Relocating Medical Thrillers: Ethical Concerns in the Select Works of Robin Cook

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by

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CERTIFICATE

This is to certify that the thesis entitled "**Relocating Medical Thrillers : Ethical Concerns in the Select Works of Robin Cook",** submitted by Vani P Nair to the University of Calicut, for the award of the degree of Doctor of Philosophy, is an original work of observations and bona fide research carried out by her under my supervision and that it has not previously formed the basis for the award of any degree or diploma or similar titles.

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DECLARATION

I, Vani P Nair hereby declare that the thesis entitled **Relocating Medical Thrillers: Ethical Concerns in the Select Works of Robin Cook,** submitted to the University of Calicut for the award of the degree of Doctor of Philosophy in English is an original record of observations and bona fide research carried out by me under the guidance of Dr. Preetha M.M., my Research Supervisor, and Dr. Abitha Balagopal, my Co – Research Supervisor, and that it has not previously formed the basis for the award of any degree or diploma or similar titles.

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Chapter one

Introduction

The similarities between literature and medicine make them perfect allies, capable of engaging with and observing the struggles of humanity at an abstract and corporeal level respectively. Both these disciplines partake in an unremitting struggle between the need to objectively observe and subjectively engage, while informing the outcome of the struggle. In the recent decades, the pedagogical potential of the synergy between medicine and literature has been used to good advantage in the medical schools through programmes in medical humanities. While exploring different genres of literature in this regard, one cannot but notice the emergence of medical thrillers almost parallelly with the evolution the discipline of medical humanities during the second half of the twentieth century. Yet this literary genre was largely ignored and rarely studied for its medical content despite its obvious presence as popular fiction. This dissertation is primarily concerned with relocating medical thrillers from the fringes to the centre of medical humanities by subjecting them to a sustained study under three different headings, namely, “Lessons in Body Beyond Anatomy”, “Doctors Without Halos” and “Narrativization of Bioethical Concerns, Why?”, with the ultimate aim of proving that they can be used as materials of instruction within medical humanities courses.

Medical thrillers, a subgenre of science fiction, have been constantly figuring in the best seller lists since the second half of the twentieth century. The generic conventions of medical thrillers are characterised by an electrifying imbrication of arcane medical facts and rousing action-packed plots that point to certain sticky questions surrounding modern day medical practices. Despite its popularity, it is still largely an academically unexplored territory because they are often accused of

pandering to the baser tastes of the common readers. But it has the potential to "provide a grid that could help future health care professionals understand discursive, procedural and socio-cultural aspects of the multifaceted world of medicine" (Charpy 423).

The man in the white coat, who is privy to the esoteric medical knowledge, who knows more about a person's body than the person himself, has always been a source of intrigue, respect and admiration for the uninitiated. Robin Oliveira, the *New York Times* bestselling author mentions that "Medicine is a powerful narrative tool because it is in itself mysterious" (Oliveira). This was realised early on by the makers of television dramas, especially in the United States, and by the middle of the twentieth century began churning out a slew of medical dramas, which became quite popular with the audience. CBS television network's *City Hospital* aired from 1951 is usually considered to be the first of its kind. Then came *Dr. Kildare*, *Medic, Northern Exposure,* and more recently *House M.D.*, *Grey's Anatomy*, *The Good Doctor*, etc. to name a few. Medical Dramas have become one of the most popular genres and its conventions have been the subject of much scrutiny in order to study the contribution it makes to the ongoing medical discourse. However, their counterparts in the print, especially medical thrillers, are yet to be considered for mainstream academic research despite its potential to interrogate both the medical practices and the medical discourse.

Towards the second half of twentieth century, in the United States, medical thrillers got the necessary leg up from the "North American publishing houses such as Pan Books, Bantam Books and Berkley Books" (Charpy 425). One of the first authors to pen a medical thriller was the American author Michael Crichton, who is now better known for his science fiction novels *Jurassic Park*, published in 1990 and *The Lost*

World, published in 1995. He published his first medical thriller, *A Case of Need* in 1968, under the pseudonym Jeffrey Hudson, but later on turned to writing techno-thrillers. Michael Crichton was also a trained doctor, who put his knowledge of medicine to creative use in writing science fiction and thus prepared the ground for the authors of medical thrillers after him in the United States. Also, "it is most probably the fertile breeding ground of New England and its prestigious medical schools that contributed to the birth of the medical thriller specialized genre in the 1970s" (Charpy 425).

Around the same time, two other physician-turned-authors, Robin Cook and Michael Palmer, both of whom had graduated from the Wesleyan University, also took to writing medical thrillers. Popular entertainment mediums were making the public get used to the world of medicine at a time when vehement contestations and debates were taking place around various bio-ethical issues. There was a transformation in the role of the public in the Unites States and in certain other parts of the world, where people were changing from passive spectators to active participants in the ongoing dialogues concerning modern medicine. People began to interrogate the practices of the medical establishments and their curiosity had never been whetted to this extent before. The authors of medical thrillers had realised the presence of a potential market for their fiction, and all they did was to serve the readers what they wanted. Both Robin Cook and Michael Palmer, being physicians, had the necessary raw materials for their creations, using which they began to shape interesting narratives in the form of gripping thrillers with solid medical underpinnings.

It is interesting to note that "like the western, the medical thriller is a typically American genre" (Charpy 426). Once Robin Cook and Michael Palmer had set the stage for the new genre of medical fiction in United States, several experts and professionals

in the field of healthcare also followed their suit. These include Leah R. Robinson, Don Donaldson, Tess Gerritsen, Gary Braver, Leonard S. Goldberg, Daniel Kalla, Peter Clement, David Shobin, Gary A. Birken, etc. The Irish physician Paul Carson and the Scottish medical scientist Ken McClure are the other major contributors to this genre from outside the United States. Of all these authors, however, it is Robin Cook who has been quite often credited with the title of "the father of medical thrillers" (Dahler). "His timely fiction appeals to a reading audience that has grown increasingly conscious of the major role that healthcare issues have come to play in public life" (Stookey 2).

Nowadays, pharmaceutical companies, Health Maintenance Organisations, public policy makers, and several other players have come to have a say in the health care industry. Medical sector also commands a sizeable chunk of any country's wealth and manpower, which has made it a topic of public debate. Cook's novels assume significance in this context of popular public debates and discussions surrounding healthcare. In an interview given to the *Health* magazine in the year 1983, Cook mentions how he finds the medical sector amenable to consumerist approach. Consumerism involves safeguarding and furthering the interests of the consumers, and in medicine it would mean the patients. He offers it as the only solution to bring about a transformative change in medicine from being disease-centred to patient-centred. "Cook is deeply committed to situating his interest in medical policies and practices within the larger context of contemporary culture. He is, for example, especially concerned about the effects of marketplace motivations on the healthcare industry" (Stookey 2)

It is interesting to note that Cook's initial interest was not medicine, but archaeology. However, an injury that he witnessed while at Leonia high school kindled in him a fascination for the field of medicine. In 1962, Robin Cook finished his pre-med from Wesleyan University at Connecticut, from where he went to Columbia University

College of Physicians and Surgeons, and finally got his M.D. from Harvard in 1966. Though Cook did find his experience in the medical colleges to be stimulating and enlightening, he duly notes the academic inertia that plagued these institutions. “The critique of medicine that is sounded throughout his literary career therefore first began to take shape while he was still a medical student” (Stookey 5). His residency period at Queen’s Hospital in Honolulu, Hawaii proved to be deeply exhausting and made him mull over how the entire pedagogical setup could actually prove to be detrimental to a doctor-in-making. He somehow wanted to share his concerns not only with the professionals, but also with the people in general as well, and “found a narrative formula” in medical thrillers, “that was probably guaranteed to win him success” (Stookey 6).

It is true that Robin Cook is by no means the only author of medical thrillers. Yet, it is his name that is the most popular among the writers of this relatively specialized genre. One of the main reasons for this is of course his idiosyncratic literary tendencies consisting of an “unsettling use of the worlds of medicine and medical research as the sites for nefarious schemes” (Stookey 16), not to mention the use of the grotesque which creates a jarring effect on the readers. He constantly reminds us not to take for granted the hallowed halls of medicine and the infallibility of the doctors, thus making his novels to serve as cautionary tales for the readers. Another reason for his popularity is his prolific literary output. As of 2019, Robin Cook has written thirty-seven novels. Some of his novels have also been adapted for motion pictures, which has further extended his reach among the people.

Further, his works are quite informative and have an air of authenticity about them. He does his research with utmost precision and does not discredit the intelligence of his readers by simply flaunting his scientific and medical know-how without

providing proper context, or through erroneous facts. Also, some of his novels are so shaped that they are futuristic in their conception of various scientific developments and applications. In this sense, “much of his work intersects with yet another popular genre, namely, science fiction” (Stookey 18). Six of Robin Cook’s novels have figured in the bibliography of science fiction that was compiled by Robert Reginald in the year 1992. Thus, at a time when the common man is barely aware of the great leaps that medical science is making in the field of research and development, he makes accessible to his readers this arcane world and through extrapolation of the incipient experimental ideas to future realities, projects into their minds, “worst case scenarios that reflect the writer’s characteristic wariness about any kind of science that is driven more by economic considerations than by a concern for the public good” (Stookey 18).

Another aspect that makes his books riveting is the ingenious borrowing and integration of different literary techniques to create and retain the suspense factor, for instance, from the horror fiction. “In Cook’s fiction, the horrific emerges in the form of monstrous villains who inhabit the worlds of medicine or experimental research” (Stookey 19). He constantly evokes the image of the Frankensteinian monster in his works as a warning for both the specialists and the laity. He also employs a number of characteristics of the gothic literature in several of his illustrative passages, especially in the description of architecture and landscape, so as to add to the feeling of mystery and terror. His works, thus, are not merely the run-of-the-mill thrillers, and have a literary quality that is found wanting in most other authors of medical thrillers. Cook made deliberate efforts to train himself to write medical thrillers as discussed below.

> Readers who are fascinated by his ability to incorporate plotting strategies derived from a variety of genres should remember that, in teaching himself to write the popular novel, Cook carefully analysed a

> large collection of best-selling novels. Drawing inspiration from these, he finds a way to blend elements of suspense, mystery, science, fiction and horror. (Stookey 19)

His central themes show how medicine has undergone a transformation from an art to science and now into a business. He expresses concern over the steady erosion of altruism, which is the hallmark of medical profession, over the years. Though his works are replete with ethical concerns, he steers clear of any and all sorts of moralism. He doesn't make decisions or pronounce judgements for his readers at any point of time. On the contrary, he displays a unique tendency unseen in other writers of thrillers, namely, playing the devil's advocate. Though in accordance with the normative tendencies of genre, there is almost always a protagonist and an antagonist, he presents arguments for both the opposing sides, mostly in the form of monologues or dialogues between the characters in order to show where the root of these ills lay. It serves as an eye opener, especially for the professionals and the medical students, since the proximity to the system quite often denies them the clarity of vision and objectivity, much required to critically analyse their actions and its consequences. His responsible handling of the critical concerns in the field of medicine was also acknowledged by the policy makers in the country. A case in point is "When U.S. senator Orrin Hatch requested that copies of Robin Cook's novel *Fatal Cure*, be sent to all members of Congress as well as President Clinton, his gesture spoke to the relevance of popular literature as a mode of cultural expression within contemporary society" (Stookey 140).

Cook's medical thrillers portray the toxic nature of the modern-day medical culture that is beginning to prove inimical for both the doctors and the patients alike. Quite contrary to the popular assumptions that doctors have it all figured out, Cook reveals how most medical students, teachers and practising doctors are susceptible to

burnout, chronic stress, psychological distress, and the consequent maladaptive coping strategies like alcohol and drug abuse. The hospitals, especially under the Health Maintenance Organizations, vying for profits, apportion the responsibility to pad up the bottom-line to the already overburdened doctors, which in turn affects the quality of treatments. He traces back the cause of deteriorating quality of health care to the lacunae in medical education, while providing a critical commentary on the present-day medicine. He also makes a brutal yet honest revelation that the healthcare sector needs the people to be sick to cure them and make profits.

The pharmaceutical companies in the U.S. have managed to have a pervasive influence over the common people through direct-to-consumer advertising of pharmaceutical drugs. It is interesting to note that “the U.S. and New Zealand are the only countries that allow DTCPA (Direct-to-consumer pharmaceutical advertising) that includes product claims” (Ventola 669). The astronomical sums of money invested in marketing and advertisement within the medical sector has a direct correlation with the escalating healthcare costs. Cook shows how this trend has a disruptive tendency vis-a-vis the normal doctor-patient relationship, and how the vested economic interests of these institutions can actually mislead an entire population into getting exceedingly dependent on drugs.

Cook, through his carefully crafted plots, also shows how it is imperative to constantly improvise one's way around the tricky course of bioethics owing to the ambiguity born out of rapidly changing definitions and meanings within modern day medicine. Catherine Belling, in her article "The Living Dead: fiction, horror and bioethics", mentions how Cook's second novel *Coma* was written in the wake of fiery disputations and uproar following the removal of Karen Ann Quinlan, a twenty-one-year-old American woman who had entered a permanent vegetative state following the

consumption of both Valium and alcohol while on a crash diet, from the respirator which was keeping her alive. After Quinlan's case, the medical establishment was forced to include "irreversible coma" or brain death as a new way to define death, and its implications was something that was yet to be grasped by the common man completely. Cook, however, managed to make the magnitude of this event felt by placing it in the context of an even more sensitive issue of organ transplantation.

In his books, *Mortal Fear* and *Fatal Cure*, Cook introduces the readers to the effects that the setting up of HMOs have had on both the patients and the doctors alike. It has refashioned patient care while driving physicians out of private practice, thus forcing them to join hospitals collaborating with HMOs, and being part of a subscription-plan-based health care system. Doctors forced into this scheme are often frequently coerced to keep an eye on the bottom-line and do their part to pad it up by resorting to radical cost cutting measures, which in turn adversely affect the quality of healthcare. According to Morrison,

> When the term ‘health maintenance organization’ was coined, followed by HMO-enabling legislation at the Federal level in 1973 and by grants and loans to new HMOs, prepaid health plans took a leap in legitimacy. These plans, representing a dramatic alternative to fee-for-service medicine, were envisioned by some analysts as agents of change that would introduce competition into the health care industry. (Morrison 81).

Outbreak is another novel of his that once again deals with the HMOs, but is approached from a different angle, where they are the subject of the wrong doing of a very powerful cabal comprising of the bigwigs of the traditional medical establishment, in a bid to quell competition. All the three books, i.e., *Outbreak*, *Mortal Fear* and *Fatal*

Cure, communicate how "the arrogant assertion of the desires of the greedy vested interests endangers the welfare of the public" (Stookey 25).

These vested interests also include the pharmaceutical industry and the medical device industry, both of which are to a considerable extent, an unregulated goldmine for the investors. A fast-expanding pharmaceutical giant, luring physicians into its clutches by even performing psychosurgery on them in a ship might appear a bit outlandish in the first glance. But Cook uses this far out theme in his novel *Mindbend* to bring to light the extensive hold they have on the doctors, who get incentivised to prescribe a particular drug or brand of drug, medical devices, etc., which might not always be in the best interests of their patients. In their website, the Blue Cross Blue Shield of North Carolina has come up with some disturbing revelations about the marketing trends of the big pharmaceutical companies in the US. In 2013, Johnson &Johnson, a drug company, the graph of which has not stopped peaking since its inception, spent around seventeen and a half billion US dollars on sales and marketing alone. Less than half that amount was spent on actual research and development activities in that very same year, a trend consistent with all the players in the pharmaceutical sector to this day. Anuradha Rao-Patel, MD, the medical director at Blue Cross and Blue Shield of North Carolina mentions how “Big Pharma spends more on marketing to doctors than consumers. A *lot* more. And that kind of money can affect – and research shows it does affect – a doctor’s decisions on which medicines to prescribe. That is, after all, the reason why drug makers spend so much money marketing to doctors” (Patel).

According to Steven Novella, an academic and clinical neurologist at Yale University School of Medicine, the term "Big Pharma" has, of lately, come to be used disparagingly. He writes how "it has become fashionable … to not only criticise the pharmaceutical industry, but to demonize them - and the term 'Big Pharma' has come to

represent this demonization" (Novella). In *Mindbend*, Cook structures the plot around the "Big Pharma conspiracy theories", which, according to Robert Blaskiewicz, involves "corporations, regulators, NGOs, politicians, and often physicians, all with a finger in the trillion-dollar prescription pharmaceutical pie" (Blaskiewicz 259), and operating against public interest, with a slight peppering of fictional elements.

Pharmaceutical industries are also known to have been immensely benefited by the rise of what psychiatrist Peter D. Kramer termed as "cosmetic psychopharmacology" in his 1993 book *Listening to Prozac*. Cook merges cosmetic psychopharmacology with an even more contentious issue of unethical human experimentation to weave an interesting plot for his novel *Acceptable Risk.* Here Cook is keenly perceptive of the mounting dissatisfaction of the human race with themselves and how they are getting increasingly dependent on drugs to better themselves emotionally and behaviourally. “Suggesting through his protagonist that some of life's inevitable pain and disappointment can lead to maturation, Cook offers arguments to counter a recent tendency of doctors to prescribe Prozac for people who merely wish to feel better about themselves” (Stookey 175).

Cook in fact warns of what Stookey calls the "Soma effect". Soma is a recreational psychoactive drug mentioned in Aldous Huxley's dystopian novel *Brave New World* published in 1932. It helps retain a constant state of happiness or euphoria such that the people become happily ignorant of the realities of their existence in the dystopian world they are inhabiting. The emotional variations and the degree and extent of restraint exercised by any individual in controlling and dealing with it is a defining characteristic of his or her personality. However, the widespread cosmetic psychopharmacological drug use can cause the broad spectrum of human natures to be

narrowed down to a few drug-induced normative ones, and Cook disapproves of such tendencies in his novel *Acceptable Risk*.

Just as Cook has been critical of artificially engineering desirable emotional states in otherwise mentally healthy people, he is also wary of editing the genes for creating "designer babies". The fact is that this field of science is moving faster than the regulatory mechanisms put in place to forestall any unethical or potentially dangerous practices. It takes the creative imagination of a writer like Cook to foresee the possible ramifications of such technologies in the near future, like he does in his novel *Mutation*. This novel, published in 1990, houses a prescient warning, especially after the latest outcry surrounding the Lulu and Nana controversy, where a Chinese biophysics researcher, He Jiankui claimed to have modified the CCR5 genes of twin girls Lulu and Nana using CRISPR-Cas9 technology to make them genetically resistant to HIV virus in November 2018, despite a tacit global moratorium on genetic engineering on human embryos. David Cyranoski, in his article in *Nature*, writes how some researches have shown a direct correlation between defective CCR5 gene and intelligence enhancement, something that Jiankui conveniently ignored while claiming to be against the use of genetic engineering for enhancement. Julia Belluz, while writing on the "CRISPR baby controversy" in *Vox*, expresses fear over a new "era of genetic inequality".

Cook presents the problematics of a mechanical approach to human body in *Mutation*, which involves viewing the human corpus as a machine that can be fine-tuned to perfection using genetic engineering or similar technologies, without considering the ethical challenges it might pose. He reminds that intellectual superiority, artificially engineered, need not necessarily be accompanied by humanistic traits in such individuals. Cook gives lessons in responsible decision making by presenting to the faces of the professionals, the worst-case scenarios engendered by

thoughtless dabbling in science in the name of progress.

Thus, Cook provides an insider's perspective to the decay within the present-day medical establishments. His novels serve as cautionary tales for the professionals, priming them to face the slippery terrains of the world of ethics and reminding them of the responsibility that comes with the power to make the judgement calls for the patients. Though some of his works have been prescribed for reading in ethics classes in a few medical schools, and have been briefly mentioned in a few research papers in the context of medical humanities, a sustained study of his works, in order to explore its potential use as an instructional tool for the medicos, under medical humanities as undertaken in this dissertation is yet to happen. The use of popular fiction within medical humanities has in fact given new a lease of life to this heretofore academically marginalised genre of literature, and Cook's medical thrillers are ideal raw materials for the same. He writes about the contradicting nature of a doctor's profession where he/she is forced to inflict pain to heal while reeling under constant decision fatigue. This contradiction extends to the approach to human body as well, where on one hand they ought to be approached subjectively, and on the other hand objectively.

Medical thrillers make for gripping and arresting reading that entertains and enlightens the reader at the same time. For medical professionals, its formulaic narrative strategies offer the most effective and straightforward answers to complex professional conundrums engendered by the system in place, by breaking it down to the basics using the narrative. Cook draws out the patterns and similarities in the conduct and slant of the erring professionals, something that cannot be objectively discerned by either the medical practitioners or students, owing to their close proximity to the system. Also, since it is vital that literature from all genres be included in the medical humanities curriculum to circumvent any and all sorts of ossification with regard to the subject

matter of the syllabus, medical thrillers can make ideal reading materials for professionals, for they convey all the right messages through alluring generic conventions that never come across as pontificating or moralizing, even while interrogating the status quo.

This thesis aims to explore the instructional potential of the medical thrillers of Robin Cook within the realm of medical humanities by analysing them under three different aspects: violation of human bodies in medicine, fallibility of the doctors and the narrativization of bio-ethical concerns, as mentioned before in this section. The selected primary sources analysed in this dissertation have been chosen for their efficacy in conveying various topical issues in medicine and medical education effectively, and for their objectivity in describing the current state of the affairs in the health care sector, including the involvement of the private players. Further, the chosen secondary reading list is not absolute and there may be works better suited to explain the topics under consideration that might have been left out owing to the huge compendium of works being written in this field. However, care has been taken to include the names and works of all the major contributors in this sphere.

Jean Pierre Charpy, from the Department of Medical English, Dijon School of Medicine, University of Burgundy, is among the very few academicians who have considered medical thrillers worthy of academic study. He speaks about the pedagogical potential of medical thrillers in his article “Medical Thrillers: Doctored fiction for future doctors” published in 2014. He observes that

> Although these novels are not originally written with a medical professional reader in mind, they are likely to attract such readers because they may offer a substantial professional backdrop and fictional representations of medical reality that the readers themselves are in the

> process of discovering and even analysing critically. If medical thrillers can be equated with fiction for future doctors, then it may be worth using them as a pedagogical tool in medical and scientific contexts…. (Charpy 423).

Charpy acknowledges the contribution of Michel Petit in having noticed the evolution of this specialised genre within commercial fiction with its own set of characteristics. Petit graduated from École Normale Supérieure, and is currently an associate professor at the École Normale Supérieure de Cachan. His area of interest includes linguistics, specialized English and the scientific study of the languages used in specific discourses. It was in the year 1999, that Petit isolated an evolving genre, that he dubbed *fiction à substrat professionnel* (FASP) or, professionally-based fiction, which included legal thrillers, medical thrillers, etc., and were characterised by professional settings.

> In a seminal article he postulated that the body of contemporary thrillers published in the late 1970s and early 1980s had, as a common denominator a solid professional basis that reinforced the credibility of the narrative and discursive elements present in the novels not only in the eyes of non-specialist readers but also in the eyes of the professionals themselves. (Charpy 424)

On a related note, Diaz-Santos in an article devoted to the use of professionally-based fiction for ESP (English for Special Purposes) courses titled "Techno Thrillers and English for Science and Technology", lists the main traits of this genre. The lead characters are usually professionals like doctors, lawyers, financial experts or someone working in the field of science or dealing with cutting edge technology. As far as medical thrillers are concerned, the settings are mostly found to be hospitals or research

facilities that are described with utmost attention to the detail in order to increase the credibility factor. The narratives are found to be interspersed with the description of the physical details like the insides of a laboratory, a surgery, architectural details, the landscape or at times even the evolution of a pathological condition.

There is also found to be a considerable smattering of jargon, especially in scenes involving an ongoing surgery, curb side consultations, etc., where the specialists use technical terminologies. The main storyline is quite often woven inextricably with topics such as current research trends, funding concerns, bio ethical issues, etc., which provides the readers a full appreciation of the scientific, bio ethical or medical subcultures. For the specialised readers within the health care sector, these serve to incite in them a critical interrogation of the normative practices within their professions.

In her article "From idealisation to demonization and in-between: representation of American lawyers in legal FASP", Shaeda Isani shows how the lawyers are simultaneously both idolized and diabolized in legal thrillers. Usually both the antagonist and the protagonist are from the same professions and this affords opportunities to present both the bright and the dark side of the occupation. This is pretty much the case with medical FASP as well, where the medical professionals are so portrayed that all aspects of their vocation are revealed to the readers, including the accompanying occupational hazards. It also shows the consequences of heedlessly abandoning the professional values for pecuniary or similar personal gains or glory.

Before proceeding to a chapter wise introduction of the thesis, it would do good to place the present study in the larger context of an academic split that can be traced back to the Cartesian duality, and even before. The split being referred to is that of the scientific and non-scientific disciplines, and how the gulf between them was the widest in the beginning of the twentieth century. The second half of the century was spent

towards acknowledging the complementary nature of these two branches of knowledge, and labouring to bring them together under various pretexts. The most notable of these efforts took place in the interdisciplinary field of medical humanities, which tried to employ arts and humanities disciplines to fill up the lacunae in the education of doctors and other healthcare providers within the medical schools. But it was preceded by intense debates, discussions and personal attacks between academicians, all of which, to some extent, began with an insightful paper presentation as a part of a lecture series in Cambridge.

On the seventh of May 1959, Charles Percy Snow presented a paper at the University of Cambridge as a part of the Rede Lecture, titled "The Two Cultures and the Scientific Revolution". What he did through this lecture was merely to give voice and expression to a concern of specific nature that was already hovering in the air, waiting to be tackled head on. The two cultures he referred to belonged to the "Literary intellectuals at one pole- at the other scientists, and as the most representative, the physical scientists" (Snow 4). The concern was the yawning chasm that had begun to emerge, separating these two realms ever so gradually, so as to have gone unnoticed. He had the credentials to meditate on this issue as he was a trained scientist and a professional writer, who had the privilege of hobnobbing with the greatest minds of both the domains.

The cultural anxieties surrounding the disciplinary polarization did not arise out of the blue in the twentieth century. The historical perspective of the British academic, Professor Stefan Collini in the introduction to C P Snow's *The Two Cultures* is particularly noteworthy. He writes, at different points of time in human history, distinct realms of human knowledge, their dominance and inaccessibility had been the subject of prolonged discussions and debates. From the dawn of western thought till prior to the

development of modern science, the interpretation of physical universe and nature were subsumed under the broad enterprise of ‘philosophy’, of which it was but just one element. Natural philosophy, from Latin *philosophia naturalis*, can be considered to be the predecessor of natural science.

During the early modern period, a concatenation of occurrences marked the inception of modern science. Only in the sixteenth and seventeenth centuries, in the course of what we now call the ‘scientific revolution’, did the "achievements in the study of the natural world come to be regarded widely as setting new standards for what could count as genuine knowledge, and thereafter the methods employed by the 'natural philosophers’ enjoyed a special cultural authority" (Collini x).

Though there is a general lack of consensus regarding the exact time frame, the publication of *De Revolutionibus Orbum Coelestium* (On the Revolutions of the Heavenly Spheres) by Nicolaus Copernicus in 1543 is generally accepted as marking the starting point of Scientific Revolution. Thus, what began with the Copernican Revolution ended with the “Grand Synthesis” of Sir Isaac Newton, in the year 1687, with the publication of *Philosophiæ Naturalis Principia Mathematica* (Mathematical Principles of Natural Philosophy). It is interesting to note that *L’Encyclopédie* published by Denis Diderot and Jean D’Alembert between 1751 and 1772, “did not represent human knowledge as structured around a division corresponding to the later divide between ‘the sciences’ and ‘the humanities’ (Collini x).

It was during the Romantic period, at the end of the eighteenth and the beginning of the nineteenth century, that “one can date the beginning of an anxiety that some such fissures in types of knowledge might be opening up in a way which damaged both individual cultivation and social wellbeing” (Collini x). In the year 1833, the term

'scientist' was coined by the English polymath William Whewell for the Scottish science writer and polymath Mary Somerville, since the common terminology of 'man of science' was clearly inappropriate in this context. The usage of this term made the academic demarcation even more distinct than before.

During the eighteenth century, the enlightenment science was characterised by the stress on rationality and empiricism, and strove for advancement and perfection. Thus, quite naturally, the romantic ideal of subjectivity clashed with the scientific ideal of objectivity. Consequently, romanticism emerged as a kind of response to Industrial Revolution and the scientific rationalization of the natural world, which was characteristic of the Age of Enlightenment. Further, "As scientific theory became inevitably more and more mechanistic…a revolt against the domination of science and materialism was to be expected" (Grabo 204).

It figured, for example, in William Blake's memorable excoriation of Newton in his monotype first completed in 1795. This large coloured printed drawing shows a nude Isaac Newton crouching on a rocky patch, apparently under the sea, working with a compass on a scroll, completely absorbed in his work and oblivious to the beauty surrounding him. Blake's opposition to Enlightenment was so deep rooted that he proceeded to compare art to "the tree of life" and science to "the tree of death". In Keats's *Lamia,* he bemoans the reductive and malevolent effects of 'cold philosophy'. Mary Shelly in her famous work *Frankenstein; or, The Modern Prometheus* published in 1818, tried to warn the overenthusiastic scientists of the baleful consequences of having a myopic vision, that can prevent them from contemplating about the consequences of blind scientific pursuits. Her work was also a reminder of how man was still not knowledgeable enough to handle the ramifications of mindless manipulation of nature. The Romantic champions thus proceeded to "contrast the

fullness of creative or emotional energy released by poetry with the impoverished conception of human life underlying the ‘dismal science’ of political economy as to draw the line between the study of the human and the natural world” (Collini xi).

Thomas Henry Huxley, a distinguished English biologist and comparative anatomist of nineteenth century, was a redoubtable and vociferous champion of science. In his speech “Science and Culture”, delivered on the first of October 1880, at the opening of Sir Josiah Mason's Science College in Birmingham, he passionately spoke for the proponents of scientific education, who were being opposed by the practical minded men of business and the classical scholars. The latter dismissed science out of hand by calling it speculative dross. It was a usual practice in those days to look down upon physical science due to its alleged inability to confer ‘culture’ on its disciples and for making them narrow minded bigots who believed in its applicability to answer even the higher existential dilemmas of life.

He reiterated the importance of rigorous scientific education in aiding industrial progress and thus bettering the life of the general populace. Through his assertion that the students of physical science had little or no use for classical education, he inadvertently drove a wedge between these disciplines further. In his words, “… for those who mean to make science their serious occupation; or who intend to follow the profession of medicine; or who have to enter early upon the business of life; for all these, in my opinion, classical education is a mistake….” (Huxley 18). He reminded how each and every aspect of the nineteenth century man’s daily life was being shaped by the natural knowledge that bid the seeker of truth to look for it in the actual physical world and not just among the literary words. He ventured to decry the modern humanist’s monopoly of culture and their pretensions to the inheritance of the spirit of the classical times, without shying away from his deprecatory tone.

Collini notes how Huxley's disquisition on science and culture was replete with several benign references to, and negation of the stand point of the members of the opposing camp, whose chief apostle was Matthew Arnold. By that time, Arnold had become a distinguished cultural critic, sage writer and a leading man of letters, who commanded a double authority on the matters concerning education owing to his scholarly achievements and his occupation as an Inspector of Schools. "When he came to deliver the Rede lecture for 1882 in the same Senate House that was later to be the setting for Snow, Arnold proposed as his theme 'Literature and Science', and he explicitly took up the challenge of Huxley's address" (Collini xiv). Arnold expresses his conviction that the greatest and the most worthwhile changes in the world can be effected by one's mind rather than one's hand.

He was tactful in not entering into a direct confrontation with Huxley. His stratagem involved taking up Huxley's own phraseologies and redefining them until the sharp divide between the literary and the scientific education gradually got blurred. Thus, Arnold eirenically concluded that he did not believe in the dominance of one discipline over the other, and that a balanced education had to include both domains of knowledge. "But beneath this show of agreeableness, Arnold was in fact unyielding in resisting Huxley's attempted promotion of scientific and demotion of classical education" (Collini xv).

Arnold's vision of education was moulded by Plato, who said that a man of intelligence would treasure those studies which would enrich his soul and give less importance to the rest. Hence, according to him, for a person to be called "educated", instruction in the literatures of antiquity was a prerequisite, and attributed mere instrumental value to the training in natural sciences. This exchange between Huxley and Arnold "not only prefigured the later clash between Snow and Leavis, but it also

symbolised the ways in which social and institutional snobberies clustered around this topic" (Collini xv). Snow, however, occupied a unique position, having straddled both the academic domains somewhat successfully in his life time. He was a trained scientist and then a professional writer before entering civil service, and had a natural proclivity towards science.

A brief look at Snow's personal life will contribute significantly to the much-needed insight that can better equip one to fathom the profundity of his observations without being judgemental about his views. An extremely humble background did nothing to dull the spark within this ambitious young man, who, after having completed his bachelors and masters from Leicester University College, one of those undistinguished provincial institutions of higher learning, managed to win a scholarship to Christ's College, Cambridge, in October 1928, as a Ph.D. scholar. However, his successful career as a research scientist suffered a major setback in the year 1932 after a particularly unfortunate incident which caused him to publicly recant his 'discovery', and consequently put him off the field of research irrevocably.

His training as a scientist lent credence to the authority with which he was later on to make value judgements apropos of the 'two cultures'. He had trained under Lord Rutherford at Cambridge, in the famous Cavendish Laboratory. No wonder he defended scientists convincingly against the claim of the non-scientists that, "the scientists are shallowly optimistic, unaware of man's condition" (Snow 5). Snow mentions how scientists do not make the mistake of equating the "individual condition" with the "social condition". For example, he said, every individual has to face the inevitability of having to deal with death by themselves. That is every individual's unique tragedy, and there is nothing much in our capacity to do anything about it. As opposed to this individual condition, the social condition, where "our fellow human beings, for

instance, are underfed and die before their time" (Snow 7), can be made better through struggle. Scientists he says, are inclined to think that something can be done about it until proven otherwise. "That is their real optimism, and it's an optimism that the rest of us badly need" (Snow 7).

The embarrassment caused by the research fiasco, coupled with the simultaneous literary success, following the publication of his novels, paved way for his new career as a man of letters. It was followed by a slew of works, both fiction and non-fiction, which won considerable réclame and favourable reviews from the critics, and led him into considering himself as a professional writer. Besides, the public acknowledgement as a writer of merit also won him a place among the group he called 'literary intellectuals', and thus got to have an insider's perspective about them. Snow reasoned that "Literature changes more slowly than science. It hasn't the same automatic corrective, and so its misguided periods are longer. But it is still ill considered of scientists to judge writers…. (Snow 8). Evidently, he was against writers taking this up as an excuse and not making an attempt to assimilate elements of science into their craft. He wanted it to happen organically so as to be "assimilated along with, and as part and parcel of, the whole of our mental experience, and used as naturally as the rest" (Snow 16).

Snow, one after the other, had been a member of both these camps and thus had a first-hand knowledge of their limitations. He knew it was almost impossible for their members to communicate with each other because of a "gulf of mutual incomprehension- sometimes (particularly among the young) hostility and dislike, but most of all lack of understanding" (Snow 4). Particularly amusing is his observation of the inability of literary intellectuals in describing the second law of thermodynamics and then presumptuously proceeding to accuse them of being ill informed. Also, he

sympathises with the very best of the scientists who struggle through the works of a relatively uncomplicated writer like Dickens. Though these observations might come across as puerile, he attributes the cause of this mutual aversion to the century's new found obsession with educational specialisations.

Amidst this general ossification of specialisations in the twentieth century, a few brilliant individuals did manage to circumvent the putative dichotomies between science and literature to come up with works capable of engaging with the wider, non-specialist readers. This happened not because of their command over the disparate fields of knowledge, thus signalling the emergence of a new wave of universal geniuses in the twentieth century along the lines of polymaths like Leonardo da Vinci or José Rizal, but by their determination to extend the reach of their specializations to the common masses, and to inculcate in them a sense of significance and appreciation for these specialized scientific pursuits. Science writers like Stephen Hawking, Rachel Carson, Stephen Jay Gould, Siddhartha Mukherjee and Steven Weinberg, to name a few, showed the possibility and necessity of communicating even the most recondite scientific theories and concepts to the laity, owing to the widespread societal impact of the various scientific and technological innovations. They were proactively trying to bridge the two realms of knowledge for each other's benefit.

Coming back to C P Snow, his precise delineation of the notion of the 'two cultures' had provoked a great deal of reactions that were overwhelmingly favorable and even won him an opportunity to work with the government.

> He … worked in the Ministry of Technology, created by Prime Minister Harold Wilson following his election victory of 1964. It was Wilson who had spoken vigorously of the need to harness the 'white hot heat' of

> modern technology to improve industrial productivity and improve Britain's economic standing in the world. Snow was made a life peer and became the Labour government's spokesman on technology in the House of Lords. (Eldridge 338)

The British historian J H. Plumb however expressed his reservations, opting to critically view the "tensions which Snow had referred to as part of a larger social development, with the scientists as a new class threatening to displace the largely upper-middle-class literary elite that had held sway in the years from 1910 to 1950" (Collini xxx).

But most of the respondents to his observation were convinced of the need to elevate the stature of science and to advance the scientific literacy of the non-scientists rather than the other way around. Despite the amount of attention garnered by Snow's lecture, F. R. Leavis, the most vocal of the literary critics, did not proceed to make any public comments in favour or against it initially. However, the silence of one of the most distinctive, contentious and authoritative literary critics was duly noted by the literary world. Collini comes up with two main reasons for why he would have finally decided to break this silence.

> "… he may have been irked by others associating his favoured form of realism in fiction with that (actually rather different kind) practiced by Snow in his own novels, and he was certainly irked by the way in which the Rede lecture started to crop up in essays written for Cambridge entrance scholarships" (Collini, "The Significance" 7).

Finally, Collini mentions how Leavis unleashed the full force of his skill as a literary critic in making Snow's accidental fatuities appear egregious in his lecture in the year 1962, when the students from Downing College in Cambridge invited him to deliver the Richmond Lecture. He also acknowledged the fissiparous tendencies innate

in the modern-day education. However, it should be noted that,

> His real target was neither a particular individual nor a set of educational arrangements. It was, in the first instance, the dynamics of reputation and public debate – the ways in which certain figures are consecrated as bearers of cultural authority. But beyond that, it was, centrally, the axiomatic status accorded to economic prosperity as the exclusive or overriding goal of all social action and policy. (Collini, "The Significance" 3)

Leavis had utter contempt for superficial literary works, which nevertheless enjoyed considerable popularity in the literary circles of London. The works of C P Snow had come to embody for Leavis all the qualities he despised in such a work of literature, which added to his vexation. Also, Snow's "assessment of the human consequences of Industrial Revolution" (Collini xxxiii) had been wide off the mark. This serious error of judgement on Snow's part urged Leavis to call to question his "unargued assumption of authority and his striking complacency of tone…." (Collini xxxiii), which he had assumed while engaging with the complexities of "The Two Cultures". Snow, who had proceeded so far as to address the literary intellectuals, including the great writers of the nineteenth and the twentieth century (except a few), as "Natural Luddites", consequently attracted the wrath of Leavis and ended up getting attacked *ad hominem*. These writers, unlike Snow, had begun to look upon the Industrial Revolution with scepticism and threw light upon its grave repercussions for the humanity.

Leavis began with an attempt to undermine the credibility of Snow by accusing him of not having a firm foundational knowledge in either domains of specialization, and offhandedly rejected his careful surmises by calling them "clichés". However, for

those looking for a resolution or closure to the "Two Cultures" conundrum, Leavis's discourse must have come as a disappointment. It was a classic case of missing the forest for the trees. A major portion of his essay was evidently devoted towards listing the shortcomings of Snow's assertions to the point that he failed to address satisfactorily the thorny question of the role of humanities in ensuring the betterment of the humanity, especially in relation to the blind eulogising of the benefits of Industrial Revolution and the concomitant distinction attributed to scientific education by Snow while completely ignoring its human costs.

However, one cannot but acknowledge the fact that Leavis did expand the scope of the quandary, from the narrow divide between humanities and sciences to the larger question of the changing cultural tendencies to judge the worth of human lives in materialistic terms. The rebarbative tactics employed by Leavis was efficacious in revealing the systemic limitations of Snow's perspectives that had come to represent the popular assumptions of the time, even though it was flagrant. An immediate result of him contravening the propriety of academic discussions was to be able to give voice to the concerns of a section of people who were hesitant to contest the prevailing consensus. When Snow spoke about the hope for the poor, he did so exclusively in terms of material advancement, and structuring the academic world to function efficiently to that end. Leavis took exception to this attitude of his. Rather than harping on about the furcation of the academic disciplines and trying to establish the pre-eminence of one over the other, Leavis was pointing to another schism of immediate consequence, between science and society.

In his article "Physicists in Biology; And Other Quirks of the Genomic Age", Jogalekar points out that, both the World Wars had revealed how unbridled and unaccountable scientific developments can prove to be inimical to the humanity. The

post-war western academia witnessed an unusual trend in which a few famous applied physicists were turning their attention to biological sciences. There were two reasons for this academic exodus, one moral and the other practical. The first reason was the guilt that this community experienced in aiding the massive killings of humanity via the atomic bombings. Morally, they felt obligated to serve humanity, and the biological sciences offered them excellent opportunities for making some positive contributions to the society. The second reason was more pragmatic in that biology as a discipline offered a lot more scope for research and development as "compared to physics whose basic theoretical foundations had matured by the end of the war" (Jogalekar).

The inescapable reductive tendencies in science had started cropping up even in the justifications provided by the practitioners of applied science, especially in relation to the aftermaths of the scientific application of their knowledge. It is said that, Robert Oppenheimer, who supervised the Manhattan Project that essentially equipped the human race with a means to ensure their own obliteration in the form of the atomic bomb, conveniently resorted to the sacred Hindu Scripture, the *Bhagavad-Gita*, to steady himself when his steps faltered and his resolution wavered. But the thing with the Hindu scriptures is that they are capacious when it comes to accommodating the number of interpretations that can be made of the texts. Also, the meaning drawn from the texts also depends on and varies with the needs of the interpreter and his/her headspace. James A. Hijiya, Professor of History, University of Massachusetts Dartmouth, presents an interesting take on what the scripture meant for Oppenheimer.

> Although the scientist himself never reduced his homemade Hinduism to a catalogue of principal tenets, a distillation of his words and actions might produce a short list of three: duty, fate, and faith. He believed that he had a job to do; that he should do it only because it was his job and

> not because he was intent on obtaining any particular result; and that following these principles would bring a saving measure of serenity into his profoundly discontented existence. (Hijiya 125).

Thus, Oppenheimer justified his actions by easily taking the recourse of the concept of Dharma from the *Gita*, which demands every individual to deliver the responsibilities expected of their station with utmost commitment. That is, to fulfil one's duty without worrying about the nature of its end – something that scientists should never do.

Hijiya further mentions how after the success of the Trinity test, Oppenheimer was caught quoting a line from the *Gita*: "I have become death, the destroyer of the worlds" (Hijiya 123). This act had brought in moments of epiphany for those involved, not unlike what the emperor Ashoka the Great must have experienced after the Kalinga War (fought between the Maurya Empire and the state of Kalinga, which ended in 262 BCE). He found himself transformed by the destruction that accompanied his pyrrhic victory. This prompted him to put an end to his expansionist policies and to adopt the tenets of Buddhism.

When taken in isolation, these physicists were fundamentally involved in the noble pursuit of knowledge. This endeavour, however, was proving to be more of a bane than a boon for the mankind. It was at this point, having had this realisation, that they left physics behind and embraced the field of biological sciences. However, the disciplinary change did nothing to alter their approach, which essentially remained that of a physicist. If at all anything changed, it was the subject of their study. After having spent years in scrutinizing the rudiments of the material world, they started looking at the rudiments of the living world and life itself, but with the eye of a physicist, once again oblivious to the consequences of their actions as before.

The main figures of this group were: Erwin Schrodinger, Max Delbruck,

Maurice Wilkins, Francis Crick, Walter Gilbert, Leo Szilard, etc. They variously contributed to the establishment and development of disciplines like molecular biology, among others. But, even in the domain of biology, these scientists were followed by the ethical and moral dilemmas that arose partly from their unchanged approach in research, and partly because of their inability to see the big picture beyond their immediate scientific achievements.

Thus, eventually, the scientists themselves had come to acknowledge one of the greatest drawbacks of their "culture", something that CP Snow had casually underwritten. They had also become aware of their responsibility to embrace the ethical dimensions of their vocation in order to narrow down the schism between science and society, something that Leavis had earlier pointed out in his Richmond lecture. Earlier, CP Snow had traced down the roots of the schism between science and humanities to the academic world's obsession with specialisations. The incursion of the scientist specialists into the field of biology in fact proved to be extremely beneficial for the development of the field of medicine. In the twentieth century, one of the main reasons for why specializations found favour with medicine was the economic pressure it was being subjected to. The art of medicine had by that time transformed into the business of medicine, and the specializations meant efficient division of labour and increased productivity in terms of patient care. Also, the overwhelming wealth of information about the human body, afforded by the developments in the field of science and technology, made it impossible for any one individual to gain mastery over it, hence, necessitating specialisations in medicine.

However, specialization came with its own set of problems. In the year 1992, Lawrence K Altman wrote an article in *The New York Times*, titled, "How Tools of Medicine Can Get in the Way". It was about Dr. Franklin K.Yee, who was admitted in

the hospital with severe abdominal pain, accompanied by fever and nausea. The gastroenterologist pronounced that he had a viral infection, the cardiologists admitted him into the coronary care unit, and surgeons expressed a suspicion about the presence of kidney stones. A slew of tests later, the diagnosis bordered on mesenteric ischemia. All the while, Dr. Franklin, a surgeon himself, kept insisting on the possibility of acute appendicitis, which was not even considered owing to the normal WBC count, which was not consistent with the symptoms typical of appendicitis. However, post operation, his diagnosis was proven correct.

Here, the specialists were unsuccessfully trying to explain the pathology from within the confines of their specialisations, unwilling to even consider the possibility of an aberration. This blinkered approach delayed the right diagnosis, causing the appendix to burst and leading to a serious complication, peritonitis (inflammation of the tissue lining the inner abdominal wall, caused by fungal or bacterial infection).

This example shows how the modern healthcare system, characterised by its specialisations, is in fact mirroring the pin-maker's parable from the Scottish economist and philosopher Adam Smith's *The Wealth of Nations* published in 1776. "…while a person working alone scarcely makes 20 pins in a day, a team of 10 that divides up shaping, sharpening, and painting pins can produce tens of thousands of pins per day. Workers become more efficient as they specialize by developing a skill…." (Emery). In medicine, mastering the discrete aspects of the healthcare purportedly increases the efficiency of targeted treatments. Thus, a neurologist deals with the brain and the nervous system, the ophthalmologist the eyes, the orthopaedic the bones, the dermatologist the skin, the dentist the teeth, etc. These isolated targeted treatments, however, engenders a fragmented approach to the human body, "focusing and acting on the parts without adequately appreciating their relation to the evolving whole" (Stange

100).

Johnson and Green notes that,

> With the new paradigm of scientific medicine, the body began to be conceptualized in terms of systems unrelated to other systems of the body. And although specialization had been present in the context of whole-body medicine, specialization under scientific medicine began to emphasize individual systems or organs to the exclusion of the totality of the body. (Johnson 146).

There was a groundswell of opinions in favour of scientific medicine in the United States of America and Canada, in the first decade of the twentieth century, especially after the publication of The Flexner Report in the year 1910. The report was based on the recommendations of Abraham Flexner, who surprisingly was neither a doctor, a medical instructor, nor a scientist. He was an American educational theorist, teacher and the director of a college preparatory school, who undertook a systematic survey of the condition of the American medical colleges. His proposals drew heavily on the hyper rational practices prevalent in the German medical schools, which laid great stress on following the scientific methods in medical education.

He was also a part of a group that Thomas P Duffy, MD called the “Hopkins Circle”, comprising the brilliant minds like William Welch, William Osler, and Frederick Gates, in the beginning of the twentieth century. The publication of Flexner Report and the consequent changes in the American medical education gave a leg up to allopathic medicine and pushed the practitioners of alternative medicine to the fringes. Flexner’s pedagogical philosophy was evidently influenced by the concept of “experiential education” (not to be mistaken with experiential learning) of John Dewey, that laid great stress on hands-on learning experience, as opposed to passive

memorization of facts.

The main recommendations of the report concerned with the closing down of substandard medical schools, standardization of the medical syllabus, mandatory pre-medical programmes for the aspiring candidates, devaluation of the practitioners of holistic medicine, and the state regulation of medical licensing. The implementation of the “Flexnarian” model was further aided by the financial assistance by the Carnegie and the Rockefeller foundations. The Rockefellers were the petroleum giants and Andrew Carnegie was an American steel magnate. They endorsed “effective altruism” founded on evidence-based approach, to bring about the maximum positive impact on the society.

However, a brief historical aside about them will cast a shadow of doubt on the purity of their purpose. The reciprocity between The Standard Oil Company, founded by John D. Rockefeller, and the German pharmaceutical giant I G Farben, “the most notorious German industrial concern during the Third Reich”(Spicka 233), did not go unnoticed. During the Second World War, they benefited from the slave labour from the extermination camps. Zyklon B, supplied by one of its daughter companies, was used in the gas chambers as a part of the genocide committed by the Nazi Germany.

Many of the leading scientists of I G Farben, like Carl Bosch, Friedrich Bergius and Gerhard Domagk, were also Nobel laureates. The direct relationship between the scientific advancement and industrial development was known to these business masterminds and they tapped its potential to the optimum. The Rockefellers had realised the potential of using petroleum products in the production of various chemicals and pharmaceutical drugs. Having monopolised the petroleum and the chemical industries, they now set their eyes on the medical sector. But allopathic medicine was yet to gain traction in their country, where people still believed in natural

healers and alternative medicine. The Flexner Report was their trump card, which successfully stripped their competitors of their credibility and won them the implicit trust of the potential drug market.

It was an elaborate strategy of theirs to create a new problem, or to exaggerate the nature of a problem, to make it appear to be menacing enough to unsettle the public and then to induce in them a need for an effective solution that had already been prepared to serve their vested interests. To smoothen the nationwide transition to allopathic medicine and to increase its reliability in the eyes of the gullible public, more than a hundred million dollars were given in financial aids to various medical colleges by the Rockefellers. John D. Rockefeller and Frederick T. Gates created the General Education Board in 1902 to the same end. The implementation of the proposals of the Flexner report, however, did raise the standards of the American medical education, and thus increased the quality of treatments. But, according to the new system, "the advancement of knowledge was to trump all other involvements in the academic physician's life" (Duffy 273).

This change in approach to the patients and diseases in the teaching hospitals had a deep-rooted impact on the nature of the doctor-patient relationship. "Patients were primarily viewed as serving the academic purposes of the professor" (Duffy 274). And for the doctors-in-making, they became mere specimens who had to be studied scientifically in order for them to master the trade. Also, "the crass monetary orientation of the profession" (Duffy 274) had stripped it of its nobility. Duffy mentions the disillusionment of the famous American academic and bioethicist, Edmund Pellegrino, at finding the doctors turning into automatons and using the diseased for the furtherance of science, rather than focussing on the betterment of humanity. "The profession's infatuation with the hyper-rational world of German medicine created an excellence in

science that was not balanced by a comparable excellence in clinical caring." (Duffy 275).

There is no better explanation for some of the horrible acts committed in the name of scientific experiments for the advancement of medical science, in the twentieth century. But, these tendencies had started to show throughout the western medicine and was not limited to the United States. The Unit 731 of the Imperial Japanese Army, the gruesome experiments conducted by the Nazi Germany at Auschwitz and Dachau during the Second World War, the Vipeholm Experiments conducted in Lund, Sweden between 1945 to 1955, the Tuskegee syphilis experiment conducted in the United States from 1932 to 1972, the Thalidomide disaster, CIA's Project MKUltra and many of the international drug trials reveal the worst aspects of the exceedingly scientific medicine.

Thus, we cannot ignore the fact that the whole corpus of modern Western medical knowledge, despite its contributions to the well-being of mankind, is built on an edifice of human rights violation, machine-like approach to human body, unethical medical practices, depersonalizing medical technology and the pure business of medicine. The scientific excesses in medicine has also had an adverse impact on the medical education, and consequently, in the quality of the doctors. Treatments and clinical care have become disease-centred rather than patient-centred. There is an ever-widening communication gap between the doctors and the patients, which when coupled with desensitization, erodes the quality of patient care and sometimes transforms clinicians into merciless inquisitors.

Cook, a medical practitioner himself, tackles these medical issues head on in his thrillers. Medical humanities is also concerned with ridding the medical sector of these ills using arts and humanities, by providing the healthcare professionals lessons in ethics, compassion, and even communication skills. This thesis, as mentioned before in

the chapter, aims to undertake a systematic analysis of selected medical thrillers of Robin Cook, under three different headings, which will be discussed in detail in the subsequent paragraphs, to reveal its potential to be used as an instrument of instruction within the realm of medical humanities.

Research Problem begins with the visible split in the realm of knowledge between the scientific and non-scientific disciplines, coupled with increased favouring of specialisations following the scientific and industrial revolutions, along with several other contributive events, which have had an increasingly detrimental effect on the practice of medicine and associated research. Also, healthcare professionals have been found wanting in humanistic competence. The resultant system in place has failed to do right by both the medical practitioners and the patients. Technology, solely, has come to guide their understanding of the human form and not the sentient beings per se. Lack of emotional receptivity, intolerance to ambiguity, inability to draw on one's internal resources to tackle the mounting bio-ethical quandaries and the failure to overcome the communication barrier between the doctor and the patient are some of the major issues plaguing the domain of modern medicine. The root of all these ills can be traced back to the distancing of the teachings of the humanities disciplines from medicine. Though a discipline strongly grounded in science, the practice of medicine requires engaging with the subjectivities of the sick, and this skill is found wanting in the present-day physicians.

The proposed hypothesis is that literature in general, and medical thrillers in particular can contribute positively in developing the much-required humanistic competence in healthcare professionals. Human experience is a common ground that can aid in the mutual complementarity of both these disciplines. Literature can open up myriad perspectives and points of view for a healthcare practitioner, especially when it

comes to making judgement calls, taking calculated risks, and in untangling the gordian ethical knots engendered by advanced medical science. Medical thrillers explore and begin with the worst-case scenarios, and then go about explaining how the professionals become consensual or unwitting accomplices in its occurrence. They can offer a grid that can assist the medical students and the professionals in comprehending the various discursive, practical, social, ethical and cultural dimensions of the complex world of medicine. The "thick descriptions" in these narratives have the potential to play a crucial role in generating a self-realisation and understanding of the inherent flaws of the medical institutions.

It has been observed that the medical thrillers of Robin Cook have been used in several high schools in the United States of America to get the young students interested in science. Similarly, Tess Gerritsen's medical thrillers are said to have been used in literature classes in medical schools, especially in Ohio. Further, several preceptors in institutes like Maine School of Science and Mathematics, like Jim Corrigan, have encouraged students to read works like *Gravity* to inspire them to pursue careers in science. Jean Pierre Charpy had conducted studies on medical thrillers to find out if they could be efficiently used for familiarising the non-native students of medical English with the language. Nicholas Pethes had explored this genre to understand how scientific experimentation had brought about a refashioning of "the human". Jasmine Fernandez and Amarjeet Nayak from IIT Indore analysed the medical thrillers from a grotesque lens to study the aesthetic techniques involved in the representation of the grotesque in these works. However, despite the fact that the domain of medical humanities and the literary genre of medical thrillers happened to develop and thrive in the second half of the twentieth century simultaneously, a sustained research on this genre, in order to prove its pedagogical potential with regard to imparting humanistic

skills to the healthcare providers, is yet to take place. This is the research gap that this dissertation aims to address.

The methodology of the research undertaken comprised a close reading of the primary sources to uncover those elements of the work that contributed in its persuasive function. As an artefact, the medical thrillers were observed to have the capacity to stimulate meanings. Close reading was found to be the apposite methodology capable of decoding those meanings, and thus to bring to the surface the hidden tools capable of instructing the readers in matters of medical importance. This helped to chart out a plan for structuring the chapters of the dissertation. Three broad areas were picked, after which the observations of the author were collated and then assigned under the different sections according to their suitability. Secondary sources were referred to for three main purposes. Firstly, they were used to prove the authenticity and credibility of the claims of the author. Secondly, they were used to attest to the contemporary relevance of the observations, and thirdly, to place the concerns in the real-world contexts while building up on the arguments to show how the primary sources can make worthy contributions to better the practices within medicine. The methodology adopted proved useful in establishing that the medical thrillers of Robin Cook do indeed have the potential to be used for instructional purposes within medical humanities. Also, since medical humanities is essentially interdisciplinary in nature, wherever required concepts were also borrowed from other humanities disciplines along with medicine.

The entire dissertation has been structured such that there are six chapters including the introduction and the conclusion. In the “Introduction”, which is also the first chapter, the focus has been to provide a background on the research endeavour, while establishing the contemporary relevance of the chosen subject, and to place it in context. It briefly traces the academic split between the scientific and the non-scientific

disciplines and concludes with an explanation for the emergence of medical humanities in the second half of the twentieth century. Apart from that, it also serves to familiarise the literary genre of the primary sources, mentions the few scholars who have considered medical thrillers for academic study, thus leading on to the research gap, and finally, justifies the choice of the author from the slew of writers specialising in medical thrillers.

The second chapter is titled “Perspectives in Medical Humanities”, and aims at exploring the mutually beneficial engagements between medicine and humanities disciplines. It also provides a cursory introduction to the emergence of medical humanities in the second half of twentieth century, followed by a brief mention of the different countries that have ventured to incorporate medical humanities into their medical school curricula. This is followed by an elucidation of its interdisciplinary nature, discussion of the myriad possible challenges in its practical application in the medical pedagogy, and the need to overcome its cultural limitations. This chapter also presents the case for why medical humanities should be introduced in medical schools, and the nature of its contributions, while discussing about two other sub sections of this realm, namely, ‘narrative medicine’ and ‘medicine and literature’. The chapter gradually proceeds to discuss about the power of narratives in affecting the outcomes of medical ethics cases, and ends with a strong emphasis on the importance of literature in reforming the modern medical practices.

The primary concern of the third chapter, titled “Lessons in Body Beyond Anatomy”, is to bring to light and to figure out the factors involved in the diverse constructions of the human corpus, its potential for fragmentation, and the factors leading to its objectification and commodification within the institution of modern medicine using the select novels of Robin Cook like *Coma*, *Mutation*, *Chromosome 6*

and *Acceptable Risk*. Such an understanding of the human body is essential for the medical professionals to enhance the quality of patient care and to comprehend the different states of human body. This chapter also underscores the importance of the notion of the 'lived body' within modern medicine among other things. The emerging interpretations of the human body like the liminal, the fungible, the conspicuous and the programmable bodies have been expanded upon in this section along with the analysis of the processes of body fragmentation, violation, commodification, medicalisation and atomisation, within the realm of modern medicine.

The fourth chapter titled "Doctors without Halos" begins by tracing a few prominent physician characters in literature through different ages, leading up to the medical thrillers in the twentieth century. This section has been devoted towards looking beyond the larger-than-life persona of the doctors as portrayed in works like *Coma, Fatal Cure, Harmful Intent* and *Mindbend*, to reveal how the system is shaping the vocation even without the knowledge of the professionals. This provides both the medical professionals and the students a better know-how of the blind spots in the system of which they are a part. Further, issues like depersonalisation, desensitisation, emotional disengagement, burnout, medical malpractice, defensive medicine, presenteeism, etc. among the doctors have been explained within the contexts of the medical thrillers. Also, this part of the dissertation comments on how the evolving systems of modern medicine victimises not only the patients, but also the doctors by constraining their autonomy and relegating them to the level of assembly- line workers. The ultimate aim being to point out that the use of medical humanities should not be restricted to better the practice of medicine for the patients alone, and should be extended to reforming the whole of the system in favour of the medical practitioners too.

The fifth chapter begins with a brief history of the evolution of the realm of

bioethics, and is titled “Narrativization of Bioethical Concerns, Why?”. It is followed by an explanation for the claim that medical thrillers can be used successfully to communicate the ethical concerns in medicine by referring to Cooks’ works like *Coma, Fatal Cure, God player, Chromosome 6* and *Mutation*. The main areas of deliberation within this chapter include the application of the golden mean rule of Aristotle, virtue ethics, deontological ethics, utilitarianism and the four principles of bio-medical ethics to the primary sources to reveal the aptness of the works in conveying the ethical concerns to the healthcare professionals and students efficiently as a part of medical humanities. It is followed by other topics of ethical considerations within the medical domain like the intricacies surrounding organ transplantation, brain death, managed health care, god complex in doctors, foetal genetic engineering, creation of transgenic animals, etc. The fifth chapter is followed by the “conclusion”, that provides the concluding arguments of the dissertation.

The thesis concludes by stating that though medical thrillers can contribute positively to the betterment of the medical domain, instrumental use of its findings via direct application to real life situations will not yield any consequential results. Medical humanities is essentially characterised by a subversive approach and the medical thrillers help in interrogating the conventional paradigms of this realm. The thesis ends with the understanding that the meanings derived from these engagements should be applied through improvisation to suit the individualised contexts taken up for consideration.

Chapter two

Perspectives in Medical Humanities

Medical Humanities is a fledgling field of academic study that aims to better the health care practices by seeking innovative ways to incorporate humanities disciplines into the medical school curriculum. The acceptance and the acknowledgement of the importance of humanities disciplines within a traditional subject like medicine, that is, of necessity, progressively getting technical and specialised is an indication of their readiness to be more inclusive than it was before, to effect a positive change within the healthcare professions. Medical Humanities is different from the traditional academic disciplines in that it has a liberal approach towards the various sources of knowledge, and is thus not beholden to any sort of prejudiced attitude regarding what must and must not be allowed into its academic schema. Also, it is impossible to systematise this discipline as it is yet to be constrained by any rigid methodological framework, owing to its relatively recent development. Hurwitz and Dakin note that, "George Sarton first used the term 'medical humanities' in the 1940s in the pages of *ISIS*, a journal devoted to the history of science, medicine and civilisation" (Hurwitz 84).

There are several conflicting claims regarding the nature and cause of development of medical humanities in Northern America. For example, according to Daniel M Fox, "The medical humanities were consciously organized; they were not…either responses to demand or the result of evolution" (Fox 1985). This was an endeavour to win appreciation for a bunch of men in the late 1960s and early 1970s, who on their own cognizance, shared a scepticism of the pedagogical practices within the medical schools, and sought to bring about a root-and-branch restructuring within the existing system. Though they had theological leanings in the beginning, with time they became more and more temporal and regulated, and aimed at remedying the many

unforeseen side effects of modern medicine, beginning with The Society for Health and Human Values, which was set up in 1969. But Donald A. Barr attributes the Flexner Report, published in 1910, the credit for having initiated several fundamental changes within the Canadian and American medical schools, as regards the curricula and the clinical education, as a precursor to the emergence of medical humanities. But he also goes on to mention that, when the report is placed within the big picture, it appears as if it was just another significant event taking place during a time when a paradigm shift was already in progress. It is interesting to note how these changes were duly discerned by the littérateurs and how it found expression in the literature of the time. For instance, Barr in his article shows how "The transition of which the *Flexner Report* was a part is described metaphorically in Sinclair Lewis's Nobel Prize-winning novel *Arrowsmith* …. Martin represents the transition of medicine from incompetence of Doc Vickerson to a profession grounded in the study of science" (Barr 17).

However, it would be erroneous to disregard the possibility of the emergence of medical humanities as a sort of delayed rejoinder to the effects of the suggestions of the Flexner Report, among many other things, which laid an undue stress on the curative aspect of medicine and undersold the importance of holistic patient care. That is, the implementation of the recommendations of the Flexner Report, though much needed at that point of time, somehow shifted the focus of medicine to being disease-centred rather than patient-centred. Though this turn in approach was not consciously effected, Flexner's emphasis on the scientific disciplines and methods, in an attempt to make the profession more systematic and competent, unfortunately stripped the vocation of humanism and resulted in an erosion of humanitarian values. However, in the year 2010, there were several rereading of the Flexner Report as a part of its centenary celebrations, which brought to light many aspects of the report that had a lot to do with

the humanistic aspects of medical education as well, but was overlooked. The fact is that “despite being a champion of science education, Flexner never intended to exclude humanities from the medical curriculum” (Riggs 1670).

In 1967 and 1973, two medical colleges, the Penn State College of Medicine and the University of Texas, Galveston, respectively, had introduced humanities programme in their academic schema. But it would be wrong to presume that these were the only institutions where the ripples of change had managed to make an effect. Prior to that, by 1950s, the history of medicine had been introduced in several medical colleges, with The Department of the History of Medicine, established in the Johns Hopkins school of medicine in 1929 setting an academic precedent. The thalidomide disaster, the scandalous Tuskegee Syphilis Study, and the second in the series of Nuremberg trials called the Doctor’s Trial, and a slew of malpractice lawsuits, along with several campaigns for transparency in medicine and patient rights, slowly snowballed into an unignorable movement which provided the much required momentum to trigger a renewed interest in ‘medical ethics’ which followed the discipline of history into the academic curricula in medical schools.

A direct consequence of the exposé of the infamous government sponsored, unethical human experimentation, the Tuskegee Syphilis Study, was the passing of the National Research Act in 1974. Also, “Many US medical schools also began to add elements of the social sciences to medical teaching, as represented by the department of Social Medicine and Health Policy begun at Harvard in 1980” (Cook H. 4). Thus, a slew of academic disciplines that fell within the ambit of humanities, found their way into the pedagogical programmes of the medical schools in the US. The waves of the academic revolution caused by the introduction of medical humanities soon reached the shores of the remaining parts of the world. What is amazing is how it did not stop with

the way it was conceived and went on to improvise, as more and more innovative ideas like ‘Art Therapy’ increased its scope and potential.

The concept of ‘Art Therapy’ was coined by Adrian Keith Graham Hill in Britain in the year 1942. He proceeded to write about it in detail along with its possibilities within medical education and clinical practice in his book *Art Versus Illness*, published in 1945. This was happening at a time when at least a section of academicians in the US were trying to stress on the instrumental value of arts subjects in improving the health care professions, in a desperate attempt to win the acceptance of the reluctant teachers and students who were still sceptical. Hill, through his endeavour in a tuberculosis sanatorium, where he himself was a patient, discovered the therapeutic and curative value of art while encouraging his fellow inpatients to engage actively with art. This inchoate idea was developed into a distinct academic discipline after its use was extended to mental hospitals in Britain by Edward Adamson who was an artist himself. In the United States, the major proponents of the ‘Art Therapy were Dr. Edith Kramer and Margaret Naumberg, both of whom were inspired by the work of Adrian Hill.

In the UK, it took longer than in the US for medical humanities to achieve a disciplinary status through its sustained interdisciplinary inquiry. The biggest challenge was to crossover from being multi-disciplinary to becoming interdisciplinary. A multi-disciplinary approach never ventures beyond the limits of their discipline, while an inter- disciplinary approach focuses on breaking down the walls and banking on each other’s competence while striving towards a common goal. It involves a deliberate and concerted effort on the part of the professionals to step out of the comfort zone afforded by their area of expertise and to overcome the insecurities that come as a natural corollary of having waded into subjects where they are out of their depth.

With the publication of journals like the *Journal of Medical Humanities* which was a sort of spin off of the *Journal of Medical Ethics* in 2000, in UK, the cross over appeared to have been completed. Also, the year 1997 saw the shaping of medical humanities into a discipline unto itself with Swansea University offering a master's programme in medical humanities. In 1998, Robert Marshall played a major role in introducing medical humanities at Royal Cornwall Hospitals Trust, in the Postgraduate Medical Education Department, located in Truro. Many of the medical humanities courses offered in the medical schools were additive because they were mostly intercalated optional degrees. But in the year 2002, the Peninsula Medical School integrated it into their core curriculum making it mandatory within the clinical setting, thus realising its full potential.

The funding from the Welcome Trust has kept the expansion of medical humanities going on in UK, along with several other initiatives. Medical humanities has also managed to find traction in countries like Canada, Australia, Greece, Turkey, Italy, Istanbul and several Asian countries, including India. But, it is a double challenge for the practitioners of medical humanities in the eastern world. Every attempt at internalising something that has been engendered in the western psyche, no matter how beneficial, holds the terror of having certain latent elements of neo colonialism, which might have the potential to unconsciously overtake the dominant ideology of any concerned field in a society. This fear of losing ground to the western values and ideas keep them from foraying into any new and yet unexplored terrains of academic enquiry, even if it proves to be beneficial.

Even if they do, it is not without a fair amount of misgiving, coupled with scepticism. But the fact is that these fears are not totally ill-founded, and might actually be pointing to some areas where the new disciplines might be falling short. For

example, within medical humanities itself, conceiving of ways to overcome the cultural limitations within its engagements with the medical world is vital. Also, it is equally important to acknowledge and embrace the cultural differences while trying to figure out methods to integrate the cultural values and sentiments, to limit the resistance from the concerned community.

Thus, the practitioners of medical humanities in the East, while trying to muster support for the new discipline, must also ensure that adjustments are made to the new area of study, to alter it to suite the cultural milieu of the respective societies and thus prevent a certain cultural friction. Sometimes, "medical humanities is culturally limited by a pedagogical and scholarly emphasis on Western cultural artefacts, as well as a tendency to enact an uncritical reliance upon foundational concepts (such as 'patient' and 'experience') within Western medicine" (Hooker 79).

In India, KEM (King Edward Memorial) Hospital and Seth GS (Seth Gordhandas Sunderdas) Medical College situated in Maharashtra, collaborated to set up a Medical Humanities cell in both the institutions in 2010. Though they are still far from setting up a full-fledged department of medical humanities, it is indeed a milestone in their efforts to foster humane and ethical dimensions within patient care and medical education. In India, the division between medicine and humanities is more pronounced and hence bringing them together is going to be a humongous task. Further, the multiplicity of languages in India and the fact that medical education is being imparted in English, which is not the native language, increases the possibility of communication gap arising between the doctors and patients. This needs to be kept in mind while devising programmes in medical humanities.

University College of Medical Sciences in Delhi was among the first medical colleges in India to introduce medical humanities to their students. They also

collaborated with Radha Ramaswamy of The Centre for Community Dialogue and Change situated in Bengaluru, and conducted a workshop on the 'Theatre of the Oppressed' in 2011 for the medical students. The journal titled *Research and Humanities in Medical Education* (RHiME), which began publication in the year 2014, is a joint initiative of Guru Teg Bahadur Hospital, Delhi, and the University College of Medical Sciences. Towards south, PSGIMSR (PSG Institute of Medical Sciences and Research) in Tamil Nadu has also taken initiatives in this direction.

The cultural milieu of any community has a profound effect on its approach to the questions of existence, quietus, genesis, etc. Ancient Indian philosophy makes it very clear that no amount of scientific and technological advancements have actually equipped man to unearth the realities of life, birth and death. The inevitability of death is a truth that can never be circumvented as are the realities of birth and life which still elude the sharpest of scientific minds. The Vedic philosophy from Ancient India is replete with thoughts on the same and instead of insulating human beings from these eventualities, and providing them with a false sense of security, it encourages men to embrace these actualities without fear.

Drawing ideas from such texts can provide an altogether new perspective to the art of healing that is in harmony with the cultural realities of the concerned society, while simultaneously overcoming the limitations of the western ideals of medical humanities. It is interesting to note how similar ideas resonate in the works of writer physicians like Atul Gawande, Abraham Verghese etc. with common Indian roots, probably emanating from what Carl Jung called the 'collective unconscious' in his essay "The Structure of the Unconscious", published in 1916. Both these authors, also successful doctors, have managed to get the big picture despite being so close to the medical world that is confessed to dehumanization, desensitization etc., in the medical

practice and education.

Dehumanization, as an unintended consequence of the pedagogical methods of the medical schools, continues to plague not only the medical students, but the doctors/teachers and the patients, thus irreversibly affecting the quality of healthcare for the worse. What this means is that, though sustaining whatever positive influence medical humanities manages to have over the medicos will prove to be too much of a challenge, as it is almost impossible to escape from the corrupting influence of the normative expectations and demands of the medical establishments, it still needs to be realized. But the medical establishments have, in turn, forever been under the sway of wide ranging political and business interests which more often than not puts a break on such reforms, as would manage to frustrate their profit-oriented intentions. Thus, any and all approaches to change should not stop at the level of medical students or practicing doctors, and should be extended to include the whole of all the variables involved in determining the medical culture. In the foreword to his work *Medical Humanities and Medical Education,* Alan Bleakley speaks about leaving behind the trend of passive contemplation and critical meditation, into "a new wave of medical humanities" (Bleakley i) aimed at engineering actual change at the practical level.

The lopsided power paradigms in medicine had attracted the attention of the academicians while rooting around for any latent impediments in an attempt at introducing a semblance of balance to the power dynamics between the doctors and the patients, while trying to democratise medicine. Among the many concerns of medical humanities is the need to endorse the necessity to effect a paradigm shift in the popular perception of the doctor as decorating the position of an omnipotent entity within the medical community, and thus bringing about an equitable distribution of power by shifting to a patient-centred medical practice. The starting point of such a transition

should be the doctors, who, using their interpersonal skills should endeavour to vest certain amount of power in the hands of their patients. This seemingly innocuous act is in fact a challenge to the time-honoured conventions and practices within the smug medical establishment where the patients reposed implicit trust in their doctors, a kind of dissent. It is a disagreement with what it perceives to be is wrong or worthy of change. In this capacity medical humanities serves as a cutting rejoinder to those established medical practices that have rendered this profession purely technical.

The success of the epistemic function of medical humanities lies in its capacity to improvise its way through the unconventional and uncharted territories of knowledge, and in yoking together the disciplines of humanities (here literature) and science (here medicine) in a way that is mutually beneficial. For instance, it attempts at honing the soft skills of the medical professionals to facilitate patient-centred health care practices by using certain humanities disciplines and arts to inculcate qualities like sympathy, compassion, humanity etc. in doctors. One of the main reasons why it has been given a thrust in the recent times is because of the demands of the patient community from the doctors, as regards the quality of interpersonal relations during the consultations, which have been at an all-time low lately.

Introducing humanities disciplines into the core curriculum of the medical schools comes with its fair share of challenges. For the last few decades both the students and the faculty all over the world, especially in the USA, have been aware that the medical profession has been deficient in several respects. They have been faced with the far-reaching questions of what and when should fundamental changes be effected in the pedagogy and how to gauge its productivity. The biggest of all challenges, however, is gaining acceptance from the students themselves which requires a committed faculty and convincing syllabus. While many educators have welcomed

the new initiative, others are still sceptical about devoting the precious teaching hours in medical schools towards learning courses that have nothing much to offer by way of "real science". Further, the interdisciplinary nature of medical humanities makes the job even more difficult as sometimes it becomes almost impossible to come to a consensus regarding where to set the limits and the boundaries.

In the context of medical humanities and related research, the terms 'interdisciplinary' and 'multidisciplinary' are often used interchangeably. But as an up-and-coming field of inquiry, still in the throes of birth, scrabbling for purchase in the academic world, it cannot afford to be content with vague and imprecise definitions about itself or its practices. The multidisciplinary approach draws insights from different disciplines, but preserves the disciplinary integrity to a great extent. That is, no matter what, care is taken to not to overstep the boundaries imposed by the respective subjects. But interdisciplinary studies involve forging new links between different disciplines and bringing them together into a unified whole by transcending the boundaries. Thus, ideally, medical humanities should be more interdisciplinary than multidisciplinary. However,

> Interdisciplinarity is perhaps easier to claim than it is to demonstrate, and putatively interdisciplinary work frequently turns out to be merely multidisciplinary, in the sense of involving relatively disconnected contributions from different disciplines – contributions which, taken in isolation exhibit no real trace of contact with any other discipline beyond their own. Too often one attends discussions that consist in a succession of speakers presenting essentially discipline based perspectives, with little or no genuinely cross disciplinary dialogue among them. Medical humanities requires, however, that we attain more than this…. (Evans 1)

Every discussion of medical humanities begins with the nature of its ultimate end. It is required to have a clear aim or objective in sight because this nascent discipline is yet to be embraced by the medical students, and they need to be convinced of its potential to make them better doctors. Since medical humanities does not make any significant contribution in expanding the theoretical and technical knowledge base in students, they are not eager to devote time to something that does not provide them with any immediate benefits, or at least palpable results. The discipline has more to contribute to the behaviour and approach of the professionals and hence its effects can be gauged better by the patients more than they themselves. It doesn't stop with evoking 'medical humanitarianism' and targets 'medical humanism'. The former concerns developing qualities of compassion, altruism, sympathy, empathy, etc. at a professional level, and the latter at a personal level. Medical humanism guarantees medical humanitarianism. Acuna says:

> "Humanitarianism" had been traditionally related to the doctor's professional attitude of compassion, charity and beneficence towards those who suffer. For young doctors to achieve these qualities, it had thus far seemed sufficient for those individuals simply to follow the example of the daily practice of their prestigious professors at the medical school. (Acuna 66).

He goes on to explain how it is different from the concept of Humanism. "This term referred to the personal level of *sensitivity* towards, *understanding* of and involvement with the patient that a prospective doctor could acquire through a humanities oriented medical education" (Acuna 67).

Until recently, the medical school curriculum was disease-centred rather than patient-centred. However, in the recent years, especially after the many medical

mishaps and malpractices, that have indelibly stained the sanctity and the reputation of the health care profession, medical preceptors have come to realize the importance of patient-centric medical education. “The recognition of patient-centred care as both a desirable and measurable outcome of the health care enterprise has also renewed interest in the field of medical humanities as a valid tool for the advancement of patient-centred initiatives” (Nazario 512).

Nazario also mentions how there have been a lot of contestations and debates regarding the merger of humanities and scientific disciplines. To counter such an opposition, it is important to establish a framework of what accounts for patient-centred health care. *Through The Patient’s Eyes: Understanding and promoting Patient Centred Care*, published in 1993, is a ground breaking research-based work, that provides a vision of the modern healthcare system through the patient’s perspective, thus highlighting the pitfalls in the modern health care while simultaneously stressing on patient-centred medicine. The book shows how patient participation and decreased paternalism in the treatment regime, can increase the quality of treatments and yield positive results.

Even while endorsing the core principles of medical humanities, the scholars are a bit sceptical regarding the assessment of the efficacy of this newly instituted pedagogical programme, aimed at teaching abstract concepts of ethics, humanitarianism, sympathy, virtue, compassion, etc. The unquantifiable nature of the outcome of such teaching practices has been a point of much debate among the experts and some have even gone on to suggest devising an empirical formula for a quantitative analysis as the only way to convince and bring the remaining clinicians within the fold of medical humanities. But, Ayelet Kuper, in the essay, “Literature and Medicine: A Problem of Assessment”, mentions how in the long run, there is always a threat of such

an approach ending up being reductive, and thus counterproductive. Devising formulaic solutions to this problem can even result in artificiality in the doctor-patient relationship.

Doctor-patient relationship has been the key stone of medical practice since time immemorial. At its core are some key ideas as enunciated by the researchers at Stanford University:

> A complex multidimensional construct that is comprised of four key components: (1) an awareness of suffering (cognitive component), (2) sympathetic concern related to being emotionally moved by suffering (affective component), (3) a wish to see the relief of that suffering (intentional component), and (4) a responsiveness or readiness to help relieve that suffering (motivational component). (Jazaieri 23)

Over the past few years, there have been increasing incidents of medical malpractice suits and assaults on doctors. Somehow, in the pursuit of professional prowess and enhancing workplace performance, not to mention the gruelling working hours and the skewed doctor-patient ratio, the above-mentioned values get compromised. Medical humanities takes upon itself the herculean task of reinvigorating the wilting medical ecosystem by churning out a new generation of perceptive and compassionate healers using the right mixture and dosage of humanities disciplines within the medical curriculum. But such an approach requires the medical students to have a certain level of metacognition so that they do not remain oblivious to their thoughts and emotional responses, rather, develop an increased awareness about the same to the point where they can channelise them in the right directions. The absence of this activity can result in emotional exertion on the part of the medicos, thus leading to “emotional exhaustion” and “compassion fatigue”.

Susan Mayor makes a few absorbing comments on the vicious cycle of emotional exhaustion and stress in her article titled, “Emotional Exhaustion and Stress in Doctors are Linked”, published in *BMJ*, which was based on a survey conducted among select doctors in UK. She says that, when doctors get too much involved with their patients without giving adequate time for themselves to attain a certain level of emotional stability, they tend to suffer from emotional exhaustion, which leads to stress. Stress in turn tends to aggravate emotional exhaustion, thus worsening the condition. But surprisingly, doctors resort to depersonalisation, an undesirable trait, to use it as a defence mechanism against this vicious cycle, thus evading stress. She concludes by citing burnout as a serious cause of concern among doctors with stress and emphasising on the need to decrease their workload.

Depersonalisation, which has been cited in the previous paragraphs as a sort of defence mechanism that the doctors use against emotional exhaustion, is in fact a serious symptom of “compassion fatigue”. Clinicians suffering from compassion fatigue find it difficult to connect with their patients. It sets in gradually and then progressively begins to start showing symptoms which might become apparent without warnings, suddenly, with the slightest nudge like the death of a patient. The medical school curricula are found wanting in elements that would prime the medical students in dealing with such unprecedented emotional and mental challenges, which can be effectively taken care of with the introduction of medical humanities, through arts, literature and other humanities disciplines.

Literature, theatre, movies, philosophy, etc. have an inexplicable way of appealing to the humanity within people by refining them through an emotional cleansing. For example:

The spectator of *Anna Karenina*, who has sympathised with Anna, pitied

> her, foreseen the coming tragedy and watched helplessly as her body was crushed beneath the train, the spectator who *by that fact* gained greater insight into himself and other people, has increased his fitness both as an individual and as a member of society". (NK 116)

Here we find the spectator living vicariously through the characters and gaining an appreciation of their circumstances, predicaments and sentiments, and thus getting to experience certain emotions second hand, which primes them for similar situations in real life, much like how a vaccine works. Attenuated antigens are introduced to help body produce antibodies fast in case of an actual attack. The divergent set of conditions afforded by narratives function like the antigens, gearing up an individual (medicos) to deal with such circumstances as have already been vicariously experienced through the study of narratives, by coming up with adequate responses, just like the prompt production of antibodies by the immune system. This could be the reason why there is a groundswell of opinions in favour of using narratives in medical humanities courses.

While attempts are being made to revamp the core medical curriculum in order to bring about a fundamental change in its priorities, it is also important to look back and try to discern what brought the inadequacies of the traditional educational system to the cognizance of the medical world. Around the time medical humanities began to gain traction in the academic sphere, in the year 1996, Charles Vincent and Adrian Furnham, from the Department of Psychology, University College London, published an interesting article in the *British Journal of Clinical Psychology*, titled, "Why do patients turn to complementary medicine? An empirical study". They found out that,

> Over 250 patients from three complementary medicine practices – acupuncture, osteopathy and homeopathy- completed a questionnaire

> rating 20 potential reasons for seeking complementary treatment. The reasons that were most strongly endorsed were ‘because I value the emphasis on treating the whole person’; ‘because I believe complementary therapy will be more effective for my problem than orthodox medicine’; ‘because I believe complementary medicine will enable me to take a more active part in maintaining my health’; and, ‘because orthodox treatment was not effective for my particular problem’. (Vincent 37)

Alternative medicine had been out of favour with most of the American people from the first half of twentieth century, especially with the publication of The Flexner Report in 1910. Abraham Flexner was an educational theorist who subjected the medical schools in America and Canada to a detailed scrutiny and drew up proposals for revamping the existing system with the backing of The Carnegie Foundation. The American health system at that time was plagued with an excess of medical schools that followed their own mutually exclusive curricula, with programmes offered often lasting for as much as just two years, thus churning out incompetent physicians. Flexner stressed on the importance of a unified and standardized syllabus and the use of scientific methods in the pedagogy of medicine while extending the period of study, and expressed scepticism regarding the efficiency of alternate medicine in treating diseases.

But the tendency to strip down a person to his/her disease in the pursuit of diagnostic precision and completely ignoring their personhood had been attracting flak from the patient community for quite some time, especially towards the end of the twentieth century. The increased specialisation in medicine had made doctors steadily more detached from their patients. The advancement in science and technology had made it possible to approach the human body at the level of cells and genes so much so

that the doctors had unwittingly become oblivious to the big picture, the patient itself, while focussing on the microscopic and segmented view of life. Also, a sense of entitlement afforded by their knowledge tended to make the modern clinicians more paternalistic, which made the patients feel left out of their own treatment regimes. CAM (Complementary and Alternate Medicine), on the other hand, relies to a great extent on the patient's capacity to heal themselves with minimal external intervention which makes them feel less violated, more in control of their body and their treatment, and hence the proclivity towards it.

Also, the modern medical discourse is replete with jargon that confounds the uncomprehending patients. The choice of diction in the following descriptions of the side effects of chemotherapy, in women suffering from breast cancer and ovarian cancer, used by a medical researcher and a writer (also a patient) respectively, is a case in point.

> In attempting to cure cancer, health-care providers often use aggressive, multimodal or multi agent treatment that is associated with significant negative side-effects including nausea, vomiting, hair loss, loss of appetite, fatigue, peripheral neuropathy and anaemia. Women being treated for breast or ovarian cancer often experience premature menopause and impaired sexual function. Chemotherapy may also disrupt central nervous system function. (Kayl 24).

This description is from an article titled "Side-effects of Chemotherapy and Quality of Life in Ovarian and Breast Cancer Patients", published in *Current Opinion in Obstetrics and Gynaecology* (2006). The use of jargon reflects a certain level of expertise in the field concerned. However, professionals dealing with the laity must pay special attention to tailoring their diction if their jobs require them to interact with the

laity directly. The matter of fact phraseology of the above excerpt is clearly the work of a specialist, but makes little sense to someone who is not familiar with the technical terms. Such impeccable scientific locution does little by way of enlightening a patient of what to expect in course of the treatment, especially with regard to the subsequent mental and emotional challenges. An inevitable communication gap arises in such situations between the doctor and the patient which threatens the efficacy of the medical care. Seeking to overcome such challenges is one of the raison d'être of medical humanities discipline. Arts, especially literature holds the potential to fill such gaps as mentioned above through its evocative capacity. The following lines from the poem Titled "Chemotherapy" from the book *Sudden Collapses in Public Places* (2003), written by Julia Darling is basically a description of the side effects of chemotherapy, with a simultaneous evocation of pathos in the readers.

I did not imagine being bald
at forty-four. I didn't have a plan.
Perhaps a scar or two from growing old,
Hot flushes. I'd sit fluttering a fan.
But I am bald, and hardly ever walk
by day, I'm the invalid of these rooms,
stirring soups, awake in the half dark,
not answering the phone when it rings.
I never thought that life could get this small,
that I would care so much about a cup,
the taste of tea, the texture of a shawl,
and whether or not I should get up.
I'm not unhappy. I have learned to drift

and sip. The smallest things are

gifts. (Darling 36)

Both pieces of writing deal with the side effects of chemotherapy in women. But darling gives us a better understanding of the side effects, as it is suffused with her own personal experiences of illness and treatments. For example, the most common of them, baldness, gets an altogether different meaning when mentioned alongside her age, forty-four. Her poem would help a jaded doctor, or a budding medical student, in understanding the emotional needs of a sick patient better, something that the prosaic writing of a medical researcher can never hope to achieve, and there lay the scope of the use of literature in medicine. Also, it helps prime a patient better for what lay ahead, and a healthcare practitioner for what to expect in lieu of emotional needs from the sick.

Another typical instance of dry and prosaic rendition from literature would be Bitzer's response to Thomas Gradrind's question regarding the definition of a horse in Charles Dicken's *Hard Times*: "Quadruped. Graminivorous. Forty teeth, namely twenty-four grinders, four eye-teeth, and twelve incisive. Sheds coat in the spring; in marshy countries sheds hoofs too. Hoofs hard, but requiring to be shod with iron. Age known by marks in mouth" (Dickens 6). Bitzer's answer is reminiscent of the description of the side effects of chemotherapy in women given by a doctor. When read in the book as a part of a narrative, such responses evoke laughter and also shows how ridiculous it sounds to a normal person. Thus, literature offers it all, and how well it can be put to use within medical humanities depends on the ingenuity of the scholar or the academician.

Joanne Trautmann Banks, a Virginia Woolf scholar, who died on the fifth of May 2007, in St Petersburg, FL, USA, was one such academician, who realised the pedagogical potential of the relationship between literary studies and medical

education. She passed away at the age of 65, after battling ovarian cancer. She had left in her wake an impressive academic life in which she had contributed immensely to the field of Literature and Medicine. In fact, she is regarded as one of the founders of this academic field. When Banks joined the new Pennsylvania State University Medical School, in the year 1972, as professor of Literature and Medicine, she was inadvertently creating history by being the first literary scholar to hold an academic position in a medical school. Quite naturally she was entrusted with the daunting task of drawing up a programme for the relatively new discipline of Literature and Medicine. What made it even more difficult was the fact that there were absolutely no previous models which could be depended upon for reference while compiling an effective curriculum. While doing the same, she, along with Carol Pollard in the year 1975, also ended up putting together *Literature and Medicine: An Annotated Bibliography*.

Another work, *Healing Arts in Dialogue: Medicine and Literature,* was edited by Banks and published in the year 1981. And in the year 1982, Banks and Hudson Jones, along with four other people co-founded the journal *Literature and Medicine.* Rita Charon, the founder and Executive Director of the programme in Narrative Medicine and the professor of medicine at the Columbia University credits Joanne Trautmann Banks with having laid a firm foundation for the now popular and thriving field of clinical study, Medicine and Literature.

Rita Charon's relationship with Joanne Trautmann Banks was more than merely academic or professional. Banks encouraged her to look beyond what her medical training expected her to look out for in her patients, and to write down that, which she would have otherwise deemed unimportant, using non-technical language. Charon, from her own days as a medical student, was discerning of a communication gap existing between the physicians and the patients. One of the main reasons for such a

disconnect, she realised, was the difference in the narrative tools employed by the clinicians and the patients. The approach of the doctors towards the patients often swing between the two extremes. That is, either they simply tend to be reticent, or load the sick up with a lot of medical jargon pertaining to their condition, which is, more often than not, lost on them.

Similarly, doctors fail to correctly decipher the problems as explained by their patients. It is important for the doctors to achieve a certain level of understanding of their patient's narrative because only the sick knows the true meaning and extent of their illness. Patient satisfaction is an essential component of effective medical care, which is compromised because of lopsided communicative practices, which is rampant among the physicians. Rita Charon finds the modern medical education to be deficient in imparting effective communication skills, which she aims to develop in the medicos via the course on Narrative Medicine. She says: "Along with their growing scientific expertise, doctors need the expertise to listen to their patients, to understand as best as they can the ordeals of illness, to honour the meanings of their patient's narratives of illness, and to be moved by what they behold so that they can act on their patient's behalf" (Charon, "Narrative Medicine" 3).

But, in order to function in the best interests of the patients, merely construing their accounts of sickness is not enough. Doctors should also have the capacity to comprehend and share the nuances of their suffering by making an effort to mentally swap places with them. In short, physicians ought to be empathetic. Mark. H. Davis, associate professor of psychology at Eckerd College in St. Petersburg, Florida, in his work *Empathy: A Social Psychological Approach*, mentions, among other things, how empathy has both cognitive and non-cognitive components. "The cognitive domain of empathy involves the ability to understand another person's inner experiences and

feelings and a capability to view the outside world from the other person's perspective" (Hojat 1563). Also, "…empathy has no restraining boundary because it is assumed that understanding is always beneficial in patient care. An abundance of empathy should never impede patient care" (Hojat 1564).

The ingenuity of the academic discipline of Narrative Medicine lay in combining not merely the literary texts, but also the tools of literary analysis with the practice of medicine. It is interesting to note that,

> Since the early 1970s, North American medical schools have appointed literary scholars to their faculties and have included the study of literary texts and methods in their curricula. Literary texts have been found to be rich resources in helping medical students and doctors understand pain and suffering; literary methods of close reading have been helpful in training doctors and doctors-to-be in the fundamental skills of interpreting clinical stories; and close literary scrutiny of medical uses of language (for example, in the hospital chart or the medical interview) have been found to help physicians understand their work. (Charon, "Literature and Medicine" 23)

But it would be wrong to presume that the disciplinary bifurcation was the norm and that the association between Medicine and Literature suddenly came into being from the year 1972 (appointment of Joanne Trautmann Banks as the professor of Literature and Medicine at the Pennsylvania State Medical School). A study of the historical antecedents of both these disciplines reveal that they have forever been existing together, until recently, when the scientific and technological advancements ripped them apart in the name of increased specialisation. Charon notes that,

> …the connection between literature and medicine is enduring because

> it is inherent. Literature is not merely a civilizing veneer for the cultured physician, and medicine is not merely the source of convenient plot twists for the novelist. Instead, the beliefs, methods, and goals of these two disciplines, when looked at in a particular light, are strikingly and generatively similar. (Charon, "Literature and Medicine" 23)

Any piece of literature has immense scope for endless interpretations as they convey meanings that are never fixed and vary as many numbers of times as are interpreted. Thus, what we construe is more than what is written, or, what is discerned cannot always be expressed in words. Literary studies are undertaken keeping in mind this feature of literature, which equips it to function as an endless source of meanings. But eliciting meanings from literary texts requires the reader to put to use both the cognitive and affective faculties of their brain alike. "The serious reader of a literary work becomes a diagnostic instrument for the text, offering himself or herself as a medium for transforming the text into meaning" (Charon, "Literature and Medicine" 24). A doctor who succeeds in doing this becomes a better diagnostician as he manages to elicit more information, than has been said, from the words of his patients. When a patient approaches a doctor for treatment, what takes place in course of the consultation is a shared activity, where the doctor turns into the scribe and the patient becomes the narrator of the story of his/her illness. After documentation the doctor dons the role of a reader who analyses the narratives in the light of his/her medical knowledge to interpret accurately the nature of the malady.

Prior to 18th century, the case histories or medical histories of patients written by doctors read more or less like stories as they were enmeshed with the lives of the patients. That was the time when diseases were viewed as unique phenomena in the lives of the concerned individual, the documentation of which required to be done in

parallel with the life history of that person. But it is wrong to presume that, that was the case from the beginning of the medical history. In the article, “The History of the Case Report: A Selective Review” (2014), Trygve Nissen and Rolf Wynn attempts to trace the history of this class of literature in order to reveal how the variations in the style of the documentation of the case histories were coextensive with the major clinical approaches of the physicians of the corresponding era. For example, the Hippocratic medical histories are found to be extremely precise and objective where the subjective headspace of the physician and the emotional state of the patients find zero expression, while the case reports of Galen is characterised by the presence of the clinician as an active agent who pays attention to the patient’s life history and state of mind.

But, with time, as the accessibility of the resources increased, doctors started cross referencing the cases, and slowly patterns began to appear in the occurrences of diseases, which had nothing much to do with the patient’s personal life history. As Scott says, “While the focus is on general pattern, the specific need and particularity of the individual patient is in constant danger of being missed” (Scott 4). Doctors began to isolate the common causes and effects of the diseases, which marked the end of the use of narratives in the diagnostic procedure and the beginning of the employment of several distancing techniques. The life story of the patient thus took a back stage, while the microscopic study of the causes and effects of the diseases, facilitated by the scientific advancements along with targeted cure ushered in an era of dehumanized patients and impersonal clinical system.

Modern medicine has the added advantage of having benefited from the developments in the field of both physics and chemistry, both in treatments and in diagnostics. The surmises drawn by a doctor through personal interactions with the patient using the different techniques of observation, conversation, palpation and

auscultation were relegated to the background with an increased reliance on different diagnostic machines and its data output. Thus, a personal activity that required a doctor to have a good reader's adeptness in eliciting meanings from the words of the patients, was rendered a dispassionate mechanical activity due to an increased reliance on technology. Though this has increased the efficiency of the clinical practices technically, to some extent it has estranged the patient-doctor relationship further, making it expedient to expedite pedagogical reforms by recalling the use of narratives back into the various programmes offered by the medical colleges through literary studies.

Literature plays a vital role in the ethical discourse as it is not merely a conduit to articulate the conditions of human existence like death, birth, suffering, illness, etc., rather it is a platform to present boldly the repressed responses and feelings surrounding them. In real life, the worst-case scenarios and notions are not openly discussed, which hinders the adoption of an efficient course of action. Medical ethics, unlike law, doesn't have a universal rigid framework of what is legal and what is illegal. Also, what is right and what is wrong cannot be delineated on the basis of pre-defined set of rules. It involves an analysis of the pros and cons of the situation, taking into consideration all the possible scenarios including the worst-case scenarios. Literature openly depicts that which in real life none would dare to voice for fear of sounding callous or going against what is considered to be acceptable, yet needs to be brought into cognizance to facilitate apt and prompt response in medicine.

English playwright Peter Nichols's play *A Day in the Death of Joe Egg*, premiered in 1967, centres on the trials and tribulations of a couple trying to raise their only daughter Josephine who is suffering from cerebral palsy, while struggling to keep together their married life which had begun to fall apart. Bri and Sheila, Josephine's

parents, stand on the opposite sides of the ethical spectrum as regards their take on her condition. While Sheila continues to be optimistic and wants her daughter to have as much of life as possible, Bri's resolve begins to wear thin and he even starts to entertain the idea of his daughter's death, as it is the only means of providing her and themselves a release from this agonizing existence.

The play in fact quite ironically portrays longevity as one of the side effects of modern medicine. It presents a dilemma as to whether it is ethical to prolong the life of a person artificially, who is bedridden and under constant pain from a debilitating disease. If not, who gets to decide whether or not someone should live or die. Also, Bri's headspace as revealed in the play shows the darkest of human thoughts that surfaces in the minds of the caretakers whose lives are engulfed by their duty to the sick, something that rarely finds open expression in the real life. Narratives can thus be constructed to highlight perspectives that can otherwise be ignored or underplayed for different reasons.

The celebrated American Anthropologist Clifford James Geertz, in his work *Writing Culture: The Poetics and Politics of Ethnography* (1986), mentions how "… all constructed truths are made possible by powerful "lies" of exclusion and rhetoric" (Clifford 7), in the context of the making of the ethnographic texts. Tod Chambers in his essay "Dax Redacted: The Economies of Truth in Bioethics" mentions how the aforementioned idea "…holds true for ethics case narratives as well…" (Chambers 288). The 'Dax case' on which Chambers wrote this essay is a tragic event that occurred in the life of Donald S Cowart, also known as Dax Cowart back in the early 1970's in USA. Dax, a young man of twenty-five from Texas, suffered from severe burns following a propane gas leak and subsequent explosion of his automobile. He lost his eyes, ears, digits on the upper limbs, and most of his skin. The excruciating pain

following the incident made him request several times a termination of his treatment, which in itself was turning out to be a torture. His story was brought to the notice of the bioethicists in the wake of the popularity of the video titled *Please Let Me Die,* made in the year 1974. This story raises several crucial questions concerning patient autonomy, paternalism and euthanasia in medicine.

The essay is divided into four sections that deal with different versions of the Dax case with redactions made in favour of their contentions. For example, the first section is titled "Whiting out the Narrator", in which the author, who was in fact a part of the narrative, assumes the role of an omniscient narrator to create the illusion of having drawn up a conclusion that is unbiased owing to the all-knowing, third person perspective that he takes on in course of the narration. "This editorial decision results in having White's interpretation of what the narrative is really about - Dax's need for emotional control - make sense to the reader because a heterodiegetic narrator has already presented his interpretation, not as perspective, but as self-evident data" (Chambers 290).

Here, as the author was the psychiatrist in this case, Robert B White, was trying to make a case to prove that Dax was in need of psychiatric support. His detailing of the story is such that he elides any and all particulars, including the fact that he was a person who came into Dax's life only after the unfortunate accident and was not familiar with all the facets of his life, which would challenge the outcome he was trying to bring about. The use of a heterodiegetic narrator, a narrative strategy, helps him swing the opinion in the direction he favoured. This reveals the latent, yet unignorable suggestive power of narratives and their vital role in shaping the multidimensional nature of medical ethics cases.

Case studies are central to bioethical scholarship, sometimes even in deciding

what is and what isn't ethical. There are several approaches to the case analysis, which can be broadly divided into those that blindly follow a code of ethics and try to apply them on a one to one basis, and those that try to invent codes via a careful consideration of similar cases in the past. John. D. Arras calls the latter "casuistical case analysis", about which he deals in detail in his article titled "Getting Down to Cases: The Revival of Casuistry in Bioethics" (1991). He says, "a casuistical pedagogy would call for lengthy and richly detailed case studies" (Arras 37).

Despite its checkered past and penchant for quibbling over trivial matters without cutting to the chase, and "disingenuous argument and moral laxity" (Arras 30), casuistry does retain a lot of potential to straighten out several ethical and moral predicaments that accompany the practice of medicine. Casuistry is based on an in-depth analysis of each and every case that is brought under consideration. "Contrary to common interpretations of Roman law, and to deductivist, wherein principles are said to pre-exist the actual cases to which they apply, the 'new casuistry' contends that ethical principles are 'discovered' in the cases themselves". (Arras 33)

What is construed from every case has much to do with how the case is constructed. Once again, going back to Chamber's discussion of the power of narratives in influencing the conclusions drawn from it, we come to realise that the efficiency of the narrative strategies and the tools employed have a direct bearing on the effectiveness of the "casuistical case analysis". Also, not only does narratives thus help in coming up with ethical conclusions, it also helps decide what is ethical and what is unethical even in the so-called grey areas of medicine. But medical schools have never been much successful in prepping the medicos to survive in the in-between terrains due to their insistence on absoluteness.

Science is found to have zero tolerance for ambiguity. Medical Science is no

exception. But medicine as a discipline occupies a liminal space between life and death and nothing can be absolute as far as the art of healing is concerned. Hence, medical students who repose implicit trust in their theoretical prowess and look forward to nothing short of spot on precision as far as delivering medical care is concerned, when faced with the uncertainties of the treatment regimens find both their knowledge and skill to be inadequate. This is more so because the soaring success of modern medicine has given rise to a set of expectations about treatments, health, body and a certain quality of life that the doctors are expected to deliver and ensure unwaveringly, which in turn has given birth to the creed of medicine with the image of doctor acting as 'the hand of god', unerringly saving lives. Doctors, especially the newbies, in an effort to live up to these unrealistic expectations become progressively fearful of the equivocacy associated with the diagnostic processes and flounders on the decision-making front, not wanting to come across as fallible. However, a good doctor should learn to make judgement calls, unfazed in the face of uncertainty. According to Joanne Trautmann Banks,

> Humanists know a good deal about ambiguity. Literature in particular thrives on it, and cannot be properly read unless one knows how to look for it, cannot be properly enjoyed unless one knows how to tolerate it. In short, to teach a student how to read, in the fullest sense, is to help train him or her medically. To ask the medical student what is being said here- not at all an easy question when one must look at words in their personal and social contexts and when several things are being said at once- is to prepare him or her for the doctor-patient encounter. (Trautmann, "The Wonders of Literature" 26)

Embracing the inadequacy of medical knowledge is central to honing the skills

required in utilising the technical and non-technical resources to fill the gaps in the diagnostic processes, in order to glean meaningful assumptions as regards the treatments. This also helps prevent ego come in the way of medical care when a doctor, who is uncertain about his or her diagnosis or treatment regime, calls in consults, or at times go for curbside consultations. It is also interesting to note how the approach of doctors to ambiguity can oscillate between productive and destructive. On one hand it can motivate a physician in perfecting his craft by being as thorough as possible in his endeavours to treat and diagnose diseases, and on the other hand it can precipitate a feeling of being ineffectual despite the best of efforts, leading to frustration and then fatigue. Ambiguity is inbuilt in medicine despite the scientific and technological advancements.

Diseases do not necessarily have mutually exclusive symptoms, which is why doctors call for differential diagnosis while dealing with tricky situations. Sometimes the clinical features of a disease could be such that it points towards more than one possibility. The ultimate aim here is to lift the veil of vagueness by a thorough documentation of the patient history and symptoms and narrowing down the possibilities to the correct diagnosis of the disease. A doctor incapable of tolerating uncertainty would not be in a position to make the correct judgement call, be it in diagnosing a disease or in prescribing the treatment regimen. But according to Trautmann, literary studies can equip doctors with this skill by making them get used to the uncertainties, for in literature nothing is absolute, and thus fortifying them against the resultant anxiety which can have an adverse impact on their decision-making skills.

The study of how literature approaches the issues of health, medicine and illnesses is as interesting and relevant as the study of the use of literature in medicine within the context of medical humanities. From time immemorial, medicine and doctors

have found expression in literature as much more than a narrative strategy, or a plot device, often serving as a conduit to communicate the transient nature of human existence, and to show the inadequacy of scientific advancement in combating mortality. As mentioned before, narratives hold the power to influence people's perceptions and hence it is vital that they be studied either in relation to the contemporary scenarios or as a part of a corpus of literature, or both, for it is easy to be misled by the notions of the concerned writer alone, which may or may not be the actuality. It is observed that creative expression of medicine in literature quite often presents the healthcare workers with a third person perspective about the state of affairs within their professional domain which is otherwise lost on them due to their proximity to it. The different genres in literature provide different perspectives about death, birth, diseases, treatments, healers, suffering and the role of science in these events, and thus caters to the varying needs of the diverse groups of readers.

Humanities in general and literature in particular has the potentiality to initiate critical dialogues within medicine. While the pursuit of medicine is to maintain homeostasis, the presence of art in medicine has an unsettling effect. It constantly questions the status quo and resists all sorts of homogenisation by projecting multiplicity of alternate ideas while simultaneously trying to draw attention to the various pitfalls and drawbacks in clinical medicine. And for this reason, medical humanities has been drawing on arts (literature, poetry, paintings, music, theatre, etc.) and humanities subjects liberally since the past couple of decades. Though arts do offer variety, its mode of constant utilisation poses a threat of standardization, which in turn would defeat the whole purpose of medical humanities, which is to provide a critical counterweight to the established medical practices and thus destabilising the status quo to prevent complacency from creeping in and also to keep away all sorts of rigid

conventionality. It also makes the vocation more open-ended, reflective and accepting of its shortcomings while trying to learn from the mistakes of the past and re-evaluating the present state of affairs.

Corvalan notes that arts and medicine have constantly and liberally borrowed from each other since time immemorial. Ancient Greek literature is replete with episodes of diseases, deaths, wounds, doctors and gods. Since diseases were widely considered to be caused by the wrath of gods, the art of medicine was never quite insulated from religion as is evident in works like *Iliad* by Homer and *Philoctetes* by Sophocles, to name a few. The arrows of plague sent by the god Apollo on the Greek army in the *Iliad* and the sanguinopurulent malodorous discharges oozing from the wound of Philoctetes in *Philoctetes* give us valuable insights about the nature of diseases and the healers in the ancient Greece. To discerning eyes, it is impossible to consider the rise of the cult of Asclepius and the development of the Greek theatre to be mutually exclusive. For instance,

> Sophocles' *Philoctetes* foregrounds the complex interplay between tragedy, myth and medicine as integral aspects of a religious institution in which drama held a clearly defined civic and cultural function in fifth-century Athens. And since Attic tragedy emerged as a spring festival performed in honour of the god Dionysus, in *Philoctetes*, Sophocles is completely gesturing towards the meeting between the Dionysian and the Asclepian cults – the art of tragedy and the art of medicine. (Corvalan 134)

Also, one cannot disregard the curative aspects of theatre in attaining a sort of emotional homeostasis through catharsis. In the essay "Theatre, performance and 'the century of the brain': Influences of cognitive neuroscience on professional theatre

practice", Jessica M. Beck writes about a fascinating development in the domain of theatre since the last decade. Theatre practitioners have increasingly started drawing on the cognitive sciences to better understand and explain the process of acting in a bid to improve the craft. Books like *Embodied Acting: What Neuroscience tells us About Performance* (2012) by Rick Kemp, *Acting Archetype and Neuroscience: Superscenes for Rehearsal and Performance* (2016) by Jane Drake Brody, *The Actor, Image and Action: Acting and cognitive neuroscience* (2008) by Rhonda Blair, etc. point towards this direction.

It is interesting to note the nature of reciprocity between theatre and performance arts of all kinds, and medicine. Any discussion on this topic would be incomplete without the mention of the performance artist ORLAN. She subjected herself to a series of plastic surgeries to remodel her face in order to challenge the established beauty ideals while remaining conscious throughout some of the surgical procedures. What is remarkable about this performance is the revelation of how the change in the state of awareness of the patient brings about a drastic shift in the established power paradigms within the operation theatre. She posits "the sentient patient as a threat to the unquestioned authority of the medical practitioner" (Brodzinski 166). ORLAN is known to have been an active participant in her surgeries, even reading philosophical works as it progressed, thus, once again transforming the ritual of operation into a spectacle reminiscent of the anatomical theatres of Renaissance era. According to ORLAN, "the operation theatre became her artist's studio" (Brodzinski 165).

Even while borrowing liberally from the cognitive sciences to better explain and understand their craft, theatre practitioners have striven to represent and critique certain practices performed in the name of science and research. *2401 Objects*, a production of

the Analogue theatre company which won the Fringe first Award in 2011 is a case in point. It tells the story of Henry Molaison who at the age of 27 was subjected to an experimental lobectomy to cure his severely disruptive seizures. Though he was cured of his condition, he lost the ability to convert short term memory to long term memory, thus literally living in the present for the remainder of his life. His life and death form the crux of *2401 objects*, which is the number of slices into which his brain was segmented after his death. But what really got the critics talking was the exhibitionism associated with the live streaming of this process online, some even finding the whole process to be sacrilegious. The play has managed to capture the subtle nuances in the life and death of a person who ended up being a research specimen from his twenty-seventh birthday, without making any judgements about the rightness and wrongness of the action, leaving it to the audience's discretion.

With so many prospects offered by the different genres of arts, it is natural to lose sight of the pitfalls lying hidden in the course of development of medical humanities. S. Pattison in his article "Medical Humanities: a vision and some cautionary notes", does an interesting detailing of the process behind the establishment of a nascent academic discipline into a self-sustained and autonomous one by outlining the different stages involved in the process. He also warns the practitioners of medical humanities to steer clear of what he calls "the 'death course' of a discipline" (Pattison 33). This he does by drawing on the benefit of hindsight provided by the fate of health care ethics once it became a full-blown academic discipline and lost its charm due to its instrumentality and conformity. Pattison appears to be concerned with maintaining a state of constant flux within the discipline without letting it settle for a routinized and standardized curriculum which marks the beginning of an academic ossification, and which in turn leads to the demise of the discipline's adaptability to the changing needs.

For example, ever since literature became a major player in the medical humanities training, there has been a tendency to employ literary works of a certain kind that meets the approval of the experts, while tending to ignore some that resonates with the popular readership, but is forced to occupy the fringes of the literary canon owing to their alleged low literary standards. But sometimes it is important to draw ideas from the hinterlands to keep up the inclusive spirit and to bring in new perspectives in order to keep any and all sorts of conventionality at bay. Also, it is important to remember that "popular fiction" is called 'popular' for a reason, and it would be worthwhile to tap into the popularity factor especially for its capacity to arrest attention of the people.

Twentieth century saw the emergence of specialised literary genres, reflecting the society's fad for specialisations, written by professionals who were well versed in their respective vocations, and chose to lay bare for the public their hermetically sealed professional domains. Authors like Robin Cook and John Grisham developed specialised genres like medical thrillers and legal thrillers which dealt with medicine and law respectively. Publishers like Pan Books and Bantam Books popularised medical thrillers in the US and the UK. However, medical thrillers have, ever since its inception, occupied the fringes of the literary canon even while constantly making it to the top of the best seller lists.

Medical thrillers provide a sneak peek into the medical world beyond the green curtains, past the inaccessible doors even into the omphalos of confusion in the operation theatres. It reveals to the reader the multitude of invisible variables at play, which has a considerable say in determining the doctor-patient relationship. Also, it offers a critique of the modern-day medical practices with its misplaced priorities and a steady pursuit to pad the bottom line of the medical industry. Medical thrillers also

serve to relate to the uninitiated, the changing definitions and dimensions of the human body and how the advancements in science and technology has made it possible to play around with the corporeality of humans, from an insider's perspective. The next chapter is a discussion of this pressing issue, which needs to be brought to the cognizance of the medical students and professionals, lest they forget the importance of acknowledging the 'lived body' for its mere corporeality alone.

Chapter three

Lessons in Body Beyond Anatomy

The myriad incursions into the human body, made possible by the latest technological advancements in medical science, has blurred bodily boundaries and has lent new definitions to body commodification. Donna Haraway in her essay "A Cyborg Manifesto", resorts to repudiating the immutability of boundaries, especially the ones that set apart "man" from "animal" and "man" from "machine". Though spoken in the context of feminist discourses, her anti essentialist stance favours the latest medical trends and tendencies concerned with the transgression of bodily boundaries. She goes on to say that the hybrid chimeric body is in fact our ontology in the late twentieth century. Similarly, Sarah Franklin notes that, "The two new investment frontiers, outer space and inner space, vie for futures market" (Haraway 319). The "inner space" being referred to is "the inside of the human body, domain of the apparatuses of biomedical visualization" (Haraway 319). The implication is that human body, occupying the border zones, is all set to be a hot selling commodity in the medico-clinical contexts in the future.

Howbeit, the reality is that the bio-medical commodification of the human body is a current reality with its roots in the past, as is documented in the works of the British historian Ruth Richardson. Her writings, though focussing mostly on the medical events within Britain, reveals how the commercialization of the human body over the years has in fact been fuelled by an increasing inquisitiveness surrounding its inner functioning. Accordingly, Foucault claims in his book *The Birth of the Clinic*, published in 1975, that the beginning of the practice of dissection marked a turning point in the history of biomedicine. The demand for more and more cadavers to cut open in the medical schools outstripped the supply, leading to body snatching by the "resurrectionists" and

its subsequent commodification. The observations of Lesley A. Sharp pertaining to body fragmentation and commodification within the domain of medicine in the present times is particularly noteworthy here. She mentions how,

> ... scientific forms of knowledge currently fragment the body with increasing regularity. Medico-scientific realms in particular expose expanding desires for cadavers and skeletons, blood, organs and other transplantable tissues, microscopic ova and sperm, and, most recently, genetic material. This spectrum of examples uncovers not only a proliferation in the marketability of human body parts, but also the ever-increasing atomization of the medicalised body. (Sharp 289)

Within the medico-clinical settings the body occupies a unique position, where it is subjected to both construction and reading at one and the same time. But what precedes these simultaneous activities is the objectification of the human body, which is quite often viewed as a mere undesirable professional trait, and hence gets reduced to a trite philosophical claim. This underplays the serious ramifications it can have on the healthcare sector, especially with regard to patient care and bio-medical ethics. It in fact needs to be viewed as the result of a force or power at work capable of normalizing body violation within contemporary medicine.

Elizabeth Klaver, in her interdisciplinary study of the performance, readability and functions of autopsy in diverse contexts, mentions how “in our time the ability to exercise power in medicine is still an ideological function of authorization” (Klaver 6). It reveals the institutionalised nature of the modern medical culture with its own set of rigid rules and regulations, that has a considerable bearing on our understanding and interpretation of the human body. The primary concern of this chapter is to locate and understand the determinants involved in the diverse constructions of the human corpus,

its potential for fragmentation and the factors leading to its objectification and commodification within the institution of modern medicine using the select novels of Robin Cook. Such an understanding of the human body is essential for the medical professionals to enhance the quality of patient care by looking beyond the limits of the corpus to include the notion of the "lived body" while engaging with their trauma and illnesses. This notion counters the Cartesian metaphysics regarding the body-object, and the tension created by both these conflicting approaches to the ailing body finds adequate expression in the works of Robin Cook.

Illness is a bodily experience, and like everything else about humans, it is liable to subjective variations. Notwithstanding this fact, "the lived experience of the body – the existential anatomy – occupies but a very small space in the consciousness of medicine" (Rudebeck 4). It is observed that, a person becomes cognizant of the very materiality of their body while being examined or watched by someone, or when "the body through its limitations, or autonomous functions, presents itself as non-negotiable" (Rudebeck 4). It is a state of extreme vulnerability, as is experienced by the twenty-three-year-old Nancy Greenly, in the prologue to Robin Cook's *Coma*, published in 1977. She is shown to be lying supine on an operating table, anxiously waiting for her D and C (Dilation and Curettage), which was suggested as the "definitive cure" for her menorrhagia, to commence.

A slight disruption in the monthly biological cycle, that is, menstruation to menorrhagia, had led her to the surgical lounge straight from the emergency. For the patient here, both her physical body and "existential body" have become a source of fear, vulnerability and absolute defencelessness. The French phenomenological philosopher Maurice Merleau Ponty, in his book *Phenomenology of Perception* published in 1945, mentions that "the body is the embodiment of who we are. The self

becomes what it is through body. The body is the self's representative in the world" (Corbin 258). Hence, it is quite natural that the reassurance surrounding one's existence is shattered by the slightest amount of threat to the synergy between the body and the self, as is oftentimes effected by illnesses or injuries, which in turn generates in a person an intense awareness of his/her mortality. The following paragraph is a case in point, which shows how Nancy Greenly's fear of death outweighed her incipient nosocomephobia.

> She hated and feared the hospital at the moment and wanted to scream, to run out of the room and down the corridor. But she didn't. She feared the bleeding that she had been experiencing more than the cruel detached environment of the hospital; both made her acutely aware of her mortality, and that was something she rarely liked to face. (Cook, "Coma" 7)

Despite Rudebeck's attempt at making more space for the "lived and experienced body" within the consciousness of modern medicine, the fact is that the conceptual framework of western medicine is based on Cartesianism, involving a systematic separation of the "mind" from the "body". This Cartesian disclosure is so embedded in the modern-day medical culture that it has become almost impossible to even consider alternatives beyond the parameters it can offer. Consequently, "insofar as the patient to be examined is modelled on the automaton, he or she as living person with wishes, questions, pains and fears, can all too easily be overlooked. When fixing a machine such things need not be considered" (Leder 24). Understandably, Cook compares the actions of Dr. Billing the anaesthesiology resident within the operation theatre to that of a "747 pilot", mechanically going through his checklist, completely

oblivious to the obvious discomfort of his patient Miss Greenly because, for him she represents a mere defective body that has been presented to him for fixing.

This is so because, the epistemological importance of the cadavers within modern medicine has defined its pedagogy and practices such that it has become the site of medical revelations, and any approach to the human body, within the clinical context, invariably assumes characteristics that involve a conscious and deliberate veiling of the "existential body" in favour of the "dead body". Leder notes how the whole of the rituals associated with the conventional physical examination involves the patient being directed to imitate a corpse-like stance, stretched out, unresisting, exposed and mute, just like Nancy Greenly. She was made to lie down spread-eagled on the hard and uncomfortable operation table, much too exposed to her liking. At that instance, she is defined exclusively by her pathological condition. It is a ceremonial reduction of the live body to a state of death-like passivity, which in turn facilitates anatomisation. Karen Dale adds that anatomy reconstitutes the image of the human body as a machine with transposable and standardized segments. Further, according to Leder, "the mechanist model of nature subserves a project of control. Once we analyse a natural object into its component parts and their interactions - that is, see how it is made - we can make it ourselves, or alter it in desired directions. Herein lies the enormous power of modern medicine" (Leder 23).

Thus, the decoded body accords power to those capable of reading and controlling it through "anatomic disarticulation" (Foucault, "The Order of Things" 294), and meaningful reconstitution using the knowledge acquired through the former. This explains Dr. Billing's gratification during the induction of anaesthesia: "In fact, it gave Dr. Billing a certain sense of satisfaction to watch the patient go to sleep. It represented repetitive proof for him of the validity of the scientific method. Besides, it

made him feel powerful; it was as if he had command of the patient's brain" (Cook, "Coma" 14). Elizabeth Klaver in her book *The Body in Medical Culture* (2009) notes how, though Nancy Greenly was indeed the only one in this context who had access to the "effects" of the drug, it was the anaesthesiologist who knew about the nature and action of the physic administered, thus allowing him to experience a position of power over the patient.

It is crucial to note here that the anaesthesiologist's experience of control is limited only to the brain and does not extend to the person per se. Yet, this fact does nothing to diminish the amount of power he experiences over his patient's body at that moment. Here the body is not conceptualised as the sum total of its parts, and hence, the metaphors used by the doctors reflect the tendency to segmentalize and objectify the body. Dr. Major, Miss Greenly's gynaecologist, during his bimanual examination, describes her normal ovaries as "smooth, normal plums" (Cook, "Coma" 16). Again, in course of the surgery, when Dr. Billing expresses concern over the inexplicable and sudden variations in her blood pressure, Dr. Major jokes, "Down here, she's as red as a cherry" (Cook, "Coma" 17), meaning that the oxygen levels are normal in the blood, giving it a bright red colour. The diction here reeks of depersonalisation, whereby, the body is divested of its human characteristics.

Their depersonalised body becomes a source of agony for the patients, as is evidenced by the interaction between Sean Berman and Susan Wheeler in *Coma.* He had been admitted for a minor surgery, and Susan was put in charge of his preoperative care. He mentions to Susan how unsettling it was to have doctors and nurses come into his room and talk about him as if his medical condition was all the attribute he had to himself. The matter of fact interactions that that were aimed solely at his pathology did nothing to address the concerns and fears he had been experiencing ever since he was

scheduled for surgery, a repetition of what had happened earlier to Nancy Greenly. Having said that, for the healthcare professionals like doctors and nurses, for example, the depersonalised body of the patients apparently serves to provide an emotional buffering. The lived body can bring the physician face to face with several personal, emotional and psychological aspects of the patients, which can have a profound influence on their emotional state. But when they treat one sick patient after another repeatedly, day after day, and let themselves get swayed by their sufferings, chances are that the medicos might sooner or later suffer from emotional exhaustion or psychological stress, rendering them dysfunctional.

However, surgeons deal with the human body slightly differently in their approach. Hirschauer notes that the surgeons tap into two bodies in the course of their surgical performance: their own body that is trained to perform unerringly, and the conceptual body that is ingrained into their psyche in the course of their education. "The abstractedness of the second is due to its having been learnt from dead substitutes likes books and corpses" (Hirschauer 309). Hence, the acquired anatomy is nothing like the animated corpus that is brought in for surgery, and after the induced narcosis, it begins to get viewed as nothing but a broken ground of different types of tissues. Within the surgeon's consciousness, therefore, there is a continuous cross-fading of the images of the "concrete body" and the "abstract body", wherein the former functions as a memory aid for the latter, which in turn guides their actions. The lived body, in this context, rarely finds representation since not much verbal interactions usually takes place between a surgeon and the patient in course of the surgery.

Hence, when Dr. Major jokes about Nancy Greenly using metaphors of fruits, his headspace is primed unconsciously by the images of the concrete and the abstract body, drilled into him by the years of medical training, that has nothing to do with

Husserl's "lived body", making depersonalisation a normative behaviour. Also, the surgeon associates himself with a trained instrument, thus effectively blocking any affective tendencies that can challenge the normative practice of objectification of the body during surgical procedures. He thus concerns himself only with the materiality of the patient's body, while completely ignoring any subjective tendencies. Cook describes how it becomes a part of the rote and routine of a medical professional's life right from the time of their medical education, and lasting long into their professional life. For instance, when Nancy's D and C was progressing, the newbie surgical residents were privy to the objectifying comments made on the patient by their senior surgeons and one way or the other they were imbibing this medical culture. The doctors also depersonalise themselves as mentioned before, by functioning almost similar to automatons, not letting the gruesomeness of the surgical procedure to scar them while rectifying the pathophysiology. The diseased body for them becomes a site of skill development, an opportunity to master and polish their techniques, ultimately acquiring something along the lines of muscle memory in relation to the surgery.

This predisposition extends to all spheres of medical care owing to its roots in the proneness to reductivism in the medical training practices as mentioned above. However, the technological advancements in medical science has been constantly redefining the accepted notions pertaining to the body and the various life processes. For example, an otherwise would-have-been-dead person, who cannot hold his/her own, can now be kept alive with the help of an assortment of state-of-the-art contrivances, through tubes and leads extending from the parts of the body where there are no natural orifices, that are connected to the machinery. It has led to a scenario which would have earlier been considered to be something from the science fiction stories, where the existence of a being could be explained only in relation to machines and not by itself.

Thus, science has made it possible for inanimate objects to sustain life in situations where the body has failed, thus reducing the corpus to a mere receptacle of life. The replaceability of the parts of the body with machines to carry out life processes further reduces its subjectivity, despite helping to prolong life.

The ethical quandaries that such technological interventions can give rise to have made it critical to look at "the body" against the backdrop of the drastic epistemological and ethical instability spawned by the scientific advancements that are constantly trying to reconfigure the human. (This is a concern that Cook raises in *Coma* by juxtaposing the issues of brain death with organ transplantation.) For example, a new image of body emerged in the second half of the twentieth century, that of a body which was neither alive nor dead, or both alive and dead. Gary S. Belkin, in his book *Death Before Dying: History, Medicine and Brain Death*, published in 2014, notes how the modern medical equipments have made it possible to provide artificial support in the event of organ failure and help in preventing the cessation of respiration even in cases involving irreversible brain damage or a complete shutdown of the nervous system. This has opened the doors to a new territory of in betweenness between the traditional states of life and death known to the medical world. The medical paraphernalia thus stretches the vitality into a new terrain of liminal space.

The "liminal body" became a cultural entity in the second half of the twentieth century, especially in the light of the Karen Ann Quinlan case. "Karen Ann Quinlan, although neither brain dead nor strictly comatose, gave human form in the mid-1970s to popular fears about the limbo that new medical technology had opened up between life and death. The fiction of *Coma* resonated powerfully with the fears embodied by the Quinlan case" (Belling 441) in its portrayal of the predicament of the comatose character Nancy Greenly. Such a body, occupying the liminal space between life and

death, would, under the circumstances, be viewed as placing "a substantial burden on families, hospitals, and society" (Lewis 112).

Additionally, the ad hoc Harvard Brain Death Committee constituted in 1968 was said to have seen an opportunity in coming up with an alternate definition of death to facilitate organ transplantation, which was based on an "'organocentric' conception of the body which identify particular organs as central to personal identity" (Schweda 8). Coupled, they presented a dangerous possibility that is explored in Robin Cook's *Coma*. Cook has paid great attention to the minutest details while constructing the comatose body in the person of Nancy Greenly, while simultaneously discussing about the infringement of the market economy in the domain of medicine and the dangers associated with it vis-à-vis commodification of the body. He has also deftly portrayed how repeated exposure to diseased bodies can blunt emotional receptivity as seen in characters such as Dr. Major, Dr. Stark and the nurse at the Jefferson Institute, in *Coma*.

The following paragraph is the description of the comatose patient, Nancy Greenly, as seen through the eyes of Susan Wheeler, a third-year medical student.

> From where she was standing, she could make out only a blotch of dark hair, a pale face, and a tube issuing from the area of the mouth. The tube was connected to a large machine next to the bed that hissed to and fro, breathing for the patient. The patient's body was covered by a white sheet; the arms were uncovered and positioned at forty-five-degree angles from the torso. An I.V. line ran into the left arm. An I.V. line ran into the right side of her neck .....There was no motion, no sign of life save for the rhythmical hiss of the breathing machine. A plastic line curled down from under the patient and was connected to a calibrated urine container. (Cook, "Coma" 51)

This vision of the motionless figure in the bed evokes a visceral fear in Susan who is emotionally susceptible, being an absolute greenhorn. In addition, due to the lack of extensive clinical experience and exposure, she could not help identifying with the patient, and for that reason, gets inextricably enmeshed in the human element in the case. Besides, according to Dorothée Legrand's take on the role of the body in shaping the nature of clinical encounter, before objectively addressing a patient's suffering at a conscious level, the clinician experiences it personally at a subconscious level by means of his/her own body.

This transpires as the result of "a bodily intersubjectivity in which one body resonates with the other" (Legrand 464). No better explanation can be given to Susan's response as detailed in the ensuing paragraph in which she is said to be suffering from a " kind of inner pain, a sense of mortality, a sense of meaninglessness in life which could be so easily disrupted, a sense of hopelessness, and a sense of helplessness" (Cook, "Coma" 54). However, the very same body that evoked an emotional response in Susan, invokes in Dr. Mark Bellows, an intermediate resident, a keen sense of competitiveness. This was so because, keeping Nancy Greenly from crashing was a daunting task and failing at it would reflect badly on the professional competence of the concerned resident. Keeping her body running is thus his first and foremost priority as it hangs like a Damocles sword over his head, especially with regard to his residency programme.

Keeping Nancy Greenly alive posed both a challenge and an opportunity for Dr. Bellows, in sustaining the tenuous connection between the corpus and life by reading the bodily needs from the empirical data proffered by the medical appurtenances, and responding accordingly. Arthur W. Frank in his book, *The Wounded Storyteller: Body, Illness and Ethics*, published in 1995, mentions how the sick body communicating through suffering and symptom is not mute but inarticulate, and how it is the healer

who has to speak for it in coherent terms. But in the case of a body in limbo, where it remains mute despite the indications, like with the comatose patient in *Coma*, the story is left hanging in the mid-air and the only concern lay in maintaining the homeostasis. The technology has made it possible for the body to be spoken for and read by the life supporting medical paraphernalia, which function as bodily extensions that articulate the needs of the body in numbers, graphs and images.

Prolonged engagement with such inanimate mediums of communications, however, can eventually cause the destitution of the idea of the "lived body" in the eyes of a clinician in favour of a "chimeric apparatus", a fusion of the animate and the inanimate. As a result, for Mark Bellows, Miss Greenly had ceased to embody any human element, and his responsive stance is engendered not by the subjective being, but by the empirical data, and as a result is directed at the latter rather than the former. Hence, "Bellows was intent on keeping the ions at the right level, keeping the urine output up, and keeping the bacteria at bay" (Cook, "Coma" 53), without exhibiting any concern for the patient per se. He was rather catering to the warnings and numerical results which was being generated by the myriad medical machinery to maintain the physical status quo of the patient to whom it was attached.

This brings another concern regarding the human body in medicine to the fore, where first the lived body, and then the actual physical corpus gets sidelined in favour of their representations. Simon J. Williams, in the article "Modern Medicine and the 'Uncertain Body': From Corporeality to Hyperreality?" observes how a panoply of data in the form of numbers, graphs and images on screens have begun to exteriorise the inner functionings of the human body. "In this respect, the Foucauldian 'clinical gaze' gives way to the Baudrillardian 'hyperreality of images without grounding'" (Williams 1047). A natural corollary of this pervasive tendency is that the body is slowly

becoming more and more elusive. Further, the practices and propensities within the medical discourse have begun to get structured around "'multiple images and codings' whereby the body is endlessly 'doubled and redoubled' through a self-referential chain of simulacra" (Williams 1047). He postulates that corporeality, which was the primary concern of modernism, is slowly being overshadowed by another overarching concern surrounding hyperreality, which is the central concern of postmodernism.

It is a worry that finds expression in Cook's *Coma* too. Mark Bellows' and the other residents' emotional distancing from Nancy Greenly can partly be attributed to this phenomenon. As mentioned above, the doctors caring for Nancy discerned the needs of her body through the data made available to them by the several medical contraptions regularly churning out the state of her corporeal existence through graphic representations. The medical training has already managed to alienate them from the lived body of the sick in favour of their somatic self to a considerable extent. However, with the technological interventions, one can notice that their focus is twice removed from the concept of the actual body, and is stuck with the machinery mediated externalised internal reality so much so that the engagements do not in any ways include the embodied subject. Hence, when Bellows begins his rant about the importance of maintaining the homeostasis while completely ignoring the patient per se, he is oblivious to the effect that Nancy Greenly was having on the medical students, especially Susan Wheeler. She felt strongly about his comportment towards the brain-dead patient, which was primarily dictated by the data and test results.

However, his approach begs the question of what exactly constitutes a "brain-dead individual" and "how to treat 'dead' patients during and after the removal of organs" (Tierney 234).Youngner et al. in their article, "Psychological and Ethical Implications of Organ Retrieval", published in the *New England Journal of Medicine*,

in relation to the body as both the source and recipient of organs, mention that the "labels for the brain-dead organ donors such as 'beating-heart cadaver' or 'neomort' have not been found emotionally or culturally acceptable .....They report, however, that most would agree that these donors are no longer 'persons'" (Tierney 234). In this context, Bellows's response to "get the kidneys for someone else" if in case "her squash is gone" (Cook, "Coma" 56) while speaking about Nancy Greenly appears to be in order, since all he is seeing is a potential source of organs and not the person as such. However, for a person outside the medical culture, his words can easily act as a source of indignation and anger since their natural inclination will be to relate to her lived body, that is beyond and more than her mere corporeality.

While raising the possibility of procuring the organs of Nancy Greenly for transplantation, even though with her parent's consent, Bellows seems to have disregarded an individual's right to bodily self-determination. But, having said that, brain death does offer extenuating circumstances, since the donor is obviously incapable of taking decisions of any kind. The only viable solution to this catch would be to encourage people to sign consent forms as regards organ donation while in perfect health. This can, to a great extent, prevent the treatment of human body and its parts as mere fungible depersonalised commodities by a second or third party. However, "This idea of bodily self-determination in terms of ownership seems to bring the human body in line with other pieces of private property" (Schweda 5), as a result, it involves self-objectification. It also, at times, leads to situations where even instances of voluntary organ donation take on shades of marketplace transactions.

This implies that, an "approval of commercialization in the sense of making money with one's body or its parts" (Schweda 5) is very much possible. Here one has to note that the pecuniary motives have the potential to call into question the autonomy

and legitimacy of the decisions made regarding the body, by warping the will of the people, and incentivising them to do things differently than under regular circumstances. Schicktanz's take on the relationship between bodily autonomy and the objectification of the body, in the following paragraph, is especially revealing.

> A common strand often favoured by partisans of liberal self-determination sees the human body as an 'object' and as 'property' subject to personal, self-determined disposal. For example, the moral claim that "Every person should decide for themselves whether they want to donate their organ" is built upon the assumption that organ donation should be decided on by the donor themselves, seeing the body as 'property' or as a 'material object'. (Schiktanz 2)

This leads to the conclusion that both the acceptance and the rejection of bodily self-determination results in the inevitable objectification of the human body, though at different levels, based on who is making the decision, and for whom.

However, because of its ineliminable omnipresence in medicine, tracing the phenomenon of the objectification of the human body, as it transpires within the medico-clinical practices helps denude the contemporary medicine of several of its other ignominious proclivities and recurring tendencies. It also calls into question several of the outdated practices of the medical culture as regards the objectification of the human body and its parts. Martha Nussbaum mentions how the word "objectification" was initially used as a technical term, especially in the works of Catharine MacKinnon and Andrea Dworkin within feminism, before getting mainstreamed and entering the common parlance in a pejorative sense. She clarifies that "treating things as objects is not objectification ... it entails making into a thing, treating as a thing, something that is really not a thing" (Nussbaum 257). Susan Wheeler's

supererogatory detective work, following the inexplicable and mysterious coma cases in The Boston Memorial Hospital, leads her to the Jefferson Institute, where she witnesses a dehumanizing act of disclaiming the humanity of the comatose patients in such a way as is befitting Nussbaum's notion of objectification.

The Jefferson Institute was meant to ease the burden on hospitals by functioning as a chronic care facility. The comatose patients from the Boston Memorial Hospital, and the other hospitals were referred to here for cost effective medical care, and what Susan saw in there was eerily futuristic.

> There were more than a hundred patients in the room, and all of them were completely suspended in mid-air about four feet from the floor. All of them were naked. Looking closely, Susan could see the wires piercing multiple points on the patient's long bones. The wires were connected to complicated metal frames and pulled taught. The patients' heads were supported by other wires from the ceiling which were attached to screw eyes in the patients' skulls. Susan had an impression of the grotesque, horizontal sleeping marionettes. (Cook, "Coma" 287)

The upsetting image thus concocted by Cook, where technology has completely taken over the ministrations of a host of brain-dead people, evinces an undercurrent of functionalist notion within the medical culture. According to the principle of functionalism, the most important criterion to determine the worth of an object is its use. Here the human body has been divested of its personhood and is approached as mere "brain stem preparations" (Cook, "Coma" 289), preserved for illegally harvesting organs. Susan's vicarious experience of objectification within this setting is triggeredby the violation of the traditionally accepted ideals of bodily integrity and the reduction of the human worth to less than the sum of its parts within the facility, in the name of

economising patient care. This graphic description by the author can be juxtaposed with the images of animal cadavers hung in freezers at the butcher's place.

It needs to be noted that, "With the advent of successful organ transplantation techniques, the greatest value in the human body now inheres in its component parts" (Jefferies 621). An object with both intrinsic value and exchange value can, commonsensically, be construed as a commodity. Human body can thus be viewed as a commodity within the dynamic space of modern medicine, where, technology induced bodily fragmentation has made possible a demand driven sale of body parts. In *Coma*, it becomes apparent how these skewed constructions of the human body within the medical sphere can have a direct bearing on the people's experience of agency in relation to their body, as well as the lack of it. There is always a fear of being robbed off their vitals while being aware of the power they hold as a potential organ donor and thus playing a significant role in saving a life.

Towards the end of the book, after funnelling the readers through a melange of devious schemes, appalling revelations, machinations, murder attempts, physical assaults, and murders, the author reveals the sordid backstory. The Jefferson Institute is shown to have been a clearing house for the illegally procured transplant organs from several different hospitals in the state. The victims were the relatively healthy patients in the hospitals, with matching tissue types as the wealthy clients in need of organs, who were deliberately made comatose by administering sublethal doses of either carbon monoxide or succinylcholine, enough to have them declared brain dead and subjected to organ harvesting at the facility following the referral. The moral that Robin Cook is trying to hit home is that "The purpose of obtaining organs should be to save human lives. This purpose is not met when one human is murdered to let another live" (Jefferies 652).

Though a perfect fit in this context, David E. Jefferies made this above statement while speaking about the pros and cons of the conscriptive systems of organ procurement as practiced in China. The different systems he enumerates are as follows: presumed consent systems, systems based on altruistic principles, conscriptive systems, the middleman system, and the market systems. Despite the differences in their modus operandi, most of these systems share a common denominator, namely the degradation of the human body, leading to subsequent fragmentation and commodification. Under such circumstances, the genuinity of the altruistic motivations behind such practices need to be ensured. Equally important is exploring how the bodies begin to get viewed and interpreted within the medical contexts, to check its exploitation.

In his book *Organs without Bodies: Deleuze and Consequences*, published in 2004, Slavoj Zizek mentions how "In today's science and technology, a 'body in pieces' is emerging, a composite of replaceable organs (pacemakers, artificial limbs, transposed skin, heart, liver and other transplants – up to the prospects of genetically cultivated reserve organs)" (Zizek 108). In this process the individuals get transformed into what Dr. Thomas Starzl, also called "the father of transplantation" (Cronin), referred to as "the Puzzle People" in his book *The Puzzle People: Memoirs of a Transplant Surgeon*, published in 1992. He mentions how human beings could at the same time be both the organ donors and the recipients, whole and fragmented, and thus lead to a conflicted sense of embodiment, or a form of puzzle that cannot be solved. The healthcare professionals however do not have the luxury of staying anchored in such a state of indecisiveness engendered by the ontological disputations and have to move towards more pragmatic resolutions. This explains why Bellows considers Nancy Greenly as a potential source of organs without any resistance.

Having said that, one cannot but imagine what kind of procurable entities the

organs would become. Zwart attempts to explain the psychological process behind this event by taking cues from Freud's essay *The Uncanny* (1919). Accordingly, it is noted that when parts of the body, like the organs, are seen detached from the whole and used as replacements, they can evoke contrasting emotions of fascination and aversion. It becomes uncanny because it unsettles by exposing to the view that, which had a familiar presence in its hidden state. But once revealed, it becomes unfamiliar due to its glaring presence outside of its concealed existence. According to Zwart it is a "remarkably fitting description of the experiences evoked by undead organs as living things, placed in a bowl with ice, procured from braindead bodies" (Zwart 161). It is a similar feeling that fills Susan Wheeler with horror when she is told of the possibility of obtaining organs from the young comatose Nancy Greenly, by her preceptor.

Within the medico-clinical contexts, the body has to surrender agency and resort to a wilful denial of autonomy and subject itself to prodding, screening, pricking, and in case of surgeries, even cutting as a part of the diagnosis and the treatment of diseases. In the process, it also has to submit to what Michel Foucault calls in his book *The Birth of the Clinic: An Archaeology of Medical Perception*, the "medical gaze". "Medical gaze" involves both quantitative and qualitative appraisal of the human anatomy and the physiology, while isolating only those relevant biomedical elements that fits its paradigm and discarding the rest from the patient's narrative. Foucault further claims that "doctors are doctor-oriented, not patient-oriented, and thus medicine creates an abusive power structure" (Misselbrook 312), that derives its sustenance from the objectification of human body by subjecting it to "medical gaze", where the healer is in complete control over the sick body and its course of healing. Here the personhood of the individual is completely ignored in favour of the site of pathology, the corpus, thus relegating it to the level of an object.

Martha Nussbaum speaks about the seven different facets of objectification in her essay on sexual objectification of women. They are, “instrumentality, denial of autonomy, inertness, fungibility, violability, ownership and denial of subjectivity” (Nussbaum 257). These dimensions can be efficiently extrapolated to the clinical settings in order to better understand the stratified nature of this reductive phenomena. Cook’s depiction of Nancy Greenly goes hand in hand with each one of the above aspects. When she is employed as an instrument of instruction by Bellows for the benefit of the medical students, she gets reduced to a mere specimen and thus becomes a deindividualized being. When he considers her to be a potential source of organs without giving any thought to her consent, one can witness how her autonomy is denied and her inertness taken for granted.

The very phenomenon of organ transplantation is premised on the violation of bodily boundaries, interchangeability or fungibility of the body parts and quite naturally it raises issues regarding the ownership of the body and its parts. If Nancy owns her body, then her family’s consent shouldn’t be enough to donate her organs. Paying no heed to her approval completely would be tantamount to denying Miss Greenly her subjectivity too. But here one has to take cognizance of the oxymoronic situation in which human beings both constitute and own their bodies, before entering into a sustained deliberation on the reductionist position of the contemporary medicine. Such an approach will be capable of informing “more insightful analyses of the ways in which the body is (re)produced in a society in which biological space ... is being infiltrated and colonised by a capitalistic logic” (Bates 128).

The infringement of the capitalistic logic into the hallowed halls of medicine is not at all surprising considering how the health care has evolved into a market commodity, thus facilitating the entry of the private players. It is not a twenty-first

century phenomenon either, since in the year 1971, Robert M. Sade, a cardiothoracic surgeon, sounded a similar emerging sentiment within the realm of medicine through his article published in the *New England Journal of Medicine*, in which he said that "medical care is neither a right nor a privilege: it is a service that is provided by doctors and others to people who wish to purchase it" (Sade 1289). Commodification of medicine in this manner involves transmuting it into an implement for profit and usage, and also entails assigning "market values to a good, service or idea that were previously thought to be outside the sphere of the market" (Elliot 520), like the human body and sickness.

Thorstein Bunde Veblen, an American economist and sociologist popularised the concept of "conspicuous consumption" through his book *The Theory of the Leisure Class published* in 1899. It can be defined as the spending of money to lead a luxurious life and acquiring high-end goods and services to display economic superiority and social power. Michael S. Carolan extends the conceptual utility of this theory beyond the economic sphere to explain the notion of "conspicuous body" as having emerged as a result of an increasing sense of discontentment experienced by the modern sensibilities of the people. He says, "we are progressively striving to become the 'nice thing' itself – to literally embody conspicuous consumption" (Carolan 82). The human body, as a result, becomes susceptible to the "inscriptive force of consumer capitalism" (Carolan 84), and has come to be viewed as a commodity capable of value addition, and thus, has had market value assigned to it, as mentioned by Carl Elliott. One of the several ways in which the value addition on the human body can be realised is through the upgradation of our existing biology using enhancement technologies. This once again adds to the prospect of body commodification.

Human enhancement involves using the latest medical and technological

advancements beyond their therapeutic and restorative functions, to upgrade and overcome the physical and cognitive limitations of the human body. A broad spectrum of methods like genetic engineering, nootropics, nanomedicine, neurotechnology, etc. have been developed in this direction. The use of genetic engineering, however, has become a hot button issue lately because of its rather distorted representations in popular mediums like books, movies and television, and also because of its relatively widespread use, be it in the form of genetically modified crops, or the use of transgenic animals for research. The twenty first century is witnessing a silent revolution with the discovery of the CRISPR Cas9 genome editing technology that is said to be capable of rewriting the genetic information at will. The possibilities it proffers are as much scary as exciting, since it has the potential to rewrite the very fundamentals governing the humanity.

In the year 1989, Robin Cook wrote about the possible perils of genetic manipulation through his novel *Mutation*. Cook reminds that, "Research could provide hope for the future by curing disease, but it had another far more disturbing potential" (Cook, "Mutation" 98). In this novel, Dr. Victor Frank, an obstetrician-gynaecologist and also the co-founder of a biotechnology firm, performs a point mutation on chromosome 6 of a zygote made from his sperm and his wife's egg before implanting it into their surrogate's womb. Using micro injection techniques, he inserted a NGF (neural growth factor) gene, with the help of a retro viral vector and several promoters, with the aim of accelerating the growth of neurons.

The net result is their son VJ, who turns out to be a super intelligent kid, whose artificially enhanced intellect enabled him to communicate by six months and read within a year. However, before trying it on human zygote, Frank had engineered smart rats by inserting the NGF gene into them. Exactly a decade after the publication of this

book, in the year 1999, like many others in the field, Joe Z. Tsien, a neuroscientist and a faculty member at Princeton University, along with his colleagues, had created a batch of smart mice by "popping an extra copy of the NR2B gene into their genomes. This gene encodes the NMDA (N-methyl-D-aspartate) receptor, which is used in memory formation and can affect a trait that neuroscientists call 'long-term potentiation'" (Kozubek), which helps with a "persistent strengthening of synapses based on recent patterns of activity" (Wikipedia "Long-term potentiation"). Robin Cook anticipated a similar scenario a decade before in this novel, where he played around with a similar idea of a programmable human body and developing a batch of smart rats based on his knowledge of parallel research developments taking place in the realm of genetic engineering and its future prospects in the scientific world.

Žižek points out how the recent trends in the realm of biogenetics is sending out a message through the genome project that a living human body can now be considered to be centred around the genetic algorithm and no longer its soul. August Weismann, whose observations were frequently borrowed by Freud, had established several decades ago, the basic distinction existing between what he called the "mortal" and "immortal" elements of a living organism's corporeality. The body or the outer covering grows, matures and eventually disintegrates, while the germ cells pass on the genetic traits from one generation to the next. Žižek also mentions the evolutionary biologist Richard Dawkins' conception of the "selfish gene" as the "ultimate formula of this distinction : it is not that individual organisms use the gene to replicate themselves ; it is, on the contrary, individual organisms that are the means for the genes to reproduce themselves" (Žižek 109).These assumptions cast the human body in a different light. Like a Chinese box, there is a degradable outer body and the inner body comprising the genes that persist through generations.

Cook brings to light the structural complexity of human body in *Mutation* by showing how Dr. Victor Frank gradually proceeds from less complex to more complex animals in course of his experimentation, only to underwrite its importance by showing how it is a mere machine that follows the genetically encoded instructions within the DNA for the scientist. When he says, "the idea of having a super smart child was so seductive" (Cook, "Mutation" 92) to his distraught wife, Frank underscores this notion, as what lures him more is the realised possibility of making the body obey a desired command through an altered cellular algorithm, rather than having a child of his own. As for Frank's wife Dr. Marsha, "How he could have experimented on his own baby was beyond her comprehension" (Cook, "Mutation" 97). Though Dr. Frank is far from the familiar stereotypical trope of the "mad scientist", he doesn't exactly bat an eye lid before wading into the largely uncharted waters of genetic manipulation while playing around with his son's genes.

Frank's son VJ represents a new era of transhumans who reveal the pliable nature of the human body, that can be custom-made to exhibit desired traits. Bodies, that can be made to read the codes which have been altered at the bit level, comes to be viewed as a mere receptacle meant to execute the instructions contained within the genetic information. Micro-biologist and geneticist Andrew Hessel, who is also the CEO of Humane Genomics Inc., explains how the human body is similar to the computers. Modern technological innovations have made it possible to control and manipulate DNA, the genetic code of life.

The nucleic acid of DNA is comprised of four nucleobases, namely, adenine(A), guanine(G), cytosine(C), and thymine(T), the sequence of which determines the genetic code of a cell. With the aid of CRISPR technology, we can now read and write with these four substances, for cellular reprogramming, with relative precision. Thus, when it

comes to programming, DNA operates just like the computers, with the only difference being that while the latter operates in binaries, the former operates in quaternaries. The programmability of the human body has rendered the nature of human corporeality a matter of choice and design, thus rendering it more and more pliable.

As mentioned before, according to Richard Dawkins, "the individual organism is a survival machine for its genes" (Dawkins 76). The reductionist nature of this gene-centred approach to human body can be perceived in Dr. Victor Frank's experiments. He tells his wife that he has performed the experiment on "fifty dogs, six cows and one sheep" (Cook, "Mutation" 90) and goes on to say that repeating it on the zygote made from their own gametes was "just more efficient, since they have already united" (Cook, "Mutation" 95). While Marsha was staggered by this revelation, and could not fathom how he could have gone ahead with this procedure on his own progeny, Frank is shown to be completely immune to any paternal emotions in this context. This is so because he has come to view human body as nothing but a genetically programmable machine.

What Dr. Frank did was to silence the "body's natural wisdom" (Serlin 147) by taking over its control and artificially endowing it with certain desired traits. However, one cannot but notice a simultaneous deprivation of agency in this process despite the effort to enhance its capability. That is, the mutated organism (VJ here) has no say in deciding whether or not it wants the alteration made to its existence. Further, Cook points towards two possibilities in this novel regarding the use of genetic engineering in altering the human body, namely, body enhancement and body diminution, especially through VJ'S experiments. When VJ took his parents on tour of his lab, they noticed four glass tanks which were functioning as artificial wombs for gestating foetuses that were about eight months old, made from his parent's gametes. But, on closer look

Marsha was revolted, as these foetuses did not have a fully developed head, almost like the kids suffering from microcephaly, only here it was worse. “Microcephaly is a condition where a baby has a head size much smaller compared with other babies of the same age and sex” (WHO), which results in intellectual and other disabilities.

When questioned about this, VJ replied nonchalantly that he had mutated all the four foetuses by first removing the segment that Victor had added to enhance their intelligence, and then by destroying the normal NGF loci, thus making them mentally retarded. His aim was to create more individuals whose level of intelligence was similar to that of Philip, “one of the retarded persons whom Chimera had hired to work to the extent of their abilities” (Cook, “Mutation” 56). Philip, with his burly figure, broad neck and spade-like hands, toiled day and night for VJ without resisting or questioning, owing to his stunted mental growth. Thus, VJ’s aim in genetically mutating those four foetuses was to create a batch of hardworking, mentally retarded slaves for himself.

Thus, the utility based corporeal reimagining as made by VJ can take directions reminiscent of the exploitative tendencies associated with the human body as was the case with slavery. The body becomes objectified here because of the instrumentalization effected by genetic engineering through forced stultification of the mental faculties, thus facilitating an uninterrupted promise of labour. The body then becomes a tool for realising an end, and thus gets cheated out of its ontological self-sufficiency, and ceases to have an existence beyond the regime of its purpose. It also demonstrates how dehumanisation is brought about at the genetic level through deliberately induced disadvantageous mutation, and it also reminds us that genetic modification need not always be restricted to the optimisation of the human body. British philosopher Bertrand Russell provides a similar warning that “science will be used to promote the power of dominant groups, rather than to make men happy”

(Russell 1). Cook similarly points out that genetically superior beings like VJ can take advantage of the rest of the world to further their interests without any compunction.

In her thesis titled “Recycled Alterity: Familiar Dehumanisation in the Contemporary Fiction of Genetic Posthumanism”, Anaise Mary Irvine, from the University of Auckland, “rebuts the enhancement assumptions of posthumanism by representing genetic posthumans as the next unfairly exploited minority group” (Irvine 16). However, one should not take such biased stands especially with respect to the sociology of the genetically altered human body, as it can go either way, that is, they may or may not be dominant or subservient. In *Mutation*, While Dr. Frank makes VJ a superior being, VJ creates inferior foetuses as regards their intellect, thus demonstrating both possibilities.

These seemingly farfetched, yet probable prognostications of Cook regarding the possibilities of genetic engineering is continued in his novel *Chromosome 6*, published in 1997. In this novel, he explores the potentiality of genetic engineering in overcoming one of the major stumbling blocks to organ transplantation, namely histocompatibility, especially in relation to xenotransplantation. Kevin Marshall, a biotechnologist, genetically creates immunological doubles in bonobos for rich paying clients in need of organ transplantations. The major histocompatibility complex in both the genetically engineered transgenic bonobo and the concerned recipient is made out to be a perfect match, such that they are not required to take immunosuppressants even after the transplantation, using genetic engineering.

The process of xenotransplantation as discussed in the novel does raise several consequential questions regarding the violation of the somatic integrity and the telos of the animals involved. *Chromosome 6* makes a disturbing revelation regarding the future of xenotransplantation by demonstrating how medicine can make the creation and

termination of the likes of body doubles the norm by creating transgenic animals for therapeutic consumption. In the novel, while attempting at engineering immunological body doubles for the elite clients in bonobos, Kevin accidentally creates a batch of protohumans, two of whom get sacrificed for organ harvesting.

Though futurological, Cook indirectly posits the emergence of a new kind of ontological struggle, where the nature of the being and the somatic integrity can only be explained in terms of the body and its double (which will be the source of the spare parts). This involves a systematic subversion of the conception of the human corpus as an integer and embracing its newly forged duality. Such is the ontology of the organ recipients, whose corporeality is incomplete with one or more dysfunctional organs or body parts, and can only be explained in whole when coupled with the donor. British author Kazuo Ishiguro envisions such an ontology in his novel *Never Let Me Go* published in 2005. In this work he envisages a dystopian world order where it was the norm to have "purpose-bred cloned humans as ready sources of vital organs for donations" (Jstemwedel), which was a step ahead of what Cook envisioned in his transgenic bonobos.

It is important to note that the body, in the context of organ transplantation, engenders two contrasting sentiments in the recipients, namely, desire and indifference. The clients that GenSys, the biotechnology firm for which Kevin was working, had acquired were all battling for their life and were willing to pay astronomical sums for obtaining organs to prolong it. To them the organs are priceless and invaluable commodities, "and this tension between what potential donors have and what potential recipients desperately need turns organs such as hearts and kidneys into valuable and procurable 'objects of desire'" (Zwart 152).

However, when it comes to their own bodies, there can be seen a certain

amount of indifference as they are unperturbed by the fact that the organs to be implanted are that of an animal, from an altogether different species, something sacrilegious to their somatic integrity. Matthew Eatough in his article "The Time that Remains: Organ Donation, Temporal Duration, and Bildung in Kazuo Ishiguro's *Never Let Me Go*" observes that,

> "the affective self, ontologically speaking, demonstrates an indifference to the body - those organs being neither the same (they come from another body) nor different (they function as part of one's own body) – but this ontological difference absolutely depends upon the affective work of making an individual indifferent to his or her own body. (Eatough 147).

Apart from organ transplantation and genetic engineering, *Mutation* deals with another significant area of modern medicine, namely immunology, which is concerned with the study of the defense mechanisms of the body in all organisms. It has simultaneously consolidated and altered the concept of somatic integrity in modern medicine. F. M. Burnet in his book *The Integrity of the Body*, published in 1963, mentions a shift in the understanding of the concept of "integrity" of the body in medicine from being an absolute indivisible whole to an empirically observable active process involved in defending the body from extraneous intrusions through "cellular surveillance". Hub Zwart mentions how there is a subversion of this understanding of "integrity" in the following paragraph.

> Paradoxically, however, by revealing the molecular mechanisms of integrity maintenance, immunology at the same time undermined bodily integrity, namely by developing methods to bypass or repress immune responses, notably to forgo rejection of implanted organs. Thus, in the

> end, biomedicine has propagated the understanding of the human body as an aggregate of removable (replaceable) parts, rather than as an integer (inviolable, impenetrable) whole. (Zwart 155)

Once an organ or any part of the body is separated from the host, it becomes automatically isolated from its context. Once thus decontextualized, the further acknowledgement of its existence is found to be in fragments until it makes way to an alien body, where it forever becomes a foreign element, constantly faced with the possibility of rejection by the immune system. This serves as a constant reminder for the recipient as to the borrowed nature of their existence and the somatic wholeness, leading to a feeling of mental discomfort. However, Hub Zwart, in his article on organ-theft and bodily integrity, mentions that in Marquis de Sade's oeuvre, "the maxim that one may (or indeed: should) exploit (the bodies of) others for the maximisation of universal pleasure is framed as a categorical imperative", and any and all sorts of opposition against this apophthegm is shrugged off as "pathological (that is, irrational)" (Zwart 159). Though using this maxim in this context might appear to be too much of a stretch, Zwart shows the courage to put to words an unpleasant reality concerning the utilitarian approach to the body in the medical domain, as is discussed in *Chromosome 6*.

With the advent of managed healthcare, the nature of this overexploitation of the human body along with its associated conditions began to get extended from an individual to the community as a whole. Anita Peerson, in her article "Foucault and Modern Medicine", published in *Nursing Inquiry*, identified "the extension of the clinical gaze from the individual body to the wider population" (Peerson 106), as one among the several problematics pinpointed by Foucault that is plaguing the twentieth century medicine. Health care sector, now getting dominated by managed healthcare in

the form of HMOs (Health Maintenance Organisation), frame human body and communities as products for capitalist consumption.

Consider the buying or taking over of the practices from doctors by the HMOs. Essentially it means trading in the bodies and illnesses of the concerned group of patients. Both body and sickness get commodified in the process, and leads to what is now called the "assembly line medical care", a concern that Cook raises in his novel *Fatal Cure*, published in 1993. For instance, soon after settling down in Bartlet, David, the protagonist of the novel, who works as an internist with the local HMO, along with his colleagues go on a family picnic, where two of his friends complain about how "Most of the patient base had been snapped up by the CMV because of the plan's aggressive, competitive marketing" (Cook, "Fatal Cure" 112), that gave precedence to the system in place, which was meant to erase the inefficiency among the healthcare providers while simultaneously optimising productivity over the patients.

American engineer Frederick Winslow Taylor, who was one of the leading proponents of the Efficiency Movement, wrote in his monograph the *Principles of Scientific Management* published in 1911 that "in the past man has been first; in the future the system must be first" (Taylor iv), and it happens to be one of the driving principles of modern day managed health care, as can be discerned from the way David Wilson gets accosted by Charles Kelly, CMV's (Comprehensive Medical Vermont, the local HMO) regional manager, during his first utilisation review a few months after joining the hospital. Kelly expresses his dissatisfaction over the fact that the number of patients David was seeing per hour was way lesser than the mark fixed by CMV for their employees. Also, he was asked to stop sending his ill patients without appointments to the ER by the hospital CEO, since CMV did not pay for it.

Further, the rampant standardisation of the clinical interactions including the

restructuring of the treatments around the stipulations of the HMOs leads to “generic protocols for testing and treatment” (Hartzband 108). Here, one can see that the uniqueness of the human body and its conditions get consciously ignored while attempts are made to define it within the permutations of the checklists prepared by the HMOs prior to actual consultations without “recognizing the variety of clinical presentations, the reality of multiple coexisting conditions, the variability of human biology, the effects of social and cultural contexts, and the diversity of patients’ preferences regarding risk and benefit, all of which defy rigid protocols” (Hartzband 106).

When David is taken to task once again for having “irresponsibly ordered two non-CMV consults to see a hopelessly terminal patient”, and thus having incurred “unnecessary and wasteful expense” (Cook, “Fatal Cure” 161) for the hospital, Charles Kelly tells him that the concerned patient was already dying, just as everybody must at some point of time, and that “Money and other resources should not be thrown away for the sake of hopeless heroics” (Cook, “Fatal Cure”,161). This novel in a way provides an insider’s perspective on what the renowned American economist Eli Ginzberg called “the high cost of dying” in an article by the same title, published in 1980. “Various studies of medical care expenditures show, it is argued, that we spend a ‘disproportionate’ amount of our healthcare resources on patients who are terminally ill” (Scitovsky 825). However, in most cases, like David asks Charles Kelley, how can one know whether or not a test or a consult is necessary unless one orders it and sees if it’s going to help or not.

The infirm body here becomes a site of conflicting realities, and when it comes to allotting sparse resources for treatment, the body with better prognosis wins the vote. But, taking into consideration the fluid nature of the human body, where any condition

is not static and fluctuations occur in split seconds, that is, for the better or for the worse, any inflexible approach can do more harm than good. With managed healthcare, identifying the body with better prognosis before assigning resources becomes one of the ways to maintain the profit margin of the hospitals because "Healthcare is a service industry" (Kravitz 2010), and health maintenance organisations tend to structure their plans such that the human body tends to get serviced and not treated. The body that can be easily fixed and exhibits better prognosis thus ensures limited recurring treatments, and hence expenses.

What organisations like CMV does is "expropriation of health", a term used by Ivan Illich in his book *Medical Nemesis: The Expropriation of Health*, originally published in 1974. Several institutions were set up in the modernity, like the HMOs, that situated the body (at times individually, and at times in groups), to be subjected to deindividualising and totalizing "techniques of power, techniques designed to observe, analyse, measure, and manage bodies" (Hall 3), in the name of cost effective health care, within their carefully designed apparatus. In *Fatal Cure*, after losing three of his patients successively, once again David is cornered by Helen Beaton, the hospital CEO, Charles Kelley and Michael Caldwell, Bartlet's medical director, who reminds him that the system they had developed owes allegiance to the "entire community of patients", and that "Everything cannot be done to everybody. Judgement is needed in the rational use of limited resources" (Cook, "Fatal Cure" 245).

This shows how the new medical regime gives precedence to groups of bodies over individuated bodies, and a generic approach of that nature would mean a negation of uniqueness and distinctive needs of the individual bodies. In a world in which sickness has become the norm, restoring health has come to be viewed as value addition and a healthy body becomes the final product. Here, the doctor-patient relationship

turns into contracts, as is usually found in plans involving capitations, and the tendency for somatic commodification becomes fairly high. The fact is that between the old system and the new system, the pendulum swings between over-utilisation and underutilisation of medical resources, always missing a balanced approach to the treatment of the body. In other words, as Gerhardt says in his book *Ideas about Illness: An Intellectual and Political history of Medical Sociology*, published in 1989, “illness is seen as being caused by both deprivation and medical domination” (Lupton 10).

A Comparison of the four novels discussed in this chapter till now also reveals an emerging paradoxical trend in modern medicine in relation to the body. While organ transplantation and genetic engineering, which have been dealt with in the novels *Coma, Mutation* and *Chromosome 6*, represent the inclinations towards an increasingly individualised medical care involving treatment routines that are customised for the patients, managed care organisations, as mentioned in *Fatal Cure*, are characterised by non-specific and general approaches. These paradoxical line of actions towards the human body engenders conflicting subjectivities in the patients. Also, it generates a cultural anxiety in the population, which can make them wary of any and all medical interventions made into their bodies, and Cook’s novels discuss the circumstances that occasion them.

The unbidden and often unbridled intrusion of medical science into the human body is not restricted to the physical level and extends to the cognitive level. Though the Cartesian paradigm of embodiment served as the foundation for the edifice of modern medicine, the developments in neurology has come to reveal the ineluctable connection between the mind and the body. Dr. James Gordon explains the mind and body connection this way: "The brain and peripheral nervous system, the endocrine and immune systems, and indeed, all the organs of our body and all the emotional responses

we have, share a common chemical language and are constantly communicating with one another"(Smith).

Hence, the thrust given to the phenomenological approach to the human body is not merely an attempt to challenge the Cartesian model. It can be construed as an attempt at rearticulating the mind-body dichotomy, towards the development of a more inclusive and flexible notion about the human body. Thus, the twentieth century alternative found in the conceptualization of the "lived body", as was introduced by Edmund Husserl took the centre stage of the philosophical discussions. "Although the lived body can be seen ontologically as a natural body, it is always already *in* the world and ontologically different from an animalistic body that belongs to the realm of the worldless Nature" (Li 9).

The lived body can also be viewed essentially as a harmonious union of what Fuentes and others call the "psyche" and the "soma". "There is evidence of diseases of the psyche resulting in diseases of the body, and vice versa, diseases of the body resulting in diseases of the psyche, and also diseases of the psyche that cannot be allocated in the body (or brain)" (Fuentes 3). Brain is where, for the most part, the tenuous relationship between the mind and the body is processed and realised. The fact that there are substances capable of influencing the neurochemistry in order to bring about psychological changes in man bears testimony to this statement. "The distribution and functions of certain neurotransmitter substances seem to correlate with clinical, anatomical and physiological evidence about the mediation of normal and abnormal behaviours in man, though much remains to be learned" (Omenn 434).

In 1995, Robin Cook published *Acceptable Risk*, which dealt with two important issues in medicine namely, unethical human experimentation and cosmetic psychopharmacology. The time of publication of this novel is especially significant

since it happened in the wake of the publication of the bestseller *Listening to Prozac* in the year 1993, written by Peter Kramer, who coined the phrase "cosmetic psychopharmacology". Cosmetic psychopharmacology has the capacity to tweak the lived body for the better, at times even crossing over to cognitive enhancement, though at times with grievous side effects.

In the novel, a serendipitous discovery leads Edward Armstrong, a neuro-chemist to plunge headlong into research aimed at isolating a clinically effective psychotropic drug from the sclerotia of a particular fungus, morphologically resembling *Claviceps purpurea*. He is instigated by Stanton Lewis, a venture capitalist with whom he establishes a pharmaceutical company named Omni, to begin working on the new drug, Ultra. Stanton reminds Edward how the "Experience with Librium, then Valium, and now with Prozac has proved society's insatiable appetite for clinically effective psychotropic drugs" (Cook, "Acceptable Risk" 149).

Edward and Kim take conflicting positions on the use of the so called "clean psychotropic drugs". Kim, a nurse and the protagonist of the novel, is told how these drugs have little or no side effects and if at all they have any, according to Edward, they are "quite minor and certainly an acceptable risk in relation to the potential benefits" (Cook, "Acceptable Risk" 52). In the very first meeting between them, it becomes apparent that both of them are socially awkward and that Edward prefers dealing with anxiety and shyness using Prozac, something that Kim strongly disapproved of. But Edward defends himself by saying, "as a neuroscientist I now see behaviour and mood as biochemical, and I've re-evaluated my attitude toward clean psychotropic drug" (Cook, "Acceptable Risk" 51).

Here one cannot but take cognizance of how Edward's approach to using psychopharmacology to fine tune affective states in order to be more socially acceptable

results in the violation of the lived body to some extent. “The lived body is the central vehicle of our transcendence to our world” (Svenaeus 160), and as a result, “systematic alterations of the physiological organism ... brought about by pharmaceuticals, ... could alter the attunement of a person and thus the person’s being-in-the-world as well” (Svenaeus 161). It is the basic human tendency to aspire to be the best version of themselves or to outdo oneself, which justifies Edward’s inclination to resort to pills for the same. However, Kim dissuades him by saying that “Personality is supposed to come from experience not chemistry” (Cook, “Acceptable Risk” 287). Edward nevertheless is not convinced and the following paragraph shows how he is blinded by the potential benefits of the drug he was developing.

> “Just think about it” Edward said. “Remember that discussion we had a long time ago about not feeling socially connected? Well, you won’t feel that way with Ultra. I’ve been on it for less than a week, and it’s allowed the real me to emerge; the person that I’ve wanted to be. I think you should try it. What do you have to lose? (Cook, “Acceptable Risk” 287)

Peter Kramer, in *Listening to Prozac* mentions how “Prozac exerts influence not only in its interaction with individual patients, but through its effect on contemporary thought.” (Kramer 300). Similarly, Kim mentions in the novel how the Big Pharma has managed to lead astray the modern society through the promise of quick and easy solutions, thus influencing their mentality by drumming into them the idea that “there is a pill for every problem” (Cook, “Acceptable Risk” 51).

When scientists like Edward provide scientific and empirical evidence for the same, the process of normativisation of this trend gets catalysed and legitimised at the same time. Psychiatric nosology is rarely distinctive with no rigid boundaries and the drug manufacturers, like Stanton Lewis, exploit this “biological pliability of human

nature" (Kheriaty 1). This attitude towards the lived body proceeds along the course of dehumanisation, since here self-introspection, an essential human trait, is relegated to the level of an unnecessary mental process, because the solution to the different mental/emotional crises is obtained effortlessly, via the pills that are easily available in the market. It was self-introspection alone that stopped Kim from taking the pills that Edward offered her, thus stopping herself from betraying her lived body, despite his urging to the contrary.

According to the American physician and intellectual Leon Kass, as quoted by Aaron Kheriaty in his paper, "Cosmetic Drugs for Mental Makeovers: Antidepressants and Our Discontents", we need "to find ways to preserve it (the lived body) from the soft dehumanization of well-meaning but hubristic biotechnical 'recreationism' – and to do it without undermining biomedical science or rejecting its genuine contributions to human welfare" (Kass 7). Thus, a close reading of Kass's words reveal that his position on psychopharmacology is not along the lines of "pharmacological Calvinism", a term coined by the American psychiatrist Gerald L. Klerman, in the year 1972 in his paper "Psychotropic Hedonism vs Pharmacological Calvinism". "The pharmacological Calvinist view involves a general distrust of drugs used for nontherapeutic purposes and a conviction that if a drug "makes you feel good, it must be morally bad" (Klerman 3). While Edward Armstrong, a research scientist, and Kimberly Stewart, a nurse practitioner and the former's love interest, epitomises these conflicting extremes in the novel *Acceptable Risk*, the narrative per se underscores the importance of taking a neutral path in order to preserve the sanctity of the lived body.

Also, it is vital that the uniqueness of the lived body be preserved, for that is what determines the individuality of every person, with their idiosyncrasies and quirks. For example, when Kim met Edward's colleagues Curt Neuman, Francois Leroux,

Gloria Hererra and David Hirsh for the first time, she was struck by their distinguishing personalities despite their common area of work. However, after they started taking Ultra on an experimental basis, she found that "their personalities had become blended into an amiable but bland whole that shrouded their individuality" (Cook. "Acceptable Risk" 297). The concept of the "lived body" was the solution offered by phenomenology to the problem of mechanistic approach to the human body, especially in medicine, and risking it in any way would mean depriving the healthcare sector of the only other acceptable alternative to the reductive construction of the human body in this domain along the lines of Cartesian dualism.

Frederik Svenaeus came up with a phenomenological approach to better understand the effects of the antidepressants on the self of individuals. He specifically was speaking about the SSRIs or the Selective Serotonin-Reuptake Inhibitors like Prozac. The off-target benefits of this drug apart from its pharmacological purpose, was one of the main reasons considered to be the cause for its wide popularity among the people. Here he elaborates on the demarcation between the human body as perceived by the individual himself or herself, and by the others, which was a primary concern for Husserl and his supporters. They called the former the *Leib* and the latter the *Korper*. Within the preserve of medicine, a doctor engages with the *Korper* of the patient, and views it as an animated thing. It is only for the patient that *Korper* becomes the *Leib*. He writes, "As this basic form of subjectivity, however, it still retains a certain thing-like quality. It offers resistance to my doings and maintains autonomic functions that I do not control; above all, it is something that I myself can objectify" (Svenaeus 160). This is partly the reason why all of the researchers in *Acceptable risk* were able to objectively approach their *Leib* while making themselves voluntary test subjects for their experiments.

When Kim expresses her reservations against the increased dependence on drugs to acquire desirable characteristics and to be more socially acceptable while enhancing their productivity to Edward, he responds by saying that,

> … it's clear to me that undesirable character traits, like in my case my shyness, can become entrenched by experience. Prozac, to an extent, and now Ultra, to a greater extent, have unlocked the real me, the person whose personality had been submerged by an unfortunate series of life experiences that made me the socially awkward person I'd become. My personality right now hasn't been invented by Ultra and isn't fake. My current personality has been allowed to emerge despite a haze of facilitated neural responses that I'd call a "bum network". (Cook, "Acceptable Risk" 323)

Here the *Korper* is chemically altered to better and enhance the *Leib*. It involves artificial tweaking of the ways in which the lived body tunes itself to the outer world so as to be receptive to the whole spectrum of moods, behaviours and emotions. Edward tells Kim how being a neuroscientist, he essentially views "behaviour and mood as biochemical" (Cook, "Acceptable Risk" 51). However, Svenaeus provides a phenomenological explanation for this using Fuchs' conception of "bodily resonance". In case of disorders, the "lived body" tunes into only select undesirable tones from their surroundings. According to him,

> This scheme would allow us to imagine a spectrum, featuring, at one extreme, the normal resonance of the lived body, in which the body is able to receive a full range of moods; in the middle, personal preferences and idiosyncrasies, through which certain moods are favoured over others (for instance, in the melancholic or joyful person); and, at the

> other extreme, the cases we would label pathologies, in which the body is severely out of tune, or even devoid of resonance. (Svenaeus 160)

Kim and Edward belonged to the middle part of the spectrum since both of them had their fair share of quirks, which made them unique in their own ways. Edward chose chemical interference to overcome certain traits which he felt were undesirable, thus opening up himself to a whole range of emotions and moods inaccessible to him on a normal basis. Cook suggests the idea that some people who experience the inability to control their emotions and moods despite their desire to efficiently manage them tend to consider themselves occupying the realm of borderline psychopathology, and then resort to medications, like Edward, to feel more normal. Cook points out how the possibility of self-improvement urges at least some people, especially the professionals in highly demanding professions, to place their lived body in the extreme end of the pathological spectrum to justify the use of drugs. Edward is said to have taken Prozac, in the beginning of the novel, to overcome his social anxiety. At times this results in unwanted medicalisation of certain states of the lived body. The scope for betterment can thus result in the fallacious interpretation of the normal as abnormal.

Towards the end of this chapter it has thus become clear that an unambiguous cognizance of the heterogeneous conceptualisations of the human body is of paramount importance in any human speciality. This is especially so in the clinical settings, where the nature of any form of medical intervention is guided and directed by the position of the subject in relation to the other (the healthcare provider). “From this understanding of the human body, both phenomenology and psychoanalysis confirm that the *biologicist* understanding of the body, presumed by all psychological and medical practices, is insufficient” (Fuentes 1), and this chapter is, among other things, basically an attempt at proving the same while emphasising on the need for the health care

professionals to better understand the multiplicity of meanings that the human body generates, and how it can have a direct bearing on their engagements with the same.

Also, it is interesting to note how the modern medical culture is mostly characterised by the tendency to view the concept of bodily unity or wholeness in terms of its materiality. But the fact is that it also "involves an immaterial supplement, an absent presence, which both completes and leaves open the body-as-conception" (Ross 5). Further, a lot of how body is perceived within medicine depends to a large extent on the perspectives of the healthcare professionals, and hence, any study on human body becomes incomplete without mentioning them. The next chapter is a study of the realities of the medical profession by digging deep into the larger than life image attributed to the doctors based on the characters etched in the selected works of Robin Cook, to reveal how they at times end up becoming both the victims and accomplices of a profit-oriented system in place.

Chapter 4

Doctors Without Halos

People of medicine as characters in the extant narratives from the past reveal the story of the evolution of medicine, and how it has come to shape our perspectives. Esther H. Vincent writes how the art of healing, shrouded by the veils of enigma, coupled with immoderate and unfounded belief and veneration of the supernatural, made the men and women of medicine, in days of yore, to find expression in ballads, songs and stories as necromancers, witches, sorcerers, warlocks, etc., in league with other diabolical creatures, and at times even with Satan himself. “Arabian alchemy, introduced into Europe about 1300 A.D., fostered this idea, and by the time of the Reformation any skill in chemistry was attributed to a compact with the Evil One” (Vincent 220). Fitzharris quotes the British historian Herbert Butterfield in her thesis, “Magic, Mysticism, and Modern Medicine: The influence of alchemy on seventeenth-century England”, as reproving the position of alchemy and its practitioners in modern medicine by mentioning how “they seem to become tinctured with the kind of lunacy they set out to describe” (Butterfield 141).

The sixteenth century writers, including Shakespeare and Marlowe, let know through their works that the then society did not hold the sawbones in high esteem because of their dubious claims and actions, despite the empirically provable anatomical revelations of the Flemish anatomist Andreas Vesalius in his *De humani corporis fabrica* (On the Fabric of the Human Body), published in 1543, and the contributions of English physician William Harvey in detailing the systemic circulation in humans, which had increased the credibility of the science of medicine, to name a few. For instance, “In *Macbeth* the English doctor believes in witchcraft and the Scottish doctor admits his inability to cure Lady Macbeth’s somnambulism, as he states,

'This disease is beyond my practice'" (Riva 1). The formidable combination of an alchemist and black magician found embodiment in the character of Dr. Faustus, conceived by Christopher Marlowe in the year 1589 in his tragedy, *The Tragical History of the Life and Death of Doctor Faustus*, in which the titular character sells his soul to the devil in exchange for twenty-four years' worth of servitude of Mephistopheles, who could realise all his desires. The general consensus of the age regarding the doctors echoes in the words of the English philosopher Thomas Hobbes, "who concluded that he would 'rather have the advice or take the physic from an experienced old woman that had been at many sick people's bedsides, than from the learnedst but unexperienced physician'" (Ehrenreich 16).

As the years rolled by, physicians continued falling out of favour with the public, since a majority of them continued to be arrant knaves, who short-changed the sick and the infirm, and the writers of the fiction represented them as such in their works. The all too frequent caricaturisation of the physicians in literature continued well into the eighteenth century. According to Vincent, a popular example was Lawrence Sterne's *Tristram Shandy*, published in the year 1760, in which the author introduced to his readers, a sloppy, choleric, European educated, yet ignorant doctor named Slop. His inadvertent damaging of baby Tristram's nose using the forceps during delivery, the subsequent performance of a rudimentary rhinoplasty and his inexplicable leaning towards breech birth were very much in keeping with the gynaecological blunders of that time. Though Sterne's idea was to create a harmless satire, it ended up setting the style for the caricaturisation of the medicos in the subsequent novels, while demeaning obstetrics to the level of a joke despite its importance.

The notoriety associated with medicine began to wane very gradually towards the beginning of the nineteenth century, in the light of various medical advancements

like Jenner's smallpox vaccination method, the discovery of the analgesic property of nitrous oxide by Humphry Davy and the invention of stethoscope by Rene Laennec, to name a few. However, the Burke and Hare murders committed over a span of about a year in Edinburgh, along with the stories of body snatching and grave robbing that were being circulated once again cast a shadow of distrust and widespread odium on this discipline. This ghoulish affair that marred the landscape of the nineteenth century medicine dragged the emerging field back by several years, especially in terms of the societal acceptance of its legitimate practices. In addition, the publication of novels like Mary Shelly's *Frankenstein; or, The Modern Prometheus*, in the year 1818, did little to assuage the obloquy surrounding it. The novel told the story of a young medical scientist, who in his laboratory, collected and stitched together human body parts, and finally brings into being a sentient, yet hideous humanoid after having mastered the secret of animation. The monster's words directed at his creator, "How dare you sport thus with life?" (Shelley 139) resounded a warning meant for the medical community and people at large.

The appearance of competent and efficient doctors, as models of rectitude, hither and yon, in the literary writings of the age began to happen parallelly with the passage of the Reform Bill and the Anatomy Act of 1832 in the United Kingdom. Such a corrective representation of the profession can be seen in the works of novelists like Honoré de Balzac. His Dr. Benassis, from *The Country Doctor*, published in 1833, is shown to be an epitome of altruism, who extends his professional expertise from individuals to the community at large through public health measures. Especially interesting is his take on cretinism, which he calls "mental and physical contagion" (Balzac 35), thus revealing the gaps in the understanding of various medical conditions at that time. Another equally popular novel, that presented the developing area of

transfusion medicine in the context of gothic horror, was Bram Stoker's *Dracula*, published in 1897, which provides a brief glance into the history of blood transfusion. To save Lucy from dying of exsanguination, doctor Abraham Van Helsing subjects her to blood transfusion which was considered to be a risky undertaking then, since it was before the discovery of blood group crossmatching by Karl Landsteiner. The novel shows how doctors were unaware of the causes of adverse reactions like agglutination associated with it.

The déclassé physician-scientist in George Eliot's *Middlemarch, A Study of Provincial Life* published between 1871 and 1872, is shown to have been interested in Marie François Xavier Bichat's research on histology. Andrew Manson, the idealistic rookie doctor from A. J. Cronin's *Citadel* (1937) criticises the hide-bound medical culture, and all its egregiousness, while finding his way back to his values and principles that he had traded for money, fame and comfort, while discussing about several contentious issues surrounding medical ethics. In the novel *Magic Mountain* (1924), Thomas Mann fashions two characters, Dr. Behrens and Dr. Krokowski, with misplaced professional priorities. "He describes the conflict of interest that the physicians of the tuberculosis sanatorium face, and he studies and illuminates the doctor-patient relationship in light of the irreconcilable pressures of economics and patient welfare" (Justin 138).

Towards the twentieth century, bad medicine, as portrayed in literature, was not completely attributed to evil doctors, and the writers had begun to take cognizance of the failure of the whole of the medical system. Gradually, the authors of both fiction and non-fiction interested in medicine reoriented their approach to throw the spotlight on the medical establishment, and attempts were made to delineate how the healthcare professionals are brought under its sway, at times even forcefully, within the literary

narratives, as in the actual world. Since the medical establishment is a juggernaut in itself, looking for chinks and gremlins in its machinery would have been a Herculean task for the writers. Seeing that the flaws of the system and its effects are perceived and experienced more palpably through the healthcare professionals, whose performance space is where the after-effects of its malfunctioning eventually surface and become easily perceivable, it was found to be easier to study them for flaws, and then trace it back to the exact causative factor within the system.

Also, as the points of contact between the sick and the medical establishment, doctors are the ones who ultimately pull the trigger and make all the difference, and thus make for excellent characters within popular genres like the thrillers. They add to the element of enigma and provide apposite materials for kindling a sense of suspense, thrill and fear in the readers. Further, the carefully crafted literary works with the potential to function to this end can make the healthcare professionals deliberate on the hot-button issues in the world of medicine and medical research, by sidestepping any and all sorts of sanctimonious representations within the arresting fictional narrative. This can aid in adopting a critical view of the norms and tendencies within the realm of medicine, and thus encourage them to indulge in a healthy interrogation of this institution, of which they are an inevitable part themselves.

This chapter intends to study the leading physician characters in the select thrillers of Robin Cook like *Coma*, *Fatal Cure*, *Harmful Intent* and *Mindbend*, to better understand how the system in place influences this profession, how far the autonomy of the healthcare practitioners get curtailed under the new milieu of market economy in medicine, and what its repercussions are on their mental health and professional competence. A fictionalised rendering of these concerns offers a better scope for deliberation considering how the verbally simulated medical settings afford the freedom

from real world accountability, which can otherwise have a restricting effect on the imagination of the professionals. The contextualised representations in these works can reveal the nuances of this vocation in relation to the effects it can have on the beneficiaries. The non-idealised representations of the fallible physicians in the medical thrillers also expose how they have unwittingly come to imbibe several unacceptable practices in the name of established conventions in medicine.

For discerning medical students and professionals, these fictional characters have way more to offer than a gripping entertaining story that can arrest their attention. The medical thrillers provide them with as much of panoptic view as possible of the medical world and the professionals, and then situate the likes of them in the fictional characters within the ORs, the outpatient rooms, the research labs, etc., while simultaneously showing them what lead to certain decisions in situations that may appear irresolvable or where one has to choose between the lesser evil, along with the determinants that effected it, and the resultant outcomes such that unbiased judgements can be made about their vocations, and enable them to weigh the pros and cons of their actions, and perhaps even come up with better alternatives to some of the normative yet ineffectual practices. As readers they become distant spectators of events that they have been or will be a part of, which comprises a system that is broken, and because being too close to it they often miss their role in contributing to its breakdown. The bigger and broader picture offered by the thrillers always provide a better clarity of vision, and the details assume distinctiveness, and do not melt into a continuum, which makes it easier to objectively analyse the facts than in real life situations, where the proximity blurs the finer aspects.

Critics of Cook's thrillers have often accused him of fashioning his characters as flat, without dwelling deep into their emotions or developing layers to their persona.

This is so because, unlike the conventional novels, thrillers are issue driven and in order to keep up the element of suspense, the author has to dispense with any and all sort of distractions and unwanted informations, that doesn't contribute directly to its fast-paced plot. However, this does not mean that these fictional professionals do not merit academic investigation, because they are endowed with, if not all, most requisite professional details and a realistic portrayal, making them worthy of consideration within the realm of medical humanities. As mentioned in the first chapter, the imaginary medical scenarios and experts contrived in the narratives can prime the budding medicos for what is going to happen in the actual world of clinical medicine. For professionals, the pages of the thrillers mostly end up holding a mirror to their faces, while revealing the ever present yet unnoticed flaws in their workspace, especially in relation to the connection between the doctors, the patients and the system in place that brings them together.

Though the relationship between a doctor and a patient is confined to curing illnesses within the four walls of the hospital, it is observed that these engagements leave a lasting impression within the minds of the healed. The nature of such perceptions has to be given due importance since it can determine the course of the future interactions between them. Depending on the outcomes of the prior exchanges, they might begin to associate the doctors with a sense of safety and trust, or, if the experiences had proven to be traumatic, with insecurity and wariness. Somatic illnesses have a direct bearing on the psyche of the ill, and the one to cure them of this also cures their mental agony, which is partly engendered by the physical suffering. Hence, the effect of a doctor's intervention during those moments of intense physical and mental vulnerability extends beyond the body to their psyche, thus underscoring the importance of intersubjectivity associated with clinical medicine.

In the prologue to Cook's *Coma*, Nancy Greenly is brought into the ER (Emergency Room) following an acute case of menorrhagia and made to wait for her doctor in the not-so-modest hospital johnny, while bleeding conspicuously. Despite her flayed self-respect, amidst the hustle and bustle of the hospital, when she spots her gynaecologist, she feels at ease. It says in the prologue how, "She had always detested the routine vaginal exams to which she had submitted and had associated the face, the bearing, and the smell of Dr. Major with them. But when he appeared in the emergency room, she felt glad to see him, to the point of suppressing tears" (Cook, "Coma" 9). One of the ways by which doctors win the confidence of their patients is by gradually ensuring their complicity in structuring meanings surrounding their mutual interactions, even if it proffers uneasy experiences for the patients. This process involves intersubjectivity, where there is a shared perception of meanings. When Nancy meets Dr. Major in the ER, the cognitive connection between them comes into play and she is relieved by his presence. Here the doctor influences the patient's thought process to elicit the desired amount of trust to go ahead with the examination process.

The question is, what does the patient get in return for reposing such an implicit trust in her doctor, or how does the trust of the patient affect a clinician's response to a medical situation involving them. More often than not, it is seen that the former is taken for granted by the latter, and their autonomy is underwritten. Also, because of the lack of the specialised knowledge, the opinions of the patients do not hold much sway as far as deciding their treatments are concerned, and at times their trust even lead to a patronizing attitude among the specialists. For instance, while explaining what to expect during the induction procedure, Dr. Major praises the anaesthesiologist Dr. Billing, and talks down to Miss Greenly, saying that she is a "lucky girl" to have had him scrub in for her procedure. "Dr. Major called all his patients "girls" no matter what age they

were. It was one of those condescending mannerisms he had adopted unquestioningly from his older partner" (Cook, "Coma" 12).

Ranjana Srivastava, the award-winning Australian Fulbright scholar, author and oncologist, in an article written online for *The Guardian*, mentions why it is important that the doctors eschew this deplorable practice by sharing a vignette from her own professional life. A middle aged lady patient of hers, a successful business woman and a mother of five, who had reconciled with the fact that cancer was gnawing at her life, mentioned her main source of agony to be the doctors, who were more involved in her life now than her own kith and kins, thinking of her as incompetent and dumb. This innocuous comment of hers was in fact an indictment of the entire medical community on charges of an unwitting oversight born out of a sense of entitlement afforded by the mastery over the inaccessible medical knowledge, and the power drawn out of its practice. This can be discerned from the scene in the novel, where while watching Nancy slip into the anaesthesia - induced stupor, the resident anaesthesiologist Dr. Billing is shown to be experiencing a sense of triumph. "...it made him feel powerful; it was as if he had command of the patient's brain" (Cook, "Coma"14).

However, it is noticed that no amount of power drawn out of the medical wisdom can protect any surgeon from the pressure and tension in a surgery, no matter how uncomplicated its nature. Even the most seasoned of the surgeons are bound to experience some amount of stress since the stakes are pretty high. Cook provides a very graphic representation of the insides of the operating room as a volatile space, where two or more physicians share the responsibility of the life of a single patient during the procedure. Here Dr. Major and Dr. Billing work with each other on Nancy Greenly's D and C (Dilation and Curettage), a relatively simple procedure. As Dr. Major was

nearing the inflection point of his surgery, beyond which the outcome becomes predictable, he is stopped by Dr. Billing after noticing an unanticipated sagging of blood pressure. The following conversation between them reveals how the slightest of nudges can trigger aggravation among the surgeons.

> "What is the pressure?" asked Dr. Major. "Ninety over sixty, with a pulse of sixty," said Dr. Billing, taking the stethoscope from his ears and rechecking the flow valves on the anaesthesia machine. "What the hell is wrong with that, for Christ's sake?" snapped Dr. Major, showing some early surgical irritation. (Cook, "Coma" 16)

Prior to the description of this surgery in the novel, it is revealed how the doctor's autonomy is inversely proportional to that of the patient's within the OR. "I'm not sure I want to go through with this" (Cook, "Coma" 13), said Miss Greenly to her anaesthesiologist, thus using her autonomy to express her trepidation and unease about the operation. "'Everything is just fine' said Dr. Billing in an artificially concerned tone of voice, while checking off number 18 on his list" (Cook, "Coma"13). Before putting her at ease mentally, he anaesthetises her and goes ahead with the preoperative rituals because a conscious patient can be an impediment when it comes to discussing and finalizing the strategies of the surgical procedure. However, in the process, Dr. Billing has conveniently sidestepped an important aspect of pre-operative patient care, which involves catering to their individualised needs, both emotional and physical, including helping them in abating their anxiety.

But, once they are out cold, there is full autonomy for the doctors to finally give precedence to the patient's body over their psyche, and even to make jokes about it as a defence mechanism. Jokes help trivialize the gravity of the performance, and provide the performers with an emotional buffering that is quite often accompanied by

depersonalisation of the patient. "'Well, her colour is fantastic. Down here, she's as red as a cherry', said Dr. Major, laughing at his own joke." (Cook, "Coma" 17). Dr. Major choses to make light, thus, of a concern raised by Dr. Billing regarding Nancy's irregular pulse by joking about the colour of her blood, because this inconsistency threatened to restrict his autonomy and made him feel powerless to not to feel in control, and cracking a joke on this observation was his way of making light of this issue, also his coping mechanism.

Depersonalisation is effectuated in patient care by an imbalance created between the cognition of objectivity required during the time of diagnosis and determining the treatment regime, and directing the apposite affective response to the suffering embodied subject, in the form of sympathy, and at times even empathy. This imbalance is instilled in the physicians early on their career by their own mentors during their clinical training. Desensitisation of the professionals and the tendency to depersonalise the patients is also effected by the gruelling demands of the profession. For an absolute greenhorn like Susan, a third-year medical student, being introduced to the comatose patient, Nancy Greenly, was a strong trigger that brought her visceral fears to the surface. "Without the aid of an extensive clinical experience, Susan was instantly lost in the human element. The age and sex similarity struck too close to home for her to avoid the identification" (Cook, "Coma" 52).

However, the same patient evokes no similar emotions in Mark Bellows, an intermediate resident at Boston Memorial Hospital. After having been subjected to years of rarefied and harrowing conditions of training in the medical school, he had developed enough emotional resilience that now bordered on numbness in the face of such clinical scenarios. To him, maintaining her homeostasis was the primary concern. Physicians at different points of time in history have played around with the idea of a

perfectly healthy body by trying to explain how it is rendered unhealthy in terms of disturbances to its inner stability. But For modern physicians, homeostasis has come to mean something altogether different, especially in the context of brain death or clinical death. In *Coma*, the approaches of the seasoned clinicians towards the condition of Nancy Greenly raises questions in Susan's mind, and in turn in the readers, regarding the appropriate care that these individuals are deserving of.

Another important question it raises is, where does it put the care givers, and is it worthwhile to spend their precious working hours and scarce resources on an assemblage of still living hierarchy of cells, tissues and organs, which cannot function as a unified self-sustaining whole without external help. Repeated interactions with demanding scenarios like this, which does not yield much professional satisfaction because of the fixed outcome, that is, the continued vegetative state of the patient, can make one increasingly aware of its futility. Hence, "It was not that Bellows didn't care about the human element, it was just that he didn't have time for it. Besides, the sheer number of cases that he had been and was involved with provided a cushion or a numbness associated with anything done repeatedly" (Cook, "Coma" 53).

Unlike Susan, Bellows could not personally relate to Miss Greenly's plight, for the above-mentioned reason. Also, he had completely failed to realise that Susan was going through the emotional trauma associated with a medical student's introduction to early clinical triggers to emotional susceptibility. "He did not want Nancy Greenly to die while she was on his service because if she did, it would reflect on the kind of care he was capable of providing. .." (Cook, "Coma" 53). Bellows' only concern came down to demonstrating his professional competence to his seniors, while Susan was lost in the human element in this case which affected her to the point of distraction. Susan, though a medical student, is as yet uninitiated because of the lack of adequate clinical

experience, and as a result is still keenly aware of the needs of the laity, who seek sympathy and empathy from their doctors.

Though medical preceptors do recognise the importance of these emotions in clinical medicine, while endeavouring to develop sympathy and empathy into dependable vocational skills, doctors redefine them to mean that, which goes hand in hand with the established professional tendencies. In her article "What is Clinical Empathy?", Jodi Halpern observes how, beyond the realm of medicine, empathy is understood as involving a certain amount of affective resonance, as opposed to which, hardened medical educators define it in ways that are consistent with the widespread emotional detachment in the domain. Empathy involves letting one's guard down and allowing yourself to be affected by another individual's experience. Even so, Halpern points out how Markakis K. et al., in a paper presented at the Annual Meeting of the Society of General Internal Medicine at San Francisco in 1999, interprets empathy as the ability to accurately discern the emotional state of a sufferer without letting oneself go through it personally, thus protecting their objectivity, that is, something along the lines of detached concern.

Wendy Cadge and Clare Hammonds mention how the concept of "detached concern", as was advanced in the book *Experiment Perilous* in 1959 by Renée Fox, is being employed by writers in ways unintended by the author, in their article "Reconsidering Detached Concern: the case of intensive-care nurses". They propose that, detachment and concern were intended to be viewed as dual entities and not as dichotomies where one is given primacy over the other. However, for the sake of convenience, her proposition has come to be misconstrued by underscoring the importance of detachment over concern among the doctors.

Sir William Osler presented a different perspective, and cherished the quality of

imperturbability in doctors. The insignia of The Johns Hopkins Department of Medicine has the word "Aequanimitas" inscribed on it, which means "imperturbability", a trait Osler placed alongside altruism as important in physicians. To him it meant the ability to think on one's feet, and to be calm and composed in moments of crisis.

> This poker-faced composure, he claims, is essential to instill confidence in impressionable or frightened patients. Imperturbability is in part acquired through experience and a thorough knowledge of medicine. With these in hand, 'no eventuality can disturb the mental equilibrium of the physician. (Sokol 1049)

This Oslerian notion had been assimilated into the scheme of medical training since the nineteenth century, and is evidenced by the conduct of Dr. Major, Dr. Billing and Dr. Mark Bellows, who represent the modern men/women of medicine in *Coma*. However, the line that separates clinical detachment and callousness is very tenuous, and it takes barely a second for the professionals to cross the line. Bellows' objectivity turns into insensitivity while talking with Susan about Miss Greenly. "'Look,' said Bellows ... 'If her squash is gone, I mean wiped out, then we might as well get the kidneys for someone else, provided of course, we can talk the family into it'" (Cook, "Coma" 56). Though the indifference is not explicit, it reflects in his diction, which is one among the several ways in which it surfaces unconsciously in clinical medicine. Also, Susan was a student hanging on to his words and not an experienced colleague, who would have understood the nobility of his intention without getting disturbed by the tone of his statement. Mark was supposed to be a responsible preceptor, and he had failed to comply with the proper bedside manners, and thus ends up setting a bad example for his students.

Despite the fact that "To Do No Harm" is one of the cardinal principles of the

oath taken by the doctors, several treatment procedures like the act of surgery, the orthopaedics setting the bones or correcting the deformities, a dentist performing tooth extraction for teeth alignment, to name a few, involves inflicting pain on the patients as a part of their treatment plans. This gives rise to a unique situation involving both moral and emotional disengagement on the part of the doctors, which cause them to dissociate themselves from the diseased, such that deliberately inflicting suffering on another individual - an action that would under regular circumstances be thought of as abhorrent – could be considered acceptable. Taking organs from the brain-dead individuals, to save the lives of those with better chances of survival, also represents a similar extenuating circumstance. However, doctors per se are not immune to the emotional ravages, and must fortify themselves to carry on with their emotionally demanding job without revealing their vulnerability to the patients, and in this endeavour, they might come across as hard-hearted or indifferent.

The effect it has on the patients becomes somewhat evident from the conversation between an inpatient, Sean Berman, and Susan. When Susan unconsciously rambles on about her difficulties with professional adjustment, Berman says, “You cannot guess how reassuring it is to me to hear you talk like a human being in this place ... everybody is so goddamn matter-of-fact” (Cook, “Coma” 65). He mentions how he finds the hospital jhonny humiliating and the whole milieu of the place to be depersonalized. The medical paraphernalia that has increasingly begun to replace human contact with patients, have also contributed their fair share in making the medical profession more and more automatic and impersonal. For instance, when Susan enters the ICU, “she was struck by the purely mechanical appearance, the lack of human voices, even the lack of movement save for the fluorescent blips tracing their incessant patterns” (Cook, “Coma” 71).

Bergbom et al., in their article “Patient Clothing - Practical Solutions or Means of Imposing Anonymity?” examines how something as insignificant as the hospital clothing play a significant role in determining the power paradigms in the clinical contexts. They manage to bring about uniformity in patients and provide a foundation for even-handed treatment extended to them. The prescribed clothing also makes possible for the doctors to exercise control within the hospitals, since it facilitates easy identification of different groups of people. A person’s choice of clothing speaks a lot about his/her persona and identity, while contributing to their self-worth and self-confidence. However, wearing the hospital jhonny can strip them off their distinctiveness to a great extent by creating an appearance of homogeneity.

“Clothes and clothing must also be understood in terms of bodies that take refuge in the clothing, which gives them life, for which reason clothing cannot be separated from the human body. Clothes are an extension of the body, directly linked to the physical core, where individuals take ownership of their clothing” (Bergbom), and consequently their body. Hospital johnnies tend to attribute anonymity to the patients, and prevents doctors from experiencing the individual beyond the immediate sick patient they see in the regular hospital gowns. This makes a clinician an unwitting accomplice in impairing the agency and individuality of the patient, coupled with the other deindividuating tendencies that have been discussed in the previous chapter.

According to Peaboy, the ineffectiveness witnessed in patient care happens because of the inability of the physicians to strike a balance between treating the disease and caring for the patient. Hospitals with all their associated paraphernalia provide the ideal environment for the treatment of the patients. Having said, that one should not forget how, within the confines of the hospital, the patient experiences an acute sense of dislocation and unfamiliarity. For the patient care to be effective it is vital that the sick

be made to feel comfortable enough to make an active contribution to the same, while establishing a personal relationship with their doctor. The biggest challenge to this is the time intensive nature of these interactions. With the interference of third parties in the form of HMOs (Health Maintenance Organisations), the consultations have begun to follow an assembly line approach, thus putting the quality of clinical medicine in jeopardy.

David Wilson, the protagonist of Cook's novel *Fatal Cure*, published in 1993, realises this the hard way after joining the Bartlet Community Hospital as a CMV (Comprehensive Medical Vermont) physician. CMV was the Health Maintenance Organisation operating in that area, and the one with which the Bartlet Community Hospital, David's employer, had the tie-up with. Managed Healthcare operates similar to health insurance where the people pay a certain fixed amount of money as premium, per month, to the HMOs, and they in turn pay a fixed amount of money to either the doctors or the hospitals per patient for the same duration of time to cover several medical services provided by them. However, the members are required to visit only those hospitals and doctors who work with the managed care organisations, thus limiting their choice.

When David goes to meet Charles Kelley, CMV's regional manager, he boasts about how they have managed to sign up "the coat-hanger mill, the college, the computer software company, as well as all the state and municipal employees" (Cook, "Fatal Cure" 38). David could not help pointing out how this sounded more like a monopoly of healthcare, to which Kelly responded by saying that their success was more on account of their "dedication to quality care and cost control" (Cook, "Fatal Cure" 39). Cook however discusses in detail how most people, especially the ones with chronic diseases, get short-changed by the plans offered as a part of managed medical

care. Also, the hands of the clinicians are tied because of the emphasis on underutilisation of resources and the burgeoning number of patients. David had an inkling of what to expect when he was introduced to Dr. Randall Portland, the orthopaedic surgeon, with whom he was to share his office. Dr. Portland though youthful, appeared strained to David, and rightly so because with such a large patient base, they were short of orthopaedic surgeons, and the ones they employed were overworked.

After a month, when David met Dr. Portland again, "It took David a moment to recognize Dr. Portland ... He'd lost considerable weight; his eyes seemed sunken, even haunted, and his cheeks were gaunt" (Cook, "Fatal Cure" 74) It was obvious from his demeanour that he was very depressed and suffering from burnout. Similar observation was also made by Traynor, the chairman of the hospital board, who could "understand how doctors might become emotionally involved in their patient's conditions, but Portland seemed unhinged" (Cook, "Fatal Cure" 82). Cook elaborates the toll this profession takes on medical practitioners, especially the ones who get genuinely involved with their patients. The scene where Dr. Portland confess to his wife about his depression and the inability to sleep is especially revealing. Dr. Portland mentions to his better half how he had not lost even a single patient during his residency, and now he had three post-surgical complications leading to death consecutively.

On the first day of his work, David is joined by Dr. Kevin Yansen, an ophthalmologist instead of Dr. Portland, and on enquiring about his whereabouts it is revealed that he committed suicide by shooting himself in the head in his consultation room in the hospital. When David responds to this news by saying "Boy, you never know" (Cook, "Fatal Cure" 99), Cook reveals a serious lacuna in the medical establishment with regard to identifying and resolving the occupational hazards like

depression, substance abuse, suicidal ideation, etc. among the doctors, that push these professionals over the edge, and force them to take drastic steps like suicide. Even when David makes that remark, it is apparent to the readers that Dr. Portland's deteriorating mental condition was out there for everyone to see including David himself, yet, they chose to ignore it. This is a dangerous trend that has claimed the lives of several gifted doctors in the real world, as in the novel. The fact is that, "Throughout time and across the world, doctors have always had higher rates of suicide compared with the general population and with other professional groups" (Gerada 168).

Through doctor Portland's character, Cook tries to get across to the readers (including the professionals) a salutary lesson that doctors are also humans, and that they are not invincible. It is crucial that like the patients, doctors also realise the importance of accepting their limitations, and seek help when in distress, physically or mentally. The themes in Cook's novels indicate that, "... physicians can experience very strong and lasting emotional reactions to some patient deaths, and also that patient death can elicit intense experiences related to professional responsibility and competence" (Whitehead 271). It is only after David starts his practice as a CMV physician that he becomes acquainted with the demands made of a physician working with the managed healthcare organisations, and finds it difficult to strike a balance between professional and personal responses directed towards his patients, especially after they began to die for inexplicable reasons.

His first patient was a thirty-nine-year-old woman named Marjorie Kleber, who was diagnosed with metastasized breast cancer, for which she had undergone surgery, chemotherapy and radiation. Though a bit unnerved by her condition, David proceeded with the consultation hoping that her condition had not worsened, for both their sakes. But Marjorie's response takes him by surprise, when she thanks him for his presence

and goes on to say that she had to wait for as many as four weeks to be given an appointment with a doctor. It was from Marjorie that David learned how the patients with the CMV were discouraged from using the emergency room, since it was not covered by their health plan, unless it was a matter of life and death. Also, they could go only to those physicians employed by CMV, and any consultation beyond the HMOs payroll had to be sanctioned by the primary physician as a part of the cost cutting measures.

Underutilisation of resources and at the same time keeping up the quality of patient care with a shoestring staff is a challenge within managed care, that has been portrayed in this book with a simultaneous critique of its accompanying practices while pointing out several associated pitfalls of the HMOs. It also directs the reader's attention to the plight of the medical profession, where the professionals are deprived of enough elbow room in clinical care because of the financial and time constraints imposed by the capitation arrangement. It is important to understand the effect it has on both the healer and the healed, especially in terms of the satisfaction quotient. David is shown to be irked by the fact that he was being prodded by the management to cut down the time he was spending with his patients while being forced to consult way more number of patients than he could manage by himself.

Further, Cook also points to the diminishing role of doctors in running hospitals through the words of the hospital CEO Helen Beaton, who tells Traynor that "The burden of dealing with the health-care crisis has fallen on us administrators" (Cook, "Fatal Cure" 86). According to David's wife Dr. Angela, people like Traynor and Helen Beaton seem to have a "fundamental misunderstanding about the basics of patient care" (Cook, "Fatal Cure" 163). For David, what is really scary about this arrangement is the frequent intrusions of the bureaucrats in the supervisory positions, like Charles Kelley,

into the actual practice of clinical medicine and beyond in the name of reforms being introduced in the healthcare, about which the common people have absolutely no knowledge.

A case in point is when David is called in the middle of his clinic hours for utilisation review by Kelley in the presence of a CMV representative. The following harangue of Kelley against David reveals how a physician is reduced to an assembly line worker while the hospital gets transformed into manufactories.

> "Your productivity is not satisfactory," Kelly continued. "You are in the lowest percentile in the whole CMV organisation according to the number of patient visits per hour. Obviously, you are spending entirely too much time with each patient. To make matters worse, you are in the highest percentile in ordering laboratory tests per patient from the CMV lab. As far as ordering consults from outside the CMV community, you're completely off the graph."(Cook, "Fatal Cure" 141).

Arthur H. Gale, MD, with over five decades worth of experience in internal medicine, has been a close observer of the changing facets of the medical establishment, and in an article titled "The Hospital as a Factory and the Physician as an Assembly Line Worker", he makes a critical commentary of the problems generated by this modern day managed health care plans for the physicians, who are prodded to manufacture "perfect discharges" (Gale 7) in the shortest possible time. With limited opportunities to function independently, quite often the services of doctors are rendered unproductive. This leads to professional dissatisfaction, and when it is coupled with unfavourable workplace culture, can lead to emotional exhaustion. Nicholas Hamm points out how burnout is a serious and undesirable problem plaguing the primary care physicians, like David, under these circumstances. Most doctors and medical students

acknowledge suffering from burnout at some point of time in their career.

> The survey from InCrowd, a market research firm based in Boston, found that across all specialties, 68% of U.S. physicians experience burnout. That figure is highest for primary care physicians, 79% of whom reported burnout. Burnout was highest among younger physicians, with 74% of physicians in their 30s and 40s reporting burnout. One in three physicians (34%) said they would not recommend the profession to a relative, with 32% of those respondents saying that it is not worth the sacrifices (financial, emotional) to pursue the career. (Hamm).

Linda Gunderson lends a new perspective to this issue by pointing out that, "Physicians are often prone to burnout because of their personality profile" too (Gunderson145). Take for instance David himself in *Fatal Cure*. He is portrayed as an extremely sensitive clinician who tells his friends, "The problem is that now that I've befriended them (his patients) and accepted responsibility for their care, I'm worried they'll die of their illness and I'll feel responsible" (Cook, "Fatal Cure" 115). This shows how much David was personally involved with his patients. The fact that he found it difficult to focus on his regular work at the clinic when one of them, Marjorie Kleber, fell seriously sick, attests to this claim. Following the inexplicable worsening of her condition and subsequent death, "He felt weak and disconsolate. His sadness and sense of guilt at Marjorie's passing was even more acute than he'd feared. He had come to know her too well" (Cook, "Fatal Cure" 159). Explaining this response in physicians, Paul Richard Whitehead writes, borrowing from Kvale and Baider, that "Experts in physician wellness have acknowledged that the death of patients is an experience that almost all physicians must confront and asserted that psychological distress (among

physicians) derives largely from identification with suffering, the presence of death and the spectre of failure" (Whitehead 271).

While doctors, during their apprenticeship period, is made to get acquainted with the physical dimensions of death and suffering, the emotional and moral dimensions require more getting used to. Though sympathy and empathy are indeed vital in-patient care, associating the death of each and every patient with personal failure by a doctor is an extremely dangerous way of looking at things. Cook's thrillers provide an ideal opportunity to inspect the after-effects of the intense emotions experienced by the doctors in the clinical contexts. For example, after the death of four of his patients, David becomes emotionally distressed, fighting his tears while explaining to his wife what happened, and finding himself unable to cope with the needs and demands of his other regular patients.

Following the worsening of the health condition of his patient Mary Ann, just like his former patients like Marjorie Kleber, John Tarlow and Jonathan Eakins, who had died, David fears the worst for her and himself. He starts doubting his choice of vocation and competence, and even proceeds to tell, "When I sit in my office in the same spot where Dr. Portland killed himself, I start thinking that now I know why he did it" (Cook, "Fatal Cure" 220), thus revealing an incipient suicidal ideation in him. The feeling of the loss of professional autonomy, engendered by his inability to make a proper diagnosis of his patient's conditions, sends him in a downward spiral. Somehow, he blames himself for the diagnostic ambiguity, and as a result turns to overutilization of resources.

Though Cook is visibly against the HMOs attempting at reducing the utilisation bills by shackling the professional choices and even by resorting to incentive programmes for doctors with the least hospitalisation and laboratory tests, he also

makes it clear that the doctors in their desperation to treat their patients, and to come up with inch-perfect pronouncements regarding the nature of illnesses, resort to indiscriminate use of various tests and consults, especially if they have lost patients in the near past, and are somehow trying to overcompensate for it. David's actions are once again brought under the scanner, and Charles Kelley subjects him to another utilisation review. Cook writes as follows about what David realised from Kelly's admonition: "Kelley's intrusion irritated him, yet in some ways Kelley had a point. Money and resources shouldn't be thrown away on terminal patients, when they could be better spent elsewhere" (Cook, "Fatal Cure" 195).

Here, rather than taking a polarised view of things, Cook shows how certain amount of monitoring does prevent the doctors from getting carried away, and helps to make them more responsible when it comes to allocation and utilisation of sparse medical resources. The trick, as one can discern from the narrative, lay in endeavouring to put up a concerted effort to make the standpoints of the doctors, patients and the managed care executives, regarding the patient outcome, to intersect using healthy checks and balances. But when the clinicians decide to play by the rules of the HMOs completely, there is a fair chance that the patients might get treated unfairly. This is especially so because the notion of patient outcomes has been imparted an open texture in the present milieu of market-driven medical care to favour the definitions structured by the third-party players, as represented by Kelly and Traynor, who quite often do not extend an equitable treatment for the sick. This is exemplified by how David is constantly prodded by them to up his performance index by bringing down the consultation time with his patients, irrespective of their respective necessities. However, as David says, "A lot of critical clues for making the right diagnosis come from the kind of spontaneous comments patients make when you spend a little time with them"

(Cook, "Fatal Cure" 233), and hence, while rushing through the consultations, the sick are in fact getting short-changed.

Aniruddha Malpani lists several of the problems plaguing this system in his article "The Dangers of Managed Care" published in the *Indian Journal of Medical Ethics*. He points out how,

> Most HMO doctors in the US no longer look forward to seeing patients, because they are compelled by the HMO efficiency experts to see "x" number of patients per day. They are treated as mindless automatons on a factory assembly line, who have to process one patient in 10 minutes, no matter how complex the problem. Doctors who spend too much time on a patient actually get pulled up, because the bottom line is no longer the quality of care, but rather its cost. (Malpani 129)

Malpani also reminds how the doctors are squeezed between the needs of their patients and their commitment to the management. Every time a patient's condition worsens, Dr. David Wilson, similarly, is shown to be torn between choices in Cook's *Fatal Cure*. It becomes very difficult to meet the individualised needs of the patients because the physician is forced to operate within the standardised guidelines of the management while waiting for authorisations from the bureaucrats for anything and everything. David is warned not to give permission to use ambulances for even his terminally ill and old and sick patients, as the CMV would pay only for those in life and death situations. Commercialised medicine has also forced the men/women of medicine to learn the lingo and practices of the financial world. During David's first utilisation review, Kelly dissects his performance for the first six months of his job at the Boston Memorial Hospital, and lays down the statistics that David did not even know was

being collected and analysed, while turning a blind eye towards quality management, which he had aced.

Cook's construction of the profiles of the doctors in the thrillers reveal the essence of this much venerated profession in all its glory and opprobrium. However, he has steered clear of the "good doctor versus the bad doctor dichotomy" by focusing more on the system in place, and commenting on the diverse contexts in which it influences and churns out conditions where the medicos have to make choices that put them in questionable moral positions. Doctors are emotionally and intellectually imprisoned due to the unilateral nature of their job description, which has been drummed into them partly by the conventional paradigms in course of their training, and partly by the fallacious stipulations of the modern medical system. David's emotional vulnerability in fact helps him in questioning the fallacious reasoning propounded by the managed care organisations, which put profit before the patient and tend to emphasise on productivity in terms of quantity and not quality. According to Sarah Glazer, the lack of emotions in the practice of medicine is an indication of the fact that there is something going wrong within the entire process.

While *Fatal Cure* provides a critical analysis of the medical profession under the capitation system of Managed Healthcare Organisations, *Harmful Intent* (1990) explores the precarious position of the medical professionals in the backdrop of increasing malpractice litigations. What should have been a routine epidural procedure during the normal delivery of a primipara turns into a nightmare for the anaesthesiologist, Dr. Jeffrey Rhodes, when right in front of his eyes his patient, Patty Owen, dies of inexplicable causes following a seizure. An important theme of this novel is the tendency for presenteeism among the doctors, which when placed in the context of malpractice litigations is shown to have lethal consequences. Presenteeism refers to

the tendency exhibited by the doctors, and other healthcare professionals, to keep on working even when they are feeling sick.

Dr.Jeffrey Rhodes is revealed to be a level-headed anaesthesiologist, who finds the patronising attitude of his colleagues like Dr. Simarian, directed towards their patients, to be a bit irritating. Cook is frequently seen highlighting the patronising and mightier-than-thou attitude among doctors as an undesirable trait, by pointing out how fine the line is that separates self-assurance and confidence in these professionals from condescension and egotism. It manifests differently in different people in different contexts. One way of looking at presenteeism would be to consider the tendency of the healers to think of themselves as above the frailties of the laity, including coming down with sicknesses. Presenteeism can also be viewed as a sign of over commitment of the medical professionals, or as their inability to acknowledge the reality that even the healers themselves can need help and be vulnerable in the face of illnesses.

Dr. Jeffrey was the only anaesthesiologist available at that point of time on that day, when the story begins, as the rest were fully occupied with cases of their own. Despite feeling ill, Jeffrey could not take rest unless someone came to take over the duty from him. The fact was that "Like most doctors resisting the chronic hypochondriasis induced by medical school, Jeffrey often erred at the other extreme: he denied or ignored every symptom of illness or sign of fatigue, until it threatened to overwhelm him. Today was no exception" (Cook, "Harmful Intent"15). Freelance journalist Kathy Oxtoby in her article "Why Doctors need to Resist 'Presenteeism'" makes a few valid observations regarding the same. She mentions how according to the statistics collected from the Health and Social Care Information Centre for the duration from January to March 2015, "Doctors are less likely than other healthcare workers to take days off sick ... they take a third as many sick days as other NHS staff and a fifth

the number taken by healthcare assistants and ambulance staff" (Oxtoby 1).

The nature of medical culture is such that the professionals almost always feel the need to be at their station and working. Hence, despite his fatigue, headache, nausea and chills, Jeffrey admitted he was ill only after confronting his visibly haggard visage in the mirror, and still chose to work till he was relieved from his duty. Cook brings to the fore the archetype of the "wounded healer" within the modern medical settings in *Harmful Intent*. However, it is not without a twist. That is, Dr. Jeffrey suffers from the wounds inflicted in the form of sickness, as well as the one caused by the system, of which he was a part. Since the concern of this chapter is the latter, while dealing with this topos here, one should look beyond the traditional sense of its usage, as was introduced by the Jungian analysis, like in "Chiron's myth" (Benziman 3). The healer wounded by the system, however, is a common thread in all of Cook's medical thrillers, and the primary concern in this chapter, since it has a knock-on effect that extends up to the patients, something that is worthy of being dwelt upon by the medical establishments.

Jeffrey's selflessness becomes evident when despite his ill health, he proceeds to comfort his patient Patty Owen. He even "sympathised with her when she told him that her husband was out of town on a business trip" (Cook, "Harmful Intent" 18). All the while, Jeffrey was feeling progressively worse and was being incapacitated by frequent intestinal cramps. "Although he'd finally acknowledged being sick, he wasn't about to admit it to anyone else" (Cook, "Harmful Intent" 18). This attitude, Cook reminds in the novel, is not limited to the doctors alone, as is proved by the words of the OR night nurse Regina Vinson, who in the later part of the novel says, "I have never liked admitting when sick even to myself, much less to anyone else. Most doctors are like that. Maybe it's part of our defence about being around illness. We like to think we are

invulnerable" (Cook, "Harmful Intent" 43). A survey conducted in United Kingdom by Smith, Goldacre and Lambert, as a part of Nuffield Department of Population Health in 2016, based on unpremeditated remarks made by the medical professionals on their experiences while working through sicknesses, came to the following conclusion:

> Doctors have the same right to health, and to respond appropriately to their own illnesses, as other people, and their illnesses should be accommodated. Our respondents did not want to burden colleagues by being ill and were stressed and exhausted when cover for absent colleagues was not provided. Workplaces need to address lack of cover, especially when it feeds into the ill health of doctors, which in turn creates more demand for cover. We recommend that employers should ensure that it is not unduly difficult for doctors to take time off work when ill. We also recommend that employers should ensure that strategies for covering ill doctors, off work, are adequate. (Smith, "Working as a Doctor" 6).

Though what Dr. Rhodes does in the novel might come across as heroic, it is also a violation of one of the basic principles of the Hippocratic Oath, which is "to do no harm". "Thomas Syndeham (1624-1689) has been identified as the originator of the Latin phrase *primum non nocere* translated as 'first do no harm'" (Landry 1142). Presenteeism, no matter the nobility of the intention, needs to be viewed as the violation of this principle, as Cook conveys obliquely through his novel. Apart from the moral implications, "The cost of lost employee productivity due to presenteeism is estimated to exceed $150 billion dollars in the United States alone" (Landry 1142). Doctors are known to resort to this behaviour because "From day one, physicians that sacrifice for their patients are viewed as role models. The personal sacrifice required of physicians is

seen as noble and honourable. For many, it is a “badge of honour” that nearly nothing will come between them and their patients. Diarrhoea, a cold or a cough seem like small obstacles to overcome to help the patients... ” (Landry1142).

Quite naturally, Jeffrey did not want to leave the case of Patty Owen, and resorts to treat himself as follows, rather than take help from another doctor.

> What Jeffrey had in mind was a trick that he’d learned as a resident. Back then, he and his colleagues, especially the surgical residents, refused to take any sick time for fear they’d lose the competitive edge. If they got the flu or symptoms like the ones Jeffrey was now experiencing, they would simply take time out to run in a litre of IV fluid. The results were almost guaranteed, suggesting most flu symptoms were due to dehydration. With a litre of Ringer’s Lactate coursing through your veins, it was hard not to feel better. (Cook, “Harmful Intent” 19)

His attempts at containing the situation had only succeeded in sowing the seeds of suspicion in the minds of his co-workers. When one of the evening nurses, Regina Vinson, sees Dr. Jeffrey in the act, posed to inject himself with the tourniquet secured around his biceps, she excused herself and fled from the scene after having obviously misconstrued the whole act. Also, Sheila Dodenhoff, the circulating nurse notices Dr. Jeffrey’s constricted pupils from the paregoric he had taken multiple times for his stomach, and presumes he is high, and walks out of the OR without a word of explanation, visibly upset.

Though unintentional on the part of Jeffrey, Cook is in fact showing the worst-case scenario presenteeism can lead to in the career of a doctor through a series of unfortunate incidents in the plot. There is a subtle reminder that whatever be the case, the moment a patient crosses the threshold of a hospital, the doctor is directly

responsible for his/her welfare, and should try to be nonmaleficent. Nonmaleficence, is a tricky concept and how the men of medicine interpret it depends on a number of variables generated by their immediate circumstances. From Jeffrey's point of view, he was the only available anaesthesiologist, and not attending to Patty Owen was tantamount to causing her harm, which is why he completely neglects the possibility of his condition worsening in the OR, which could have caused more grievous problems for her.

In the OR, when Patty's pulse quickens instead of slowing down, "Jeffrey's initial reaction was more of curiosity than concern" (Cook, "Harmful Intent" 26). When things got out of control in the OR, "Jeffrey remained the ultimate professional. He had been trained to deal with this type of emergency situation. His mind raced ahead, taking in all the information, making hypotheses, then ruling them out. Meanwhile, he dealt with the life-threatening symptoms" (Cook, "Harmful Intent" 28). His response to the stochasticity in the OR bears testimony to his competence and his keen analytical skills and presence of mind. Cook's doctors respond to intraoperative stress differently in different books. In *Coma*, Both Dr. Major and Dr. Billing are shown to be vulnerable to the slightest of the stressors, which manifests in the form of irritation and anger projected on each other. According to Arora, Nestel and others, "Safe surgical practice requires a combination of technical and nontechnical skills" (Arora 537), which Jeffrey is shown to have perfected.

Equally important is acknowledging his objectivity, a conceptualisation that is looked upon with much suspicion in the medical domain despite its relevance. He could have easily been immobilised by the emotional element in the whole sequence of events, especially since he had taken a fair amount of time in getting to know the patient and comforting her before the surgery. However, he employs his personal

resources, gained through years of training and experience, and is shown to be oscillating back and forth seamlessly between the objective and subjective imperatives engendered by the crisis at hand. In the book *Confessions of a Surgeon : The Good, the Bad and the Complicated ... Life Behind the O.R. Doors* by Paul A. Ruggieri M.D., he mentions how, once the patient has been prepped for surgery, on the operating table, draped off and readied for different degrees of invasive procedures, he or she ceases to be a human being, and all that the doctor sees is a body that needs fixing. But the emotional isolation experienced by the doctors in the surgical space lasts only until the final stitch has been made, and then the sentiments begin to percolate into them until they are weighed down, especially if the outcome of the procedure ends up being not positive.

Hobfoll and Walfisch, in their article, "Stressful Events, Mastery, and Depression: A Evaluation of Crisis Theory", resorts to a detailed inspection of the nature of influence that the prior nerve-racking occurrences have on an individual, and the modes of psychological ascendancy over emotional distress. According to them,

> For events that are objectively uncontrollable, a sense of mastery is more likely to be employed in cognitive terms, whereby individuals may make positive attributions as to their own role in affecting or limiting the consequences of the event. Such perceptions are especially relevant for medical crises, which, at least from the point of occurrence, tend to be less given to control than other stressful events (e.g., marital conflict or job loss). (Hobfoll 186).

But a look at the works of Robin Cook reveals that this need not always be the case within the medical profession. While it might ring true for Jeffrey in *Harmful Intent*, David in *Fatal Cure*, fails to even make an attempt at trusting his "internal

resources" (Hobfoll 186). All three protagonists discussed in this section, namely, Susan Wheeler from *Coma*, David Wilson from *Fatal Cure* and Jeffrey Rhodes from *Harmful Intent* have, according to the corresponding plots, come face to face with situations that challenged their regular scheme of experiences, enough to unnerve them. Their responses however, say a lot about the possibilities of variations in professional deliverance depending on the duration, frequency, and number of exposures to such high, stress inducing conditions. For Susan, accepting Nancy Greenly's inexplicable slippage into coma following a regular D and C was an anomaly that did not go well with her strictly bookish knowledge, triggering a response first emotionally, and then intellectually. She had complete trust on her academic skills, and hence proceeds to investigate this unusual occurrence on her own. Having said that, it is also true that this response is triggered as much by her emotional identification with the patient, as by her academic curiosity.

For Mark Bellows, on the contrary, repeated exposure to such disturbing situations helped in creating within him a barrier to emotional vulnerability through a "practice effect" (Hobfoll 183), and hence he thinks more practically and goes on to consider the possibilities of organ harvesting. Likewise, after failing to revive Patty's heart even after the internal cardiac massage, the cardiac surgeon Ted Overstreet in *Harmful Intent* casually jokes, "but my heart is no longer in this. I am afraid the ballgame is over unless you guys have a heart transplant waiting around here. This one is long gone" (Cook, "Harmful Intent" 32). Ted's repartee, though it cut Dr. Rhodes to the quick, was not meant to create an impression of callousness on his part. Rather, Dr. Overstreet's flippant attitude was in fact a very common tactic employed by the medical professionals as a coping mechanism, to bounce back to their normal headspace following surgical or other medical contretemps. Sometimes desensitisation is the only

option to normalise the treacherous ride that this profession represents in terms of the uncertainties involved. Hobfoll cites the "facilitator model" of Crisis Theory while seeking to explain similar responses, according to which, "prior events decrease vulnerability to crisis due to a "practice effect" as mentioned before (Hobfoll 183). Having said that, one has to keep in mind the fact that stressors do not have the same effect on everyone alike.

For example, in *Fatal Cure*, both Dr. Randall Portland and Dr. David Wilson get repeatedly exposed to the unexpected deaths of their patients one after the other, and it is observed that "individuals who experience a greater number or magnitude of stressful events will exhibit more negative psychological and physical health consequences" (Hobfoll 183). Hence, Portland's and Wilson's depression and haggard looks were along the expected lines and not a one off. Hobfoll elucidates the underlying process by borrowing from researchers who have resorted to the basic physics of the process of metallurgy for explaining the correlation between stressors, and the physical and the mental health of such individuals.

When subjected to low intensity stressors, metals tend to retain their properties and shape, just as people bounce back from mildly traumatic incidents. However, stressors of very high intensity tend to take the metal to a tipping point beyond which there is a visible distortion of the properties of the metal, even at the molecular level. Consequently, it loses its resilience and crumbles down into pieces. There is no better analogy to explain what happens to Dr. Randall Portland and Dr. David Wilson in *Fatal Cure*. Cook portrays both Portland's suicide and David's incipient suicidal ideations as beginning after they reach a similar tipping point, beyond which both failed to reason with themselves and thus could not hold their own.

Similarly, in *Harmful Intent*, the sight of lifeless Patty Owen lying on the

operating table with her body cut open at multiple places was sure to haunt Jeffrey for the remainder of his professional and personal life. “Jeffrey felt crushed and numb. This was the nadir of his professional career. He’d witnessed other tragedies, but this was the worst, and most unexpected”. (Cook, “Harmful Intent” 32). For a discerning eye, from his response, it becomes evident that he is approaching dangerously close to the dreaded tipping point. One would be of the view that having witnessed so many similar gut-wrenching episodes of death and suffering throughout his career, Jeffrey would have developed the required amount of professional detachment to carry forward with his work emotionally unscathed. Here Cook reminds how, in isolation these incidents might appear to have a limited effect on the medical practitioner, but their combined effect on him/her can be cataclysmic. Jeffrey is shown to be somewhat in control even after the death of Patty Owen. Howbeit, what came up as the final nail in the coffin was the malpractice suit, which finally drove him over the edge, that is, it forced him to actually attempt suicide. The latest addition to the pile of stressors bearing down heavily on Jeffrey in the form of malpractice litigation proved to be the proverbial straw that broke the camel’s back.

Jeffrey Rhodes was devastated after being charged with second degree murder following the death of his patient Patty Owen, without even giving him the benefit of doubt. “His whole image of himself and his self-worth (especially as a doctor) had been predicated on his sense of dedication, commitment and sacrifice” (Cook, “Harmful Intent” 46). *Harmful Intent* describes in detail the predicament of an innocent medical practitioner framed in a concocted case of medical negligence amounting to second degree murder, and the toll it takes on his personal, professional and emotional life. The following observations of Jeffrey, on the plight of the doctors in the present-day milieu of frequent malpractice litigations, in the novel, is especially revealing.

> What kind of care could people come to expect from doctors who were forced to work in the current malpractice milieu and who had to restrain their best instincts and second-guess their every step?... It certainly wasn't eliminating the few "bad" doctors, since they ironically rarely got sued. What was happening was that a lot of good doctors were being destroyed. (Cook, "Harmful Intent" 65)

It is a question that the author is posing for the readers to answer. A direct and immediate sequela of the rising fear of lawsuits among the medicos is the emergence of what is termed as "defensive medicine". "Defensive medicine in simple words is departing from normal medical practice as a safeguard from litigation. It occurs when a medical practitioner performs treatment or procedure to avoid exposure to malpractice litigation ... Furthermore, it increases the healthcare costs" (Sekhar 295). It was precisely to reduce the rising medical costs that the setting up of MCOs (Managed Care Organisations) like HMOs (Health Maintenance Organisations) and PPOs (Preferred Provider Organisations) were encouraged in the seventies and eighties in the US. However, despite the nobility of the intentions behind its creations, MCOs can be considered to be the apotheosis of the commercialisation of the healthcare sector.

These organisations keep their employee physicians under a tight leash in the name of underutilisation of resources to pad the bottom line, as discussed before. Hence, doctors like David Wilson and Randall Portland face multiple conflicting professional demands, namely, the need to resort to lesser number of tests in keeping with the demands of the HMOs on one hand, and fighting the urge to rule out any diagnostic ambiguity by resorting to more tests to keep themselves safe from the malpractice lawsuits, on the other. Thus, with the evolution of the healthcare sector, the

primary concerns of the physicians have begun to extend beyond the best interests of the patient into the realms of self-preservation and profit generation. Though malpractice litigations do protect the patients from becoming the victims of medical negligence, there also develops a tendency among the doctors to consider them as potential adversaries in the future, and hence refrain from making risky judgement calls in life and death situations. Also, "of all occupations and professions, the medical profession consistently hovers near the top of occupations with the highest risk of death by suicide" (Andrew). Frequent and baseless malpractice litigations are found to be exacerbating this trend.

Coming back to *Harmful Intent*, one should not overlook Cook's choice of anaesthesiology as the specialty for his protagonist as being merely incidental. Usha Gurunathan, from the Department of Anaesthesia, The Prince Charles Hospital, Queensland notes that,

> Amongst the medical fields, anaesthesiology has been considered as a stressful specialty due to the huge responsibility involved in safe care of patients through any surgery as well as the production pressure and time constraints in the work atmosphere. This burden, along with the advanced clinical skills and ready accessibility to potent drugs, increases the risk of addiction and suicide. (Gurunathan 20).

Cook in fact casually mentions this truth in a well-crafted line in the novel. He writes, "One of the benefits of being an anaesthesiologist was that Jeffrey knew the most efficient way to commit suicide" (Cook, "Harmful Intent" 60). It is followed by a very graphic description of Dr. Rhodes setting up his induction medicines and IV for the final act of his life. Knowing that it was in his control to decide the end of his

existence was heartening to him. Ironically, contemplating his suicide made him feel more in control, since he felt less like he was giving in to his destiny without resistance, and being thus in a position of power, proceeded to mock his fate by taking a short-cut of his own making to death. Cook's description of the scene is slightly unsettling as he manages to convey what an intimate knowledge of the human body can accomplish, as in the following paragraph.

> Careful not to dislodge the IV, Jeffrey lay back on the bed. His plan was to inject the huge dose of morphine and then open the stopcock on the solution containing succinylcholine. The morphine would send him to never-never-land long before the succinylcholine concentration paralysed his respiratory system. Without a ventilator, he would die. It was as simple as that. (Cook, "Harmful Intent" 61)

The purely technical nature of the narration in this context can appear a bit reductive, especially since the subject being dealt with is something as grave and profound as death. But it can be viewed as a deliberate attempt on Cook's part to convey the triviality of existence as experienced by the doctors such as Jeffrey Rhodes, who are forced into suicide every year by unfair malpractice litigations. He also offers a calculated critique of the existing legal system that tries to prey on one of the riskiest professions, a trend that became increasingly common especially after a pronounced increase in the medical malpractice insurance costs, towards the middle of the second half of the twentieth century.

Medical malpractice is a reality that cannot be overlooked and takes different forms, of which one is pharmaceutical malpractice, a concern that Cook raises in his medical thriller *Mindbend*, first published in 1985, along with the ethical questions posed by the foetal research. The influence of the Big Pharma in corrupting the medical

profession has been a topic of widespread discussions and debates owing to its potential ramifications for the health of the common man. It is no secret that the pharmaceutical companies spend more money marketing their products than in investing in actual research. The nature of the marketing is such that a major share of it targets the doctors than the consumers themselves, where the former function as the learned intermediary. "Pharma is generally held in very low esteem, especially in wealthier nations, with widespread claims of secrecy and bribery and corruption in a relentless pursuit of profits" (Kobashi 627). Under these circumstances it becomes very difficult for the doctors to win the trust of the patients. Trust becomes even more difficult to achieve considering how the doctors have to surmount something as undesirable as violence, which is inherent in medicine even under normal circumstances, as is explained in the following paragraph.

> From the dismembering of the human body that occurs in the first year of medical school during the anatomy course, to amputations, surgeries, and diagnostic or interventional procedures that cause pain, including the numerous uncomfortable and sometimes dangerous side effects of drugs intended to heal, there is a brutal dimension to medicine. (Shapiro 2)

Candice Harley (Candy), in the prologue to *Mindbend,* similarly finds it difficult to trust her anaesthesiologist, doctor Stephen Burnham, when despite his assurance that she would feel nothing during the epidural procedure, "she had already felt the pain- not a lot, but enough to make her lose a certain amount of faith in what Dr. Burnham, had told her" (Cook, "Mindbend" 9). In addition, Candice found her immediate surroundings to be new and intimidating, especially since everything was so impersonal. Doctors are quite often immune to the subtle indications of their patient's discomfort and leaves it unaddressed, and sometimes even contribute to it. The

perfunctory conversation in the inflectionless voice that Dr. Lawrence Foley initiates with his masked face did little to attenuate her fears. The solution to this catch in clinical medicine would not be to swing to the other extreme, as in getting deeply and emotionally involved with the patients, rather, it would be to better understand the extremes and follow a neutral path. Greenlaw clearly differentiates between the two extremes as follows:

> The distinction between personal and impersonal doctoring is well defined. Doctoring that is too personal may actually encourage ill health by favouring a rather infantile dependency on the doctor. Excessive paternalism on the doctor's part can do just this. Hodson describes impersonal doctors as those who make it clear, by impatient gestures and inattention, that they do not want to spend a moment longer with the patient than is necessary. (Greenlaw 1135)

Cook shows how a little bit of concern from the doctor's part can contribute a lot in a patient's decision-making process. But this power to influence the decisions of the sick is something that both the professionals and the laity need to be wary of. This is so because, the doctors can unwittingly impose on the patients their opinions, and thus warp their decisions in favour of what the former would think to be in the best interests of the latter, which need not always be the case, especially if they have ulterior motives. For instance, in *Mindbend*, Dr. Lawrence Fowley, her gynaecologist, had in fact indulged Candy in a long lecture convincing her why it was a better option to abort her baby than keep it. His hidden agenda (acquiring foetuses for research purposes) is revealed in the novel later on.

Having said that, interpersonal skills cannot be the sole criterion to judge the calibre of a doctor. However, lack of it can pose a stumbling block in quality patient

care because, a physician's non-verbal communication can determine, to a great extent, a patient's self-perception within the medical settings. A case in point is when Jennifer, the wife of the protagonist Adam Schonberg, goes to Dr. Clark Vandermer's office for a gynaecological check-up in Cook's thriller *Mindbend*.

> ...Vandermer took out his stethoscope and gave Jennifer a rapid but thorough physical examination, peering into her eyes and ears and listening to her chest and heart. He tapped her knees and ankles, scratched the bottoms of her feet, and inspected every inch of her body. He worked in total silence. Jennifer felt as if she were a piece of meat in the hands of a very competent butcher. She knew Dr. Vandermer was good, but she could have used some warmth. (Cook, "Mindbend" 23)

Foucault is one of the very few scholars who had taken it upon himself to study and document the history of modern medicine before making some remarkable observations on its rituals and practices. His book, *The Birth of the Clinic: An Archaeology of Medical Perception*, first published in 1963, "concerns itself with medical perception as both an objective phenomenon and a way of objectifying persons" (Bleakley, "Who Can Resist Foucault" 369), which explains the aloofness displayed by Dr. Vandermer during the physical examination. According to Foucault, this is a direct consequence of what he called the "medical gaze", or the gaze of a doctor, "supported and justified by an institution ... endowed with the power of decision and intervention" (Foucault, "The Birth of the Clinic" 109). He says, it is a dehumanizing process that strips an individual's identity from their corporeal self while decontextualizing their suffering from their immediate and extended social and emotional circumstances.

Initially medical gaze was accompanied by three other activities, that enabled

the doctors in coming down to the correct diagnosis, namely observation, conversation and palpation, or physical examination. But in the modern era, the men of medicine are being aided in this by various technology driven medical paraphernalia, which makes personal interaction with the patient a secondary activity, to the point where they can "sometimes become so engrossed in the treatment that the patient is momentarily forgotten" (Cook, "Mindbend" 62). Sometimes it causes the medical students, early on in their college education, to get "influenced to a large degree by gradual disillusionment with the practice of medicine" (Cook, "Mindbend" 69), just as Adam Schonberg felt. During his interview at the Arolen Pharmaceuticals, he mentions how he was increasingly disenchanted by the way medicine was being practiced, and how it had become "more of a trade than a profession" (Cook, "Mindbend" 69). Adam's words resound the concern of a major section of the student body in the medical schools, who find their ideals being questioned and threatened by the modern-day medical practices.

Adam, a third-year medical student, had been forced to take up the job at Arolen Pharmaceuticals as a medical representative following his wife's unexpected pregnancy, and the concomitant financial constraints. His observations throughout the novel on the influence of Big Pharma on the clinicians, and a dangerous communication gap existing between the pharma companies and the doctors are worth exploring. Percy, Adam's more experienced colleague from the company, with whom he was learning the tricks of the trade, makes the observation that "For some inexplicable reason, doctors know very little about drugs" (Cook, "Mindbend" 88).

Percy tells him this while warning about the side effects of Pregdolen, which was the hottest selling commodity of their company, meant to cure nausea and morning sickness in pregnant women. Percy notes how despite the studies having proven the side effects of the drug, and research articles supporting this idea getting published, doctors

were buying into the sales pitch of the medical representatives. “It sure explodes the myth that doctors get their drug information from the medical journals” (Cook, “Mindbend” 89). Cook has woven this ever-relevant concern into the fabric of his narrative such that it strikes a chord with the readers. For doctors, it serves as a major deterrent to committing similar mistakes while writing prescriptions for new drugs in the market without having adequate knowledge about its undesirable effects and contraindications. He points out the need for doctors to keep themselves updated about the latest medical trends by resorting to unbiased sources.

Cook, in *Mindbend*, also indicates an absolute lack of transparency in the dealings between the doctors and the Big Pharma, and how it can unfavourably affect good healthcare. “In 2004, the World Medical Association proclaimed that conflicts of interest between Pharma and physicians can adversely affect patient care as well as the reputation of the medical profession” (Kobashi 627). If this trend is left unchecked, as Adam says, it can result in “An entire generation of doctors programmed to be unknowing representatives of a pharmaceutical house” (Cook, “Mindbend” 216), hence, the need for transparency. In the USA, governments from time to time have passed laws to lay bare the nexus between the doctors and the pharma companies.

> The Physician Payments Sunshine Act, enacted in the United States in 2010, marked a first step toward accomplishing this. And since 2014, the government’s Centre for Medicare and Medicaid Services has been reporting payment information to healthcare providers and educational hospitals on the Open Payment website (https ://www.cms. gov/openpayments/), to which the general public has unlimited access. Furthermore, the American Medical Association has repeatedly and extensively stressed the necessity for transparency in financial

relationships between Pharma companies and physicians. (Kobashi 627)

The plot formulated by Cook reveals the position of power occupied by a doctor, as an informed intermediary, in the scheme of marketing of drugs by the companies. Though there are myriad factors informing the prescribing habits of a doctor, some tend to have more impact than the rest. Discerning marketers keep a close tab of the shifting nature of these stimuli, and improvise their way into altering the prescription patterns of their middlemen. This thriller is particularly consequential because of its entreaty to the medical practitioners to take cognizance of the drastic changes occurring to their profession, and to assert their autonomy and authority where it is due. It is important that doctors be updated about the latest drugs and technologies available in the markets so that they can offer the best care available for their patients. This requires them to update themselves and gather information about these from all possible sources, like medical journals, conferences, interactions with their peers, and of course the medical representatives.

Richard Smith, in his article "Medical journals and pharmaceutical companies: uneasy bedfellows", writes how pharmaceutical companies comprise a major source of income for several medical journals in the form of advertising, and how it can lead to a corrupting influence on its content. It is quite natural that these journals will think twice before writing anything to tarnish the reputation of their major sponsors, even if it is the truth. "A US congressional inquiry reported that from August 1997 to August 2002 the Food and Drug Administration (FDA) issued 88 letters accusing drug companies of advertising violations. In many cases companies overstated the effectiveness of the drug or minimised its risks" (Smith, "Medical Journals" 1203). This is why, in the Author's note in *Mindbend*, Cook writes that any and all contributions made by the pharmaceutical industry to the society "has been the by-product and not the goal" per

se, because their ultimate aim is “to provide a return on their investors’ capital”, and not the public weal (Cook, “Mindbend” 253).

Thus, Investigating the myriad psychological and systemic factors contributing to the fallibility and estrangement of doctors with their own self and their vocation, along with the professional challenges compounded by the unreasonable demands of modern medicine, as discussed in the selected medical thrillers of Robin Cook, allows for a better understanding of the ways to curtail such detrimental occurrences in the real world of medicine for the medical practitioners. These thrillers offer enough situational stimuli that can get both the healthcare professionals and the medical students to reassess their practices and conventions in the light of the contextualised crises contained in the plot, so as to thrash out the pressing dilemmas and problems blighting this honourable profession.

This chapter is basically an attempt at deconstructing the widely accepted image of the all-knowing infallible doctors capable of succouring the sick, to show how there is a “wounded healer” in all of them. While most literary studies undertaken as a part of research within medical humanities focuses on what more the professionals can do to contribute to the patient community, here an attempt has been made to better understand how the system has had a debilitating effect on the professionals themselves. Getting initiated into the profession follows a systematic dismantling and then a restructuring of their personhood. This is an excruciating process and finally when they are put back together again, knowingly or unknowingly they would have imbibed the conventional and undesirable paradigms of the prevalent medical culture. It also marks the birth of the wounded healer, since their emotional restructuring is quite often left to the devices of chance, where the odds need not always be in their favour. Their mental make-up is often forever distorted.

This part of the thesis thus proves that medical thrillers can be used within

medical humanities not only to help supplement the lack in the profession, but also to better understand it, keeping in mind the needs and predicaments of the healers under the new medical system, where external players have considerable sway over them and threaten their autonomy in the milieu of increased encroachment of market economy in the healthcare sector. These have demonstrably led to several ethical quandaries, which will be addressed in the next chapter.

Chapter Five

Narrativization of Bioethical Concerns, Why?

To mark the precise point of origin of any intellectual endeavour is very difficult since there can be multiple people working on it simultaneously across the time zones and during different points of time in the history. According to Swazey, however, some among these progenitors are retrospectively acknowledged to have been the trailblazers, just as, among the several events and phenomena that snowballed into a new specialty or subspecialty, some are in the hindsight designated as having directly made significantly consequential contribution to the genesis of the domain in question. A similar trend can be observed in the "concentrated or systematic reflection on ethical, social, and religious dimensions of medical, scientific, and technological progress ... taking place in the 1950s and 60s within the medical profession.... " (Swazey 5), as in bioethics.

According to Warren T. Reich, professor at the Georgetown school of medicine, and one of the founders of the Kennedy Institute of Ethics, the expression 'bioethics' took birth in two different places: Washington, D.C. and Madison, Wisconsin. "It was Van Rensselaer Potter at the University of Wisconsin, who first coined the term 'bioethics', and it was Andre Hellegers at Georgetown University who .....first used it in an institutional way to designate the area of inquiry or field of learning ...." (Reich 6).

Modern bioethics can be viewed as the net result of the culmination of two approximately synchronous and ancient ethical traditions within medicine. According to R. E. McWhirter, while the Hippocratic Oath was primarily concerned with individual health, the Roman statesman Marcus Tullius Cicero's dictum *Salus populi suprema lex esto* (the health of the people should be the supreme law) in his *De Legibus* (On The Laws), validated the primacy of public health. As medicine progressed and was

characterised by an increased professionalisation of the trade, governments began to realise the importance of keeping their human resource healthy, and thus began to draft public health policies for the same, especially in the 19th century. The practical implementation of these schemes also required the cooperation of the public at large, and hence to convince them of the nature of these intentions, and to win their trust, it was vital that well coded ethical principles be presented to them.

McWhirter notes how one such singular attempt was made by the English physician and ethicist Thomas Percival, with the publication of his book *Medical Ethics; or, a Code of Institutes and Precepts, Adapted to the Professional Conduct of Physicians and Surgeons*, published in 1803. It marked a break-point, by common consensus, between the Greek ethical traditions and the contemporary medical ethics. Also, according to most scholars, "Percival's *Medical Ethics* is the first textbook of medical ethics and reputedly the first appearance of the phrase 'medical ethics' in the literature" (Sokol 1). Almost simultaneously, medical professionals found themselves stumbling on a lot of problems, repeatedly, that badly demanded resolutions of some sort, and the shared nature of which pointed to the need for a widespread interventionist approach. This resulted in a slew of works in this area, including Claude Bernard's *An Introduction to the study of Experimental Medicine* (1865), in which he offered "one of the earliest examples of explicitly research-oriented medical ethics" (McWhirter 330).

The model of ethics proposed in the Hippocratic Oath was rendered inadequate, particularly in the twentieth century, to meet the problems created by increased technologization and a consequent paradigm shift in the defining professional values in medicine. The commercialisation of medicine also saw a transformation in the role of patients from being passive subjects to active consumers, who were more aware and demanded their rights. According to Pellegrino, "We have reached a point where

medicine at the turn of the century is said to be focused less on its role of curing human suffering and more on promoting 'customer satisfaction', thus launching a new era of medicine of desires" (Almeida 16). The evolving new model, while yet to be consolidated, also indicates that, rather than abating, the ethical tensions are bound to mount in future.

The American journalist Shana Alexander, in her article, "They Decide Who Lives, Who Dies", written for the *LIFE* magazine on the ninth of November 1962, made a very serious observation regarding the disbursement of the scarce and latest medical innovations among the public, while discussing about the accessibility of the patients to the Scribner shunt used for treating kidney failure. She writes how "... an ethical firestorm ensued when it became clear that the Scribner shunt could save lives. Since more patients needed dialysis than could be helped, who would be saved?" (Lenzer 167), became the thorny question, and Scribner approached the King County Medical Society to resolve the issue, and they "appointed a committee dubbed 'The Life and Death Committee'" (Lenzer 167), which comprised of both the professionals and the laity, to hand-pick eligible patients for the treatment. According to biomedical ethicist and author Albert R. Jonsen, the institution of this committee made a pronounced contribution to the latter-day bioethics. He further observes that, "Bioethics has (since then) matured into a minor form of moral philosophy practiced within medicine" (Jonsen 1). Also, resorting to philosophy, according to Chaui, "makes us perceive our ignorance and creates the desire to overcome uncertainty" (Almeida 17).

To better understand the demand and necessity driven transitions in the domain of bioethics, Kuhn's notion of 'paradigm', as discussed in his monograph, *The Structure of Scientific Revolutions*, first published in *The International Encyclopaedia of Unified Science* in 1962 can be invoked. "According to Kuhn, paradigms are

'universally acknowledged scientific achievements which, for some period of time, provide model problems and solutions for a community of practitioners of a given science'" (Almeida 16). Medical paradigms similarly develop through the accretion of several established theories, conventions and certitudes embraced by its practitioners, which can get altered and challenged by anomalies which pose Gordian knots that cannot be cut using the existing models, like the problem posed by the Scribner shunt discussed above, thus creating a need for alternative systems. Kuhn brings out the episodic nature of the prevalent paradigms, where one episode is replaced by another one which retains several of its antecedent's attributes, even while trying to be consistent with the fundamental change that necessitated its creation. Kuhn further reminds that these changes are not drastic, thus pointing to a gradual disorientation of the prevailing exemplars, followed by a reconceptualisation of the fundamental frameworks resulting in investigations, "that finally leads the profession to a new set of commitments, a new basis for the practice of science" (Kuhn 6). The rise of the ethical turn in the twentieth century also initiated a similar sequence of events in the domain of modern medicine.

Henry Beecher, an anaesthesiologist at the Harvard Medical School, wrote two articles on the ethical quandaries surrounding clinical research and brain death in 1966 and 1968 respectively. In these articles Beecher notes how the unbridled medical and scientific advancements have created a schism between the potential of modern medicine and the needs of the patients it cares for. The formation of the Hastings Centre in 1969 was among the earliest attempts at bridging this gap efficiently. Callahan mentions that "The new field that took shape was called bioethics, a term explicitly chosen to encompass not only medicine and the rest of health care, but the entire field of the (human) life sciences" (Scher 32). Levine writes, "Modern biomedical ethics was

born in the 1960s, came of age in 1975 with the still famous case of the removal of Karen Ann Quinlan's respirator, and has enlarged its focus to include, among other topics, the new infectious disease of AIDS, rationing of medical resources, and the project to define the human genome" (Levine 227) to cite a few examples. These issues kept posing challenges to the prevailing elemental frameworks due to its inability to address and resolve the novel concerns, thus initiating a new episode in the history of medical science, as Kuhn had noted. The above discussion also proves how it was not a singular event, rather the compounded effects of multiple aberrations that kick started the transition in the domain of ethics.

Communicating ethics to the professionals is a challenging activity since they are not rigid rules of practice like laws, and have philosophical underpinnings that are variable depending on different situations and the people concerned. Also, it requires the practitioner to exercise his or her own understanding of the needs and wants of the patients while making decisions pertaining to their treatments, or in the areas of research and development to weigh the pros and cons of the scientific advancements and the implementation of technological innovations. In the past few decades, narratives have been explored for their potential to communicate ethics to the healthcare professionals, and they have been proven useful in different ways. The most obvious aspect is the capacity of stories to simulate real life medical situations through mimesis, and then by proffering narrative theories to better analyse such representations for highlighting their significance with regard to training the medical professionals and students in the application of the principles of ethics in the real-time healthcare profession. Activities of this kind encourages the professionals to re-examine their vocation for possible fractures, pitfalls and contradictions. Hoeken cites Slater and Rouner to argue that,

> ... the extent to which stories can influence people's opinions and attitudes is related to the extent to which the audience is involved in the story, an experience often referred to as being 'lost in a book'. As a result of being involved in the story's events and its characters, the audience should be less resistant to the persuasive subtext of a narrative. (Hoeken 215)

Robin Cook, in his medical thrillers, resorts to narrativization of bioethical concerns within the formulaic framework of thrillers using characters representing the myriad units of the medical establishment, and their underhand dealings such that the plots appear both entertaining and enlightening to the readers. Quite often it is either a hapless patient or a doctor himself who gets wronged, and as the story unravels, it is revealed how the system corrupts while being equally corruptible. Medical crime fictions of the kind analysed in this chapter, like *Coma*, *Fatal Cure*, *God Player*, *Chromosome 6* and *Mutation*, are found to be jammed with several topical medical concerns that can hook the readers to its pages due to the thrill element and the nature of the subject matter, thus reducing their resistance to the "persuasive subtext of the narrative". Social Cognitive Theories have already come up with explanations for why and how, tailor-made entertainment pieces with educative content inform the comportment, assumptions and attitudes of the consumers.

However, yielding to the persuasive elements in most literary narratives, like medical thrillers, is quite often found to be preceded by stages of mental resistance and counter reasoning on the part of the specialist readers, probably on account of the fact that they belong to the genre of fiction. Also, a lot depends on whether or not the reader is cognitively available to be persuaded into accepting what the work has to offer them. The element of thrill, and sustaining the tension created in readers craftily by

maintaining the suspense factor through the withholding of vital pieces of information till towards the end of the story manages to keep the readers glued to the pages, thus ensuring their availability for moral suasion. Also, as opposed to being completely fanciful, medical thrillers are fact-based, thus contributing further to the credibility factor. This chapter primarily focuses on studying the narrativization of bioethical concerns as undertaken in the medical thrillers of Robin Cook, to show how they hold the potential to be used for introducing, discussing and deliberating about bioethical values and consideration for the human element within the healthcare professions, in order to prove the instructional potential of these works within medical humanities.

Books like *Coma*, *Fatal Cure*, *Chromosome 6*, *Mutation*, *Godplayer*, etc., deal variously with issues of brain death, organ trafficking, malpractice litigations, presenteeism among healthcare professionals, the possibilities of genetic engineering, the undue influence of the Big Pharma on medical practice, god complex in doctors, etc., among others, and provide the readers with multiple or alternative perspectives about these oft-discussed ethical matters of public importance. "Braddock and Dillard (2016) conducted a meta-analysis of a large number of empirical studies and reported that stories could indeed impact their audience's beliefs, attitudes, intentions and even behaviours" (Hoeken 215). The nature of the characters in these narrative texts also have a significant role in contributing to the feeling of identification that the readers experience while taking in the creative content.

Cook's thrillers are peppered with characters like the curious medical students, the competent residents, the jaded department chiefs, the profit minded hospital CEOs, etc., while on the other end of the spectrum we have the helpless and oftentimes victimised and exploited patients. No one, not even the protagonist himself/herself is

portrayed as paragon of virtues, and this makes relating to them even more effortless for the healthcare professionals or the medical students, who themselves are similarly human, and bound to err at some point of time. Besides, the whole point of these works is not to project the ideal, rather it is to represent the real medical world with all its bitter realities so as to show where it is failing both the practitioners of the system and its dependents in ways that can ultimately arrest the attention of the readers. Further, the victims in thrillers are quite often found to be caught in inescapable circumstances, partially by fate and partially by design. A similar feeling of being trapped is something experienced all too frequently by the patients visiting the hospitals. Thus, medical thriller as a genre is in fact ideal to explicate the circumstances leading to the distrust exhibited by the sick of the ones entrusted with the very task of healing them.

Thus, the reader cannot help, but feel sympathy and compassion for the wronged person in the narrative. In medical thrillers, more often than not, the wronged individual is an unsuspecting patient, who gets subjected to ethical violations of the worst kind possible. Sometimes it can be a combined effect of several negligible or subtle violations coming together to create an ultimate medical mishap, and the ones responsible in both the cases are found to be the powerful lot, like the doctors, the big pharma, the scientists, etc. When the medical professionals and students read the thrillers, and feel for the defenceless patients, they are necessitated to acknowledge that ethical violations are indeed the root cause of the subject's suffering. Knowing that the perpetrator is someone from their profession can strike a chord with the medical students or the professionals, and then lead them into a path of self-introspection. This is where the interrogation of the present-day bioethical paradigms begins.

Robin Cook's *Coma* is particularly effective in fleshing out the problematic dilemma surrounding the ethics of the declaration of brain death and organ

transplantation. Cook creatively exposes these problems by presenting them as "embedded in a particularised human context complicated by powerful emotions and complex interpersonal dynamics" (Jones 254). In the novel, characters like Dr. Major, Dr. Billing, Susan Wheeler, Dr. Mark Bellows, etc. are shown to be holding a certain amount of power over their patients because of their specialised knowledge. Such power dynamics is inherent in most medical contexts and hence, the character of the privileged among the involved parties matters since this power in the wrong hands can prove to be minacious.

The character of Susan Wheeler, a third-year medical student, demonstrates that most of the students who opt for a career in medicine are driven by altruistic motives more than anything else. However, when her character is juxtaposed with others like Dr. Howard Stark, the chief of surgery at the Boston Memorial Hospital, it becomes evident that it is quite possible for the qualities of benevolence and humanitarianism to be subverted by a close proximity to the profit-oriented medical culture over time. It is interesting to note that the protagonist is the youngest and the most junior among all the characters in the story, and the antagonist is the oldest and the most senior in the hierarchy. It would be a mistake to overlook this as being merely incidental, since Cook appears to have made a conscious decision with regard to this occurrence while attempting to highlight the corrupting effects of the for-profit medical industry, that negatively influences at least a section of the medical professionals with time and repeated exposure.

Considering how the medical profession is very demanding and emotionally draining, somehow the notions of virtue and ethics become too much of an effort to constantly carry on their backs at all times. As mentioned above, Cook's thrillers offer both the doctors and the medical students a trigger to introspect, and through a

somewhat guided attempt, helps them to fabricate for themselves a frame of reference to preserve their professional virtues. Further, Cook's thrillers, which are spread over a span of over forty years, also indicate the omnipresence and timelessness of certain moral and ethical predicaments pervading this realm, and the need to improvise with the changing scientific and technological landscapes.

In the chapter following the prologue in *Coma,* Nancy Greenly, the comatose patient is introduced to the third-year medical students by Dr. Mark Bellows, an intermediate surgical resident in the Boston Memorial Hospital, within the clinical setting. The verbal diagramming of the scene is such that the immediacy of the situation can be easily perceived by the readers. Dr. Bellows and Dr. Cartwright, another resident, present Miss Greenly to the students as a teaching specimen to educate them on the importance of maintaining the fluid balance in the body of a comatose patient. While Susan Wheeler is lost in the human element in this medical case, Bellows and Cartwright are more concerned about maintaining her homeostasis while conversing about the worst-case scenarios, and the possibility of availing her organs for transplantation with the family's consent in the case of her death.

Instructions in clinical medicine should ideally begin with the right bedside manners since sympathy, compassion and empathy are inevitable aspects of professional ethics in this sphere. The paragraph above reveals that Mark Bellows fails in educating the third-year medical students under his tutelage on this vital professional virtue from the very first day of their clinical rotation. By not addressing Nancy by her name personally and by not communicating with her, even if she was indeed an unviable patient, Bellows was inadvertently becoming party to her objectification and depersonalising her in the presence of the budding medical students, thus setting a bad example for them. It is true that most doctors are not so keen on talking with the

comatose patients for obvious reasons including their time constraints, and in addition it has zero potential to reverse the clinical outcome. However, the verbal interactions benefit the healthcare providers as much as the patients, since it prevents them from experiencing the futility of the efforts directed towards the patients in vegetative state. This is so because, when the medical care givers begin to talk with the comatose patients, they are in fact making an effort to treat them as sentient beings and thus end up forcing themselves to feel emotions of compassion and sympathy. Susan is shown to be incapable of digesting the impersonal and the matter of fact statements that her preceptor makes about a helpless comatose woman.

Susan cannot help experiencing an instant connection with the patient Nancy Greenly, and quite naturally is horrified at the prospect of getting the organs from the body of a woman close to her own age, despite the fact that it could help save a lot of other people. Every character in this scene is seen to be contributing a new perspective to an issue still considered to be delicate in the medical world while revealing what informs the priorities of a professional in a tricky or difficult situation. For instance, Susan, who is still alien to the harsh realities of the medical world, seems to be more concerned about breaching the patient's autonomy where her consent is not being sought for donating her own body parts. Meanwhile Bellows, who is more habituated to witnessing and dealing with coma cases is more inclined towards the prospect of saving more than one life through organ transplantation. Consumption of narratives of this kind consequently make the readers (doctors and medical students) privy to the visceral fears and deep-seated yen of the representative fictional characters in ways difficult to be discerned in actual life. Nevertheless, the engagements between the literary characters and the readers facilitated by the narrative medium bestow a deep and almost accurate awareness of people's true nature and motivation within a verbally simulated

medical environment. According to Lisa Higgins Shugoll,

> ... discussion of ethical dilemmas of fictional characters allows students greater freedom to explore their own reactions and responses than do case studies involving actual people. While it is important for readers to form an empathetic connection to fictional characters (most would say that this is what makes a work moving and meaningful) the absence of real-life consequences and time constraints allows the exploration of multiple possibilities and the formation of alternate scenarios and outcomes. (Shugoll 72).

Cook structures the plots such that it furnishes a "thick description" of the ethical cases. These fictional narratives can provide a conduit to better comprehend bioethics by forging resonances with both real and hypothetical personal experiences, and by engaging cognitive responses which can help in developing strong ethical instincts to identify morally compromised approaches in actual medical practices, that can in turn lead to developing a structured approach to its understanding and consequently resolution. "As Hilde Hein notes in a slightly different context, '(i)mages and characters and… fictitious plots can become so deeply embedded in our lives that they share mental space with personal memories and experiences and, like them, shape our ethical and political convictions'" (Chan 1). Since there can never be one apposite ethical approach to any medical crisis, medical thrillers can be used as examples of contextualised case studies to try out and perfect different approaches and explanations to the medically and ethically trying occurrences.

Hence, considering the domain of bioethics to be a monolithic discipline would be a mistake, since the scholars for a long time have been churning out numerous theoretical constructs with a strong conviction in the efficiency of their theories in

resolving the ethical dilemmas, despite the fact that no one pattern can be said to be absolutely fail-safe. The subtleties and nuances of the ethical theories might be lost on those people who have been trained in the scientific disciplines for a prolonged period of time, as in the case of healthcare professionals and students. This is so because the pursuit of science is seldom accompanied by a simultaneous reflection on the consequences of its practical application. Since their profession cannot be divested from the ethical and moral philosophies, it is vital that these concerns be made more accessible by helping the healthcare professionals and students "to think through difficult topics by casting them in a different light" (White).

For example, *Batman and Philosophy: The Dark Knight of the Soul*, by ethicists Mark D. White and Robert Arp is a fresh attempt at explaining the defining ideas of three different schools of thought central to the ethical debates, namely, virtue ethics, utilitarianism and deontology, using the popular and unconventional medium of the Batman movies, especially *The Dark Knight*, released in 2008. In the movie, the hero has an opportunity to end the life of his nemesis, the Joker. White and Arp explains that killing him would mean saving several other innocent lives, which is why utilitarians would endorse it. Deontologists would not support this act since they consider the very action of killing to be wrong. As for the virtue ethicists, what matters is the character of the hero, and they would ask the question whether it would be becoming of a hero like Batman to take someone's life, and the answer would be an emphatic no. A careful reading of Cook's thrillers reveal the possibility of its potential use as a similar medium of instruction, especially with regard to issues that have close parallels in real medical world. Medical ethics can be decoded into easily comprehensible ideas by referring to his works, in which the plots and subplots have an implicit subtext of several ethical philosophies, which will be discussed in the subsequent paragraphs.

The ideal being, according to Aristotle and other theorists, was someone who had figured out how to be virtuous, and it is from this notion that the virtue theory took shape. It should be remembered that this concept is different from other theories like Immanuel Kant's "categorical imperative" and Jeremy Bentham's "principle of utility", in the sense that it does not explicitly state precepts for its adherents. Virtue theorists focuses on the being of an individual rather than what flows from them in terms of their actions. In simpler terms, they suggest that the aim of an individual should be to be inherently good, and that once this is achieved, their deeds would effortlessly follow the right path.

Further, they believed that every human being had a primordial essence, or an innate nature, and to thrive would mean being true to that part of you. Aristotle had a simpler explanation based on the ultimate purpose of everything or being, according to which the goodness and badness of anything can be determined on the basis of whether or not it fulfils its ultimate purpose or function. Eventually it all comes down to being virtuous, that is, to pick up a bunch of robust behavioural traits which can in turn result in predictably acceptable conduct. "Aristotle believed that in most instances right action lay in the intermediary point between two extremes of excess and lack, the golden mean" (Rivera 79). The need to figure out and achieve the golden mean in the practice of medicine is a crucial and recurrent theme in all of the medical thrillers of Robin Cook.

In Cook's *Coma*, there are three leading characters namely, Susan Wheeler, Dr. Mark Bellows and Dr. Howard Stark. The first step in expanding upon the philosophy of virtue ethics in the context of this thriller would require considering all three of them as moral agents. A moral agent can be described as an individual who has the competence to differentiate between right and wrong, and consequently can be

considered to be accountable for his/her actions. Virtue theory, au fond, have to do with the disposition of a human being capable of acting as a moral agent. Hence, it advocates the necessity of being virtuous for an individual to exercise the right action, which naturally follows from having become proficient in the art of right being. Rather than prescribing a set of rigid rules and regulations to be followed in order to become a good person, virtue theory encourages people to aim at being inherently good so that the right actions can follow facilely.

As mentioned before, Susan Wheeler exhibits an instant connection and a feeling of sympathy for the comatose Nancy Greenly the very first time they meet. Here, Susan's sympathy undoubtedly is a virtuous attribute because it is much more than a response engendered by the force of habit, and is the result of her choice and practical reasoning. "Virtue is the disposition to do the right thing for the right reason, in the appropriate way – honestly, courageously, and so on. This involves two aspects, the affective and the intellectual" (Annas 3). This exposition on virtue ethics begs the question of whether Susan Wheeler can be considered to be a virtuous person. To get to the answer, it is vital that the first of the two aspects of virtue ethics, the affective aspect, be elaborated upon further. According to the virtue theorists, the performance of the right actions alone is not indicative of a person being virtuous. What they personally feel about that act, and the emotions engendered by its performance are equally important contributive factors. Susan's sympathy towards Nancy, and then to Sean Berman, another patient who had mysteriously slipped into coma, and her decision to investigate this clinical anomaly despite the warnings of her senior, attests to the fact that she had absolutely no internal conflict with regard to her response and actions.

Studying the reaction of Dr. Mark Bellows can give a better clarity to the concept of mental dissonance experienced by a moral agent even while performing a

virtuous act, but against their will. Being an intermediate resident, Mark was solely preoccupied with pleasing his seniors and acing the residency programme. Despite Susan's repeated warnings to Bellows that someone in the hospital was behind the increasing number of unexplainable coma cases, and presenting several evidences to substantiate it, he refused to act decisively. Even towards the fag end of the novel when he actually tries to verify her claims, it was only so he could do right by Susan because he had started developing romantic feelings for her. She had been brought in for a suspicious emergency appendectomy and taken to OR 8, where all the previous surgeries that resulted in coma cases had taken place. Seeing her as a surgical patient within a few hours of having noticed her enter the hospital lobby looking like she had been roughed up badly, that too in OR 8 was too much of a coincidence for even him to ignore. Though Dr. Mark Bellows did finally muster enough courage to nail the culprit, there was a part of him that resisted his involvement with the whole affair. He was aware that his career was on the line and his basic instinct of self-preservation had prevented him from performing the right action with complete sincerity and commitment.

Being a doctor, though Mark's first commitment should have been to his patients, he chose to act in his own best interests. Within virtue ethics, Bellows cannot be considered to be a virtuous doctor because he is motivated by the end result, and in order to attain his goals he doesn't mind compromising himself and his morals. Early on in the novel Susan had brought to his attention a potential danger looming large in the hospital for his patients. Even when he was entertaining her suspicions, he is shown to be holding back for fear of antagonizing his superiors. He was also a preceptor in charge of a bunch of third year medical students who were absolutely new to the vagaries of clinical medicine. Also, they were learning from him not only theoretical

medicine, but also the lessons in professional deportment. It is here that the disturbing lack of sympathy in his conduct towards the patients assume severity. Thus, it is only fair to say that he lacked an innate drive to do good, and hence, does not fulfil the criteria to be called a virtuous person. Every time he tries to do what is right, his preservation instinct makes him restrain himself from acting wholeheartedly, and hence, gets in the way of embracing his virtues. "Mere performance of the right action still leaves open the issue of the agent's overall attitude; virtue requires doing the right thing for the right reason without serious internal opposition, as a matter of character" (Annas 3).

The actions of the third moral agent, Dr. Howard Stark, is more consistent with Aristotle's understanding of the 'vicious person'. Quoting Annas, Muller writes, "Aristotle's bad man is someone who has come to have systematically perverted ends, who believes in what he is doing" (Muller 2). In *Coma*, the antagonist Dr. Howard Stark, the chief of surgery, intentionally induces healthy patients into coma to retrieve their organs for sale in the organ black market in order to find money to invest in the teaching hospital. It becomes evident through his actions that he has a misplaced sense of commitment towards the society, where killing a few individuals for the apparent larger good of the community offers extenuating circumstances. He justifies his actions thus:

> We need first-rate institutions, like the Memorial and its facilities. Next, we need people like myself, indeed like Leonardo Da Vinci, willing to step beyond restrictive laws in order to ensure progress. What if Leonardo Da Vinci had not dug up his bodies for dissection? What if Copernicus had knuckled under the laws and dogma of the church? (Cook, "Fatal Cure" 322)

Dr. Howard Stark is thus an exemplary vicious agent, who is a principled follower of his erroneous assumptions, as becomes evident from the above words. Aristotle briefly speaks about the "Principled Vicious Person" (Muller 10) or the vicious agent in his treatise titled *Nicomachean Ethics*. One cannot trace even an iota of remorse in the words of Dr. Howard Stark, even as Susan is petrified by his revelations. This behaviour of his is consistent with the observations of Aristotle regarding individuals who embrace vice with strong convictions regarding its necessity and justifiability, like a true "Principled Vicious Person". For them "vice is a continuous condition" and "the vicious person does not recognise that she is vicious" (Muller 11). Alternatively, one can construe the words and actions of Dr. Stark as motivated by an extremely utilitarian approach where,

> ... decisions are chose based on the greatest amount of benefit obtained for the greatest number of individuals. This is also known as the consequentialist approach since the outcomes determine the morality of the intervention. This approach could lead to harm some individuals while the net outcome is maximum benefit. (Mandal 5)

Dr. Stark's focus is only on developing the Boston Memorial Hospital further into a world class facility. The larger question that this context raises is whether it is ok to give primacy to the welfare of the many over a few. For doctors like Stark, the few murders committed to supply organs in the black market for finding funds for the hospital is nothing but a small price to pay for a better medical future for the community. Here, Cook seems to be echoing a larger ethical concern that has been plaguing the modern medicine for several centuries, that of the use of human beings to further its knowledge base and progress. For instance, the ultimate way to prove most medical hypotheses is to involve the participation of human subjects.

Such experimental processes do put the life of these people in danger, no matter the extent and the utility of the pay-off. In 2007, Hugh Davies wrote an interesting paper titled “Ethical Reflections on Edward Jenner’s Experimental Treatment”, in which he presents the proceedings of an imaginary review committee of Edward Jenner’s proposal with regard to the experimental process of vaccination along with the multiple ethical predicaments it can raise. Davies proceeds to say that, had a committee on research ethics been constituted in 1790s, they would have summarily dismissed his proposition. However, one cannot but accept that it was his will to overstep the ethical lines, like Dr. Howard Stark, that managed to save several lives across multiple centuries. Having said that, it does not reduce the gravity of his actions when he chose to experiment on a child, even while knowing that there was a possibility that his plan could backfire.

Hence, it becomes evident that the choice of larger good versus doing right by a few has been a recurrent pattern in the medical history and continues to the present. Doctors are constantly pressurised to make similar difficult choices on a daily basis, and Cook has presented an extreme instance of such a choice gone awry through a character erring at the extreme end of the ethical spectrum, in order to underscore the wrongness of his actions in terms of the extent of deviation from the ethical path in this novel. Once again, the sequence of events in the Boston Memorial Hospital and The Jefferson Institute serve as an eye opener for the medical community, by pointing out how fine the line is between ethical and unethical medical conduct, and how such actions can easily go unnoticed under normal circumstances.

Unsuspecting healthy patients are pushed into a vegetative state at the hospital, from where they are referred to the Jefferson Institute for chronic care, which also functions as a warehouse for the siphoned organs from these patients. Though this

whole scenario might come across as scarcely credible, one cannot but ponder over the odds of it actually happening in the real world. It is important to note how "In recent times, transplant medicine encountered a challenge – a severe shortage of organs. Sadly, organ trafficking and transplant tourism emerged in response to this challenge" (Trey 71).

Deontology and utilitarianism are two other medical theories most frequently applied to the practice of medicine, and comprises the two major branches of thoughts that are involved in resolving ethically complicated medical situations among others. Deontological perspective does not consider the consequences, results or outcomes of an action to be an indication of its acceptability or rightness. Instead, its focus is on the action per se. Utilitarianism on the other hand gives a lot of weight to the end result of any action such that, if it turns out to be advantageous, the nature of the means is overlooked. Deontology and utilitarianism can be further contrasted as follows:

> In brief, deontology is patient-centred, whereas utilitarianism is society-centred. Although these approaches contradict each other, each of them has their own substantiating advantages and disadvantages in medical practice. Over years, a trend has been observed from deontological practice to utilitarian approach, leading to frustration and discontentment. Health care system and practitioners need to balance both these ethical arms to bring congruity in medical practice. (Mandal 5).

Cook narrativizes and highlights this widely prevalent discord and conflict in medicine, brought about by the application of utilitarian ethics, in the backdrop of Managed Healthcare in his thriller *Fatal Cure*. In the novel, the protagonist David Wilson is an employee of the Bartlet Community Hospital, which has a tie up with the

local HMO (Health Maintenance Organisation) called CMV (Comprehensive Medical Vermont). Managed care can be defined as, “clinical and financial risk assessment and management of health care, with a view to facilitating appropriateness and cost-effectiveness of relevant health services within the constraints of what is affordable, through the use of rules-based and clinical management-based programmes” (Dept. Of health SA). Under such systems, the doctors are regularly subjected to quality assessments and utilisation reviews, both of which keep a very close tab on the doctor’s performance, which is then analysed by the authorities to tweak their clinical approaches, with an eye on the bottom line.

During his first utilisation review, for which he was called out of his consultation room right in the middle of his office hours, even with a full schedule, by the CMV’s regional manager Charles Kelley, David was told that his performance was not up to the mark. He was instructed to cut down the consultation time with every patient, reduce the total number of laboratory tests ordered and to stop referring his patients, even if they were seriously ill, to the emergency room unless it was a case of life and death because emergency was not covered by the CMV plan and hence, the expense would have to be borne by the hospital. He was also advised not to order consults from outside the CMV community, and to discourage his patients from using the ambulance services. After listening to Kelly’s harangue, what really bothered David was that, not even once did the patient satisfaction or quality assessment come up as a point of discussion between them.

Notwithstanding the personal and professional incentives involved, Charles Kelley represents the decidedly utilitarian ethical considerations of the modern-day healthcare schemes, where apparently commitment to the whole community triumphs allegiance to the individual patients. It is true that “In the face of limited resources and

increasing healthcare costs, some form of rationing is imperative, and the concept of utility is often appealed to in guiding this rationing towards the greater good for the greater society" (Hattingh 17). Having said that, David finds the means of achieving this end unjustifiable because the individual patient in most cases gets short changed with regard to quality medical care. The conversation he has with his first patient, Marjorie Kleber, reveals that his concerns are not completely unfounded. She brought him in contact with the actualities of the managed health care, where the autonomy of both the patient and the physician get compromised.

Marjorie Kleber introduced him to the practical details of managed healthcare by explaining to him her personal problems. She told him how she did not exactly have much of a choice when it came to choosing her health care plan since her school, where she was working as a teacher, switched the medical coverage to CMV. The transition had meant waiting for nearly four weeks before getting an appointment with her doctor, who kept changing repeatedly with every consultation, thus, affecting the continuity of her treatments. She could not even access the services of the emergency room without the prior approval of a CMV physician, and despite having been a cancer patient, she was denied easy access to an oncologist. David came to know that if at all her condition warranted intervention by a specialist, it had to happen with his approval. Having said that, he did not get to choose the best among the experts, since they had to be under the CMV payroll, thus drastically narrowing down the options.

Both Kelley's rant and Kleber's disclosure can in fact be taken up as Cook's ingenious technique to introduce the readers to the possible violations of the four substratal principles of medical ethics within the managed care programme, without coming across as being tedious or sententious. In their seminal work, *Principles of biomedical ethics* (1989), Tom L. Beauchamp and James F. Childress introduced these

ethical principles one after the other, namely: “autonomy, beneficence, non-maleficence, and justice” (Gillon 184). In short, one can say that Beauchamp and Childress are presenting to the readers a defencei of the notion of principlism, the germs of which can be traced to the Belmont Report, issued on 30 September 1978, in the context of human experimentation. Beauchamp and Childress extended the ideas contained in this report to clinical medicine as well.

Fatal Cure offers contexts where the non-adherence to the four principles discussed above leads to ethical violations within the modern-day managed healthcare systems. For instance, when David visits Marjorie in her room with the intention of discharging her, he finds her to be feverish and lethargic. She was unresponsive, as if in a drugged stupor, and her phlebitis also appeared unresolved. Unable to identify the causative factor, David had no other option, but to write an order for a battery of blood tests, and the following course of action ensued.

> Returning to the nurse’s station, David debated what to do. More lab tests came back, but they were all normal, even the portable chest X ray, and hence no help. David thought about calling in some consults, but after his poor utilisation review the day before, he was reluctant. The problem was that the consults who might have been helpful were not part of the CMV organisation. (Cook, “Fatal Cure” 150).

For any healthcare professional or student, David’s dilemma raises a particularly relevant question of whether or not his actions are a breach of the principles of ethics. If yes, then the moot question is whether the restrictions imposed on him by the system be can be cited as a justifiable reason for his actions. Though not explicit, there is a violation of the patient’s autonomy in this context. “Autonomy - literally, self-rule, but probably better described as deliberated self-rule - is a special attribute of all moral

agents" (Gillon 184). Denying the choice to the sick with regard to their treatments does not go down well with the philosophy of autonomy. Under normal circumstances, a physician has to make his/her patients aware of their health conditions along with the pros and cons of the intended course of their treatment, along with the best options available, thus empowering them to exercise their autonomy to make an informed decision regarding the same. Nevertheless, because of CMV, the Bartlet Community Hospital does not give David a free hand in picking up the best course of treatment for Marjorie by restricting the alternatives exclusively to what comes under their plan alone.

A doctor working under such an arrangement that subverts his/her own autonomy can never function as the guardian of their patient's autonomy. It was noted that most "... physicians identified decreased patient choice in medical decisions as having a negative impact on the physician-patient relationship, which could adversely affect care as well" (Feldman 1630). Ubel and Scherr writes that "Promoting patient autonomy and shared decision making is about more than informing patients about their treatment alternatives. It also requires giving patients a proper role in the decision and, perhaps even more importantly, making sure that choices reflect patient-specific values and preferences" (Ubel 34). However, homogenised treatment regimens packaged into healthcare plans under the HMOs, do not take into consideration the individualised needs of the patients, especially like Marjorie or John Tarlow, who have had prior histories of relatively rare and serious medical conditions, and this can pose a challenge in implementing another ethical principal, that of, beneficence.

> More commonly in medical ethics, beneficence is understood as a principle requiring that physicians provide, and to the best of their ability, positive benefits such as good health, prevent and remove

> harmful conditions from patients. This is to say that beneficence as a principle of medical ethics asserts an obligation (on the part of the physician) to help others (patients) further their important and legitimate interests and abstain from injuring them in any way, that is psychologically, morally or physically. (Mawere 2)

After Marjorie's unexpected death, and finding a repetition of the pattern in the condition of another patient, John Tarlow, David becomes panicky fearing the worst and shifts him to the ICU (Intensive Care Unit) with commendable efficiency. As in the case of Marjorie, he orders a bunch of blood tests and chest X ray, only to find a progressively worsening pneumonia making him weaker. Finding his knowledge base to be inadequate, he decides to call in consults including Dr. Clark Mieslich, the oncologist and Dr. Martin Hasselbaum, the infectious disease specialist. John had a history of leukaemia, and had been admitted with severe GI (gastrointestinal) problem, "following a meal of raw shellfish the night before" (Cook, "Fatal Cure" 152). His condition takes a turn for the worse and David once again is forced into a situation where he is expected to exercise prudence in terms of allocating medical resources for his presumably terminally sick patient.

"Allocation decisions concerning the prioritization of healthcare resources across competing interventions involve evaluating the impact on both costs and health outcomes" (Whitehead 5). John's situation demanded immediate intervention and David did not pause to think twice about his priorities even while being aware that John did not have a positive prognosis. When Dr. Hasselbaum told David about some experimental agents that they were working on to resist the kind of endotoxin shock that John Tarlow was suffering from, David immediately put him on those medications despite the fact that these drugs were still experimental, and very expensive.

Though David did not have any doubts regarding the necessity of this treatment regime for John, his little spat with Kelley later on made him wonder if he had indeed gone overboard with pumping his sick and visibly dying patient with expensive and scarce medications, which could have been used for someone with better chances at survival and quality life. All said and done, David's action is visibly consistent with the principle of justice in medical ethics, which is primarily about fair and just treatment meted out to the seekers of medical care. It also incorporates the need for equity which calls for an impartial discharge of medical responsibilities and resources. This would mean David was indeed right in having tried out every possible means in sustaining the life of his patient irrespective of the odds against him. But, at the same time he was also depriving a healthier patient access to the experimental drugs which were not yet made easily accessible in the market.

The fourth ethical principle is non-maleficence, which can simply be defined as "first do no harm" or "we should not harm others" (Lawrence 36). David's inability to accept the sudden deaths of his terminally ill patients one after the other following the same inexplicable symptoms led him to the root of a malicious conspiracy in his hospital. What transpires behind his back is the worst case of a malicious and malevolent attempt at cost containment by the hospital and the HMO. The author mentions how the Bartlet Community Hospital had no option but to capitate and operate hand in hand with the HMO, since it had scooped up most of their patient base. "That means furnish hospitalisation for the major HMO in the area for a fixed fee per subscriber per month. Unfortunately, the hospital had estimated utilisation at too low a cost. The money coming in was much less than the money going out" (Cook, "Fatal Cure" 440). The net result was that the hospital was sinking and the authorities were desperately trying to stay afloat.

Such precarious financial situations quite naturally called for judicious and prudent utilisation of funds and resources. It is true that the chronically ill patients and the ones with untreatable and end stage diseases can utilise hospital resources pretty intensively, which in turn translates to high expenses. Bartlet Community Hospital, however, could not afford that kind of drain on their already dwindling funds, and as a result the administrators decided to get rid of high outlays by eliminating the patients themselves. They did this by coming up with a "diabolical yet effective scheme" (Cook, "Fatal Cure" 442), that is, by subjecting the unsuspecting patients to overwhelming doses of radiation from a cobalt -60 source as explained below.

> "An orthopaedic bed was fitted with a heavily lead-shielded box," ... "It was mounted under the bed and contained the source. The box had a remotely controlled window that was operated by a garage door opener with radio waves. Whenever the port was opened the patient was irradiated through the bed ..." (Cook, "Fatal Cure" 441)

This is an extreme case of violation of the principle of non-maleficence by the people in power. Through a seemingly outlandish climax to his plot, the author is trying to communicate how vulnerable the patients are, and no matter the number and types of reforms implemented in the healthcare sector, economic motives can act as a threat to their safety and life. Ethical considerations should be made a part and parcel of every stage of patient care and should not be limited to the doctors alone since even external players, like the HMOs, the big pharma and the medical devices industry, have nowadays come to have a say in their treatment regimes. Every single individual seeking treatment have the right to quality patient care, and somehow the existing system cannot guarantee this to the people. Ideally there should not be any room for conflicts when it comes to providing medical care to the diseased.

However, the conflict arises when providing care to a particular patient can simultaneously mean depriving someone else of that care. Circumstance can thus force medical practitioners to make such difficult choices as narrated in the thrillers, more often than not, against their will. The question is, what happens when a doctor feels entitled to make such choices, flouting all the ethical theories and principles. What happens when the apotheosis of the healer takes place and he begins to consider himself god? The prospect is scary, and Robin Cook explores this possibility in his novel *Godplayer*, published in 1983. The execution of ethical considerations should take place from a position of humility on the part of the medic because it entails valuing someone else's life and welfare, and Cook reminds the readers that overweening hubris is an extremely undesirable trait in any person, particularly within the healthcare business.

When the medical resident Jerry Donovan says that the "biggest difference between an internist and a surgeon is the ability to make irreversible decisions" (Cook, "Godplayer" 34), he was referring to how during a medical emergency, Thomas Kinsley, the Boston Memorial Hospital's most notable cardiac surgeon, had performed an internal cardiac massage on a patient who had gone into cardiac arrest, as an immediate and sudden response to the crisis without a second thought. It was a demonstration of the amount of power that a surgeon wields over a patient's body and life while being accountable for each one of their life and death decisions. That was an act which required courage, confidence and conviction in equal measure. Several years ago, after the success of his first solo surgery, which had proven to be particularly difficult, Thomas had explained how he "felt as if he had created life ... defying death with his own hands – it was like playing god" (Cook, "Godplayer" 48).

The Australian reporter Harriet Alexander mentions how the patients and their

families tend to deify the doctors, especially surgeons, for merely performing to the best of their abilities what they have been trained to do. She writes, “For every surgeon who has a God complex, there is a bevy of complicit patients” (Alexander). For instance, “Thomas remembered that after his first open-heart success, Mr. Nazzaro’s family had been equally hysterical in their thanks ... The whole family had hugged him and Thomas had hugged them back. He could sense the respect and gratitude they felt toward him” (Cook, “Godplayer” 52). This was an experience that he used to get high on during his initial years as a budding surgeon, and had contributed immensely to the sense of entitlement he had begun to nurse in his mind since then. As a result, he was somehow convinced that it was for people like himself to decide who were worthy of the specialised and costly medical treatments, and who were not. He says,

> “all I want to do is surgery on people who deserve to live, not a bunch of mental defectives or people who are going to die of other illnesses. Medicine has to understand that our resources are limited. We can’t let worthy candidates wait while people with multiple sclerosis or gays with autoimmunal deficiencies take valuable beds and OR time”. (Cook, “Godplayer” 286)

To Thomas this stand of his was not unconscionable since it was consistent with his definition of the ethical principle of justice, according to which expending precious time, skill, money and energy on patients with limited survival prospects was an injustice being done to those with better chances at leading a healthier and more productive life. This points to another ethical dilemma that is confronted by both the professionals and the patients, that of misconstruing the ethical principles and theories, or to conveniently define them to mean whatever they want it to be. Also, what is ethical and justifiable for one party might appear to be unethical and unjustifiable for

another. The context and the character of the decision-making authority will have a lot to contribute under such circumstances.

The nature of the medical profession is such that, in course of time it might have a detrimental impact on the psychological constitution of a practitioner, as Cook shows through his portrayal of Dr. Thomas Kinsley. This can impair their capacity to act in the best interest of the patients, and can even cloud their judgement without them being aware of it. Thomas is shown to have been an idealistic, compassionate young surgeon, who went on to be a narcissistic god player, as he became more and more skilled and unrivalled in his area of expertise. As a fledgling surgeon he had taken time to get to know his patients more as persons, and not merely in terms of their pathology. But now with his busy schedule, with as much as three to five surgical cases per day, he never cared to know more about his patients, and identified them solely on the basis of their preoperative pathology. Having lost the ability to connect to the human element in his job due to too much of clinical detachment, he was increasingly becoming dissatisfied.

Thomas had also begun to develop symptoms of anxiety and tremors in his hands, for which he had resorted to self-medication without taking help from the specialists. Cook presents him as a classic example of what is called an “impaired physician”. “The impaired physician is a medical doctor who suffers from alcoholism, drug addiction, or mental illness. Physicians, like other professionals who are responsible for the life of another individual, bear an additional burden in their impairment” (Feinberg 598). Not only was Thomas addicted to prescription drugs like Percodan, Dexedrine and Talwin, he also refused to take help for his mental condition. This can be considered to be a blatant violation of professional ethics since “The ramifications of physician impairment go beyond the individual and his personal contacts, and place his patients at greater risk” (Feinberg 598). Under such

circumstances, the peers have to watch out for each other, as mentioned below.

> The American Medical Association (AMA) Code of Medical Ethics lists the following responsibilities that physicians have toward impaired colleagues: to intervene in a timely manner to ensure that impaired colleagues cease practicing and receive appropriate assistance from a physician health program; to report impaired colleagues in keeping with ethics guidance and applicable law; and to assist recovered colleagues when they resume patient care. Yet one-third of physicians with personal knowledge of an impaired or incompetent colleague do not report. (Santucci)

That day, Larry Owen, the surgical resident assigned to assist in the bypass surgery, could clearly see that Thomas was exhausted. “His usually flawless coordination was off and his judgement faulty. And worst of all, Thomas had an uncontrollable tremor” (Cook. “Godplayer” 198). After scraping through the first two surgeries, he was on the verge of a breakdown, and nearly killed his third patient before Larry mustered the courage to stand up to Thomas and showed him out of the OR (operation room) respectfully. When he narrated the whole episode to Dr. George Sherman, Thomas’s colleague, Larry was advised not to repeat the incident ever again to anyone since it would affect the reputation of the hospital. This is clearly an instance of the violation of AMA’s code of medical ethics discussed above.

Quite naturally, Dr. Cassandra Kinsley, Thomas Kinsley’s wife justifiably felt that the peer review in the hospitals was not working as it was supposed to be. When she had come to know of her husband’s issues with drug addiction, she had promptly brought it to the attention of the surgical department chief, Dr. Ballantine. However, instead of following up on the matter seriously, he brushed it off as an inconsequential

observation since Thomas was still performing well without any serious surgical complications to make him think otherwise. Besides, Thomas was Boston Memorial Hospital's star surgeon, and commanded an impressive patient base. His reputation was very closely linked to the hospital's own, and as a result matters pertaining to his drug addiction could not be publicised for fear of tainting the hospital's name. Cassandra complaints how "People like Thomas are allowed to go on destroying themselves and their patients because their colleagues won't take action" (Cook, "Godplayer" 292).

The very fact that eighteen patients getting killed by Thomas goes unnoticed by the hospital authorities point to a systemic lapse. The first time Thomas had deliberately ended the life of a patient he thought was not worthy of being treated, was during his time as a junior resident on thoracic surgery. There was a crisis of sorts, in the sense that none of the beds in the ICU were vacant due to simultaneous developments of complications in all the post-surgical patients. None of the patients could be transferred even after days from the ICU, which meant postponing of several elective surgeries. The department was lagging behind on their surgical schedules and something had to be done about it. One among the patients was Mr. Frank Gork, who had been brain dead, and was surviving on the unit for over a month. Killing him was according to Thomas "simple, clean, definite and practical" (Cook, "Godplayer" 228), because it cleared space for healthier patients who had better chances at survival, thus justifying the morality of this deplorable act. It is intriguing to note how both Dr. Thomas Kinsley in *Godplayer* and Dr. Howard Stark in *Coma* are motivated by the same sense of perverted logic, though they manifest differently in the clinical situations, ultimately leading to ethical violations.

In an interesting article titled "Utilitarianism and the Morality of Killing", Dale Jamieson points out how a few noted philosophers in the second half of twentieth

century, like John Rawls, Robert Nozik and Ronald Dworkin unanimously stated that, "utilitarianism permits and even requires the gross mistreatment of innocents, that it sanctions manifestly unjust economic distributions, and most importantly that it confuses a valid principle of individual choice with an invalid principle of social choice" (Jamieson 209). He also quotes the following words of Richard Henson from his work "Utilitarianism and the wrongness of Killing". According to him, "utilitarianism cannot account for the gravity with which we view the taking of human life" (Jamieson 210). Clearly, Thomas was motivated in his actions by the utilitarian aspects of moral philosophy from the time of his first murder itself. However, it is far from being ethical, as is discernible from Henson's words above, and also according to the fundamentals of deontological and virtue ethics discussed in the beginning of this chapter.

While the ethical quandaries surrounding the delivery of professional duties and termination of life has been discussed in the analysis of the three novels till now, there are equal or more complexities surrounding the creation and the alteration of life made possible by the myriad medical innovations. The immense potential of biotechnology, especially in the realm of transplant medicine has been lately raising unforeseen ethical hurdles, something that Cook has explored in his book *Chromosome 6,* first published in the year 1997. The book narrates the consequences of a single oversight on the part of a biotechnologist, who tinkered the human evolutionary timeline by creating transgenic bonobos. One year after the publication of this novel, an article titled "New Directions for Organ Transplantations" appeared in the *Nature,* where the author Jeffrey L. Platt proposed xenotransplantation as a possible solution to overcome the deficit in the availability of organs for transplantation. Through this particular article he was merely sounding a popular line of thinking among the specialists in the domain.

According to American physiologist Charles Claude Guthrie, in his work *Blood-vessel surgery and its applications*, published in 1912, "the development of the vascular anastomosis, a surgical technique allowing the suturing of cut ends of blood vessels, prompted the first attempts to transplant organs from one individual to another" (Platt 11). However, it took another fifty years for the clinical success of organ transplantation, "until the development of immunosuppressive drugs allowed the immune response of the patient against the graft to be controlled" (Platt 11). Though the techniques are being perfected, and the success rates have reached a reassuring percentage, the biggest hurdle to patients receiving the full potential of transplant medicine is indeed the paucity in the availability of organs for transplantation. Apart from overcoming this hurdle, xenotransplantation is also preferred due to the various other advantages it has to offer.

Platt details the various advantages of Xenotransplantation which legitimises its practice convincingly. Unlike most organ transplantations, that take place suddenly since the availability of organs is rarely predictable, xenotransplantations can be prepared for in advance. The harvesting of the organ and the transplant surgery can take place immediately without having to waste time over the transportation of the graft. Such planned procedures also allow for preparing the recipient in advance to receive the organ through therapeutic regimens meant to prepare the immune system. Xenografts also prevent the possibility of recurrence of certain diseases since pathogenesis, or the mechanism of development and progress of a disease, is often found to be specific to particular species. "Yet another advantage is the possibility that animal donors could be genetically or biochemically manipulated in order to lower the risk of rejection" (Platt 11). This possibility, however, comes with its fair load of ethical complications, as is envisioned by Cook in *Chromosome 6*.

With a Ph.D. in molecular biology, when the protagonist Kevin Marshall was "Custom designing the perfect organ transplant source for a specific individual" (Cook, "Chromosome 6" 430), he was not aware that he had "overstepped his bounds and committed a Promethean blunder" (Cook, "Chromosome 6" 430). In order to create the perfect organ donors, Kevin had devised a method to incorporate the short arm of the chromosome 6 from a human stem cell, about to divide, into a bonobo zygote, also about to divide, thus transferring and replacing the MHC, or the Major Histocompatibility Complex, into the bonobos in the process. This prevents any adverse immunological response from the donor by eliminating the disparity between the donor and recipient MHC. However, instead of isolating the complex alone, he took the easy way by supplanting the entire short arm of chromosome 6. One of the main reasons for Kevin's mounting anxiety in the beginning of the novel was the revelation that the short arm of chromosome 6 also housed several developmental genes, and as a result he did not exactly have a clear picture of what he had created in the transgenic bonobos.

When Kevin goes to Isla Francesca, where the transgenic bonobos he had created were housed till they were retrieved for organ harvesting, he is surprised to see that they were as good as proto humans, communicating with each other through some form of crude language that combined both signs and sounds. They were living in caves, used fire to cook meat, and also had learnt to make crude weapons to hunt and kill each other. Knowing how close these animals were to humans, he could not bear the thought of killing them to supply organs for his rich clients. The concern and worry that the protagonist experiences in the novel have become the topic of widespread debates and discussions among the scientists and the ethicists in the past few decades. In fact, a set of guidelines have been drawn as a result of such consultations, especially

with regard to ACHM, or Animals Containing Human Material. Andrew Moore, Editor-In-Chief, Bioessays And Wiley Researcher Academy, reminds that,

> Not so long ago, it could be argued that the term 'humanised' was a bit of a joke, or at best an overstatement of the achievement, referring, as it mostly did to mice that had been genetically engineered with a single human gene. In 2005, however, a mouse model of Down's syndrome containing over 200 human genes – in effect, most of chromosome 21 – was created. And today it is possible to generate certain animals harbouring significant portions of tissue of human origin by inserting human stem cells into the developing embryo.(Moore 649)

Cook has woven together an interesting set of circumstances to trigger discussions on the morality of using transgenic animals, and where to draw the line when it comes to the question, "how humanised is too humanised" (Regalado)? In August 2019, Antonio Regalado, the senior editor for biomedicine for *MIT Technology Review*, reported in the journal, how "In a controversial first, a team of researchers have been creating embryos that are part human and part monkey" (Regalado). The primary focus of this research was to fashion transgenic animals such that their organs are mostly comprised of human cells, thus facilitating the use of animal organs for transplantation successfully. "Because monkeys are genetically closer to humans, it's possible that such experiments could now succeed. To give the human cells a better chance of taking hold, scientists also use gene-editing technology to disable the formation of certain types of cells in the animal embryos" (Regalado). Even though the research, for ethical reasons, was stopped well before baby was born, it proves that similar researches are definitely in the offing.

While writing about the same subject, Jane Dalton wrote that "Ethical concerns were raised over the trial, partly over fears that human stem cells could migrate to the brain" (Dalton). In an interview given to *EL PAIS*, doctor Ángel Raya, the director of the Barcelona Regenerative Medicine Centre, threw light on the ethical barriers in researches involving chimeras. He raises the following pertinent questions: "What happens if the stem cells escape and form human neurons in the brain of the animal? Would it have consciousness? And what happens if these stem cells turn into sperm cells?" (Ansede). Cook in *Chromosome 6* has fleshed out the possible answers to these questions while simultaneously detailing the various external factors that can have a bearing on similar researches and research output. In the novel, Dr. Kevin Marshall accidentally creates excessively humanised bonobos, thus entering a new zone of ethics and morality, hitherto only conceived of in hypothetical terms.

The laws and regulations in place with respect to animal research fall short when species boundaries get breached to the extent as discussed above. It wedges open a liminal expanse of ethical conundrums. It will require the specialists to revisit the present patterns of ethical approaches to include our moral obligations to the new lot of humanised animals. For instance, when Candace, who was a part of the surgical team that extracted organs from the genetically modified animals, came to know about the reality of the transgenic bonobos, she says, "'One thing is for sure ... I am not going to be involved in any more harvests. I began to feel uncomfortable when I thought they were apes. Now that we know they are proto-humans, I can't do it" (Cook, "Chromosome 6" 361).

This proves that, if at all an eventuality as conceived by Cook does happen in the near future, the new chimeric animals might not be used to fulfil the very purpose of their creation due to the status that they will plausibly come to occupy above the

animals and below the humans in the hierarchy of beings, while posing serious questions about the rights of these intermediate beings that straddle the man - animal boundary. Even otherwise the use of any animal for research purposes meant to benefit mankind by genetically modifying them, breeding them in enclosed spaces and confining their existence to serve the medical or other purposes involves the violation of animal rights. Kevin becomes increasingly aware of this towards the end of the novel, when the bonobos are held captive by the officials of GenSys to prevent them from fighting and killing each other. Each bonobo was an immunological double of a paying client, and hence a valuable commodity.

But Kevin managed to realise the injustice in this action and decided to do what he felt was right by letting them go freely into the wild. However, as Candace had pointed out before, these new animals had formed a new race of beings. They were neither animals nor humans, and they had set foot in a world where their role was blurry and the consequences of their existence uncertain. Moreover, as Melanie, who was another colleague of Kevin's said, since they could reproduce, there would soon be more than one generation and several number of them to worry about in future. This would prove to be an insurmountable obstacle since the fundamentals of ethics in this area is mostly based on the man-animal dichotomy, which gets challenged by the chimeras like them.

Cook also brings to the attention of the readers the amount of control, or rather the lack of it, that the researchers have on their own research projects while availing funding from the private players, whose primary motivation is almost always money. "... xenotransplant technology is just another way for biotech companies to make money. There is a perception that these companies are not concerned with the welfare of the animals or the well-being of mankind because of a presumed disregard for the

long-term ramifications of the procedure" (Phillips). For instance, in *Chromosome 6*, though the four patients who had received organs via this programme were healthy, the autopsy of one of them, Franconi, showed the presence of granulomas and cysts that appeared to have caved in at the centre. The forensic pathologist Jack Stapleton discovers the presence of a parasite called hepatocystis in the liver of one of the organ recipients who had been killed and subjected to necropsy.

This proves how xenotransplantation cannot be considered to be an absolutely fail-safe solution to the problem of lack of availability of organs for transplants. This is because, as Cook reminds, "the impact of xenotransplantation on the human race is still unknown. The procedure leaves open the potential for new types of infection to be introduced that might not have immediate cures" (Phillips). It was morally and ethically wrong on the part of GenSys to have initiated this programme without looking into its consequences for both the animals as well as for the humans. Further, as Dr. Raymond Lyons, the mastermind behind the whole bonobo project, says, "this is an expensive operation and can be made available to only a few highly select people. This violates the concept of equality" (Cook, "Chromosome 6" 96), and as a natural corollary, the ethical principle of justice.

In a different context, Jennifer Leavitt, currently the communications officer at the Yale Centre for Clinical Investigation (YCCI), mentions Cook's novel *Mutation* in an article written for *Medscape* in the context of human embryonic genetic mutation. Her article begins as follows:

> Warning the world about the potential perils of genetic engineering, physician-novelist Robin Cook brought us his medical thriller *Mutation* in 1990. At the time, his foreboding tale about the perfect designer baby–turned–evil genius seemed like pure science fiction. A quarter century

> later, though, gene-editing tools are being perfected in labs throughout the world, and some fear that Cook's fantasy could someday be reality. (Leavitt)

Mutation begins with Cook quoting the line "How dare you sport thus with life?" (Shelly 78), from Mary Shelly's famous work, *Frankenstein, or, The Modern Prometheus*. This is meant as a warning for all those scientists out there trying to genetically engineer human embryos without knowing the full potential of its possibilities. Through this work, he underscores the ethical responsibilities of the researchers while showing how a loving father and agog scientist in Dr. Victor Frank is brought face to face with the demon born out of genetic manipulation in his own son. Victor Frank junior, or VJ, was conceived via IVF (In Vitro Fertilisation) through a surrogate mother. But before implantation, Victor had performed a point mutation on chromosome six of the zygote, on a nonsense sequence of DNA, followed by the insertion of NGF, or Nerve Growth Factor. The net result was VJ, who was a child prodigy in every sense of the word. However, unbeknown to Victor, "VJ had gone a step ahead and raised himself to the stature of god. His Machiavellian rationale was shocking. He had purposefully created a group of human chimeras with inferior intelligence to function as his orderlies" (Nair 81) using the same technique his father had devised to create him.

Through VJ, Cook here has placed in context an important source of disconcertment that had gripped the popular imagination pertaining to human embryonic genome editing, by suggesting how optimising genetically modified individuals to exhibit desired characteristics can in fact exacerbate social inequalities. It is true that these technologies will eventually be of great help in curing and treating several diseases, however, they are not the end in itself, rather brief detours from where

these innovations are actually leading us. Victor's experimentation can be read as a violation of the ethical principle of beneficence, since his actions, though prima facie might come across as beneficial to his son VJ, since he was made into an intellectually superior being, did in fact turn him into a cold-blooded monster.

VJ was in fact deprived of a normal childhood and emotional growth due to his father's genetic tweaking. Though Victor chose a nonsense sequence of DNA to do the point mutation, it was not without risk as explained below.

> Venter, who helped lead the first successful effort to sequence the human genome, warns that "we have little or no knowledge of how (with a few exceptions) changing the genetic code will effect development and the subtlety associated with the tremendous array of human traits." Venter adds: "Genes and proteins rarely have a single function in the genome and we know of many cases in experimental animals where changing a 'known function' of a gene results in developmental surprises". (Masci)

Hence, Victor was not exactly aware of what he was doing while toying with his son's genes. Therefore, he cannot even claim that his efforts were in the best interests of his progeny, since there was no way he could have been hundred percent sure of the success of the procedure. There is also the issue of VJ's autonomy getting violated as he had not asked for or given consent to what he had received in lieu of cognitive enhancement. It also includes another problem of unintentionally extending the effects of the genetic alteration to the next generation too, thus increasing the magnitude of the ethical violation. "It is not clear at present" how similar researches on human embryos "could be pursued in the light of the substantial difficulties in ensuring adequate consent not only on the part of the experimental subject, but also on the part of future generations who will be impacted by the intervention" (Smolenski 37)

Also, unleashing a genetically superior race in the world can kick start a lopsided power politics capable of subverting the existing social order to the disadvantage of the majority. We get a brief glimpse of this from how VJ had created for himself a group of intellectually retarded beings to be his servants. He also could manipulate the people around him to do what he pleased, thus using his artificially created genetic superiority to his own benefit at the cost of others. Cook hints at a possibility of "genetic discrimination" in the future, based on a social hierarchy determined exclusively by the genetic composition, as VJ initiates in his immediate world. When he takes his parents on the tour of his extensive lab, they witness tall transparent tanks made of glass in which embryos that had been mutated to exhibit stunted mental growth, in various stages of gestation, were floating about like in a womb. VJ's perverted genius is revealed in full horror when he proudly tells his parents that all of them are his own brothers and sisters, much to the terror of Victor, who realises that VJ had stolen his and Marsha's (his wife and VJ's biological mother) zygotes from his lab, and was now growing them to full term after mutating them to serve his needs. Cook thus attests through the activities of VJ and Victor that "Science runs amok when it shakes loose from the bonds of morality and consequence" (Cook, "Mutation" 326).

The observations made in this chapter thus proves that ethics is a broad area of study and requires constant revision and upgradation for it to be of practical use in the rapidly altering milieu of modern medicine. Cook narrativizes the ethical concerns dominating the scientific domain like a visionary foreseeing the worst case scenarios, and thus galvanising the healthcare professionals and the students, along with the laity, into action by prodding them to revisit their arsenals of ethics and morality, to replenish them as and when the paradigm shifts initiated by technological advancements makes it

imperative. Moreover, the narratives present them with plausible situations that can challenge their decision-making skills, unfettered by time or any such real-life constraints, thus prompting them to think beyond the usual terrains of ethical and moral approaches.

Chapter six

Conclusion

It is true that studies combining literature and science have recently been found to be progressively engaging, and as a result have been attracting a significant number of students, academicians and researchers alike. However, the American cultural historian, Professor George Sebastian Rousseau, points out that the same cannot be said for literature and medicine. According to him, the relative inactivity in this field should not be thought of to be because of the apparently less frequent engagement between these two disciplines, or because of the low intensity of their interactions. The real reason lay in the reluctance expressed by the adherents of either disciplines to actively engage with the interdisciplinary interactions, a trend probably engendered by the inadvertent misunderstandings surrounding such an interactivity. Moreover, the materialisation of medicine in literature has happened at extremely random intervals. Hence, nearly all researchers engaging in synchronic studies in this domain, "will not observe the entire curve of the interaction" (Rousseau 406), thus rendering most researches incomplete. The present study has tried to overcome this crisis by focusing primarily on the medical thrillers, a genre that can be said to have been triggered by the medical developments that began in the twentieth century continuing up to the present, thus keeping in sight the arc of its progress.

Rousseau points out that, on the creative end, medicine has way more to proffer literature than mere science, since sickness and suffering are inescapable realities of the mortal existence, which is something of a preoccupation for most works of literature. Nevertheless, among the few academic mavericks, who had realised the potential of this interaction and ventured to scrutinize the interrelationship between these two disciplines, some were found to be unsuccessful in communicating the profundity

associated with it owing to the paucity in quality and dependable precedents on this subject, which was one of the challenges faced in course of the investigations undertaken in this dissertation as well.

Another possible reason for this could be the inability to overcome the disciplinary puritanism ingrained into their psyche by the age-old academic split between arts and science subjects, as discussed in the introduction, and the consequent inability to be more inclusive in their approach. Following the disquisition on the interdisciplinary approaches in medical humanities in the second chapter, titled "Perspectives in Medical Humanities", one can safely surmise that such academic programmes help in developing transdisciplinary skills in individuals (both medical professionals and students), using which socially robust solutions to the seemingly insurmountable crisis in the medical arena can be resolved satisfactorily. Inadequate methods of instructions that follow the conventional academic methodologies have a tendency to keep repeating the past mistakes, since they go round and round within the same disciplinary boundaries. For interdisciplinary studies to be truly efficient, it is vital that the collaboration of the preceptors be ensured. The inability to get them on the same page, by convincing them of the common purpose that they are working towards, is perhaps the most important issue that needs to be addressed in this domain.

Rousseau adds that, several explicit dispositions typify the indagations in this realm, and one of those concerns the temporal dimensions. For reasons that are beyond the scope of this research, it is presumed that if at all an author dabbles in medicine-related content in their artistic endeavour, he/she is most likely to be influenced either by their contemporary medicine, or by its immediate antecedent.

> Consequently, one is not likely to discover studies of the influence of Greek medicine on Shakespeare, Renaissance medicine on Dickens,

> Enlightenment medicine on Proust, although historians of science regularly study the influence of early science on much later science, and literary historians are perpetually studying the influence of early literary techniques on later writers: Greek astronomy on Renaissance astronomy or Galenic medicine on iatro- chemical medicine; Chaucer's literary influence on Milton, Shakespeare's on Dickens, Dryden's on T. S. Eliot. (Rousseau 408)

Robin Cook is no different in this regard, and after delving into the nuts and bolts of his selected books in this dissertation, it is revealed that he also follows this drift and borrows the subject matter liberally from modern medicine. Every single novel of his has a specific angle to it, which is inspired from the tiny, yet significant, nuggets of the arcane world of contemporary medicine, which he then flips on its head in the process of structuring the plots. His works have relevance because they are issue-driven, where the story develops around a particular (on occasions one or more) medical concern, such that the question of what is and not ethical does not become the sole driving force of the narrative. After studying Cook's works it becomes evident that they, while being inspired by, also interrogates the contemporary medicine. For instance, *Coma* deals with organ transplantation while raising the thorny problem of organ trafficking, *Mutation* and *Chromosome 6* are concerned with the possibilities of genetic engineering while providing a warning about its possible misuse and off target outcomes, *Fatal Cure* is a revelation of the realities of Managed Healthcare and how the patient care is being compromised in the name of underutilisation of resources to pad the bottom line, to cite a few examples.

Since he deals with several specialised areas of medicine and medical research, any investigation in this area will remain unfinished in the absence of adequate

explanations detailing the techniques employed by the writer in developing the requisite knowledge base to enmesh the scientific facts with creative writing convincingly. It is vital that this be investigated so as to ensure the relevance and the credibility of the scientific discussions made in the literature, especially when it comes to validating the purpose and importance of any research based on it. Having said that, it has not been a source of concern in this thesis, as the author himself is a physician, and has a first-hand knowledge of medicine and its associated technology. Besides, where help was taken from agencies or people with specialised knowledge, he has made acknowledgements in due manner, thus becoming a responsible writer who doesn't take his medical knowledge for granted and gives due credit to the reader's intelligence.

Also, in the context of his multiple professions, he mentions repeatedly that he thinks of himself as primarily a doctor who has taken to writing rather than the other way around. Hamilton notes about Cook that,

> Throughout his novels, he engages with many of the moral issues inherent in medical science, always writing in a way that ensures popularity with the widest non specialist audience. Issues of fertility treatment, in vitro fertilization, stem cell research, drug research, organ donation, genetic engineering, disease in beef production, and organ transplantation have all been explored in his work…. his books, scrupulously researched, play a serious role in a world of ever-increasing medical science and, by extension, ever increasing anxieties over what humans are capable of. (Hamilton 79)

Be that as it may, it has been observed that a critical study of the literary works, that takes place at the interface between medicine and literature, have often brought out a very superficial understanding and explanation for the presence of medical science

within the narratives. This is so because of the reluctance exhibited in acknowledging that medicine can trigger a creative urge in writers, and thus assume a central role as the primary concern of an artistic creation, rather than serving to function as a mere literary trope or secondary subtext. It also requires the scholars to be more flexible and inclusive while handling the two different categories of thought processes. The contents of such works tend to be heterogenous in its composition of the subject matter, where on one hand there is the matter of fact nature of science, and on the other hand the airy-fairy, outlandish and subjective fictional representations, where both should complement each other without compromising their respective integrity.

The field of literature and medicine is relatively young, and as a result, "the theory and practice of literature and medicine cannot be split at this stage" (Rousseau, "Literature and Medicine : Towards a Simultaneity" 152). One of the most pressing issues in this nascent academic field is how it is perceived by its own practitioners, and how their perceptions can lead to the development of tropes in its budding dynamic theoretical landscape, which also has the danger of creating set norms and standards. Abjuring the use of any particular theory/ theories while structuring arguments in this thesis is thus a concern that may even seem evasive at least to a few. However, notwithstanding the above mentioned fact, it is in keeping with the trends since increasing dependency on any particular theory/theories while analysing fiction for practical purposes, as in the case of medical humanities, is often found to exhibit limiting tendencies, and thus undermines the ultimate purpose of this new field, that is, to constantly interrogate the established practices and to maintain a state of constant flux in relation to its engagements, without allowing any consolidation of patterns, rules and regulations with regard to its approaches to the literary texts.

Also, this thesis is not about following a particular theory to unlock hidden

subtexts in the chosen works, or to develop on a particular line of thought parallelly to that of an established theory. It is, as can be surmised from the chapters of the dissertation, primarily concerned with close reading the selected primary sources, followed by collation and then sorting of the observations of the author about modern medicine such that the specifics can be employed for instructional purposes within medical humanities programmes.

Meanwhile, from the observations made in the preceding chapters, it also becomes clear that the cultural significance of the literary works harbouring medical writing in its content has profound academic implications within medical humanities. It requires and validates a post disciplinary arrangement, that decries rigid organisational demarcations between disciplines, while questioning who the beneficiaries and the disadvantaged are of any dominant ideology governing the system, which is oftentimes the concern of cultural studies. Further,

> Cultural studies not only asks different questions than traditional humanities, it also takes on new concerns and new objects of analyses. No longer satisfied to study Shakespeare or Dante alone, cultural studies takes seriously popular culture, folk culture, and even commercial culture. As cultural studies blurs the lines between the disciplines, it also blurs the lines between "high" and "low" or popular culture, finding the latter every bit as interesting, as complex, and as worthy of study as the former. (Lewis 10)

Thus, cultural studies has wedged open a legitimate space within academic research for popular culture, which also includes popular fiction. This proves that resorting to popular fiction for mainstream academic research, as attempted here, is not exclusive to the field of medical humanities, and that it is considered to be an

acceptable practice. Medical dramas in television, and the movies based on medical themes have been subjected to academic study under various branches of research. However, medical thrillers have not yet been subjected to a systematic analysis of the kind undertaken in this dissertation, despite the fact that this genre is in fact a creation of modern medicine itself.

The eighteenth-century French freemason, philosopher and physiologist, Pierre Jean Georges Cabanis, in his *Coup d'Oeil sur les Revolutions et sur la Reforme de la Medicine* (1804), mentions how a systemic analysis of various medical practices prevalent at a place can reveal significantly about its culture. “Culture basically includes speech, knowledge, beliefs, arts, technologies, ideals, and rules. To be ‘cultured’ means to be refined and well versed in the arts, philosophy, and the languages”, in short, in humanities (What is Humanities). Similarly, it is observed that any studies pertaining to culture can be deemed incomplete in the absence of the mention of its diverse systems of medical practices. This can reveal the inextricable link between humanities and medicine, and the need to investigate it from a vantage point beyond their disciplinary confines, so as to reveal the reciprocity between the disciplines and the power of the resultant synergy in bettering both the domains.

In the second chapter of this thesis, which is titled “Perspectives in Medical Humanities”, while studying the reciprocity between medicine and humanities in general, and medicine and literature in particular, it is revealed how, when the principles and traits of one discipline is applied to or absorbed by the other, the inherent flaws in the respective domains reveal themselves along with the ways of rectification, afforded by the extra-disciplinary interventions. This is especially useful in the context of medical humanities, and has been rightly appropriated by its practitioners to reorganise the medical culture. It is also an attempt at bridging the discontinuity that

happened upon the continuum of academic discourse, believed to have occurred visibly, by common consensus, towards the eighteenth century, when the disciplinary boundaries (between scientific and non-scientific) assumed patent distinctiveness, which was something unheard of in the ancient times.

The physicians prior to eighteenth century knew their literature, and authors had not yet separated out into categories that are usually attributed to them in the present day, and writing was looked upon merely as an extension of their skills. To rephrase it, the writers were yet to metamorphose into the current professional types that we take for granted, like the poets, novelists, dramatists, playwrights, etc. For instance, Marjorie Hope Nicholson and G.S. Rousseau, in their book *This Long Disease, My Life: Alexander Pope and the Sciences*(1968), alludes to William Cheselden, a notable English medical preceptor and surgeon, whose clientele included the rich and the social elites, and who worked alongside Alexander Pope in publishing an edited collection of Shakespeare's plays. Before him, we had polymaths like Moses ben Maimon, popularly known as Maimonides, who was primarily a physician and a prolific writer.

Long before professional specialisation and the development of creative writing as a category unto itself, men of medicine wrote for myriad reasons: for pecuniary gains, illustriousness, dissemination of their findings to the public, to challenge conflicting theories, etc. "Anton Chekhov's description of his double life – 'medicine is my lawful, wedded wife, and literature is my mistress'- is a famous characterisation of the appeal of two demanding and absorbing occupations" (McLellan 564). Like Chekov, Cook also acknowledges the primacy of medicine in his life by saying that he considers himself a doctor first and only then a writer. Khaled Hosseini, another talented hyphenate from the twentieth century, gives a beautiful explanation for the need for the harmonious coexistence of the scientific objectivity and the creative

subjectivity in physician-writers, as given below.

> Of his two crafts, Dr. Hosseini said, "Writers and doctors alike need to understand the motivation behind the things people say and do, and their fears, their hopes and aspirations. In both professions, one needs to appreciate how socioeconomic background, family, culture, language, religion, and other factors shape a person, whether it is a patient in an exam room or a character in a story." (Beck)

The middle of twentieth century saw the emergence of a new wave of physician writers, that too at a time when, allegedly, the presence of narratives was fast eclipsing from practical medicine. There was a certain desperateness in their writings to convey to the readers an unstoppable reorientation of the whole of the foundation of the medical edifice, such that the cornerstone of medicine was being replaced with market economy instead of altruism. The doctors who took to writing immediately after this point in time had begun to structure their narratives such that people were made cognizant of an imperceptible yet powerful transformative external force trying to jeopardise the whole of the healthcare system at the cost of their health and existence.

Physician writers like Athul Gawande, Abraham Verghese, Sidhartha Mukherjee, Sharon Moalem, Paul Edward Farmer, Robert Lustig etc. have written several fictional and non-fictional works that narrate the intricacies of a particular (or more) medical subject for the benefit of the uninitiated through an accessible presentation of the content. Most medical fiction too is found to be informative on multiple levels, yet, the philosophical ruminations and the attention given to the character development by delving deep into the spring of human emotions, like in several medical themed novels, sometimes doesn't succeed in conveying the emergencies and demands of this fast-evolving domain effectively to the readers.

Medical thrillers, on the contrary, completely refrain from romanticising the medical profession while presenting the not so appealing aspects of its practices and practitioners, and yet manages to communicate the immediacy of several topical issues convincingly to the readers, as can be observed from the previous chapters.

Without the philosophical meditations, the flowery language and the larger than life aura surrounding the fictional doctors, this genre might not hold much appeal for at least a section of the readers. However, it is for the same reason that they would make ideal material for instruction within medical humanities. They provide the ideal narrative that doesn't pontificate about the do's and don'ts of the vocation, or pitch the good doctor against the bad doctor in order to extol the professional virtues. Instead, the focus is on the system, the ones who run it and the actualities of the healthcare sector, which involves making judgement calls on a daily basis, prioritising one life over the other and bearing the responsibility for all the times the decisions went south, while trying to operate within the confines of a restrictive system that is increasingly getting profit oriented, as discussed in this dissertation.

Close reading of the primary sources reveals how Cook projects the temporality of the novel by cantilevering it into the real time of the readers, by using time and dates in the beginning of every chapter. Also, he is very inventive with apportioning information between his readers and the rest of the characters peppering the plot to make it more engaging. Some of his novels also show what happens when a bunch of medical students are ripped away from the safety of their classrooms and thrown into the deep end of the clinical practice all at once. He shows how doctors can go wrong and dispels people's belief in the infallibility of the medical sciences and the doctors. In short, he never sugar-coats the harsh realities for the readers and shocks them with the worst-case scenarios.

When the readers are the medical professionals, it is like holding a mirror to their face, only this time they can't just focus on what they are doing, and are forced to take in all that is reflected in the pages, and it thus makes them aware of how their actions can have widespread consequences, like a ripple effect. Besides, the effect of well-crafted thrillers are the same on both the laity and the professionals. It makes them think deeply and at times even galvanises them into action, something that can have a real use for the medical practitioners as it can prod them into introspection to not be blind to the pitfalls in their occupation and to develop sensitivity for the suffering embodied subject, which happens to be one of the prime concerns of medical humanities.

Despite what the future holds for interdisciplinary studies of the kind undertaken in this dissertation, it is important that we do not encourage fallacious assumptions – at least not for any time soon – that the investigations of this kind will help in drawing up practically applicable ready-made solutions from a realm of knowledge that is decidedly abstract, at least for now. No matter the nature of the conclusions drawn, both the involved parties, belonging to the different disciplines, should develop a natural curiosity for each other's domains because the synergy between them is the only power strong enough to propel this interdisciplinary field forward as mentioned before.

The chapters in this dissertation have been assembled so as to facilitate the transferability of the utterances within the medical thrillers concerning the healers, the human body, and the ethical quandaries that plague its practitioners, from within its pages to a more relatable and teachable platform for the budding medical students and the healthcare professionals alike, without adhering to any particular predefined pedagogical pattern in mind. It is also aimed at altering the conventional attitudes towards the choice of literary texts within medical humanities, by deliberately moving

away from a corpus of literature that has received the stamp of acceptance from the specialists of both the domains, by centering the focus of the study on medical thrillers, a relatively marginalised genre even within the realm of literary studies. Cook's thrillers exhibit a considerable degree of purposive resistance to the innate tendency of language to warp objective reality, by sticking to the representation of scientific information within the framework of a tight knit plot, without digressing into the complexities associated with character development or complicatedly layered narrative strategies.

A preliminary analysis of the primary sources in course of this research did bring to attention a significant strand that courses through all of Cook's thrillers, namely a break away from the rigid dichotomies like good versus evil, hero versus villain, etc., by indicating the natural dominance of the grey areas in the medical settings. Equally interesting is the verbal diagramming of the mundanities of the day-to-day engagements in the medical world, while trying to show how individuals populating each level of the medical hierarchy and sometimes even beyond the system also get to influence the treatment regime of a patient in myriad ways. This he does by relying exclusively on his observation skills, and without slipping on the seductive slopes of subjective interpretation. It is interesting to note how the author makes it his objective to scrutinize and assess the diversities in human behaviour within the professional context, where their idiosyncrasies assume meanings that would otherwise hold no great relevance under normal circumstances. However, the subject of such realistic description in these thrillers is limited to those areas devoted to medicine and associated details, while the plot takes unexpected and at times outlandish twists and turns.

The third chapter titled "Lessons in Body Beyond Anatomy" is concerned with studying the selected novels of Cook to reveal how the surgical, biotechnological and

other medical advancements meant for aiding the diseased corpus in fact foment multiple interpretations of the human body on the part of the medicos, which quite often overshadow the notion of the "lived body" in favour of the "medicalised body", and at times hinders the efficiency of the treatment processes. In different biomedical contexts, as visualised in the selected novels, the objective body is given precedence over the subjective body, and Cook shows how, within the professional space, the financial and time constraints of the vocation unfortunately necessitates such an approach and this chapter shows how the plurality of interpretations with regard to the body has, as a natural corollary, lead to different modes of exertion of power over it by the doctors in the course of treatments and diagnoses.

Hence, how the human body is constructed and read within the realms of medicine is a major contributing factor within the power dynamics between the establishment, doctor and the patient. Cook's thrillers show the unravelling of this phenomenon by doing as much justice to reality as possible. This chapter discusses the violated, fragmented, commodified, liminal, fungible and programmable bodies in the context of medicine, so as to lay bare the process of its construction, reading, interpretation and treatment by the physicians, and throw light on how the medical technology has and is redefining the different states of human corporeality within and beyond its boundaries, and its implications for medical practitioners.

This chapter concludes with the understanding that the narrative techniques of Cook's thrillers, that quite often position the violated human body as the starting point of the plot development, also charts the different stages of its depersonalisation by the antagonist, leading to the objectified body, defined exclusively by its corporeal existence, and which becomes a site of medical malpractice. The protagonist intervenes at this point, discovers the nature of bodily violation, and from there begins to question

anything and everything that informed the motives behind this, thus once again building back its subjectivity through deliberate and risky efforts. Thus, the plot, the scenes, the characters, the settings and the actions contribute towards the development of a multidimensional explanation for the precarious existence of the human corporeality within the field of medicine by tracing its objective and subjective constructions of meanings through the perspectives of the antagonist and the protagonist respectively. Sometimes, as in books like *Mutation* and *Chromosome 6*, both these processes are initiated by the same leading character and after realising their inadvertent complicity in unethical practices, proceeds to mend their ways by redefining the body in terms of the "embodied body" or the "lived body". Thus, the concerns surrounding the body contributes a lot in fuelling the elements of thrill and excitement in these narratives and successfully manages to influence the value judgements of the targeted readers appropriately.

The fourth chapter is titled "Doctors Without Halos", and concerns the representation of the physician characters in Cook's thrillers. The close scrutiny of the characters reveals how the same system and the same academic programmes churn out professionals who turn out to be as different as it gets. Also, it can be inferred from the observations made that the involvement of parties external to the immediate domain of medicine also contribute extensively in shaping the medical professionals. Cook depicts them with all their personal and professional insecurities, and when all these are read together, one can come to the same conclusion as is drawn in this section, that the health practitioners are experiencing a serious deprivation of professional autonomy, are shackled by bureaucracy, experience diminishing self-esteem and an overpowering sense of professional dissatisfaction.

This chapter helps dispel any unrealistic expectations made of the doctors, while

pointing out their predicaments by alluding to even the most trivial minutiae of their everyday workplace life. The scrutinization of these representations offer the budding medicos an idea of what to expect when they fly solo at the end of their medical education. As for the professionals, it provides a sense of where they stand in relation to the subjective medical moral compass, and to identify the ethically tricky situations within this extremely stressful occupation, and how to surmount it. Thus, one can conclude from this chapter that Cook's portrayal of doctors (also biomedical scientists) in his thrillers with all their frailties, flaws and insecurities offer the targeted readers (doctors and medical students) opportunities to intellectually engage with the variables bearing upon them in their professional capacity. The fictional representations also provide them a canvas to play around with possibilities by moving the pieces around much like in a game of chess, to conceive of all the possible outcomes of their actions. They can attribute hypothetical actions and decisions to the different characters in the thrillers, and then work out alternate scenarios till they come up with that perfect approach to an issue or ethical dilemma which can have significance in the real world.

Cook manages to communicate through his works that the trickiest situations within medicine are posed either by the mysteries of life or by the emerging ethical quandaries, where the ethical and the unethical at times blur into each other. Since the first is beyond the scope of this research, the fifth chapter discusses about "The Narrativisation of bioethical concerns" within the selected thrillers of Robin Cook. It is true that there are volumes written about bio-medical ethics, however, the contextualised representations like in these novels provide a better grasp of the situation by bringing the readers (both the professionals and the laity) into an immediate and direct engagement with the ethical dilemmas, which in turn leads to a rising sense of urgency and excitement engendered by the narrative. Quite naturally, the mode of

representation in the thrillers ensure that the gravity of these issues leave a lingering effect in the minds of the readers, and thus serve to function as ideal teaching materials within medical humanities. The chapter concludes with the understanding that it is impossible to have a rigid framework for bio-medical ethics and its instruction because of the myriad variables involved, and that physicians, like the writers, are to constantly improvise their way through these hurdles using their wisdom and experience as the guiding lights and be creative while attempting to come up with resolutions to ethical imbroglios. Medical Thrillers aid in this as mentioned below.

> Works of fiction allow us to consider ethical problems that fall outside our experience: either outside our immediate personal experience, allowing us to "personalise" and thus better understand the issues involved; or outside the limits of our common experience, acting as thought experiments that stretch the boundaries of our ethical imagination. They seek to expand the reader's understanding, not merely to inculcate or preach but to set us on a journey of ethical development in parallel with the narrative development experienced as we "journey" through the text. Perhaps the best works of "ethical fiction" are those that, rather than bludgeoning us with a particular viewpoint, allow readers to come to a deeper comprehension of philosophical or ethical "truth"; and not only that, but also provide us with a worthy diversion, a source of entertainment—in short, a "darn good read"! (Chan 1)

At this point it is important to conclude by justifying the use of fictional narratives for engaging with ethics and related education alongside real-life case studies in medical schools. A significant setback in the presentation of real-life case studies is that, quite often the sequence of events outside the limits of the case, that might directly

or indirectly contribute a lot in getting to know the narrative in its entirety are left out of the deliberations. However, in fictional narratives, there is a background to the characters and hence the readers get a better knowhow about their motivations before coming to any conclusion about the nature of their engagements, while convincing themselves of the need and the importance to look for the same in real life situations. Chambers in his article "Dax Redacted : Economies of Truth in Bioethics" mentions the limitations of case studies by proving how the incentives of the presenter can warp the facts to mean different things with each narrative construction, especially if the involved individuals are introduced only in the capacity of the roles they play within the constructed narrative. It emphasises the need to view a person as an embodied subject as opposed to just a patient or victim, while also considering the inducements and rationale of the others involved through a representation of their backgrounds.

Finally, it would do good to list out a few instances where medical thrillers facilitate interdisciplinary thinking with sufficient scope for extension to practical applications. Medical thrillers offer stories that can function as the microcosm of different interdisciplinary connections, for example the mingling of the factuality of the medical world and the subjectivity of the literary world during the evolution of the narrative makes possible the embedding of the medical discourses within the broader cultural and social contexts woven into the narratives. The futuristic elements in certain medical thrillers also aid in coming up with pragmatic solutions to the hypothetical road bumps that could arise in course of the development of incipient technologies within the realms of modern medicine, which can have lasting and widespread ramifications for the public. Medical thrillers help in picturing the worst-case scenarios and then provide contexts to extrapolate it to a simulated future reality, and then prod the specialists and the specialists-in-making to dwell upon the ways to unsnarl the complications while

constantly providing them reminders as to where they had gone wrong in their initial assumptions.

This includes coming up with explanations forged on multiple disciplinary foundations that help in overcoming several restrictions typical of the respective domains, to broaden the mental horizon. For instance, the use of genetic engineering on human embryos especially for the purpose of enhancement has been a favourite topic of contention and debates within the scientific community. When Cook takes up this issue in his novel, he conceives of a scenario where there can be a potential subversion of the existing social agreements and hierarchy, based on the genetic superiority of a certain modified group of beings, resulting in exploitation and anarchy of sorts. Thus, he transports a cause of scientific misgiving to a social concern, and presents it in a new light. It results in the creation of structural knowledge, which consists of the mastery over facts and a simultaneous increase in cognitive dexterity, to process information and to apply them adequately in practical situations. Sara Biggs' take on interdisciplinary thinking, as given below, is particularly insightful.

> Interdisciplinary thinking isn't just some educational buzzword; it's a valuable perspective defined by the ability to draw insights from multiple disciplines and apply them to your own area of focus in a way that challenges traditional notions and enriches the conversation around it. It draws bridges between the sciences and the arts, and removes barriers between disciplines that might otherwise inform and enhance one another. In a professional climate that celebrates innovation, open-mindedness, and creativity, interdisciplinary thinking is becoming a highly necessary and frequently sought-out skill. It's time to give it the place it deserves in the classroom. (Briggs)

Any research is incomplete without a mention of its limitations, therefore before proceeding to conclude the thesis, it is vital that some of the limitations that can be levelled against it be briefly discussed. In keeping with its format, the medical thrillers follow formulaic core conventions, which can be interpreted by the critics of this genre as lack of creativity. Then there is the use of the grotesque to impress on the readers fear and terror, which can put medicine under a bad light. Proceeding to the characters that pepper the plot, there is an evident lack of depth and flatness associated with them despite a realistic portrayal of their vocation, professional space and the scientific content. Having said that, it is also true that this realistic portrayal is accompanied by selective representation, to meet the demands of the fictional narrative, which might appear to be limiting at least to some. Also, the primary focus of the thesis is limited mostly to the American medical landscape. All said and done, these drawbacks do not hinder the potential of this genre in communicating matters of interest taken up for consideration in this dissertation significantly.

Once again, this dissertation is all about highlighting the potential of the medical thrillers (the selected novels of Cook here) in imparting humanistic competence to the healthcare professionals and students within the ambit of medical humanities. This research does not have many precedents since the potential of medical thrillers "as a pedagogical source remains to be explored, and the assumption that professionally-based novels may provide learners with useful medical facts and values within the context of a work of fiction" (Charpy 429), is yet to be subjected to a systematic academic study. Charpy mentions how, as a part of the innovative methods introduced in the high schools of the United States of America, the medical thrillers of Robin Cook have been employed in instilling students with interest in science subjects, and to persuade them to go after careers in science. Yet, indagations with this genre as the

central focus of the study are yet to happen.

What makes this dissertation distinct are two factors: the use of a marginalised literary genre in mainstream academic research and resorting to an interdisciplinary study combining medicine and popular literature from a utilitarian point of view, while attempting to bridge the academic split between science and humanities. Though 'literature and medicine' has been a subject of academic investigations here and there for a while now, a sustained research of the sort undertaken in this dissertation, by making the medical thrillers the focus of the study, to explore its pedagogical potential within medical humanities, is yet to take place. After analysing the primary sources under the three chapters in this dissertation, it has been proved that they qualify to be put to use as instructional materials within the domain of medical humanities.

Having proved the hypothesis, the final part of this dissertation is going to be the scope for further research. Medical thrillers constitute an unexplored goldmine for future researchers since it is rich in several relevant yet unexplored possibilities. For instance, a careful application of the archetypal criticism in medical thrillers can reveal recurrent patterns in medicine that can be used to forestall or accelerate the concerned phenomenon depending on whether or not it is desirable. Alternatively, subjecting medical thrillers with strong female professionals, to feminist criticism can help in pointing out the myriad woes faced by them within their professional spaces, which can in turn expedite implementation of measures to ameliorate their condition. Also, professionally based fiction like the medical and the legal thrillers can be studied for their potential for career orientation in school students. At last, the influence of medicine on literature and the literary genres can also be taken up for consideration within academic research, as it can better reveal the popular attitudes towards this branch of knowledge.

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