
**ROTTING AWAY NATURALLY:
SCIENCE, THEOLOGY AND THE CHALLENGE OF
DEATH AND DECAY**

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Abstract

This paper considers changes in perceptions of decay and death and the implications of those changes for scientists and theologians. The paper claims that both science and theology have traditionally affirmed that decay and death are a necessary, inevitable and positive part of life. This affirmation, it is suggested, is challenged in the modern world, and both science and theology contribute to the challenge. However, if decay and death are no longer to be seen as natural, many questions are raised for scientists and theologians. It is suggested that these questions represent a serious challenge to current thinking in science and theology.

Keywords: death, decay, science and theology, public perception, challenge

1. Introduction

One of the current certainties about life is that it ends in death. For most living things, including human beings, that end in death is preceded and followed by some form of decay. In this respect, human beings are just one life form amongst many and the human body is just another form of animal matter. However, advances in science and technology allow human beings to resist decay and death. In the developed world large resources are committed to avoiding or repairing human decay and prolonging human life.

It seems to be assumed widely that fighting decay and death in this way is an important goal for science and technology and a proper use of resources. Yet both science and theology offer reasons for suggesting that decay and death are natural and even essential for life on Earth. In this light, to resist decay and death is to attempt to defy the nature of the world in which we live and our own nature as creatures. Such an understanding does not fit easily with the developed world's current expectation that decay (certainly) and death (possibly) can be overcome successfully.

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This paper explores the tension between a traditional understanding of death and decay underpinned by both science and theology, and the developing perception that death and decay are just one more set of limitations to be overcome in the inevitable progress of science and technology. It suggests that the changing perception of death and decay poses significant challenges for both science and theology.

2. A traditional understanding: science

The study of decay and death has always been part of scientific work, and underlies much of what is taken for granted in the modern world.

Everyone is familiar to some extent with decay in nature: such commonplace events as the dying of flowers and the fall of leaves from trees in the autumn serve to inform us that decay and death occur naturally. We also recognise that the decay of plant life contributes to nourishing the soil. Gardeners and farmers in particular know the value of well-rotted manure. Science has turned this recognition of the role of decay into a well-understood business, through the study of how decaying matter is broken down to provide nutrients for plants, and the development of ways of enhancing and managing natural processes. In many places, re-cycling of waste household vegetable matter into compost has become a symbol of 'being green'.

Further, plant and animal sciences have shown how living things feed on rotting matter, vegetable and animal. A great deal is known about the food chains which sustain all forms of life on earth, including human beings, and those food chains involve a great deal of re-cycling of waste matter. Studies of plant and animal populations have also shown that the death of one generation is necessary for the survival of later generations, otherwise there is too much competition for resources. One result of all this science is the management of plant and animal life, to ensure that adequate resources are maintained: so human beings cull plants and animals and fish to help maintain the balance of nature.

Another result of scientific work in this area is the promotion of human health. For example, our knowledge of decay and death is used to fight and destroy such living organisms as bacteria, which are harmful to humans. Our knowledge is further used to breed animals and plants for specific purposes, removing those aspects, which we do not want and enhancing those aspects which we covet. Genetic modification is the latest stage in this process.

The processes of decay which affect human beings have been the subject of intense study. The study of these processes underpins the development of ideas of public health, such as the provision of clean water, inoculation against disease, and the understanding of individual hygiene. Environmental health developments are complemented by developments in the understanding of individual health. We know a great deal about how the human body functions, and about how different parts of the body develop and begin to fail, and how different parts of the body affect each other. It is clear that the powers of the

human body, including the human brain, decline as we get older; by studying the changes which take place in the body, we have found ways of controlling them, altering them, even postponing them. On the basis of extensive scientific work, medicine has developed the clear understanding that decay and death are inevitable, but can be controlled.

Our understanding of death and decay helps us to recognise other problems. For example, we know that the processes of decay made possible the fossil fuels on which we rely, and we know that those processes take so long that we cannot replenish the fossil fuels as quickly as we use them. We know also that one of the alternatives, nuclear fuel, poses problems because the elements used do not decay quickly enough, and are hazardous while they are decaying. We even use the rate of decay to provide us with an important way of describing and classifying elements, through the idea of the 'half-life'. Thus the study of decay at the sub-atomic level yields knowledge that affects human lives significantly.

It is not only on the planet Earth that decay and death occur. Astronomers explore the processes by which stars are 'born' and 'die' after 'burning up'. Again, everything we know about stellar processes tells us that decay and death are as natural and inevitable for cosmic bodies as for the microbes of the Earth.

So whether we look at the heavens, the Earth, or specific living things on the Earth, science traditionally has given us a clear message: decay and death are natural and inevitable; and the study of decay and death improves our understanding of the world in which we live and provides significant and useful information for human beings.

3. A traditional understanding: theology

Theology too has built on the common human appreciation that decay and death are all around us.

The annual cycle of living and dying in the natural world was regarded in many cultures as a mystery, and rituals to recognise the 'death' of the land and celebrate the 'return of life' are found in many ancient religions. The ancient Hebrews were one amongst many religious groups which recognised seed time and harvest and the way in which life came from death as the seed sprouted. Christianity built on these roots with its rituals of blessing and celebration of the harvest of land and sea.

Beyond this affirmation of life and death, many religions recognise the presence and results of decay. For example, the Hebrews recognised the need for the land to lie fallow and recover, with the idea of the 'sabbatical year' for the land, acknowledging that overuse of the soil brings death. In the same vein, many religions have rituals and regulations for the preparation, use and preservation of food and drink: with the perspective of modern science, we can see that many of these serve to prevent illness and contagion from the use of rotting matter. So while guarding against the effects of decay, religions recognise that decay is natural.

It is in connection with the decay and death of people that religions have most to say. All religions recognise that human beings have a 'natural span' of life, such as the "three score years and ten" of the Bible (Psalm 90.10, Authorised Version). Those who live to a greater age are recognised and celebrated as unusual. All religions recognise that human beings decay physically as they grow older, and acknowledge the physical limitations that such decay brings, such as the loss of strength, sight or hearing (e.g. Psalm 90.10 again). However, all religions also recognise that older people have acquired wisdom, which compensates for physical decay. So decay is accepted as natural, but not seen as completely negative.

Death too is accepted as natural, and even welcomed. For example, Christian theology, drawing on many sources, has always espoused the idea of a 'good death', that is, dying at peace with God and one's neighbours. Sometimes 'peace with God' has been construed as knowing that one is forgiven all sin, and the emphasis has been on preparing to meet one's maker with a clear conscience. However, other strands of Christian teaching have encouraged the development of serenity in the face of death, serenity born of good relationships with people and God, and a recognition that death is not an end but a passage to something else. To die serenely in one's bed, surrounded by one's family, at peace with oneself, is a worthy goal according to Christian teaching. To live serenely in old age, recognising and accepting the limitations of decline, is also commended within Christianity, and other religions.

In many religions, death is seen as one of the marks of being a creature, a being with limitations. In Christianity, for example, the death of a person is marked by the return of the body to the elements, 'ashes to ashes, dust to dust'. This is a sign that human beings are creatures of the Earth, bound in space and time, and so distinguished from the Creator.

The understanding that decay and death are natural and inevitable has not prevented religious believers from trying to fight human disease. On the contrary, they have been in the forefront of caring for the sick and dying, and easing pain and suffering. Such work is widely seen as using divine gifts of knowledge and skill for the benefit of creatures as an act of divine love channelled through human hands. Prayers for healing are found in many religions, sometimes alongside elaborate rituals to invoke divine aid. Decay and death are seen as part of the divine creation, but under divine control and susceptible to human intervention.

Many more examples could be given, from a wide range of religions. It is clear that theology recognises that death and decay are part of life and encourages human beings to accept their decline and death with dignity. This religious approach has influenced and been echoed in society at large. Philosophers, writers, poets, artists have agreed that death is an horizon for life, and have explored the ways in which that horizon affects human thinking and acting. However, in theology the clear recognition of 'the shortness and uncertainty of human life', and the acceptance that it is natural for living things to decay and die, are linked to the understanding that even decay and death are

subject to control, usually divine control but including a large element of human activity.

We see that traditionally science and theology have agreed that death and decay are natural and necessary aspects of life, and must be accepted as part of the limitations of living. However, both science and theology have striven to use our knowledge of decay and death in positive ways, to reduce the pain and suffering which often accompanies decay and death, and to prolong active life as much as possible. This creates a tension for both science and theology. On the one hand, both accept decay and death as natural and inevitable; on the other hand, both resist decay and death as much as possible. In the past, the tension was manageable. Now, with developments in science, technology and theology, it is becoming a significant challenge.

4. Developing perceptions of decay and death

Human beings do not like limitations, and modern human beings in the developed world do not readily accept limitations. The success of science and the triumphs of technology have led men and women to begin to believe that there are no limits to what human beings can achieve. Modern women and men do not like decay: they try to avoid the sights, sounds and smells of decay whenever possible. In the modern world the horizon of death is not so readily accepted as a boundary. So in the modern world, there is a serious attempt to reject the very idea of decay and death as natural and necessary, which is expressed in many ways.

Consider the portrayal of the good life, for example in magazines and television programmes. Advertisements show the young, the fit, the beautiful: we rarely see people showing signs of decline or disability. When older people appear, they are shown as fit and healthy, enjoying an active life. The realities of failing strength and the loss of faculties or mental decline are rarely shown. Wild life television programmes which awe viewers with the beauty of natural world show nature red in tooth and claw: but it is a sanitised nature. Death is shown, and sometimes decay, but the images are carefully chosen to cause minimal offence to viewers' susceptibilities, and of course they not accompanied by the smell or the feel of rotting matter. Nature is red, but not raw. In this, the programme makers and magazine editors reflect the desires of their viewers and readers, who do not want to see the seamy, smelly side of life.

Further, we try to make our environment resemble the good life thus portrayed. Everyone is aware of the problem of pollution, but many of us are able to ignore it most of the time because serious pollution happens away from our habitation. We remove waste products from sight and cover their odours with sweet scent. In some places, there are attempts even to sweeten the normal smells of the countryside for the benefit of visitors from urban settings. The elements and processes of soil enrichment have been carefully studied, leading to the production of synthetic fertilisers providing particular nutrients, but devoid of the perceived unpleasantness of decaying matter. Those who produce

and package our food provide 'use by' dates, so that we can avoid the consequences of natural decay: and thereby they take away from us the need to recognise and cope with natural decay.

Medicine provides many examples of our desire to resist decay and death. We encourage people to have a healthy diet and to take adequate exercise in order to prolong their active lives. Much time and effort is put into the repair of the human body, including the replacement of failing parts such as knees, hips, kidneys and hearts, in order to prolong active life. The message is that the body is a machine: care for it, service it, and it will work for ever like any other machine. Decay is neither inevitable nor acceptable.

When death does come, for many it is now death in a hospital, permitted by the medical staff. Often, medical staff regards the death of a patient as failure, and relatives increasingly complain that the deceased person could have lived if cared for 'properly'. The idea of dying in your own bed surrounded by your family is rendered increasingly unlikely by modern medicine. Most people in developed countries will never be present at a death, and many will never see a dead body. So the processes of dying become a mystery and post-mortem corruption is hidden. The real grief of people at the death of a loved one is accompanied by a sense that something unnatural has occurred.

All these examples provide signs of changes in the perception of decay and death. Human beings do not like decay and death, we do not want to acknowledge them, and our success in prolonging active human life in particular has given us the impression that we can successfully resist them. Science, technology and theology all contribute to these changes in perception.

Science and technology provide the tools for the developments which underlie the changes in perception. The research of chemists provides the basis for disguising waste; the research of neurologists and metallurgists and the expertise of engineers contribute to the development of new body parts to help people stay active longer. The pharmaceutical industry invests heavily in research to produce drugs to combat disease, enhance living and slow the processes of ageing. Such research is part of the progress of science: as new knowledge and new tools become available, we are able to undertake new research leading to advances in the battle against decay and death. This fulfils one major aim of science and technology, to understand our world and use our knowledge of it for the benefit of humanity in particular. Science is in the business of pushing back boundaries and overcoming limitations, and there is no intrinsic reason why science and technology should not be in the forefront of the fight against decay and death.

Theology too contributes to the development of the new resistance to decay and death. It is Christian theologians who talk of being co-creators with God; it is theologians who talk of using the resources that God has given and the ingenuity of the human being for the benefit of God's creatures, including humanity. Theology celebrates the advances of science and technology. Theology encourages human beings to push back boundaries and seek to transcend their limitations. Of course, religion still provides consolation in the

face of death and resources for coping with decay. However, many theologians are much less sure about ideas of life after death. In recent decades, the traditional four Last Things of Christian theology - death, judgement, heaven and hell and the Second Coming of Christ - have slipped quietly out of the teaching cycles of many churches, partly because preachers, teachers and pastors do not know what to say on these topics, and partly, it is said, because the faithful do not want to hear about such depressing topics.

5. A challenge for scientists and theologians

The idea that even the religious faithful are reluctant to face the reality of death illustrates the challenge for scientists and theologians arising from the changing perceptions of decay and death. Even if the public perception is that decay and death can be successfully resisted, science and theology provide ample support for the claim that at present decay and death are an inevitable part of life. The challenge lies in those words 'at present'.

For both science and theology a fundamental question is raised: are there limits to what humanity can achieve? To be more precise: is it possible for human beings to find ways of avoiding decay and death? This question touches on what it is to be human. As long as human beings have thought about life, decay and death have been part of the scene. To be human is to be subject to decay and death. If that changes, what does it mean to be human?

Equally fundamental is the question: what responsibility do scientists and theologians have for challenging the public perception. Does the development of the idea that decay and death can be overcome raise false hopes, even expectations, of active immortality for humanity? This has consequences for the way we conduct human affairs and plan for the future. What role should scientists and theologians play in discussion of these issues?

For theology there is a further question: if human beings can avoid decay and death, what separates humanity from divinity? For Christian theology, a key idea is that human beings are limited and mortal, while God is not. Human beings will die, their bodies will return to the dust from which they were formed, and the persons will face judgement: God cannot die; God does not have a body to return to dust. At a fundamental level, death is one way in which the human creature is distinguished from the divine Creator. If decay and death are no more part of the human condition, how will we draw the distinction between human and divine?

For science there is also an ethical question. Further development of replacement body parts and rejuvenating drugs may add a short span to some human lives: but is this a justifiable use of knowledge and resources? Such work is very expensive, and only available to the rich few. In a world in which the application of science and technology could contribute to relieving the plight of the poor, where should resources be placed?

How might scientists and theologians respond to these challenges? On the one hand scientists and theologians can accept the direction of society and lend their weight to re-interpreting our understanding of what it is to be human and resisting decay and death. On the other hand, they can insist that there are limits to what human beings can achieve, that death remains a frontier to life which cannot be avoided and decay is a natural part of life. At present the limitations on humanity recognised in scientific and theological tradition remain. However, the rapid advance of science and technology and the constant re-thinking of theology mean that acceptance of those limitations is increasingly questioned. Maybe the time will come when rotting away naturally will be a thing of the past. If so, we shall need a new understanding of what it is live in our world. I suggest that scientists and theologians have some hard thinking to do if they are to contribute positively to the development of that new understanding.