

Course Name: The Novel and Change

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Lecture 1

Frankenstein - Part 3

So, hello and welcome to this NPTEL course titled The Novel and Change. We are continuing with Mary Shelley's novel Frankenstein. So in the last couple of sessions, we spent some time introducing the novel in terms of how the writer's location is very important in the study of the novel. Mary Shelley being the daughter of William Godwin, Mary Wollstonecraft and wife of Percy Bashan Shelley, all three famous figures. And yet she ends up writing one book, which makes them the most famous person in the whole family. And we also talked about how, in the last session particularly, how Mary Shelley was very, very deeply acquainted with the contemporary discourse on science, technology and philosophy. And she was definitely not someone who was anti-science. So this particular novel, Frankenstein, is a cautionary tale, as you know. but we should not look at it as a very naive person's rejection of science. In fact, what it does is it talks about the entire transgressive quality of science, the overambitious quality of science and how science should always be accompanied by accountability. So, non-accountable science is something which is dangerous and that is something which the novel warns us against. Now what we will do in this section is we will continue reading the introduction but also look at the ways in which The various debates around science in Frankenstein are brought to the fore or foregrounded. So there is a debate about alchemy and modern sciences. So Victor Frankenstein, the novel, first he starts off being an old school scientist and then he is reprimanded for that by his university professors and then he moves on to the more contemporary sciences. So, all that debate is captured in the novel.

And those are very closely resonant, shall we say, with similar debates happening around

science and technology in that particular point of time. So this should be on your screen. Victor first encountered and rejected M. Krempe, a professor of natural philosophy, who ridiculed him for his concentration and on the alchemical philosophers, Albertus Magnus and Paracelsus. So, you know, Magnus, Albertus Magnus and Paracelsus, these were the big names in alchemy at that time. And alchemy at the time was also quickly becoming, they were getting rejected really as pseudoscience and natural sciences were coming in, particularly through a very organized structure as a university taught course, very quickly replacing alchemy as the earlier method. So there was this rejection. And he recommended the latest books on natural philosophy. Victor was not naive, but his negative reaction to Crampé was dictated by the professor's physiognomy. Appearance is a thematic motif in the novel. Witness the horrified reactions of a deformed creature. So the physiognomical features were a very important part in the whole idea of there is a relationship between the subject and the object. And we will look at the object very carefully. We are obviously drawing on Julia Kristeva, the French philosopher, feminist philosopher, Julia Kristeva's notion of the abject over here, right. So the monster or the creature which was initially conceptualized by Victor Frankenstein is supposed to be a super intelligent, you know, a sublime creature, but he ends up being rather than a hyper subject, he ends up being an object and the physiognomic features, the grotesque, gruesome physiognomy features, gruesome according to Victor Frankenstein's model, that also contributes to the rejection that the creature suffers and his subsequent abjection. So, as Victor himself explains, I had long considered these authors useless. whom the professor had so strongly reprobated. But I did not feel much inclined to study the books which I procured at his recommendation. M. Krempe was a little squat man, with a gruff voice and repulsive countenance.

The teacher, therefore, did not pre-possess me in favour of his doctrine. Besides, I had a contempt for the uses of modern natural philosophy. So there's this debate, this dilemma, this pull that is going on over here between the older sciences which included alchemy and the newer models of natural philosophy which his professors are pushing, encouraging Victor to move into. Victor changed his opinion about modern science once he heard M. Waldman, also model and Percy Shelley's kindly Etonian professor, Dr. Lind. deliver a lecture about the history of science, a lecture that most STEM students need to hear today, right. So all these scientists in Mary Shelley's novel, they are loosely, some of them are

loosely based on real figures that Percy Bysshe Shelley, Mary's husband, encountered in his years on Eton. and in the university. So, this particular lecture about the history of science is something which is delivered by M. Waldman and there is a possibility that he is modelled on Percy Bessie Shelley's professor, Dr. Lynde. This is the quotation from the novel which we will read. So as you can imagine what we are doing in this session is we are reading the text and the context together. So, we are reading Mary Shelley's Frankenstein but very carefully situating it in the context, the intellectual, the discursive, the entire socio-economic scientific context in which the novel is situated.

So, that way we have a very organic understanding of the text, not just reading the text first and the context later but putting it all together. This is the section from the novel. M. Waldman entered shortly after. This professor was very unlike his colleague. He appeared about 50 years of age, but with an aspect expressive of the greatest benevolence. He began his lecture by a recapitulation of the history of chemistry and the various improvements made by different men of learning, pronouncing with fervor the names of the most distinguished discoverers. He then took a cursory view of the present state of the science and examined many of its elementary terms. After having made a few preparatory experiments, he concluded with a panegyric upon modern chemistry, the terms of which I shall never forget. The ancient teachers of the science, he said, promised impossibilities and performed nothing. The modern masters promise very little. They know that the metals cannot be transmuted and that the elixir of life is a chimera. But these philosophers, whose hands seem only made to dabble in dirt and their eyes to pour over the microscope or crucible, have indeed performed miracles. They penetrate into the recesses of nature and she, how she works in her hiding places. They ascend into the heavens. They have discovered how the blood circulates. and the nature of the air we breathe. They have acquired new and almost unlimited powers. They can command the thunder of heaven, mimic the earthquake, and even mock the invisible world with its own shadows. So we can see how there is a clear distinction made over here between the old sciences and the new sciences.

So the older sciences are seen more as rhetorical strategies. They promised a lot but achieved nothing and performed nothing. Whereas modern science according to Waldman

it speaks very little and promises a lot and does a lot and performs a lot. Now the references over here are very interesting in terms of finding new discoveries about blood. Harvey for example was an important philosopher, scientist at that time. The nature of air we breathe, so again this is a time where the composition of air began to get more and more known, familiar in terms of oxygen, nitrogen content. and so on and so forth. And it was also, you know, mimicking earthquake, you know, the different kind of devices which were brought up at that time. But the sentence that I would like to draw your attention to in this particular passage is this one. They penetrate into the recesses of nature and show how she works in her hiding places. So, as you can see the imagery over here is a very phallic imagery. So a scientist is seen as all men and nature is seen as all women. So this feminization of nature is important and of course it's not an accident because nature is feminized you know in a very strategic way. So the entire mapping of nature, the mappability of nature is important over here. Because nature is something which can be mappable, something which can be, you know, found out. And the secrecy of nature, the mystery of nature, the darkness of nature, which are conveniently feminized in almost erotic terms, those are seen as something which now can be captured, you know, it can be shown and shows how she works in her hiding places. So the two words over here are penetrate and show. So there is definitely an erotic energy at work. There is also a sense of voyeurism you know in terms of how the male scientist is almost peeking into you know the secret actions of nature and exposing those actions and almost you know getting joy out of him.

So, and this is not an accident because a large part of the narrative energy in Frankenstein is also expended towards finding out and calibrating and cartographing in a natural landscape. So, the novel starts off with this voyager, the ship stuck in a mysterious sea and the entire purpose of that particular journey is to find out a route which can connect the seas. So again looking at the sea as some kind of a feminized natural landscape which then can be controlled and calibrated and mapped. So there is also a sense of hubris which is there in this passage, how human sciences today, male sciences today is almost touching heavens, is almost able to mimic heavens, is almost able to mimic the cosmic powers that run nature as well as you know other cosmic devices, other cosmic energies. So there is that grand, hubristic, almost arrogant assertion of the scope of sciences in contemporary

world and how that is breaking away from the mere rhetorical lip service that the earlier models of science, including alchemy, used to perform. That same evening, Victor seeks out Worldman in his own house and discovers that his new mentor is exceptionally kind and affable. And there's a quote falling again. He heard with attention my little narration concerning my studies and smiled at the names of Cornelius Agrippa and Paracelsus, but without the contempt that M. Krempe had exhibited. He said that these were men to whom indefinable zeal modern philosophers were indebted for most of the foundations of their knowledge. They had left to us as an easy task to give new names and arrange unconnected classifications.

The facts, which they are in great degree, had been the instruments in bringing into light. The labours of men of genius, however, erroneously directed, scarcely even failed in ultimately turning to the solid advantage of mankind. I added that his lecture had removed my prejudices against modern chemists, and I at the same time requested his advice concerning the books I ought to procure. So again, we can see how, you know, the whole idea over here is to have a diachronic understanding of science, looking at earlier models of sciences, erroneous but useful interventions, and how new models of science are building on the legacy left behind by the earlier scientists. Before inviting Victor to use the machines in his laboratory, Worldman gives him a message that speaks across the decades to the STEM students of the 21st century. And I quote, chemistry is that branch of natural philosophy in which the greatest improvements have been made and may be made. It is on that account that I have made it my peculiar study. But at the same time, I have not neglected the other branches of science. A man would make but a very sorry chemist if he attended that department of human knowledge alone. If he wishes to become really a man of science, and not merely a petty experimentalist, I should advise that he apply to every branch of natural philosophy, including mathematics." So the contrast over here is between a petty experimentalist and a really sophisticated scientist and the educational epistemic pedagogic model which is espoused over here is that of a very holistic inclusive model which includes mathematics which includes every branch of natural philosophy as well as you know chemistry. I would like to draw your attention to one small thing over here. You will notice that in these passages philosophy and science are not seen as contradictions,

philosophy and science are not seen as disconnected categories, somehow connected through an interdisciplinary, intersectional orbit. Rather, philosophy and science here are seen as organic counterparts of each other, organic components of each other, right. So philosophy is something which gives shape to science and science gives an empirical design to philosophy.

So, they are more closely connected than, you know, you would expect them to be. This is the pre-departure, the pre-bifurcation of science and technology and humanities over here. So everything is philosophy. Science is philosophy, mathematics is philosophy and of course every scientific project also has a philosophical backing, a backbone. And that, that holistic unified model is important for us to understand because this is the epistemic knowledge network that Victor Frankenstein is born into. This is the network that he is plucked into. So it is not a coincidence that he is someone who calls himself a natural philosopher as well as being a chemist and a scientist of the highest order. And anyone who does not do this, anyone who is not invested intellectually to philosophy and natural sciences and also mathematics is called as a petty experimentalist, right. So that binary, that bifurcation is important for us to observe and remind ourselves. Despite these endorsements of chemistry and natural philosophy in her novel, Mary, as in Mary Shelley, realized that science could be abused, as is certainly evident in Victor's reckless and selfish experiments, which do not account for their consequences. So again, the non-accountability of science, so how science should be seen as accountable, science should be seen as something which is ethical, moral, which has some kind of a moral, ethical accountability to its subjects, to its objects and to the entire ecosystem around it. Even Victor is aware of the distinction between his selfish actions and his selfless actions. In his initial conversation with the scientific explorer Robert Walton, now Walton of course is the main narrator of the novel. So it is almost like an epistolary novel. There are letters written to Walton's you know sister and inside Walton's narrative we have you know Victor Frankenstein's narrative and then we have the quote unquote monster's narrative. So it is almost like a Chinese box structure of narration.

But Walton is a scientific explorer who wants to find out the secret passages in the seas in

a way which is quite similar to, you know, the description of science peeping into the secret chambers of nature and finding out how nature works. So, in his initial conversation with the scientific explorer Robert Walton, the narrator of this frame tale novel, he refuses to share his secret knowledge. I will not lead you on, unguarded and ardent as I then was, to destruction and infallible misery. Victor continues, learn from me, if not by my precepts, at least by my example. How dangerous is the acquirement of knowledge and how much happier that man is who believes his native town to be the world that he who aspires to become greater than his nature will allow. Now, I just want to stop here for a second and invite your attention to a comparative framework between this particular section and what happens in the beginning of Robinson Crusoe. Because there too, there is a sense of transgression. There is this white male subject who wants to break away from this biblical family, who wants to break away from this Oedipal family. And to that extent he is a transgressor, he is an icon of lust, he commits almost a sin. Now something again sinful is associated with excessive science and a non permissive, non permitted science, right.

So greater than nature will allow. So that comes at the cost of happiness. So what we see in the beginning of the novel, right at the beginning is how Victor Frankenstein is telling us through different interlocutors, through different other narrators, different other focal points. that there is a case to be made for not allowing transgressive science to take place because that brings in more harm than good in this world. On his deathbed at the end of the novel, Victor addresses a similar warning to Walton. So that again, that cautionary tale, that warning is repeated in the end. Seek happiness and tranquility and avoid ambition, even if it be only the apparently innocent one of distinguishing yourself in science and discoveries yet. Why do I say this? I have myself been blasted in these hopes, yet another may succeed. So this is almost like a situation where Victor is, you know, filled to the brim. He is cynical about the entire ambition narrative. He is cynical about finding out more and more knowledge. He is improvising in a very old-fashioned way to the subject to stay within the limits. And he is talking about how true happiness is a function of knowing limits, is a function of limited life. Whereas the entire aspiration for limitlessness, the entire arrogance and hubris about knowing everything that is there in the world will only cause misery, right. That biblical narrative is there. You bite into the forbidden fruit and you lose

your

innocence.

Something similar happened in Robinson Crusoe as well. So had he not left his tranquil biblical home, he would have left, he would have lived a very happy, staid life, an uneventful life. But because he chose to leave it, he became, you know, a transgressor. He committed transgression and a large part of the narrative energy in Robinson Crusoe is expended towards, you know, the caution against transgression, if you will. Although Mary seems to be leaving the door open here for future, when selflessness and science will mutually serve each other, the novel's basic argument is that science can be as destructive as it is constructive. So, this ambivalence about science's moral greyness about science is all that a novel is about. So, it can be destructive, it can be constructive, it can be constructive and destructive, right. So that the borders between the constructive and destructive blur away and disappear very quickly and that is something that the novel is constantly and frequently foregrounding. That argument about the dangers of knowledge is emphasized when the creature found a fire which had been left by some wandering beggars, and was overcome with delight at the warmth I experienced from it. In my joy I thrust my hand into the live embers but I quickly drew it out again with a cry of pain. How strange, I thought, that the same cause should produce such opposite effects, right? So, the whole idea of dangers of knowledge is a very common refrain and, you know, that section about fire where the monster puts in his hand inside the fire and then quickly recoils and puts the hand back because he is in pain, obviously he got burnt. So that burning itself at the very early on in the novel is the anticipation of how Victor Frankenstein also gets burned. He is consumed and burned by his own ambition, by his unbridled ambition, by his unregulated ambition and that causes his downfall, that does him in, in moral, experiential, biological ways. He begins to suffer physically because of what he has done. By her subtitle, *The Modern Prometheus*, so the Promethean figure is very important, fire is very important, the fire imagery is very important in the novel and as we discussed in the last class, Prometheus is the archetype of subversion, the archetype of rebellion and his punishment is he has to go to a reputation of pain till, you know, the final day. So, he is stuck against, he is tied to a rock and then vultures and other birds would come and peck at him.

By her subtitle, *The Modern Prometheus*, Mary is asking her reader to recall the Promethean myth, in which the titan Prometheus steals fire, representing knowledge from the Olympian Zeus, to give to primal and pre-rational man, only to suffer the consequences of his actions. So Prometheus steals fire, which is a transgressive act, and gives it to... primal man who is not ready for it. And then, you know, as a result of this, Zeus gets angry with Prometheus and punishes him very spectacularly. That becomes the myth of Prometheus. So how does Zeus punish Prometheus? Zeus chains Prometheus, the creator of rational man, to a rock, where he is visited daily by a vulture slash eagle that devours his liver slash heart, only to have the same punishment repeated each day. So basically, he's tied to a massive rock by Zeus, he's chained to a rock by Zeus. Every day, you know, an eagle or a vulture would come and peck at his liver and heart know completely cut it out of his body and then the deal is he will be given it back just so the same thing can happen again the following day. So again, it's a ritual of reputation, a ritual of suffering which is potentially endless in quality, right. So knowledge does cause sorrow and fire does cause pain and the etymology of the name Prometheus which is which means forethought is ironic. Victor the modern Prometheus lacks forethought and fails to understand the destructive consequences of his actions in constructing his creature. So Prometheus comes from forethought, as you know, and that becomes very ironic because Victor of Frankenstein over here, who is considered to be the modern Prometheus, acts almost without any forethought, without any fear of consequences. So, he ends up becoming this monster, making this monster, which unleashes a huge amount of pain and horror and trauma to the people around him.

Although Mary did not make the corollary myth explicit in her narrative, Prometheus's brother, Epimetheus, or Afterthought, is associated with all the evils released from So, all the evil released from Pandora's box fulfilling the myth that have been the technocratic decisions leading to the pesticide DDD, the atom bomb, the Three Mile Island Chernobyl and the British government's permission reportedly in the British newspaper on 1st February 2016 that stem cell scientists could perform genome editing despite objections that ethical issues were being ignored, right. So Prometheus's brother is mentioned in this

particular essay, Prometheus' Afterthought, right. So there is forethought, there is afterthought and afterthought is associated with all kinds of evil released from Pandora's box. So different kinds of modern contemporary problems are situated and referred to over here to make the novel Mary Shelley's Frankenstein more relevant to our times as indeed it is in very profound ways. Now of course Prometheus is not the only myth that Mary used to develop a theme. So, there is that one overarching myth but there are other myths, the micro-mythical stories which also come in at different points of time. Even more noticeable here are her many references to the book of Genesis which is Garden of Eden and the Tree of Knowledge of Good and Evil. The epigraph on the title page on the first edition of Frankenstein in 1818 is taken from John Milton's famous epic poem Paradise Lost, one of the books from which the creature learns to read. Now Paradise Lost is a very very important subtext in the context of Mary Shelley's Frankenstein because that too is a tale about subversion about you know doing something iconoclastic but interestingly Paradise Lost is one of the first books that you know the monster the quote unquote monster learns to read from okay.

There's a quick study when he reads that Adam and Eve, tempted by Satan to be like God in knowing good and evil, ate of the tree and were exiled from paradise. Knowledge led to sorrow and a fall of mankind from the sin of pride or hubris, right? So pride is seen, hubris is seen as a sin because obviously you're using yourself to consume yourself, right? And that is basically know not filled with humility, does not have respect. So that becomes a problem and the same hubris we see operationalized in the pursuit of sciences. So science becomes this completely unchecked freedom, the unchecked movement towards truth, towards different kinds of chemical situations and that has got absolute zero accountability which of course is a big problem which is critiqued by Mary Shelley among other things. The attentive reader will notice that Victor's Edenic childhood in Geneva is lost. When he goes off to university to study science, he laments the loss of his native town in the same way that a creature laments his loss after he learns the godlike science of speech and the science of letters reading. Sorrow only increased with knowledge. Oh, that I had ever for remained in my native world. not known or felt beyond the sensations of hunger, thirst and heat. So I will stop at this point now because what we see are two different sections, two

different registers of desire. So, one is the hunger, thirst and heat which is a more corporeal almost animalistic form of desire. The other of course is to know about God-like signs, to get a God gaze. Now again I invite you to dial back to Robinson Crusoe and remember and recognize how even Crusoe wanted to create this god point of absolute surveillance, the god point of absolute control, territorial control. So both Robinson Crusoe and Mary Shelley's Frankenstein may be seen as very hubristic accounts of man, white man trying to take control over an island and to take control of the process of giving birth. when they fail to do it, they get more and more repentant, guilty and full of sorrow and this is the turn that we see happening here. sorrow only increased with knowledge, or that I had even remained in my native wood, not known or felt beyond the sensations of hunger, thirst, and heat. So, on the one hand, we have this very simple, idyllic representations of landscape and pastoral imagery.

On the other hand, the godlike science is something which is seen as seductive in quality. And again, compare and contrast how the same kind of seduction happens in Robinson Crusoe, we see is seen as something which will take away the subject from the idyllic family, the biblical family. and so on and so forth. So we stop at this point today and we'll move on as we can see what we're doing here is we're integrating the contextual study of Mary Shelley's Frankenstein and we're comparing and contrasting that and we're using that to a certain extent to study the real novel and the novel of course is a very complex representation of the debates around that time or the culture around that time, the material culture around that time in which the entire drama, the entire plot, the entire action and categorization of the novel is flocked into. So, we will stop at this point today. We will carry on this conversation in the session in subsequent classes. Thank you for your attention.