

Cultural Studies
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Module No. # 01

Introduction

Lecture No. # 06

Memetics

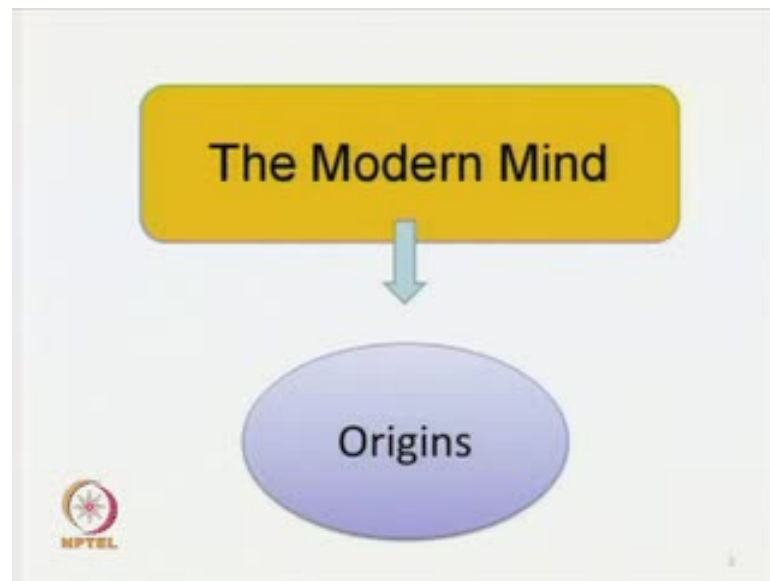
Welcome back to NPTEL, National Programme on Technology Enhanced Learning; a joint venture by the Indian Institutes of Technology and the Indian Institute of Science. As you are aware, we are in a series of lectures entitled collectively as Cultural Studies.

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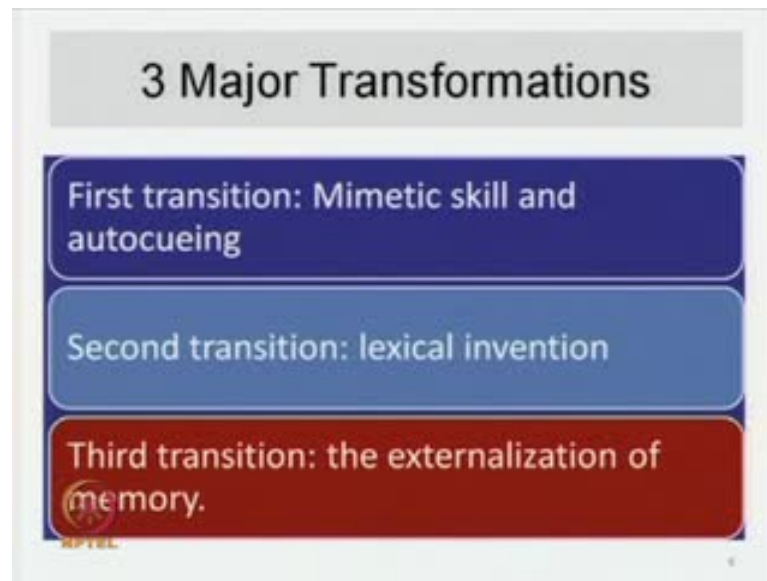
Let me welcome you to this lecture on Memetics and see, how memetics could be a part of cultural studies. As always, let us do a recap of the last lecture.

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The last lecture was devoted to the origins of the modern mind. We took the help of a work by Merlin Donald in a bit to understand the narrative way of the origin of the modern mind, the mind that created culture, the narrative of the growth and development of such a mind is sketched out. I also added a caveat in that lecture, where I said that this might not be the one we are following. The narrative is sketched out by Merlin Donald and it need not be the only authentic picture of how it began. As we saw in our lecture in evolutionary psychology, these are always the processes of reverse engineering. We go back by looking at our current propensities and current capabilities.

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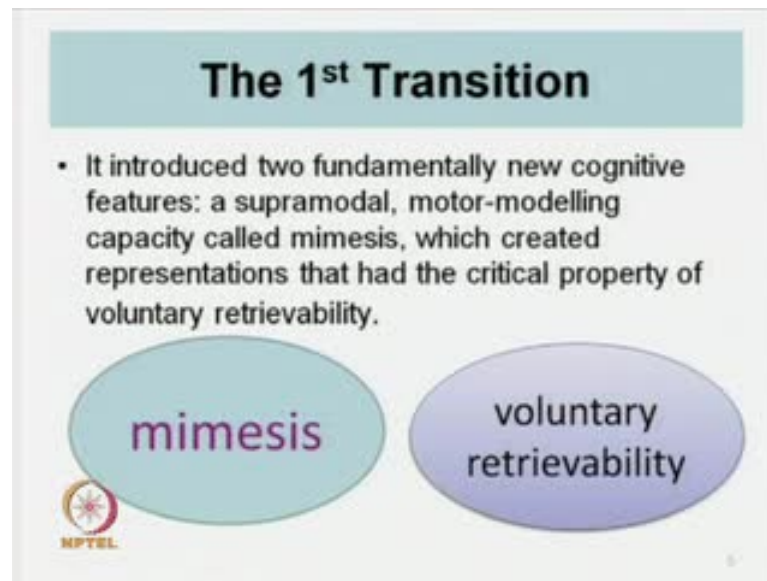


The essay that we looked at was origins of the modern mind and the three stages. We found that there were three major transformations in that the first transition involved mimetic skill and auto cueing. We understood auto cueing as recollection in memory that did not need any external clues. Mimetic skill is a representation using the whole body. Second, we found that in the next transition, there was a lexical invention, which eventually led to the formation of myths and storytelling that is narrative thought.

Finally, we saw that the third transition, involved the externalization of memory, where memory is not only in our brains. Memory is external and stored things like books in hard disks, in CD's etc and how that gave us a new memory representation and a new working memory architecture. The important point is however that we are not studying these things from a physiological or an anatomical point of view, not even from a purely evolutionary biology point of view. Why we are bringing in is because as I said earlier, we were looking at what science has to tell us about ourselves. What the kind of beings that we are, the kind of complex organisms that we are.

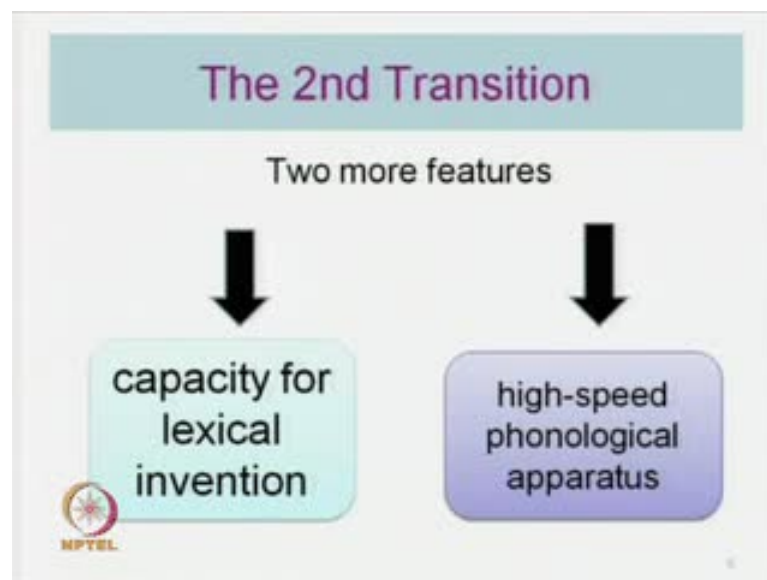
All these three transitional phases that is mimetic skill and auto cueing, then the descent of the learning's leading to more and more vowel sounds and the growth of the lexicon, the expansion of the brain, then the externalization of memory. All these were said by Donald. He played out at the cultural level and that is why we needed to look at these in the first place.

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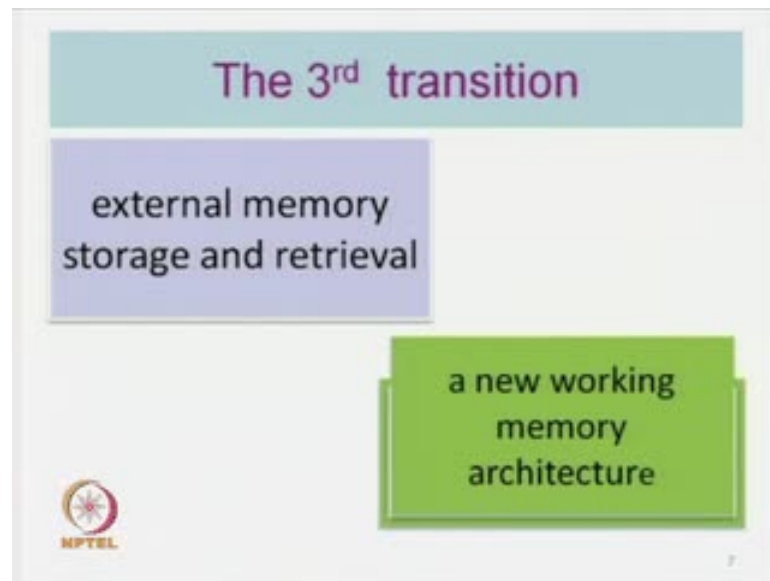
The first transition is something that we have already been through. So, I will not look at this slide.

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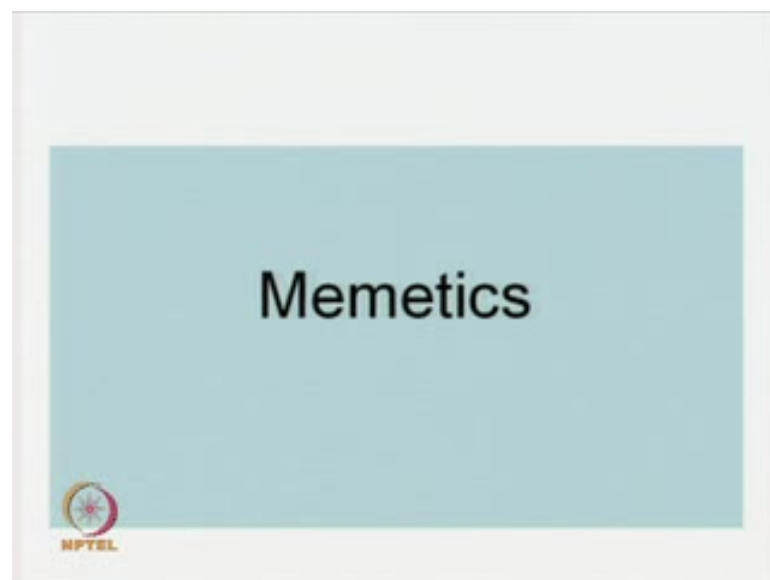
This is the second transition, which gave us a capacity for lexical invention and high speed phonological apparatus. These were the two new features.

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This third transition is called as the external memory storage and retrieval system and has new working memory architecture.

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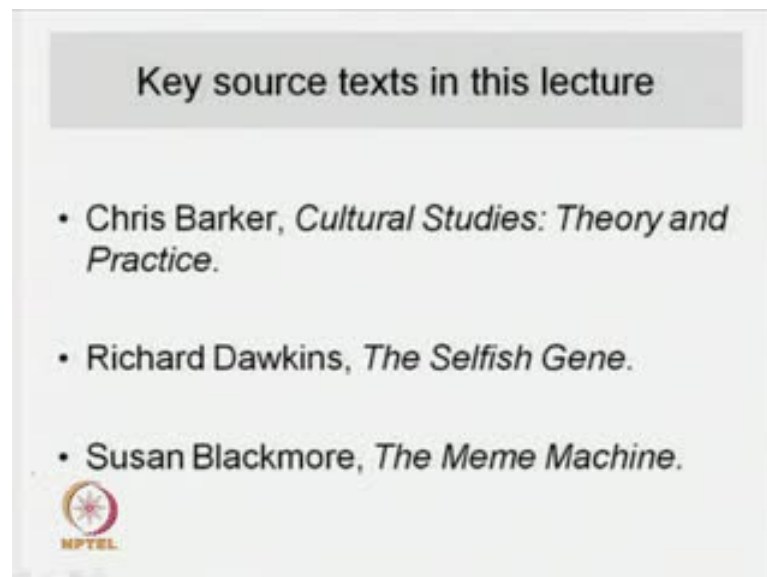
We are now going to look at memetics. Let me say at the beginning that in memetics, I will be telling you why I have brought in the study of memetics here and this is really an end of one phase of looking at cultural studies in our lectures from a scientific perspective. We had said early on that we cannot leave out what science has to say, remember when barker said that empirical rigors of science are something that is spirit

has to be incorporated into cultural studies and the bicultural perspective is something that we cannot do without. Without the bicultural perspective, we would not have the proper foundation. We would only be talking about floating signifiers and signifying practices, one of the criticisms that lead against cultural studies.

The essay that would be our main reference point is a chapter in a very famous book, a very popular book by Richard Dawkins; namely the *Selfish Gene*, where towards the end, the chapter on memetics. It is an attempt to explain culture using the analogy from genetics. If you look at the term genetics and memetics, first is that they do rhyme and more importantly, the gene is the unit or the basic unit in genetics. The analogy that Dawkins draws is between a memetics as a whole draws is between the gene and the meme as basic units respectively of the physical and the mental all or the cultural.

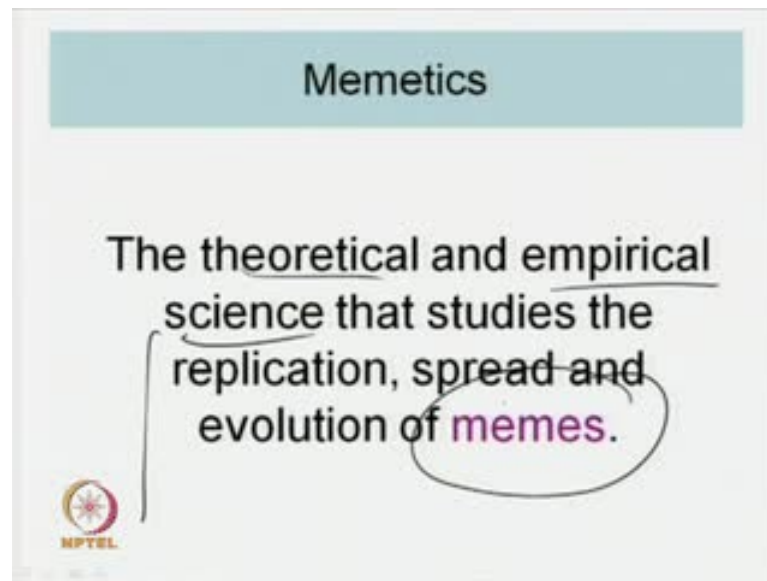
Let us see what this field is, however curious a science is doubt to be, but there are also many adherence to memetics. So, we need to see what memetics tells us about ourselves as cultural beings.

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The key source texts in this lecture are Chris Barker's - *Cultural Studies: Theory and Practice*, Richard Dawkins's - *The Selfish Gene* and Susan Blackmore's - *The Meme Machine*.

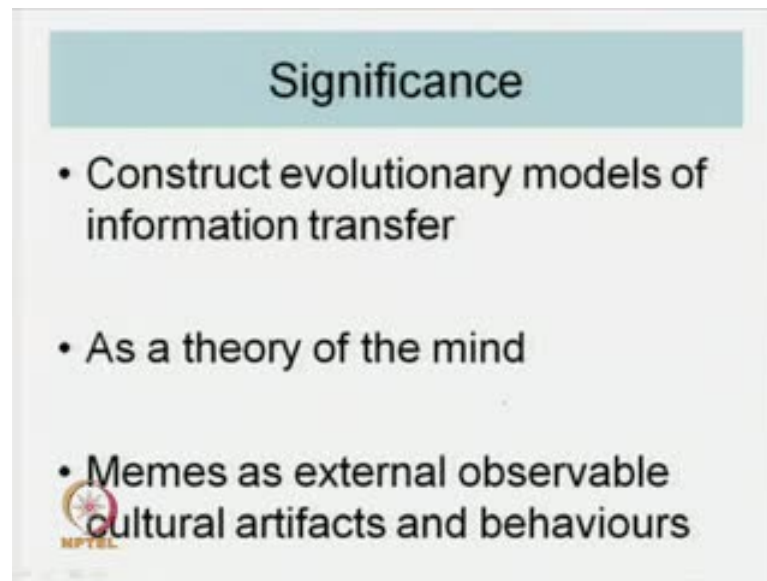
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Let us now define memetics and we shall define the field of memetics after the definition given by scholars like Richard Dawkins. This is the definition of memetics as the theoretical and empirical science that studies the replication, spread and evolution of memes. So, we saw just a while ago that memes are the basic units of cultural transmission. Memes are information units that we have, we shall see in a way this entire lecture will be devoted to the way memes work and what are meme complexes etc.

The analogy you see here is with the gene, so the gene evolution and meme evolution are... that is an analogy being drawn by Dawkins. We have to understand that like many areas in knowledge formation, like many procedures in knowledge formation, this is the relation is analogous in nature. It does throw very interesting lights, if we have to talk about having one basic unit that is the meme.

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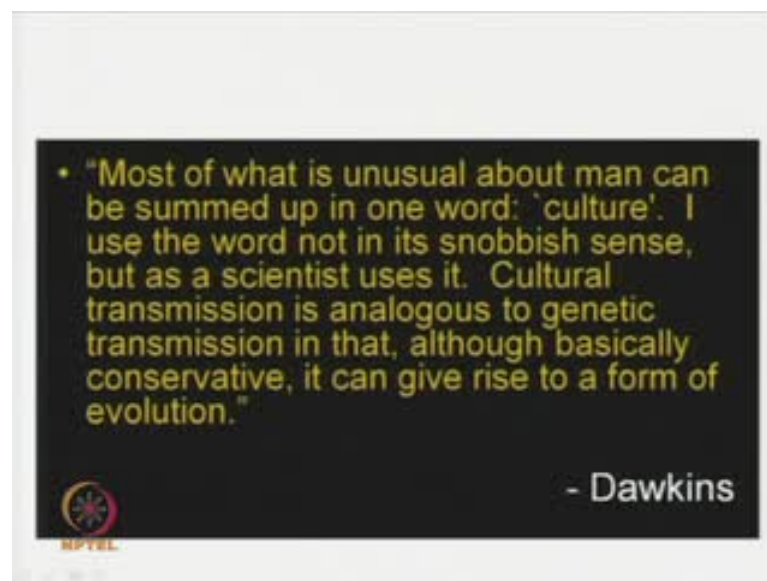
Now, what is the significance of studying memetics? The significance of studying memetics; now, what is memetics again? The theoretical and empirical science that studies the replication, spread and evolution of basic cultural units is known as memes. They construct evolutionary models of information transfer. This is important information transfer from brain to brain and also, knowledge transfer eventually from brain to brain are seen or can be modeled along evolutionary processes like what we have done in the modeling of the evolutionary processes of the gene.

Second, it also is very important as a theory of the mind that is also how the mind works in the sense that how is bits of information imitated. Later on, we find that memetics comes from the Greek word mimesis, which means imitation. How do we imitate one another as far as knowledge is concerned? **Knowledge is basically by or by and enlarge a matter of imitation.** So, as a theory of mind and how the mind works, it is supposed to be valuable for us.

Finally, memes are external observable cultural artifacts and behaviours. Memes are actual things and we shall see in a while that even though they are objects in the mind, how they can also be actual. So, memes are also observable and external to us. Even though they are there in our brains, they are observable; they are cultural artifacts and behaviours that we may observe. We may comment upon and we may explore from a scientific and cultural point of view.

So, the significance of the memetics is this that memetics gives us models of information on cultural transfer. Second, memetics is important and useful as a theory of mind and memes are externally observable by us, as units of behavior and units of cultural artifacts. So, now you have an idea of what memetics is and why it could be useful for us from a cultural studies perspective. Many books on cultural studies have a chapter or at least have a section on memetics because it is one of the theories of cultural transfer.

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Now I am reading from the Dawkins's chapter on memetics, which I said was the a text from which many of the points and quotations would be given. As always, Dawkins is also one of my favorite writers, he has authored so many books, for instance, the God Delusion, The Selfish Gene and Climbing Mount Improbable etc and viewing the rainbow. Even though he is a biologist, he has a beautiful felicity in his writing. If not also, he has quite an unforgiving attitude to those who practice religion. So, Dawkins is really one of my favorite writers.

Now, let us see what he has to say. He says most of what is unusual about man can be summed up in one word culture. So, here you see a definition of human beings or definition of man as a species given from the point of view of culture. We have definitions of man given from the point of view of religion, from the point of view of science for instance.

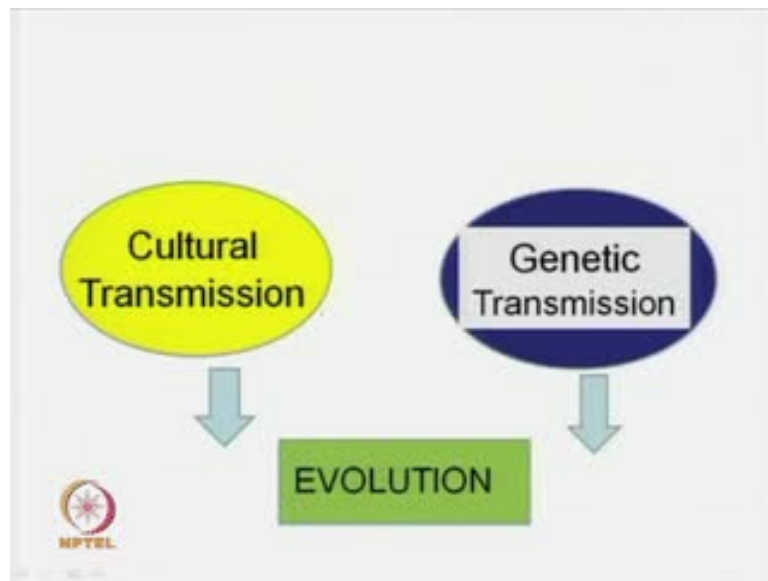
Here, he says whatever is unusual about us at least compared to other species is culture. Now, this is not to say that other species do not have culture, but the level of sophistication that we have, the level of variety that we have, the complexity that we have in our cultural formations, in our cultural behaviours, in our practices and in the artifacts that we create. Definitely, these are incomparable and that is what makes according to Dawkins makes us unusual as a species.

Let us read on again, I use the word not in its snobbish sense, but as a scientist uses it as he says this is important and that is why we need to look at this. I am looking at the word culture not in a snobbish sense; further cultural transmission is analogous to genetic transmission in that. Although, basically conservative, it can give rise to a form of evolution. I would say this part of the essay or these lines are the most important; it needs to be quoted. Cultural transmission is analogous to genetic transmission in that although basically conservative, it can give rise to a form of evolution.

What do we mean by conservative? Here, conservative is analogous and does not mean the way we understand conservative as somebody having conservative views or orthodox views. Conservative here means more resistant to change. So, you cannot have changes very quickly. He says cultural transmission is not that culture changes very quickly or very frequently, there are things that are conservative in culture. At the same time, it does give rise to change and it is this form of evolution of cultural change.

How does it change? How does it evolve? Using words from biology, this is what the aim of Richard Dawkins is. The aim of other practitioners of memetics like Susan Blackmore, as I have mentioned little while ago that it is in this spirit that we have to look at memetics as a part of cultural studies.

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Therefore, if you look at this diagram here, cultural transmission and genetic transmission are processes of evolution.

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Dawkins

- Fashions in dress and diet, ceremonies and customs, art and architecture, engineering and technology, all evolve in historical time in a way that looks like highly speeded up genetic evolution, but has really nothing to do with genetic evolution.

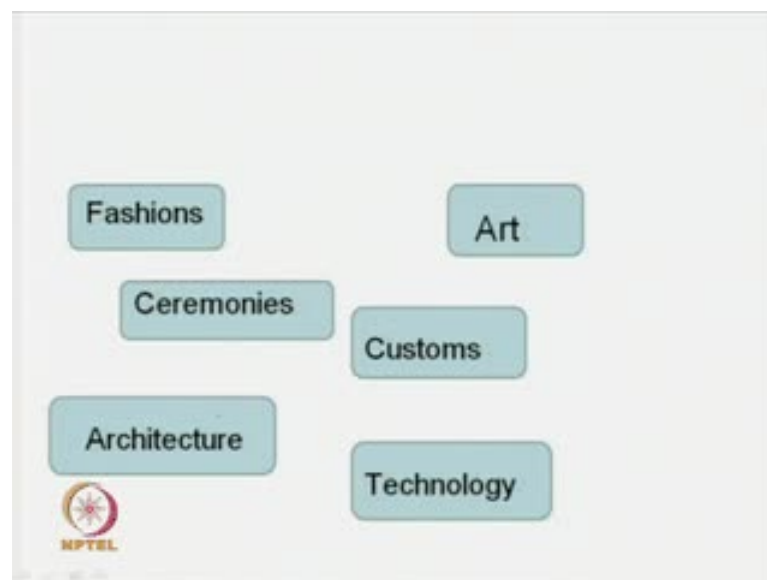


What comprises memetics? What are memes? This is what Dawkins has to say, fashions in dress and diet, ceremonies and customs, art and architecture, engineering and technology, all evolve in historical time that looks like highly speeded up genetic evolution, but has nothing to do with genetic evolution. So, anything cultural, even we can say manmade or the high technology that you are learning, be it art, be it even things

like fashion or even fads in music and dress, be these customs, rituals and ceremonies that we practice, architectural designs and forms all these things are to be studied under memetics, why? They are cultural forms.

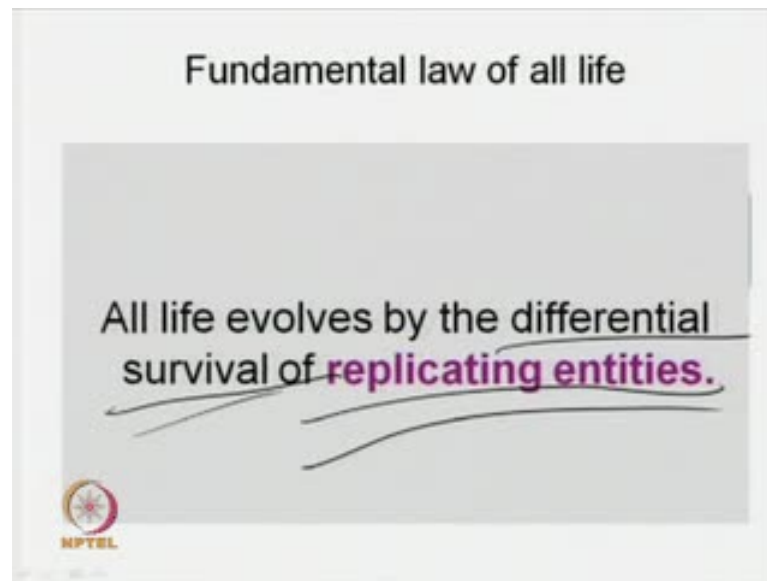
Importantly, they have a trajectory of development or trajectory of evolution that as he says nothing to do with genetic evolution. All this while, we have been talking about genetic evolution, biological evolution. Now, we have another aspect shown to us by Dawkins and that is a memetic evolution or evolution of culture or cultural units. So, this should be very interesting to us and this is also culture implicated in a series of evolutionary processes and stages.

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Look at this slide please. As we saw again, fashions, ceremonies, art, customs architectures, technology, all these things fall under the study of memetics. All these things are part and parcel of our culture. They lead to cultural practices; the fashion that you follow is a cultural practice. It is not only that customs are our cultural practice, the kind you get, the way you turn yourself out, these are also matters of culture.

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On a more serious note, what I would like to bring to your notice is something very important that we find in his chapter on memetics. This is something that not many people have really articulated. It is said that compared to chemistry and physics, if you look at the art sciences that is compared to chemistry and physics, it is said that in biology, it is more difficult to have laws. Listen to this carefully, there are many who have agreed with this formulation made by scientist that whereas in chemistry and physics, you do have laws that are very strong, for instance the laws of motion of Newton the laws of gravitation.

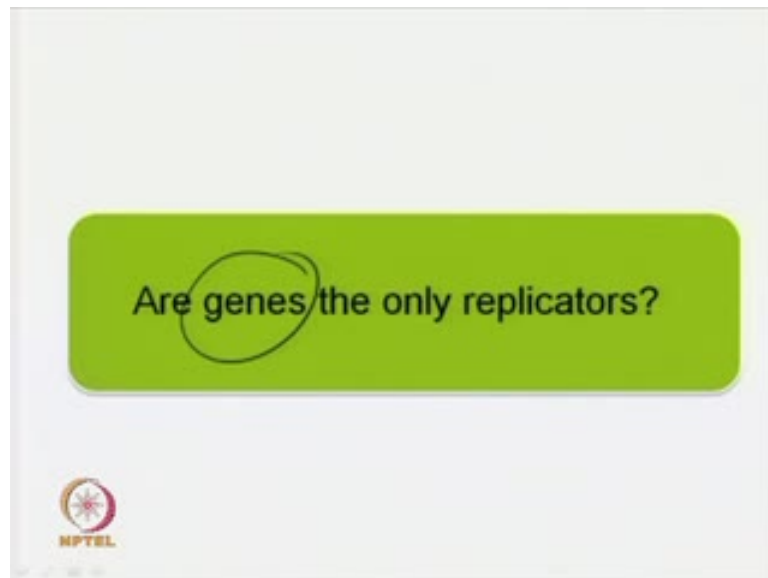
In biology, we do not really have a fundamental law. So, he says that I want to attempt to formulate a fundamental law of all life and the fundamental law says that all life evolves by the differential survival of replicating entities. Listen to this very carefully, all life whether it is memetic life, cultural life, whether it is genetic life and somewhat he even says in his and he also says in his essay reverberating electronic circuits and all kinds of life, if we accept that reverberating electronic circuits are also life of some kind.

All life evolves by the differential survival of replicating entities. These are all replicating entities that are repeated that replicate themselves. This word is something you will find in our lectures on evolution. The whole idea of differential survival is not survival per se, but difference in survival rates in members of a population and that is the

bedrock of Darwinian evolutionary theory. Why does one organism fail, while the other survives?

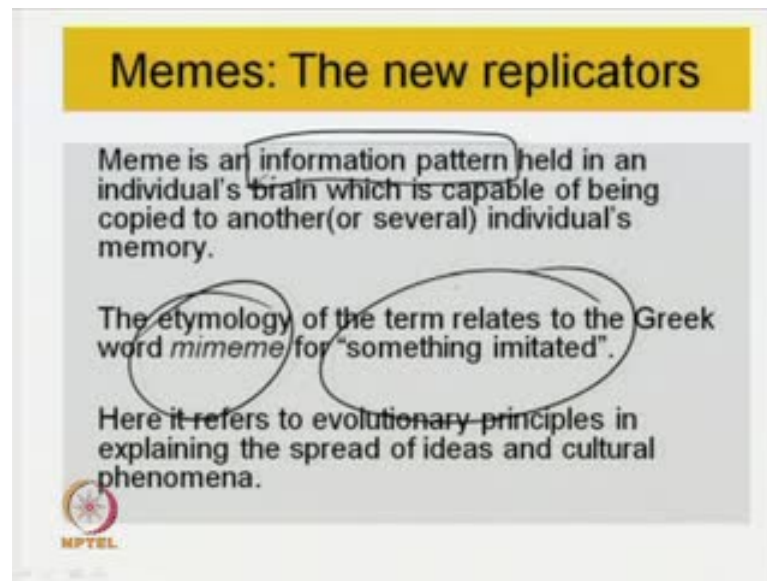
If we look, At least, I am increasingly drawn from a very limited interest in biology. I am increasingly drawn by this statement by Dawkins that all life evolves by the differential survival of replicating entities. I find it immensely interesting that he is applying this to the cultural realm.

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Now, he then asks this fundamental question - are genes the only replicators? We have already said that genes are replicators. They get transmitted from generation to generation and he says that all these while, the sciences have told us that genes are the fundamental replicators of the world. Can we now say that there is something else that is also evolving by differential survival? That is also replicating itself and then he has an answer to this question.

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He says that the memes are; let us recall the definition of memes. Memes are the basic units of cultural transmission. As genes are the basic units of genetic transmission, memes are the basic units of cultural transmission. Remember, this entire course of memetics has to be understood and read in tandem with the course of genetics. You will find the striking similarities and at some point of course, you see that the similarity stops and memetics goes on to have a life of its own and a rationale and discourse of its own.

Let us again read from Dawkins's text, meme is an information pattern. As we have seen in an individual's brain, which is capable of being copied to another or several individual's memory. We have talked about the meme as a cultural unit. Here, we have another perspective on the meme; the meme is an information pattern, which is held in an individual's brain. Even then patch of a song is an information pattern that is held in your brain. Short melody can also be an information pattern, which is there in your brain.

Interestingly, Dawkins follows a scientist name N K Humphrey by citing him and saying that memes are not just memes. They are not just a pattern that is virtual memes are also physical things. Now, you may wonder how a meme is supposed to be physically. What a meme has to do with culture **that it is has to be thoughts and patterns can be a physical one.**

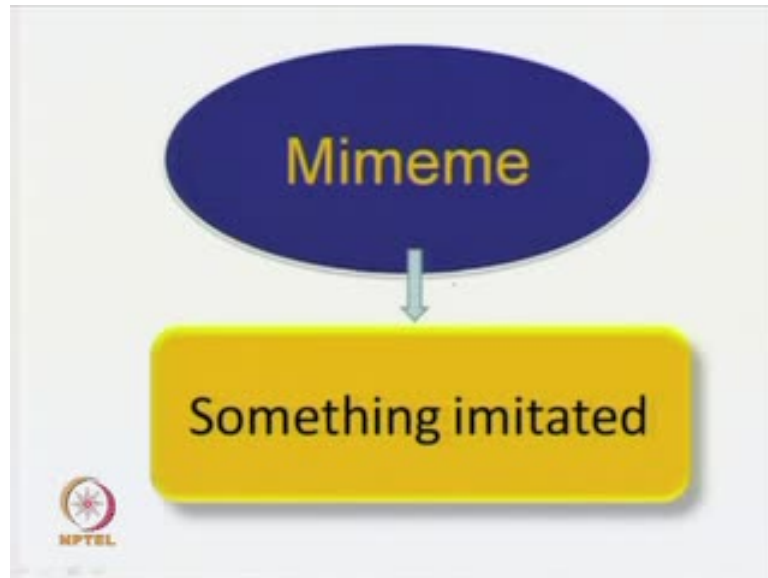
The point is every thought, whether cultural or not is cultural practices and forms. Every thought actually is physical. Many of you have now probably getting what I am saying; what Dawkins is saying through Humphrey is that if thinking has to do with neural; the firing of neurons inside your brain, then patterns are created and a thought is then involved with neural firing. The firing of neurons and in that sense, it becomes a physical entity and it becomes a sort of real entity. As we understand, thoughts are different from our brains, thoughts are not different from our brains and thoughts are part and parcel of the entire process of the brain.

Let us look at this slide, meme is an information pattern held in an individual's brain, which is capable of being copied to another or several individuals memory. The etymology of the word relates to the Greek word mimeme. This is important for something imitated as I mentioned while ago, the word memetics comes from meme. Meme is borrowing from the Greek word mimeme and means something is imitated.

Now, we know that the process of transmission of these memetic units has to be imitation, so we imitate. If you consider it very deeply and if you reflect on it, you will understand that most of the things that we do are imitations. I mean that this is not to deny, there are no improvements in knowledge and there are no radically new findings, but essentially as learners what we do is we imitate.

Again, in this slide, as Dawkins says, it refers to evolutionary principles in explaining the spread of ideas and cultural phenomena. So, we saw the all these lectures. Before this, we saw evolution came in a big way in a couple of lectures. We are really ending this part of this module by finally trying to crack the cultural code, if I may use the word to finally see how we may explain cultural evolution.

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Meme is mimeme or something imitated and then Dawkins says that we have made an analogy, we have rhymed genetics and memetics. We have talked about gene and meme and we have made an analogy, but we need to stop here and see how memetics can be carved out as a discourse in its own and that does not borrow or lean heavily on genetics.

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For an understanding of the evolution of modern man, we must begin by throwing out the gene as the sole basis of our ideas on evolution.

Meme can be termed as a noun that conveys the idea of a unit of cultural transmission, or a unit of *imitation*.

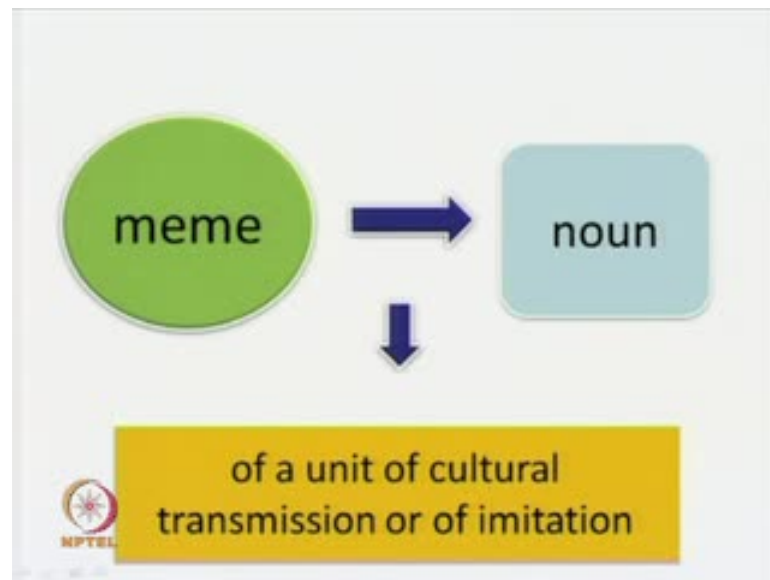
A meme could consist of a single word, or a meme could consist of the entire speech in which that word first occurred.

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Let us read from him, for an understanding of the evolution of modern man, we must begin by throwing out the gene as the sole basis of our ideas on evolution. Meme can be termed as a noun that conveys the unit of cultural transmission or a unit of imitation. A

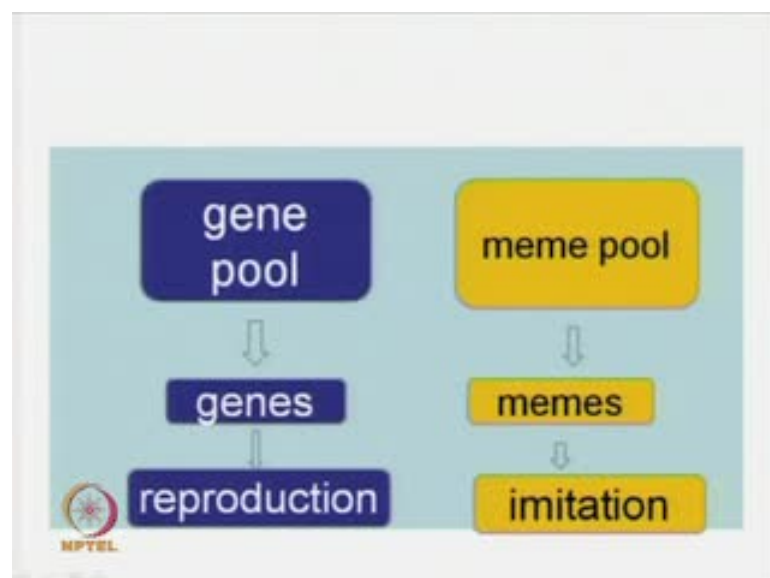
meme could consist of a single word or a meme could consist of the entire speech, in which that word first occurred. So, meme and its pattern may hold one simple word that I say the part of a symphony or an entire symphony.

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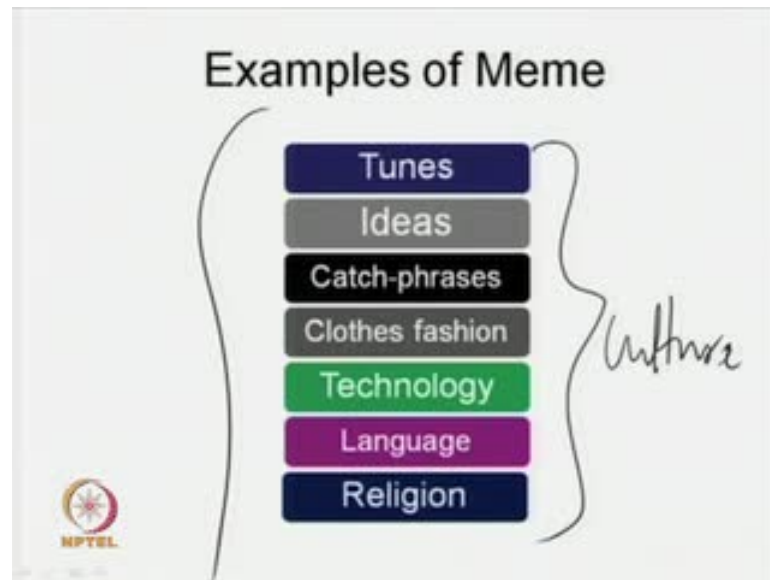
We see that the meme is a noun and as a noun, it is a unit of cultural transmission or of imitation.

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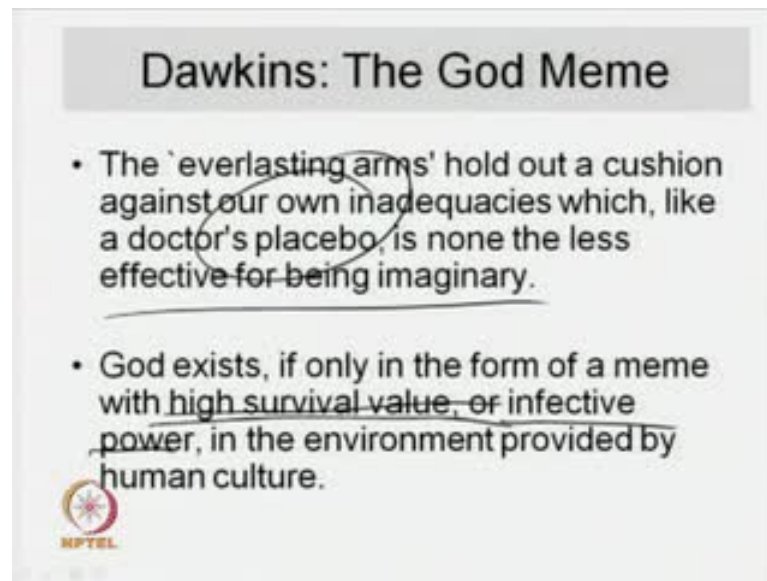
Dawkins goes on again and says that like we have gene pools, we also have meme pools in the gene pools. We have genes that are used for reproduction in the meme pools and there are memes that are transferred through a process or they are reproduced rather through imitation.

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Examples of memes explicates this further by saying that these are tunes from music, these are ideas, these are catch-phrases, clothes, fashion technology, even language and even religion because all these have to do with culture or way of life. Show me any one of this that is not part of culture or way of living or part of our cultural forms and practices.

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Dawkins: The God Meme

- The 'everlasting arms' hold out a cushion against our own inadequacies which, like a doctor's placebo, is none the less effective for being imaginary.
- God exists, if only in the form of a meme with high survival value, or infective power, in the environment provided by human culture.

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Dawkins moves into an area, which many may consider controversial. He believes that the idea of god is really a psychological crutch that human beings need in the face of despair, in the face of the unknown, in the face of grief. It is a crutch that is very important, so others are not important. In a way by saying that it is a psychological crutch, however indirectly he is saying that this is something that is used by people.

He also talks about the fact that after all as a part of our thinking as a thought unit, god should be and has to be considered also a meme or a cultural object that is there in our brains. In typical Dawkins style, this is how he argues against the existence of god and he says the everlasting arm referring to god is shown as somebody who will embrace us after our death into his everlasting arms. The everlasting arms hold out a cushion against our own inadequacies, which look like this; a doctor's placebo. It is nonetheless effective for being imaginary. Look at this very carefully, he says that the idea that there is a god, who will always protect us. The idea is like a safety cushion, it is a cushion that protects us from our own inadequacies.

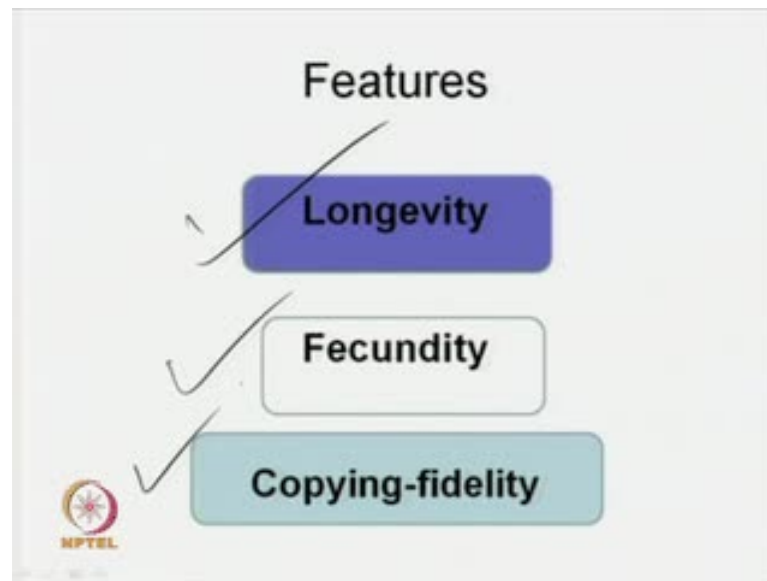
If you look at ourselves without the idea of god in a godless universe, very few people have the courage. If I use the word after Dawkins to live in a world or live in a perceiving situation, in which live with the perception that this is a godless universe. The things have evolved and you have a totally scientific or science based or scientific finding based approach to god.

He says that this is like a doctor's placebo. What is a placebo? Placebo is a sort of tablet that is given by the doctor or a nurse to a patient and that tablet is not exactly a drug. It is something that may be a vitamin or something, which is a sweet object. The patient is given the placebo and he is told that this is a drug. It is a medicine that is going to cure you for various medical reasons. Placebos are given, but the patient takes it with the belief, now this is very important.

He takes it with the belief that he or she will be cured by this drug or by this item of medication. So, he says that he draws his analogy. He says that the idea of god is like a safety question and it is like a doctor's placebo, which is nonetheless effective for being imaginary. It is imaginary, but at the same time it is effective and has probably, if we were all to not believe in a universe or created by god, then probably many of us would psychologically not be able to cope with that sort of a reality.

He says god exists only in the form of a meme with high survival value. The idea of god has been there, since 100's of years. The idea of god is there to stay for some time. God exists only in the form of a meme with high survival value, evolutionary speaking or infective power. Look at the word; he uses infective power in the environment provided by human culture - the idea of no god and the idea of god. If you say that evolutionary in an evolutionary schema, the idea of god by differential survival, the idea of god has survived, while the idea of no god is yet to have not survived. Dawkins would believe this and yet to make itself win over the idea of a god. So, it has high survival value. One of the requirements of a meme to survive and we shall see there are other the other qualities that memes should have to survive.

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What are the features that memes should have in order to survive? These are longevity, fecundity and copying-fidelity. A meme has to be around for a certain amount of time to be transmitted, to be accepted by people and to be transmitted from brain to brain. There has to be a certain fertility or fecundity about the meme and there has to be a certain copying fidelity. You cannot say that the meme has transmitted and gave a radically different view of the meme.

He gives an example of Darwin's theory of evolution in passing from person a to person b. Darwin's theory of evolution may undergo changes, but the essential components and the essential... So to speak description or delineation of Darwin's theory, he gave something that has a fidelity about it and we are expected as teacher or semi-teacher are referred to it. We are expected to be as close to the original as possible. So, these are again an important point in his essay that these are the three features that are required for a meme for it to have a survival value.

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Mutually-assisting memes

Some memes become associated with one another and this association assists the survival of each of the participating memes.

To take a particular example, an aspect of doctrine that has been very effective in enforcing religious observance is the **threat of hell fire**.

This is a peculiarly nasty technique of persuasion, causing great psychological anguish throughout the middle ages and even today. But it is **highly effective**.

Meme complex

Handwritten circles around 'threat of hell fire' and 'highly effective'.

Handwritten line connecting 'threat of hell fire' and 'highly effective'.

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There is another interesting portion, where he talks about mutually assisting memes. He says that its memes are never in isolation, memes are not discrete units. As we know, the memes are there in the meme pool like genes in the gene pool. He also says that if you look at visually, some memes come together and collect to form certain complexes, where they assist one another. One meme will help another and you can take the idea as he also gives us the idea of god and the ideas in religion. Let us read from him, some memes become associated with one another and this association assists the survival of each of the participating memes leading to a very strong, what we call meme complex.

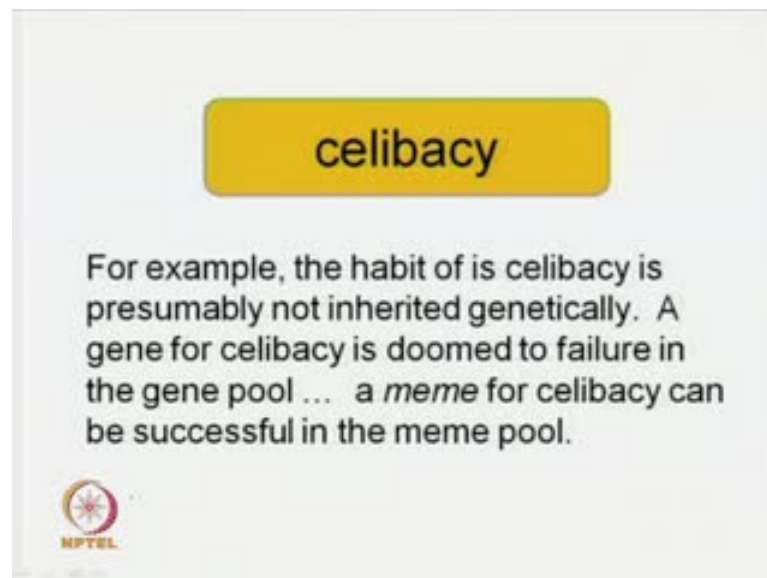
To take a particular example, Dawkins says that aspect of doctrine has been very effective in enforcing religious observance is the threat of hell fire. So, the idea of god; the idea is tied to the idea of eternal punishment or of eternal dimension or eternal reward. You cannot separate the two, you cannot simply say that at least in established religion, you cannot say that only the idea of god is there or that god exists. There are many supporting cultural institutions, cultural forms and memes. There are many kind of thoughts or units of thought that add or fortify, so to speak this mega memes like the god meme.

The threat of hell fire and after deaths depending on what kind of life we have lead. If you have lead bad lives, then we are supposed to burn in hell as the famous phrase goes, he says. Therefore, he is not simply describing these things and telling us in a very

academic sort of way or in a non-involved sort of way of what memes are. He has his own way of putting things as it were and this is what he says the threat of hell fire is a peculiarly nasty technique of persuasion causing great psychological anguish throughout the middle age and even today.

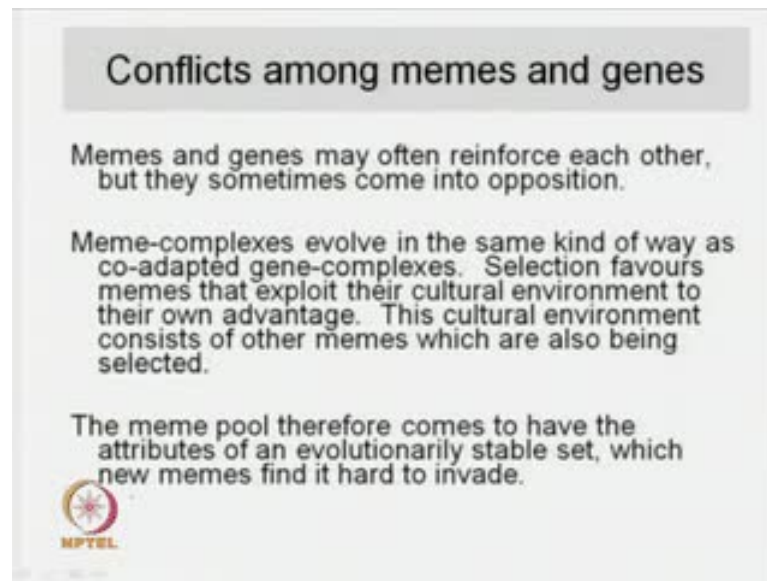
It is highly effective, so you see this the god meme has survived. The god meme may have caused a lot of anguish in people and certainly in children. Dawkin says, if you say to indoctrinate children that if you do this bad thing, you will rot in hell or burn in hell. He says this is extremely damaging for children. In earlier times, it cause a great deal of psychological anguish in humanity and it is particularly in the Christian world.

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He gives us an example of how all these while we have been talking about memes and genes. I said earlier that he is going to come away from genes and he is going to show us some differences. Well, he says that memes and genes may not always reinforce one another.

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Conflicts among memes and genes

Memes and genes may often reinforce each other, but they sometimes come into opposition.

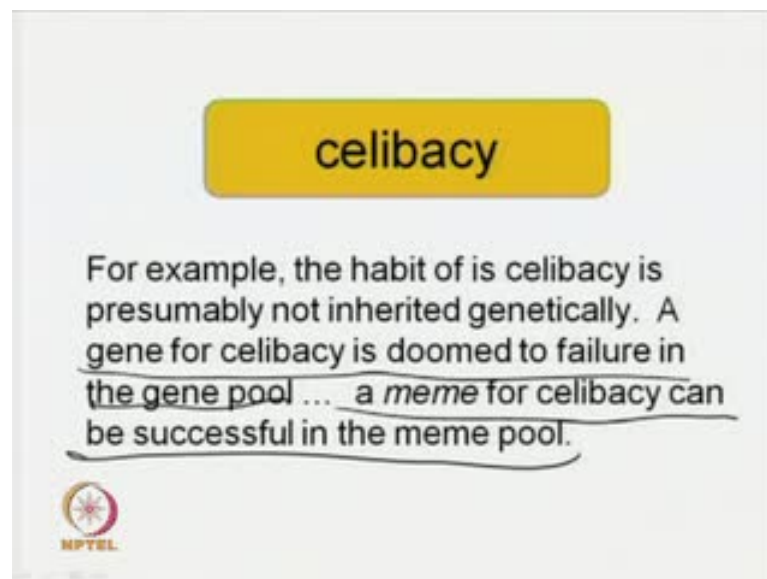
Meme-complexes evolve in the same kind of way as co-adapted gene-complexes. Selection favours memes that exploit their cultural environment to their own advantage. This cultural environment consists of other memes which are also being selected.

The meme pool therefore comes to have the attributes of an evolutionarily stable set, which new memes find it hard to invade.




Let us read, he says conflicts among memes and genes. I will quickly go through his words. Memes and genes may reinforce each other, but they sometimes come into opposition. Meme complexes evolved in the same kind of way as co-adapted gene complexes and that is what we have seen selection favours memes that exploit the cultural environment to their own advantage.

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celibacy

For example, the habit of is celibacy is presumably not inherited genetically. A gene for celibacy is doomed to failure in the gene pool ... a meme for celibacy can be successful in the meme pool.



This is the god meme, the example or other memes, these are examples of a meme able to exploit its cultural environment. It is essentially identified by Dawkins as an

environment of fear of the unknown fear of death, fear of loss of breath etc. This is how memes fortify themselves. He says that it is not necessary that memetics and genetics have to go together. Now, he gives us an interesting example of celibacy and he says that how can if celibacy is a meme or a thought in our minds, then idea in our minds? If genetics is about evolution and survival, which is also tied into reproduction and we are supposed to transmit our genes to the next generation.

How do you explain celibacy? Celibacy becomes an anomaly; it becomes like suicide and celibacy also becomes an analogy in suicide. You are negating one of the pillars of Darwinian evolution, which is survival in celibacy and your negating another pillar of Darwinian evolution that is reproduction. Let us see how he puts it. For example, the habit of celibacy is presumably not inherited genetically; a gene for celibacy puts it beautifully, a gene for a celibacy is doomed to failure in the gene pool; whereas, a meme for celibacy can be successful in the meme pool.

Now celibacy, particularly if we see, there is another supporting meme for the god meme as far as priests in some denominations are expected to be celibate. In that case, what happens is we know that meme is successful because it has survived and it has also helped the greater god meme complex; it has been an addition to it and it has fortified the greater god meme complex, but it is a failure as far as genetics is concerned that is why Dawkins says that we have to... at some point of time.

We cannot move on. The meme cannot be simply following the gene or the trajectory of the gene culture. Therefore, it is different from certain natural propensities. It may use natural selection, survival and reproduction, so that we may have things completely at odd memes like suicide and celibacy. They are at odds with the discourse of genetics and that is why memetics is an area I believe, which needs to be explored in cultural studies.

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The slide is titled "Genes" in a grey header. It contains three bullet points:

- We are gene machines, and we were created to pass on our genes to the next generation.
- But as each generation passes, the contribution of our genes are halved.))
- So immortality should not be sought through reproduction.

In the bottom left corner, there is a logo for NPTSL (National Professional Teachers' Society of India) featuring a stylized sun and the acronym "NPTSL".

There comes another point, which says that we are gene machines. In one way of describing ourselves is we are gene machines. We are created to pass on our genes to the next generation and that sort of scientists, who are completely with the gene or who see and say everything in terms of the gene would also have called the human body simply a vehicle for the transmission of genes. That is one way of looking and describing the human being as vehicles because these things called genes want to replicate and get passed on. Anyhow we are gene machines and we are created to pass on our genes to the next generation.

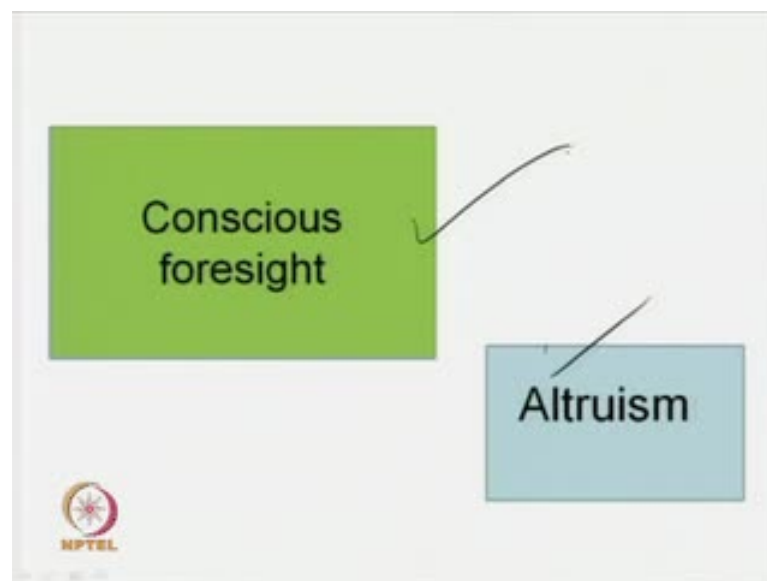
He says it is wrong or it is futile for us to think that our immortality lives that is in our genes, you have seen that it is also the disciple of movies, disciple of literature and believe that it is only when we have children that you pass on. Only when you have children, you are immortalized in your children that through your genes, you are immortalized. Your children are carrying your genes, but he says well if you want immortality, then you surely have to look elsewhere and not at the gene because as he says in this slide, each generation passes the contribution of our genes and they are halved that is the scientific truth.

By the time he says that what happens to the genes of these people like Leonardo da Vinci for instance or Galileo for instance, what is the fate of their genes, if their genes are halved? Now, the contribution of our genes are halved, as both parents contribute to

the progeny. He says immortality should not be sought through reproduction to physical reproduction. If at all we want immortality, we have immortality through memetic reproduction. We remember Socrates, Einstein, Newton, Mercury. We remember all these great personalities like Mozart Beethoven and we remember them not through people, who were before so many generations removed from them, you do not even know. How many of us know whether Galileo had children? Newton did not have children and how many of us know where the genes of Socrates are?

He says if you want to or if you have to aim at immortality through your memes and not through your genes, aim at immortality through your cultural contribution. Now by cultural contribution, we mean cultural contribution, various levels of human activity, human thinking and human knowledge. Hence, he says immortality should not be sought through reproduction.

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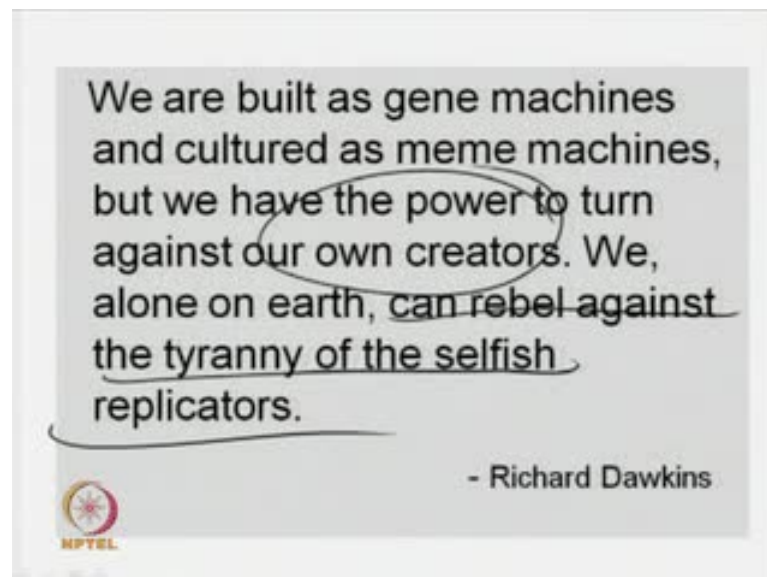
We shall end with these points. In fact, these are extremely important as far as memetics is concerned and it drives away some of our fears. For instance, he says that all these things that we are talking about all these things and memetics talks about. Does it mean that we are meme machines? That does not mean that we are gene machines and we are completely slaves of these. Our brains are simply carriers, vehicles for thoughts and memes that our bodies are vehicles for carrying genes. Is that all we are? Is there a way out? He says definitely there is a way out and he points to two characteristics that we

have' our redeeming characteristics. Let us look at this slide; these are that the human beings have conscious foresight and human beings have altruism.

So, it was well put by Dawkins. We should think, but we have conscious foresight. All the time we are not looking for short-term gains, we are looking for long term gains for which, we can sacrifice some of our memes. We can remove some of our memes from our system or how do I put it, so that we can ignore some of our memetic propensities, why? Because we have a quality known as conscious foresight; the quality of conscious foresight does not drop from the heavens. It is a part and parcel of our evolutionary lineage. We have learned through trial and error methods to retain this characteristic of conscious foresight of trying to sacrifice the small gains for a much bigger gain.

The other point is altruism - our propensity to help people and our propensity to sacrifice, particularly for kin. These are things that save us from being slavish imitators of memes of thoughts of cultural products. These are the two things, which as he said help us from being victims to memes and let us see how he says it.

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He ends by saying that we are built as gene machines and cultured as meme machines, but we have the power to turn against our own creators that is the gene and the meme. We alone on earth can rebel against the tyranny of the selfish replicators. In that sense,

he is using the term selfish. Now, selfish, many again may have thought about, what does he mean by giving a title like the selfish gene?

Now, we should not think of it, in terms of the way we understand human beings as being selfish for some end, something for our own good. We would be doing a sort of anthropocentric fallacy, if we say that genes also think like us. The point here is how Dawkins has also explained. He says that when I say selfish, I mean that it is a characteristic built into the gene. By analogy, it is the characteristic built into the meme and we at least know as human beings that we can be selfish or we are not selfish. In some cases, we decide not to be selfish, which means that we have a better thinking in which we understand that we are capable of selfishness.

On the other hand, genes and memes are selfish in the sense that selfishness is built into them into the nature of the gene and the meme, why? They simply have and they are also called the blind replicators; their job is to replicate themselves. He says that genes and memes are now part of us. In another sense, they are not our creators and then he says we alone on earth can rebel against a tyranny of the selfish replicators.

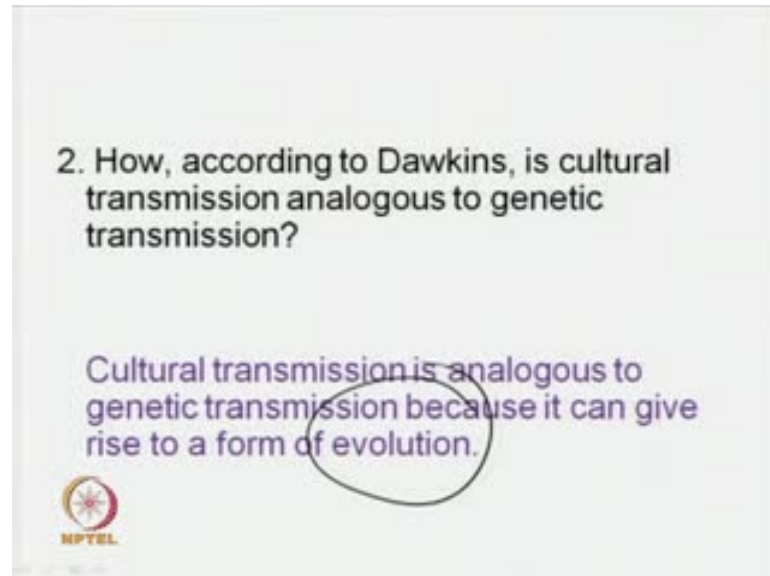
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We will now go into the discussion. If you get a question like define memetics, Richard Dawkins says that memetics is the theoretical and empirical science that studies the

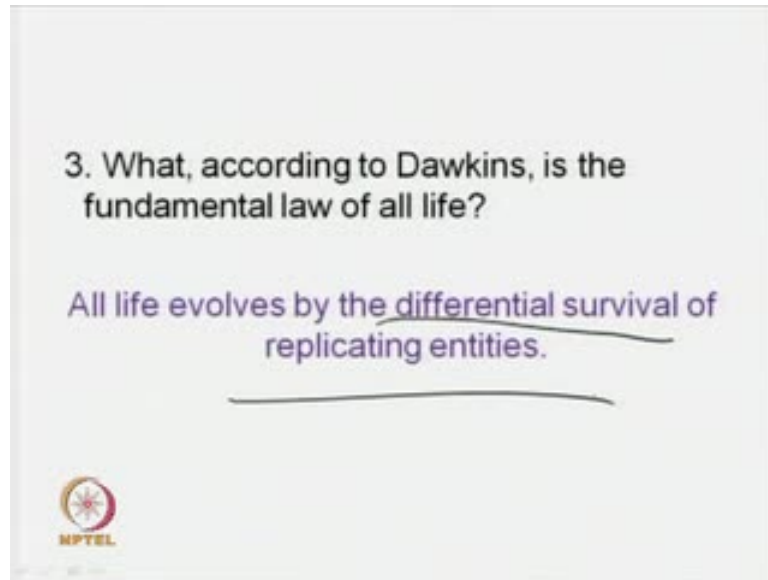
replication, spread and evolution of memes. We go on to explain that memes may be defined as units of cultural transmission.

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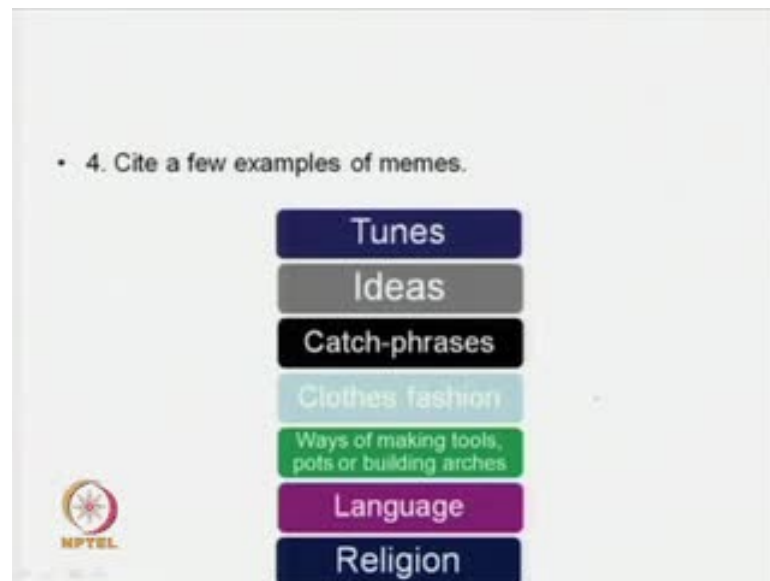
The second question: how according to Dawkins, is cultural transmission analogous to genetic transmission? We will refer to this portion of his essay, where he says that cultural transmission is analogous to genetic transmission. It can give rise to a form of evolution and evolution is the connecting term here, why? We are understanding both genetic reproduction and memetic reproduction or imitation as true and an evolutionary process.

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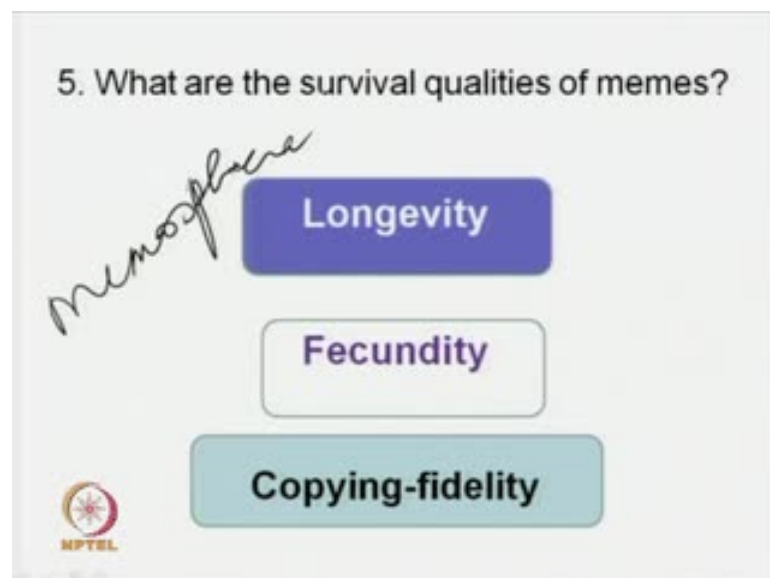
What, according to Dawkins, is the fundamental law of all life? This is really my favorite. All life evolves by the differential survival of replicating entities. It may be silicon based life, carbon based life, it will be the life of the meme, but the law if at all we have to zoom and we can zoom. This is another textbook law, but it is a formulation given very ingeniously by Darwin, after all he is a biologist. He says all life evolves by differential. We have explained what differential survival is. The differential survival or differential reproduction entails a difference with competing organisms. So, all life evolves by the differential survival of replicating entities.

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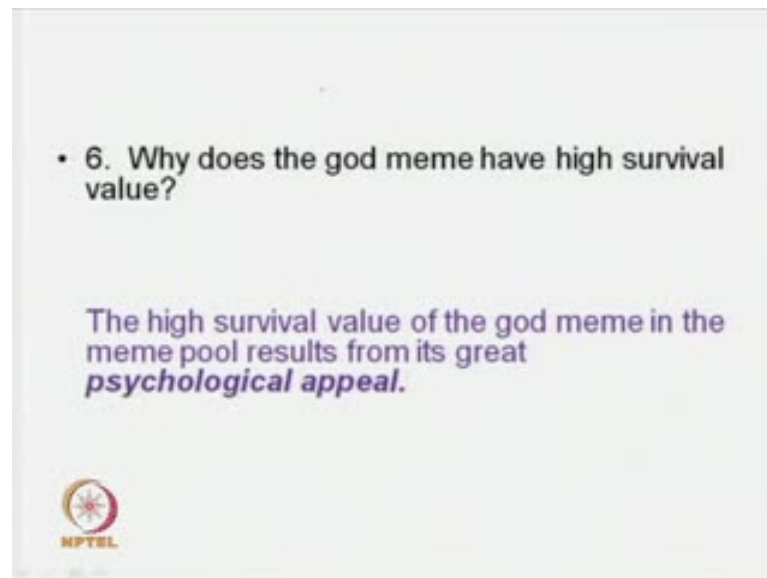
Cite a few examples of memes. Examples of memes: as we saw, are all the things that have to do with our cultural forms and artifacts like tunes from music, ideas, catch-phrases, fashion, ways of making tools pots or architectural forms, even language and religion. These are all products of our culture and these are also memes. Again, these may be just a snatch of a song or part of an idea or short catch-phases or even part of a language or religion. It can be the whole of a symphony and for instance, instead of a short patch, all these are to considered as memes.

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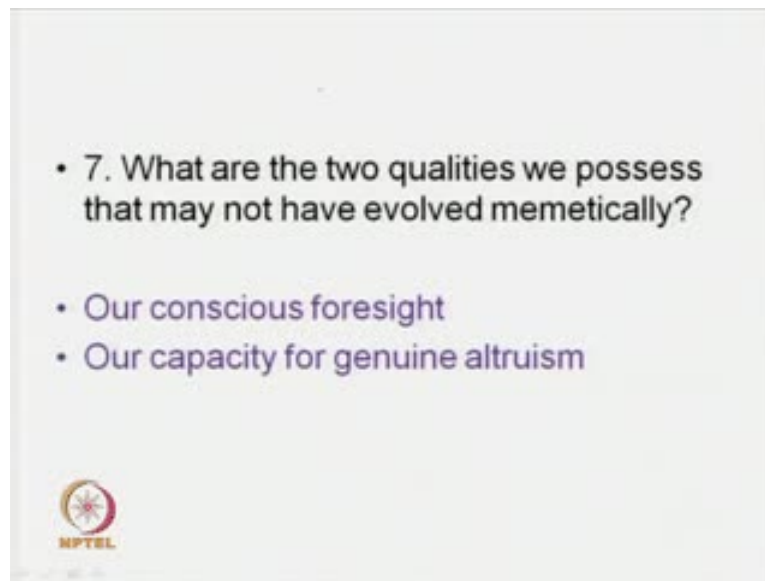
What are the survival qualities of memes? The survival qualities of memes are that they have to live long enough, so that they can be in genetic transmission and they should be around. So, to speak in the memosphere, if I may use the word in the memosphere, they have to be long and be around for long, in order to be transmitted at all. Second, they have to be a certain fecundity of fertility about them and a copying fecundity. The meme will not remain; it will become another meme, if you change the original meme too much.

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Why does the god meme have high survival value? This is typical Dawkins and he says that the idea of god is really an idea or the meme. It has high survival value because of its great psychological appeal. He says even if it is imaginary, it is effective and it is a psychological crutch that is used. It has great psychological appeal ideas like the afterlife ideas, we can take refuge in god after our death and at least the wrongs that we have received in this life will be remedied in the next etc. We can go on to higher forms of life that we do not usually know. All these are extremely appealing and help human kind. We have to run these at least, as it helps human kind live, otherwise there would have probably been a complete chaos in the human population.

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Finally, what are the two qualities we possess that may not have evolved mimetically? The two qualities, which save us from being complete slaves to memes and to genes are capacity for conscious foresight and our capacity for genuine altruism. So, these are the two things, which ensure that we are not slaves or slavish imitators or we are not completely ruled by our genes and memes.

Well, this is where we stop and this also ends the scientific... So, to speak the work on memetics or this course on memetics is really a bridge between what we have done before, which is a scientific way of looking at culture and to see what biculture has to tell us about ourselves. After this, we will be moving into some other areas and I really hope this was useful for you. As I said, it is a controversial field, but it is something that many people have added in their understanding of culture, why? Because memetics is a theory of culture and that is why we need to incorporate the study. Thank you so much.