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**UNIT 4 COLLECTIVE EXTENSION OR COSMIC EXTINCTION**

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**4.0 OBJECTIVES**

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- To present before the students the two crucial choices facing us.
- To become aware of the need to collectively make the choice for ourselves.
- To see various reasons for our extinction and extension.

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**4.1 INTRODUCTION**

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Fifty years ago the French philosopher and scientist, Pierre Teilhard de Chardin, described human being as “Evolution become conscious of itself.” Today this profound definition has become dated due to the tremendous technological progress. Nowadays we can define human beings as “evolution capable of extending or eliminating itself.” Human beings are essentially a social being and is expressed through his culture. Today the culture is progressing so radically that the very defining of human being cannot be understood apart from the cultural evolution, that is characteristic of human life in an emerging global community. Along with the cultural transgressions, humans have evolved so awesomely, in the technological (robots, computers, artificial intelligence) fields enabling them to create virtual reality that is capable of shaping the human destiny. Some scientists talk today of a “transhumanist” future leading to a the emergence of a new species guided by human beings. Further recent developments in genetics and the successful completion of Human Genome Project has enabled humans to take life into his/her own hands by guiding, fostering and even eliminating evolution. The danger of our own extinction caused by ourselves cannot be overlooked! So we first begin analysing how human being can extend (or enhance). Then we shall take up some possibilities, by which humans can destroy the whole of life from the precious planet. Finally, we end this unit, by urging us to make a conscious and collective choice for life.

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**4.2 SPECIES EXTENSION**

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Fifty years ago Pierre Teilhard de Chardin described human being as “Evolution become conscious of itself” (Teilhard de Chardin 1999). Today after so much of technological and moral evolutions, we can extend this understanding. At present human beings can be understood as “Evolution become capable of consciously extending or eliminating itself.”

In this unit we would place before the students the mind-boggling alternatives that humanity is confronted with: that of either enhancing ourselves collectively or annihilating ourselves totally. We argue that as moral and spiritual beings, humanity as a whole has to make today a decisive choice consciously, collectively and freely.

In the first part of this unit we show that today the cultural and sociological dimension of human life has evolved so complex that from individual objects, each one of us is evolving into complex cultural ménage with much more profound religious, social and scientific implication. In the second part of this unit we deal briefly with the technological advancement that has placed before us the decisive choice, which will be elaborated in the next two sections. The first choice of collective species transformation is not necessarily placed as a positive one. The second one of collective self-annihilation is a threat to humanity as well as to life. We deal with some reasons (natural and artificial) which make the choice possible and crucial for us.

The next section only raises some philosophical questions. We believe that the answers to these questions are both complex and multifaceted. Even before arriving at answers, I believe that posing the questions properly is the first philosophical requirement needed to cope with today’s cultural and technological advancement.

Because philosophy and religion have significant roles to play in shaping the destiny of humanity, it is important for us to realise that raising the questions and living with these questions is the beginning of the process of solution. So no attempt is made to raise solutions that humanity faces. At the same time after realizing the gravity of the situation, we can suggest some criteria that could be very important in encountering the questions and opting for the answers that will determine our very destiny.

Because of the very nature of the argument, the data presented is very sketchy. The questions raised are also not elaborate. But it is hoped that this article will at least raise some serious philosophical questions on issues that are central to being human today. The prospects of being human today, we believe, lies in raising these questions and wrestling with them and only at the next level in finding solutions to the questions.

#### **a. Cultural Advancement**

Never has human beings lived as pure independent individuals. So the basic insight of sociology is that humans are essential “social beings.” None can become or remain a human being apart from the family, community or society that constitutes and enables him. Still one of the liberating factors of modernity has been the rediscovery of the individual or person as the ‘focus’ of social and cultural life. Modernity emphasized the role of individual and that of person as the basic constituent of the society. Because of that humans became aware of the fact that the society cannot sacrifice the rights of the individuals for a long time. Though the society may demands the curtailment of the freedom of the individual in emergency situation, that cannot be the

normal way of living. So humans today talk of the need for self-realisation, personal growth and individual assertion of one's rights. Many of the fundamental inalienable rights, including the United Nations Declaration of Human Rights have been based on the assumption that the individuals should be given free space to grow.

Within the span of the last thirty years things seem to look drastically different on many accounts. Today humans tend to attain a collective, cultural and multifaceted identity that is definitely different from the tribal or collective identity of the "primitive human beings." Some of the ways humans extend their horizon of self or identity are;

**From individual to cultural identity:** The first commonly accepted extension is through cultures. Humans create the culture collectively and the culture in turn forms the individuals. In the course of time the culture may overpower the individual entities and may at times even suffocate him. But in general the individual growth is intimately linked to that of the culture. As the culture evolves, the individual growth also advances. From biological to collective evolution: at a still deeper level the biological or physiological evolution, of which we are all part of, is moving beyond the strictly biological to a collective evolution. The physical traits are transmitted genetically and the process of biological evolution has been known to humans from the time of Charles Darwin. But today human capability, human aspirations go beyond that of his or her biological aspiration. One's own meaning system, values and identity itself is determined by the social and global phenomenon which is much larger than the cultural phenomenon discussed in the previous paragraph.

**From individual to corporate identities:** With the emergence of well established city states with well-defined boundaries, this extensions of individuality takes on a new turn. An individual soldier, for example, is not even a "cog in the wheel" compared to the defense establishment. A private individual does matter to a nation, but the larger interest of a nation can easily be scarified for the personal interests of the ordinary citizen. Going one more step, the multi-national corporations (Korton 1995), that have become so powerful in the last three decades have redefined the workers as a collective entity. Today the individual identity seems to be either merged or even overpowered by (sometimes even anonymous) collective identity of a sect, nation or corporation.

**From biological to cybernetic identities:** Another dramatic extension of human beings' identity is made possible through technological innovations. Going beyond the classical understanding of technology as "extension of human senses," today's technological marvels allow us to go beyond the limits imposed on us by our materiality. Today's cybernetic and biological technologies (like robots, cyborgs, coupled with nanotechnology and biotechnology) enables human beings to drastically redefine themselves. In the process of such redefinition of themselves, they are going beyond the classical understanding of human self. The human being who are "best fitted," will thrive in such situation and in this plane the human self advances with the help of technology. The obvious danger is that humans identity may become superfluous and the cyborgs may take over human destiny!

Going beyond the truism that human beings are essentially social beings and expresses themselves through cultures, today we note that culture is changing so globally and so rapidly,

that humans have no time to cope with it (Toffler 1974). Today the cultural entities – and the human self – are progressing so radically that the very definition of human being cannot be understood apart from the cultural revolution in the emerging global community. Globalization, together with technological progress, effects today a culture that transcends anything that the humanity has even seen! The radical changes and progress that we encounter in every sphere of human life (and culture) along with their global impact almost make the very definition of human being obsolete. Not only are we not used to the “future shock” that technological era bring with it, but we are also in the very process transformed without being informed by it.

### **b. Technological Progress**

Along with the cultural transgressions, humans have evolved so awesomely at the technological level. The marvel brought about by technology – be they aeroplanes, communication media, information technology, nanotechnology – is so gigantic that people living just hundred years ago could never have imagined the life style of the present generation. The stupendous developments in transport, communication and mass media has brought about tremendous changes to the way that we perceive ourselves. Our very self-identity is dramatically altered by the technology at our disposal.

But today with the arrival of artificial intelligence and ushering in of virtual reality, we have gone far beyond the simple understanding of technology as a human tool. Today technology enables us to create reality according to our own making. The classical distinction between “the given” and “the made” is getting blurred. The difference between the “natural” and “artificial” has also become ambiguous. Today we are in a position to create virtual reality that is capable of shaping the human destiny, to degrees unimaginable in the past. To a limited extent at least, we have become creators of our own reality, masters of our own destiny and shapers of our human nature.

In spite of the fabulous technological progress, Einstein’s assertion is still valid: "All our lauded technological progress – our very civilization – is like the axe in the hand of the pathological criminal." (Einstein 2009). That is a pity! At our disposal is the technological wonder that can almost make anything. But our human heart – the realm of values, vision and spirit – remains very “primitive.” Again the visionary statement of Einstein is valid: “The release of atomic energy has not created a new problem. It has merely made more urgent the necessity of solving an existing one” (Einstein 2009). We may be able to restate this and affirm that in spite of the technological progress, the basic problem is at a moral or spiritual level and we have not been able to handle it. We have not learnt to remedy our moral and spiritual backwardness and this is extremely dangerous given the technology at our disposal.

### **Check Your Progress I**

**Note:** Use the space provided for your answers.

1) What is Teilhard de Chardin’s understanding of the human person? How do you reformulate that definition for today?

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2) What are some of the implications of species transformation?

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### 4.3 COSMIC EXTINCTION

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Confronted with the fact of unbridled technological progress and moral stagnation, the danger of our own extinction caused by ourselves cannot be overlooked! Without trying to appear apocalyptic and promoting doomsday arguments, we should still be able to look with a sense of realistic objectivity. We shall be very brief in this section and try to point out areas which may lead to our own self-annihilation. Humans could become extinct. Launch of nuclear weapons, an outbreak of disease, an unforeseen side effect of technical and medical advancements, or unusual environmental changes are the main causes of human extinction. Here, I enumerate the possible disasters in the future.

#### a. John Leslie's The End of the World

John Andrew Leslie (born August 2, 1940) is a Canadian philosopher. He was educated at Wadham College, Oxford, earning his B.A. in English Literature in 1962 and his M.Litt., in Classics in 1968. He is currently Professor emeritus at the University of Guelph, in Ontario, Canada. In his famous book "*The End of the World: The Science and Ethics of Human Extinction*", he argues that there is a significant probability of a disaster on the Earth, which is relatively in the near future. Mainly, the disaster would cause the extinction of human life. He argues in two stages. In the first stage is the disaster which is made by humans and the next is a non-human made disaster (Leslie 1996).

#### b. Non-Human Made Disaster

John Leslie calls attention to possible disasters which could cause the extinction of the human race. Leslie probably knows more possible ways in which human life might be eliminated than anyone else in the world. He reviews a wide range of possible causes of disaster which do not depend on human activities. There are, for example;

- A nearby supernova - a stellar explosion perhaps equivalent to that of a hundred thousand trillion-trillion mega ton H-bomb.
- Essentially unpredictable break down of a complex system, as investigated by 'chaos theory'. The system in question might be Earth's biosphere: its air, its soil. Its water and its living things interact in highly intricate ways. On a very long timescale it might be the solar system itself, because planetary motions could be chaotic.
- Other massive astronomical explosion produced when black holes complete their evaporation or by the merger of the two black holes or two neutron stars, or of a black hole and a neutron star (Leslie 1996).

Of course, while a collision with a comet is not something that human activity causes, conceivably human effort could prevent such a disaster which would otherwise have occurred.

Mass extinction events, like the wiping out of dinosaurs 65m years ago, are impressive and dramatic, but account for only around 4% of now extinct species. On the other hand, the majority slip away quietly and without any fanfare. Over 99% of all the species that ever lived on Earth have already passed on, so what happened to the species that weren't annihilated during mass extinction events? (Ravilious 2009).

A few other reasons may be enumerated:

- Another biological reason leading to our possible annihilation is perm counts. Reduction in male sperm count may indicate severe telomere erosion and it could be an added reason for the elimination of human species.
- Coming to the cosmological level, the occurrence of a supervolcano and the arrival of extreme ice age leading to Iceball Earth could lead to our death.
- Further, in about 3 billion years, the Andromeda Galaxy is expected to collide with our Milky Way galaxy. In about five billion years the Sun's stellar evolution will reach the red giant stage, in which it will expand to engulf the Earth. Before this date, its radiated spectrum may alter in ways Earth-bound humans could not survive.
- Finally, in the *very* long term the ultimate threat to humanity may be entropy, with the postulated heat death of the universe predicted by the second law of thermodynamics, or other endings caused by physical constraints (Leslie 1996).

### Check Your Progress II

**Note:** Use the space provided for your answers.

1) Briefly discuss some of the reasons for the end of the world?

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2) Is cosmic extinction a realistic possibility? Give your reflections.

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### c. Human Made Disaster

The second causal factors do depend on such human activities. These factors are include items such as human industrial and agricultural activities, research in theoretical physics, war, and systems of human beliefs. The disasters might result from some unintended event, something highly toxic and highly infectious to the human society. Disaster could result from unexpected consequences of deliberate acts of some human beings. Small changes in complex systems can have unpredictable consequences. If human existence depended on the continued functioning of some such system, the disintegration of the ecosystem would spell the end of human existence. Here Leslie gives some of the reasons of collective human extinction such as;

- Human population tends to increase geometrically over time, so that a historical graph of world population produces a Malthusian slope. Over population is the main cause of the deterioration of the environment which may lead to global warfare.
- A disaster from nanotechnology-very tiny self reproducing machine could be developed fairly soon and it might spread worldwide within a month in a 'gray goo' calamity.
- Disaster associated with computer-it initiated nuclear war is the one often discussed. There might be a breakdown of a computer network which had become vital to humanity's day-to-day survival and computer replaces us and humans become more and more computer controlled. An advanced computer might be superior to humans.
- Some other disaster in a branch of technology, perhaps agricultural is dangerously dependent on polluting fertilizers and pesticides and progressively fewer genetic varieties.
- Also chaos theory warns us that any very complicated system and in a particular system involving new technologies interacting in a complex manner might break down in an essentially unpredictable fashion. So a small change in complex systems can have unpredictable consequences (Leslie 1996).  
Mainly Leslie states that if Doom were to strike in about AD 2090, then it would be because of population growth. Also many writers considered such things as the dangers of nuclear war or of pollution..

### **Conscious Reasons for Annihilation**

Unlike natural reasons for our own demise, there are human-made reasons which could lead to our own annihilation. Since many of these reasons are so obvious, I am not going to dwell on them elaborately. The first candidate is obviously war: Warfare, whether nuclear, chemical or biological in the scale of World War would easily lead to the demise of the whole humanity.

Other reasons that could see ourselves wiping out of existence are:

- Universal pandemic involving a genetic disease, virus, prion, or antibiotic-resistant bacterium.
- Famine resulting from overpopulation (see Malthusian catastrophe)
- Long term habitat threats resulting in environmental collapses
- Catastrophic climate change as a result of global warming or the effects of extensive deforestation or pollution.
- Genetic engineering and manipulation resulting in an (advanced human) species unable to inter-procreate, accidentally resulting in actual (rather than pseudo) extinction.

In view of these phenomena, "The Voluntary Human Extinction Movement" with their motto "*May we live long and die out*" tries to accelerate the process of our extinction both scientifically and religiously! Public discourse is an unassailable obligation.

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## **4.4 COLLECTIVE SPECIES TRANSFORMATION**

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Scholars such as Nick Bostrom (2008 & 2008) and Hans Moravec (1988 & 1999) argue that humanity will eventually be supplanted and replaced by artificial intelligence or other forms of artificial life; while others have argued that humanity will inevitably experience a technological singularity, and furthermore that this outcome is desirable. They see the technological change dynamically and positively. In fact, they see that technology can cure us of our illness (both physical and even mental, leave alone spiritual) and could be a contributing factor to eliminate

the natural reasons for human extinction. On the other hand technology could be the source of going beyond ourselves to a level unimagined in the past (Bostrom 2008).

Some scientists go even further and talk today of a “transhumanist” future leading to the emergence of a new species guided by human beings. Further recent developments in genetics and the successful completion of Human Genome Project has enabled humans to take life into his/her own hands. By proper use of genetic, information and nanotechnology, they feel that we are at the threshold of a new era in human life. By guiding, fostering and even (hopefully not!) taking evolution into our own hands, we can go guide and accelerate the process of evolution according to our designs. Cloning and Human Genome Project coupled with computer and nanotechnology give us a unique position, where we are in a position to create life according to our design. They also provide us with both artificial intelligence and virtual reality which makes human existence far more noble and even spiritual. So according to these scientists we are on the verge of transforming ourselves collectively into posthumans or extropians. So they dream of a possibility when humans will transform themselves and take hold of the evolution to their own advantage.

Though many of these dreams are utopian and illusory, I do believe that they have a point to make. Technology, we are capable of controlling and modifying evolution. Biologically we are capable of intruding into life in ways totally unimaginable in the future. The robots and cyborgs of tomorrow will definitely transform the way we think, feel and reality and in the process we will be able to create a new reality for ourselves. The distinction between the real world and artificial world is getting blurred. Though the dream of creating a new species may not be achieved, human being are in a position to alter significantly and positively the flow of evolution. So without getting into the bandwagon of posthumanists, we can still appreciate the possibilities offered by science to enhance human life and extend life-span. To the extent science can relieve us from unnecessary pain it is a noble enterprise.

So the future that awaits us is both frightening and promising. Science can truly help us to attain a future that is more human and authentic. It can also, as pointed out in the earlier section, offer us the frightening prospect of complete annihilation of life. We stand at a crisis point? Where will science take us? What will we humans decide for ourselves? To take these issues seriously science needs to dialogue with religious and philosophical streams of thought.

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#### **4.5 POSING SOME PHILOSOPHICAL CHALLENGES**

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Confronted with the crucial possibility of collective annihilation or enhancement of human beings, made possible by scientific and technological advancement, we are in search of both adequate questions and answers. The bewildering technological possibilities force us to revise our very questions to ourselves, besides challenging us for new answers. The philosophical implications of these for our understanding of the human person are mind-boggling. Some of the crucial issues and questions that emerge are: Who will speak for (human) life? In such a pliable atmosphere, what is really human life? Then there are still more basic issues: What is life? Who owns life? How far am I responsible for my life? How far are we collectively responsible for our human life? Can we humans claim responsibility for the whole of life? Still more pointed



questions arise: Can some corporations determine the collective destiny of humanity based on the sole criterion of profit?

Further, wider issues and concerns rise: What is a human being? What is human nature? In the context of the cultural and virtual extension of human species, can we still meaningfully speak of nature and nurture? Going one more step ahead, we can ask:

What is the human society? Humans have become much more shaped by the society than earlier. Can we at all speak today of human individuality, dignity and situate him apart from the social structure that shape him?

What is nature? Can we still afford a dichotomized view of nature? Should we not evolve a philosophy that takes into account the various dimensions of life and attempt an integral understanding of life, which includes also human life?

Finally in this context self-appraisal of the role of philosophy and religion is important. So the question: What is the new role of religion, philosophy? How does it affect human activity?

The answers to these questions are multifarious and involved. That is precisely the significance of philosophical concerns. Because we do not have simple solutions to these profound questions, we just cannot ignore the questions. The questions – along with it the attempted answers – are too important to be ignored. The future generation depends on how we choose to pose the questions (leave alone attempting to answer them). So for a philosopher raising these issues and bringing the concerns to the level public discourse is an unassailable obligation.

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#### **4.6 THE CHOICE IS STILL OURS: BUT NOT FOR LONG!**

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The essay has made it abundantly clear that today humanity, both individually and collectively, is in colossal crisis and are confronted with a radical choice. The first thing we need to realize as humans beings and as philosophers is to realise the seriousness of this crisis without either ridiculing it to oblivion or exaggerating it to doomsday!

After having realistically and critically assessed the choice between us, the second step is to ask if we humans are capable of responding to this crisis consciously, collectively and responsibly. Here lies precisely the greatness and frailty of being human today! Without burying our head in the proverbial ostrich manner can we face the problem squarely and dare to ask the questions that are indispensable?

We are truly happy that we humans being can make a choice: for ourselves and for the rest of life. We can assume the role of the spokesperson for the larger family of life. But we must remember that this choice will not be available to us for long time. The choice is *still* ours, but will not be with us for too long! So the imperative to pose the questions and respond to them urgently. We are sure that humanity has the spiritual wisdom and the moral conviction to make a collective, creative, coherent choice. A choice based not solely based on profit, nor on progress, but for humanity, for life! Let us not leave the decisions to a few individuals (the so called

‘experts’)! Humanity has a collective stake and we humans must collectively decide on it, not only on our behalf but also for the rest of living beings. In making this choice for ourselves, we can contribute a little to the flow of life that takes place in and through us.

### Check Your Progress III

**Note:** Use the space provided for your answers.

1. What are the crucial choices humanity faces today?

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2. For a philosopher, “public discourse is an unassailable obligation” Why?

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## 4.7 LET US SUM UP

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In this unit we have offered the two possibilities facing humans today: either that of total extinction of life or that of enhancement or extension of life. We humans are capable of both. That is our greatness and also our weakness. The choice is before us now!

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## 4.8 KEY WORDS

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**Collective Extension:** The glorious possibility that humans can by their technological, moral and spiritual power enhance (or extend) life on the planet earth. Even the possibility of humans becoming another species (Transhumans or Posthumans) is not ruled out.

**Cosmic Extinction:** The possibility that humans can annihilate ourselves and even possibly destroy every trace of life from the planet earth.

**Doomsday arguments:** Calculation of statistical probability for the total extinction of human species, based on various arguments and reasons.

**Species transformation:** The hope that we humans will be able to bring about another species, by their own technological innovation.

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## 4.9 FURTHER READINGS AND REFERENCES

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Unit 4 Extension. 1 Look at the questionnaire about likes and abilities, and the example questions. Then add four items to each section. (A and B) and write the questions. A Likes. Do you like -ing? (If yes, how often?) You visit social network sites Do you like visiting social network sites? Yes. Unit 4 Extension. B Abilities Can you ski? (If yes, how well?) Can you ski? How well can you ski? You. Yes. Four Planets variant: Under this variant Ace still follows his Game Setup text, so he will end up with three planets and 12 ships. Other unique system setups: In a multiple-power game, if a player has Ace and another alien that also does something special with its planets or ships, Ace should always purge one planet and a fair share of ships for that planet. Judged not by their size, but by their peerless physical prowess, each athletic Ace was desperately hunted to presumed extinction. Now, using mystic mind tricks to disguise themselves, these majestic masters of the martial arts seek to fortify one rebel base, and then conquer the Cosmos. Wild: After encounter cards are revealed, if you are opposed by all other players you may play this flare to win the encounter. Keywords: Cosmic biology Cambrian Explosion Retroviruses Panspermia Hypermutation & evolution Origin epidemics & pandemics. abstract. We review the salient evidence consistent with or predicted by the Hoyle-Wickramasinghe (H-W) thesis of Cometary (Cosmic) Biology. Much of this physical and biological evidence is multifactorial. One particular focus are the recent studies which date the emergence of the complex retroviruses of vertebrate lines at or just before the Cambrian Explosion of ~500 Ma. Such viruses are known to be plausibly associated with major evolutionary genomic processes It usually implies seriousness, so the particular examples of these activities which are regarded as "light" may be referred to simply as "entertainment" instead. Art, or fine arts, is often used to refer to those arts which use space, but not time, for their appreciation (such as paintings and sculpture). This, for example, is what is covered by the subject "art" in schools. The word culture has several meanings.