

Drosophila and the other in *Cyanoorbhabditis elegans*. In *Drosophila* (Jaswinski, 1996), mutations induced in the SOD1 gene, which controls free-radical metabolism, increased the animals' life span to about twice the normal span. SOD (superoxide dismutase), which is the product of this gene is essential for removing harmful free radicals, which are thought to be an important factor in ageing. In *Cyanoorbhabditis elegans* (Ewbank, 1997), the situation is much more impressive. Here, two gene mutations were induced resulting in a sixfold increase in the maximal life span of this species. This is no mean achievement.

In more complex organisms, the problem is not as simple as this because we would expect that there would be several genes interacting with one another in complex fashions. This makes investigation of possible longevity genes very difficult. At present, there is still no concrete evidence that it is possible to induce life-lengthening mutations in higher animals and humans. However, there has certainly been a shift in our belief that the maximal life span is immutable. The possibility of extending the maximum life span in humans has now gone from legend to laboratory. It is being taken very seriously.

Is Man immortal?

In a discussion about mortality and immortality, it is inevitable that the question, "Is Man immortal?" should crop up. My first reaction was to keep well away from this question and not even to mention it. It is not possible to discuss the topic of immortality, which is entirely spiritual, in terms of genetics, which is entirely materialistic. The concept of Man's immortality, which dates back to the earliest cultures, is based on belief rather than on visible and tangible facts. Therefore, I will not try to answer the question "Is man immortal?" Instead I will take as my starting point my personal belief in Man's spiritual immortality. The question that I asked myself became "What is immortal in man if the body dies?" I tried to answer this question for my own personal satisfaction.

We speak in a rather "matter of fact" way, that man and all living things are made up of living matter and of the molecules of life. Is there such a thing as living matter? The genetic material and all that constitutes living cell

and organisms are made up of atoms, just like all other matter. These are the same atoms that participate in all of nature's re-cycling of carbon, hydrogen, oxygen, nitrogen and so on. No particular molecule or substance in the cells is living. The body as a whole and its constituent, intact cells are living. If we think of the moment just after death, a person is made up of exactly the same matter as that immediately before death. So what has happened to the matter when an individual dies?

When we speak of "living matter" we are really referring to matter that has been animated by life. Life is the moving force that enables the matter to function in a perfectly harmonised way. Life becomes an integral part of the matter it animates. However, life does not originate of its own accord. Life is transmitted from one generation to the next through two germ cells, which fuse to form a small mass of matter, the zygote.

Here life assumes a new identity, a new individuality and a new character. And as the zygote develops into the human body, this life becomes one with the body with its personality and uniqueness. The individual, component cells share of the same life, the singular genome. When the body dies we are left with inanimate, lifeless matter. There comes a stage when for one reason or another the body is so deranged as a consequence of damage or disease that it can no longer support the life that animated it and dies. That life which had assumed the identity, the individuality, the personality and the character of a person lives on and is truly immortal.

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Errata

The Application of Multivariate Analytical Techniques to the Study of Marine Benthic Assemblages: A Review with Special Reference to the Maltese Islands.

Rene' M. Micallef and Patrick J. Schembri

Department of Biology, University of Malta, Msida MSD 06, Malta

In the Contents page, the first author's name was incorrect. It should have read *Rene' M. Micallef*. Also, in Figure 1 (page 10) *Manhattan* was misspelt. It should have read *Manhattan*.