a faster transport. Carts were made around 3000 BC which were driven by oxen but were later replaced with horses for faster movements. Around and after 2000 BC, chariots for warfare and carts for carriage driven by horses became quite common, which were first used by nomads of Eurasian steppes. These chariots would provide great speed and were very successful in warfare and fighting. The invention of writing happened around 3000 BC in Mesopotamia and also at many other places simultaneously which was a great step forward.

Inca, Maya and Aztec were the advanced civilizations of their times but were mainly using the stone tools. Metal technology was used by these civilizations only for making ornaments of gold, copper and silver. Around 4000 BC, people of the Middle East invented the metallurgical process of mixing copper with arsenic and tin to make bronze which was a tough metal. The

tools made of bronze proved to be far superior to the stone tools used earlier. The result of superior weapons of bronze compared to stone weapons was the sure defeat of the latter. Thus came the end of the stone age culture and replaced by bronze age culture. The use of bronze was widespread in Indus valley in 3300 BC and in Mesopotamia after 2900 BC.

*Chapter 8 introduces the Technology of precision machinery.* A wide variety of machines were designed such as steam engine, printing press, electric generators, telegraph wires, weaponry, telescopes and microscopes. These technologies gave immense economic and military powers in the hands of the people and the societies; and the pace of progress and onward march of humanity increased manifold.

First printing press was developed by Johannes Gutenberg, a fifteenth century German goldsmith who melted tin, lead and antimony into alphabets. So began the industry of printing and the starting of newspapers. Electricity brought in lighting to the households and industry whereas steam engine revolutionised mass transportation. The household machinery of washing machines, refrigerators, cooking gas, vacuum and mops made the life of women comparatively better. The author is of the opinion that all the precision machinery in the hands of the people have rendered the traditional family roles and permanent life-long relationship mainly obsolete. But that doesn't mean the end of the family, for the family will survive till the survival of our race. Need for emotional gratification, love, sex and children would work in favour of the family and marriage.

All concentrated development in urban areas resulted in migration to urban centres manifold. This is true that only 1% of Americans work in their fields now. They will be alienated from their roots and would be devoid of any contact with nature. The large industries have evolved corporate culture of hierarchy from workers to supervisors to managers to owners. These new emerging relationships are resulting in dissatisfaction, unrest, non-fulfilment of desires leading to anxiety and depression. The new civilization with all the amenities is developing fast bestowing individual freedom to excel in their activities.

*Chapter 9 The technology of digital information (The worldwide web of human interaction).*

A tabulating calculator was invented by Herman Hollerich which successfully handled the Census data in US and named his company as Tabulating Machine Company which ultimately merged with other companies to form International Business Machine (IBM) Company and started the computation work. With every passing day the computation power of computers and storage spaces are exponentially growing. Multimedia with advanced digital technology has brought the movie theatre to our homes for our entertainment. The digital technology is freeing us from the limitations of time and space. The most heartening result of this technology would be the fusion of cultures to develop a universal human culture. The globalisation of food and music will serve as a strong bond to merge the traditions of different cultures into new forms of fusion.

How have we constructed our human history? The author builds a fascinating scenario of available information about human history from prehistory to recorded history it was through archaeological artefacts, thereafter it was followed by written history. But from our generations to future generations, it will be stored digitally for the use of future generations.

*Chapter 10. Our world at the brink (Is humanity drifting toward a planetary catastrophe)?*

We are living under constant threat of war machines and nuclear weapons with a possibility of annihilation of human race from the face of the earth. The environmental pollution and

degradation of ecosystems is playing havoc with the natural fauna and flora and leading to their mass extinction.

The author poses a bold question for the survival of human race beyond this planet. Jupiter, Saturn, Neptune and Uranus are gaseous planets and the possibilities of humans inhabiting these planets are almost nil. Mars is a frozen planet with its atmosphere containing 95% carbon dioxide and only little traces of oxygen, and hence neither Mars, nor any other planets of the solar system, is fit for colonization.

The book mainly focuses on cultural issues and traditions of human evolution. The role of eight different types of technologies which made us humans has been explained clearly and logically by the author. Interwoven stories of small events of our long journey narrated in the book help in unfolding the mysteries of each stage of evolution. Though at some places the issues lack cohesion in its subject matter, yet their contributions to the process of human evolution are immense. The interesting information provided in the book is a treasure house for the students of anthropology and the general public. Written in a lucid style providing fascinating insights into the realm of our evolutionary history, the book is a welcome addition to the existing repository of knowledge.

Currier has aptly commented on our responsibility towards our planet by stating that

“We have become stewards of our planet and it is our responsibility to decide its fate.”