

Re-designing Man: Science + Human Values:Unit 6 The Search for Immortality:

## Content Summary:

This film-strip lesson opens with a silent visual montage of African vultures devouring an animal carcass. The message is quickly stated: death is the inescapable fate of every living creature. The film lesson suggests that the fear of death and the intense desire to prolong life are uniquely human characteristics. It is further explained, that while aging is genetically determined, sometimes whole populations, such as the residents of Abkhasia a Soviet village, enjoy exceptionally long and healthy life. Several theories accounting for the physiology of aging, are presented, such as: cross linking, free radicals, and somatic mutation. Then there is cited recent research into animal regeneration, rejuvenation, and hibernation which someday may be applied to human beings, dramatically extending life. The film lesson speculates on the possible applications of hibernation: long trips through space: journeys through time, periods of rest and recuperation, escape from environmental shortages. Another life-prolonging process is described, cryonics -- cryonic storage, i.e., the freezing of human bodies for long periods of time. Possible uses and abuses of cryonics is anticipated in the film lesson, such as, for example, the incarceration of political prisoners. It is then asserted that death serves an important purpose in the continuation of life: it permits natural selection and the evolution of new and more resilient species. The film lesson concludes with the mythological story of Tithanus, (a character from Greek mythology), which dramatizes the problems of extended life without extended vigor.

Objectives:

Students should understand that the conscious fear of death, as well as the desire and ability to prolong life, are uniquely human characteristics.

Students should be able to discuss and appreciate the social significance of gerontological research which diagnoses the causes of aging.

Students should be able to discuss the social, psychological and evolutionary effects of two techniques which might dramatically extend life, hibernation and cryonic (storage) suspension.

Students should be able to compare and contrast cross-linking and somatic mutation; also rejuvenation, regeneration, hibernation, and cryonic suspension.

Objectives: (cont'd.)

Students should be able to express awareness that extended life without extended vigor may cause unhappiness--for the individual and for society,

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Social/Humanistic Questions:

1. With every new gerontological discovery, the possibilities for long life increase. If the average life span were one hundred years, how would society be affected? What if most people were immortal? What might be the demands on the Social Security System? Might creativity and innovation be affected? Are there any societies, past or present, where the aged have outnumbered the rest of the population? What have/might, have the effects been?
2. America today is often described as a "youth-oriented" culture. How is this orientation manifested in advertising? On television? In social life? What institutions would you consider exclusively youth-oriented? Are there as many institutions which exist for the maturing adult? When old people outnumber young people, will there be increased respect for youth----- or increased hostility?
3. Try to imagine what it would be like to live in hibernation for a long time and then to emerge in a new generation. Would you feel lonely, nostalgic? Would you be able to communicate? Would your values and your interests be the same as theirs? Suppose you regretted your decision to hibernate? Then what?
4. Who would be allowed to enjoy prolonged life? People who have made social contributions? Government personnel? The rich and influential?

Scientific Questions:

1. Many gerontological experiments are performed on animals which reproduce rapidly and have relatively short life spans. What are the advantages of using such animals in research which, if applied to human beings will affect future generations?
2. Many experts believe that environmental conditions affect the aging process. What kinds of environments do you think would encourage longevity? Which would be detrimental to long life.

Scientific Questions (cont'd)

3. What are some of the signs of old age? Do you know at what point they begin to appear? What kinds of behaviour do you consider inappropriate for an older person?
4. Many psychological symptoms seem to accompany the physiological process of aging. Can you suggest what some of these symptoms are? Can you explain why they occur?
5. All scientific research must have financial support in order to continue.

Should the United States government finance aging research and life-extension programmes?

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All animals are destined to die - only man prepares for death -

What are some of the common life span of over 100 years in some places? At what point they begin to appear? What kinds of behavior do you consider in response to stress, and what are the reasons?

Many pay attention to the ability to survive would be increased regarding limits. Can you suggest what some of these hypermetabolism = aging comes and still

All animals have a natural selection without death, there is no natural selection. species will not adapt and will become obsolete

children illegal? overpopulation?

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