



## Filming Fatal Laboratories: Creation of Monsters through Genetic Engineering, Replication and Mutation in Hollywood Science Fiction Film

Dr. Santosh L. Karwande

Dept. of English, Arts College, Tirthpuri

“Discovery is always a rape of the natural world.”

- Ian Malcolm (*Jurassic Park*)

Less than fifty years after Watson and Crick’s discovery of DNA’s fundamental message-bearing structure, biotechnology promises to transform humanity more profoundly in the near future than has occurred in human history. According to Jeremy Refkin, “Genetic engineering represents our fondest hopes and aspirations, as well as our darkest fears and misgivings.” Science fiction “elaborates those dark fears; bio-scientists, techno-priests, and transhumanists wildly exaggerate the hope and aspirations into propaganda for anarchic biotech expansion.” (*Technophobia*, 181)

Keeping in view the promises of biotechnology, it is essential to examine this scientific branch briefly and then consider its implications from our research’s point of view. The term biotechnology was coined in 1917 by a Hungarian Engineer Karl Ereky, to describe a process for large-scale production of pigs. According to him, all types of work are biotechnology by which products are produced from raw materials using living organisms. At the end of the 20<sup>th</sup> century, biotechnology emerged as a new discipline of biology integrating with technology. But the route of biotechnology lies in biology. Of the various areas of molecular biology, recombinant DNA technology or genetic engineering is the one in which desired genes of one organism can be cut enzymatically and joined with the other genes and introduced into the cells of other organisms. Using this technology, several novel products can be produced.

Since our primary aim is to explicate technophobic elements in science fiction film, we must limit our discussion around disaster science fiction that is screened with this specific intent in Hollywood and elsewhere. Most of this disaster science fiction portrays wild scientific experimentation that goes awry and creates great havoc. There are many science fiction writers who explore this theme, but the chief inspiration for such type of formula is Mary Shelley’s *Frankenstein* and H.G. Well’s *The Island of Dr. Moreau*— both works inevitably making biological assumptions. Indeed, Shelley’s novel inspired many a Hollywood film which features scientifically created monster that turns against its creator. Victor Frankenstein’s vehement passions and violent temper prompt him to learn the secrets of heaven and earth. His love for natural philosophy is further strengthened by the works of Cornelius Agrippa. His father’s reaction when he sees the title page of a book, “Ah! Cornelius Agrippa! My dear Victor, do not waste your time upon this; it’s sad trash.”



(Shelley, 39) is especially noteworthy from our point of view as it puts forth Shelley's fear of science at a time when science was still in its infancy.

Wells' *The Island of Dr. Moreau* is another noted work that stimulated many films figuring a remote island where the scientists secretly conduct their wild scientific experiments and run themselves and others into danger. The film portrays genetic alterations rather than cloning. The mad scientist Moreau creates creatures with a fusion of animal and human genes that walk upright and talk, like humans, but have beastlike heads. These creatures call Moreau "Father" and consider him a god who gave them the Law, which absolutely bans killing. Soon events spin out of control. The Beast People rise up, Kill Moreau and others and wrecks the laboratory as they attain complete beasthood. The leader of the creatures says in the end, "No more science, no more laboratories, no more experiments. We have to be what we are...not what the Father tried to make us." Thus the utopian island is completed rendered as a living hell.

Of these, Steven Spielberg's *Jurassic Park* (1995) and Renny Harlin's *Deep Blue Sea* (1999) are significant in that they figure Remote Island which has been initially considered as utopia. When Franklin comes to the island for the first time, Dr. Jenny greets him and says, "Welcome to the island paradise." With the same enthusiasm, John Hammond welcomes the team of scientists when they arrive to visit Jurassic Park. These two films are significant cultural commentaries which show disillusionment in the magical powers of science and technology. *Deep Blue Sea* effectively puts forth the hazards of scientific hubris that leads one towards disaster. When Franklin beholds a scientifically improved shark, he exclaims in great wonder: "What in God's creation!" The chief geneticist of the scientist' team Dr. Jim retorts insolently, "Not His. Ours." In the very next scene, the fish attacks Dr. Jim and he gets killed in the most precarious manner. In another key scene, Franklin lectures about the fatal consequences of playing with nature. He says: "Nature can be lethal, but it doesn't hold candle to man." Dr. Ian Malcolm in *Jurassic Park* also takes this issue more vigorously when he says that "scientific discovery is always a rape of the natural world."

The role of all science fiction is to "communicate ideas, the fears and hopes, the shape and feel of all the infinite possible futures..." (Bova, 6) For that matter, most of science fiction books and films include mini-lectures about the marvels of science and technology. Likewise, it also involves debates and discussions about the wrong use of science and its hellish results. In these movies, different characters represent different points of view which enlighten the spectators about the extent of technological use. John Hammond, in *Jurassic Park* is very enthusiastic about the magical powers of science in realizing his dream. But he is often countered by Dr. Ian Malcolm who neatly predicts the failure of the theme park with the help of Chaos Theory. What Malcolm says about the failure of the park is particularly revealing:

...the history of evolution is that life escapes all barriers. Life breaks free. Life expands to new territories. Painfully, perhaps, even dangerously. But life finds a way.

John Hammond is irritated with Ian's logic and tries to advance argument after argument while justifying his decision to clone dinosaurs. It appears that he is reluctant to



accept his folly even at the end when he is escorted by Alan Grant to the helicopter. Crichton has often been termed as a Luddite, a consistent technophobe scaring people about science and technology. He is didactic in his approach when he teaches his lessons by projecting the night side of life. That is why disaster mode is more suited to his novels. Each of Crichton's disaster SF aims at making us realize the grim realities involved in our science-centered activities. But realities are not well-understood by simple moralizing. A child does not understand that touching the fire is hazardous until it gets its finger burnt. In the case of grown-ups, at least the projection of disasters through extrapolation can help attain wisdom. In *Jurassic Park*, the teaching is more explicit. The fact that Hammond's secret work of cloning dinosaurs on the island of Costa Rica goes unchecked amply illustrates how casually we take scientific experimentations. It brings to our notice the hazards of scientific research without watchdogs. Evidently, *Jurassic Park* is a subtle, updated example of shortsighted greed and its deadly consequences.

Crichton's novel and the movie based on it seem to attack an aspect or tendency of present scientific research in its disastrous conclusions. Even in the film *The Andromeda Strain*, based on Crichton's 1969 novel of the same name, he depicts the errors of America's brightest scientists trying to fight a deadly plague from the outer space. Here, we get a fine satiric picture of human brain as a parasite, "draining more than its share of blood flow while leading us to inevitable blunders." (Slonczewski and Levy, 176) The same satiric vein is noticeable in Renny Harlin's film *Deep Blue Sea*. A team of ambitious scientists is engaged in enhancing the brain size of sharks in order to harvest more proteins in it. But as a side effect, the sharks get smarter and use the humans as their prey. Despite Carter's repeated warnings, the fatal research is allowed to continue jeopardizing everyone's life. The scientists are shown completely blinded by big dreams of changing the world. When Franklin asks Carter about his stand in the research, he says, "I'm just a fish keeper... I'm not to change the world like the Doc, and I am not to wreck it either." Throughout the film, we find Carter making sarcastic comments about the scientists who vainly try to play God. Besides, the film effectively uses religious evocations attracting our attention towards God and His wrath through the character Preach who plays a cook.

Another noted film entitled *Gattaca* (1997) continues the theme of genetic engineering imagining our society as it might be in the "not too distant future" when genetic manipulation is routine. Parents can choose the qualities they want their babies to have, selecting gender and other features from eye quality to mathematical ability; adults can read one another's DNA from saliva on a lover's lips or the perspiration on a doorknob. "The result is a stratified social order: although it's illegal to engage in genetic discrimination, the reality is that the plum positions go to the valids, with impeccable genetic credentials, whereas the In-Valids, known as "God children" or "de-gene-rates", are the world's janitors and toilet cleaners." (*Hollywood Science*, 126-127) The film cleverly foreshadows the grim future in which scientists play as a god. At one occasion, a genetically engineered character Vincent Freeman says: "I'll never understand what possessed my mother to put her faith in God's hands rather than of her local genetists."



Apart from these films, the horrors of biological mutations are strongly expressed in *Godzilla* (Dir. Roland Emmerich, 1998) and *The Hollow Man* (Dir. Paul Verhoeven, 2000). The side effects of a nuclear testing cause run amok situations in *Godzilla*. An Iguana nest is exposed to the fallout of a military nuclear test. Dr. Nick, a scientist, is researching the effects of radiation on wildlife is sent at a site where huge footprints of an unknown animal are seen. He comes to the conclusion that this dinosaur-like animal is a mutant created by nuclear testing. The creature travels to the New York city and creates great havoc killing hundreds of people. It is also discovered that the creature reproduces asexually adding to the worries of the authorities. Finally, the creature is killed in a dramatic situation. Despite a convincing theory of nuclear mutation, the film has been criticized for certain absurdities. But the message is loud and clear: science is likely to prove hazardous if not used properly.

*The Hollow Man* brilliantly depicts the hazards of being a self-Guinea Pig. This film seems a strange combination of Well's *The Invisible Man* and Stevenson's *Dr. Jekyll and Hyde*. Arrogant scientist Sebastian Caine has developed a serum that can make a subject invisible. The team of scientist succeeds in reversing the procedure, returning an invisible gorilla to visibility. They now proceed to test the serum on humans and Sebastian himself volunteers for this testing. The test is successful and Sebastian is completely invisible. However, the scientists are unable to bring him back. Now he appears completely mad as he loses his identity. This makes him irrational and evil. He sneaks around the lab and plays pranks on his fellow scientists. He even stealthily breaks outside and rapes and murders a woman. It appears that he turns into a devil that needs to be killed. Finally, he is killed and order is established.

Our continual association with technology sometimes gives us horrifying dreams rendering prostrations. In *Jurassic Park III*, for instance, Dr. Allan Grant is asleep in a helicopter that has just rescued them from the island inhabited by cloned dinosaurs. Dr. Grant is much exhausted due to the havoc caused by the fierce animals. At this occasion, he dreams a velociraptor which calls him by his name Allan. Similarly, Dr. Susan in *Deep Blue Sea* is suddenly overcome by intense terror when the anesthetized shark suddenly jumps over the boarding platform. Carter ironically asks her whether she had a "bad dream." Even Linda, Sebastian's ex-girlfriend, too had a nightmare that the invisible Sebastian seduces and rapes her. By and large, all these films evoke listlessness about science and technology implicitly referring to the bionic nightmares that haunt us all.

Another horrible area of Hollywood SF is biological warfare – the use of natural or engineered pathogens as weapons. These films figure the evil doctor Joseph Mengele who "epitomized murderous scientific fanaticism, reflecting and portending the mad scientist of horror and science fiction who wants to control evolution, perfect the human species, and, with an end-justifies-the-means rationale, subjects humans to painful experiments." (*Technophobia*, 187) Anti-biotechnology themes in science fiction connect back to the whole history of anxiety with science, scientists and technology. Amplified by the horrors of Nazi Joseph Mengele, the science fiction geneticist joins a long procession of mad scientists who irresponsibly employ technology in a desire to conquer nature at any cost. While doing this,



they rationalize death, disease, injury and unforeseen disasters with their rhetoric of perfecting humanity.

A 1995 film *Outbreak* describes governmental involvement with biowarfare. In 1967, a virulent disease flares up in a military mercenary camp in the African country of Zaire. It is so deadly that U.S. Army medical officer orders the camp bombed to keep the disease from spreading. Thirty years later, a village in the same Motaba region suffers another outbreak and Col. Sam Daniels of the U.S. Army Research Institute of Infectious Diseases is sent to investigate. He finds the disease 100 percent fatal, killing horribly within days by liquefying the internal organs. After returning back, Sam tells his boss General Billy Ford that he is not sure the Motaba virus has been contained. Later we see a conversation between Ford and his superior officer which suggests they know more than they have told Sam. In fact, the disease has not been completely contained; it is being carried to the U.S. West Coast by a monkey aboard a freighter. When the creature arrives, Jimbo Scott smuggles it out of the animal quarantine facility where he works. After failing to sell it to a pet shop in a town of California, he frees the monkey in the woods, but not before he and the shop owner are infected. Later it is revealed that the virus has mutated and transmitted through the air adding more worries. Sam comes to know that the army has been secretly turning the virus into a bioweapon and also has an antidote. But the antidote fails as the virus has changed. Nevertheless, the virus is stopped at the end.

Speaking about the possibility of engineering deadly virus as a bioweapon, Sidney says, “The disease[s] in the film[s] – a medieval pestilence appearing in modern times, a vicious artificial disease, a murderous natural illness cultivated as a weapon within the U.S. military – may seem overblown or imaginary, but the medical science in the *Outbreak* has some firm connects to the reality. (*Hollywood Science*, 121)

Biological themes in Hollywood SF reflect specific contemporary concerns that include eugenics, cloning, genetic discrimination, exploitation of the body as a commodity, the safety of genetically modified food, and the potentials for catastrophic accidents in experimentation with transgenic species, as well as genetic imperialism practiced by greedy international corporations. Thus, much of Hollywood SF foreshadows the dire consequences of the wrong use of biotechnology that serves the interest of bio-scientists, corporate bodies and powerful military forces.

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