

Is Cryonics Fact or Fiction?

Scientists have always been interested in the effects of temperature extremes—both high and low—on living things. Anyone who has experienced very cold weather is familiar with some of the effects of low temperatures. Automobiles won't start, water pipes freeze, windows frost over, and human activities proceed at a slower pace.

Cryogenics Extreme cold produces some surprising effects. For example, a very cold banana can be used to hammer a nail. The petals of a flower become as brittle as fine crystal. A rubber band loses its ability to stretch. Gases liquefy. The ability of materials to conduct an electric current increases, sometimes dramatically.

An entire field of physical science, *cryogenics*, is devoted to the study of phenomena at very low temperatures. At present, most of the attention in this field is focused on the development of superconductors.

Scientists have learned that the resistance of an electrical conductor decreases with a decrease in temperature. At very low temperatures, some conductors exhibit zero resistance. Such a condition is known as *superconductivity*. To date, the warmest temperature at which any material has acted as a superconductor is -148°C . However, scientists think that superconductivity at room temperatures may be possible someday.

Cryonics There is another field of interest associated with very cold temperatures—*cryonics*. Cryonics is the freezing of human remains immediately after death, and the preservation of those remains at very low temperatures. This practice is carried out in the hope that a means of “reanimation” will be discovered in the future. The bodies can then be restored to life. Cryonics is not a science. It has little basis in fact. But cryonics is accepted by some people, because it tells them something they want to believe.

The concept of cryonics may sound a bit fantastic to you. Yet there are a number of reanimation centers or foundations around the world. One foundation in the United States presently has the frozen bodies of fourteen people, three dogs, and one cat. One of the clients wants his or her pets around if and when reanimation becomes possible.

Cryonics is a serious business. At the foundation just described, the cost of freezing an entire body is \$100,000. This foundation will freeze just your head for \$35,000. No one knows why anyone would wish to have a bodiless head frozen, but the option is available. To provide for future financial security, the foundation also provides an investment plan. Ten thousand dollars invested in a reanimation account today will yield over twenty million dollars in one hundred years, when the investor may be reanimated.

Charles Platt is a reanimation candidate who has identified himself to the public. Mr. Platt, a science-fiction author, admits that he can't decide if his decision is that of a “crackpot or a visionary.” He is knowledgeable in science, and cites the following evidence in support of cryonics:

- Human tissue can be frozen and thawed with no damage to the tissue.
- Nanotechnology (a fledgling science) offers rational hope of repairing some body damage that is now considered irreparable.
- Small human embryos have remained viable after being frozen and thawed.

Mr. Platt also lists a number of possible drawbacks to reanimation among them:

- Resuscitation may prove to be very painful.
- The possibility of brain damage is quite high.
- Because of the long period of “dormancy,” there is a strong likelihood that a person

will experience a strong sense of alienation when reanimated.

The foundation where Mr. Platt has his reservation charges \$40,000 to freeze a

whole body. Compared with the rates at the foundation mentioned earlier, Mr. Platt is getting a bargain. Perhaps a century or two from now, he will look back and consider it money well spent.

REVIEW *On the lines provided, answer the following questions.*

1. What is cryogenics? How does it differ from cryonics?

2. What is reanimation? What scientific evidence exists to support the idea of reanimation?

CONSIDER THIS *On the lines provided, answer the following questions.*

1. In your opinion, do the concepts of cryonics and reanimation have validity? Support your view with logical reasoning.

2. Would you ever want to be frozen and reanimated? Give reasons supporting your answer.
