Technology and the Philosophy of Religion

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For questioning is the piety of thought.[1]

[1] Martin Heidegger, *The Question Concerning Technology*, p. 35.

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INTRODUCTION

This book is about the hopes, dreams, fears and denials of our technological age. While most of us can appreciate and acknowledge the many advances of this age, our appreciation is often accompanied by an irrepressible disquiet about our capacity to sustain the present rate of development. The mechanisation of food production, for example, has brought great capacity for food manufacture but at what environmental cost? Will nuclear technology ever deliver on its promise of virtually unlimited energy without threatening present and future generations? Do online environments and networks support or displace those direct human relationships that sustain and nourish our identities? Are developments in autonomous robotics encouraging us to see human beings as no more than complex organisations of functional but replaceable elements? As numerous and overwhelming as such questions are, we struggle to question technology itself, rather we limit our concerns to specific technical problems for which we seek particular solutions.

Our one-dimensional culture has grown accustomed to the general sensibility that all is not well with technological progress; despite the celebration of many technical achievements, there exist too many unknowns for anything more than a muted ambivalence expressed both by a confidence in humanity's power and an inarticulate resistance to overzealous manipulation of the given patterns of nature. In this book I will present some of the main forms of this sensibility, and consider the responses made by philosophers of technology over the past 100 years. My general aim will be to show that many of the concerns of these philosophers point to a question that they seldom, if ever, ask: with what is technology ultimately concerned?

Many philosophers would immediately point out the fallacious assumption within this question. For technology, being neutral, is concerned with nothing at all. Human beings have concerns; technology is simply the means to some concern expressed by a human agent. Those philosophers who have some familiarity with the philosophy of technology might not fall into the common error of assuming that technology is simply a neutral tool. But surely, these more sophisticated minds will say, I am projecting a human attribute (having concerns) onto technology. Even if we could

grant that technology is not simply a neutral tool, we cannot suppose that it has concerns or designs for the future.

Precisely what is meant by the idea that technology is not simply a neutral means to an end is fundamental to my discussion and goes to the heart of the hopes and fears of the technological age. But I want to be very explicit about my overall intention: I will argue that the technological project has an implicit ultimate concern that, although obscured by a thousand preliminary interests, cannot be postponed forever. The question of ultimate concern bears upon the fundamental religious questions of any age. In other words, insofar as technology expresses an ultimate concern, it expresses a religious concern.

This religious concern is necessarily nebulous since it is only implicit within technology. Technology is not simply the result of some particular religious attitude established by, say, Protestant Christianity. The fact that modern technology established itself first and foremost in a Christian culture is probably no accident and some commentators have made persuasive cases for an essential correlation between this religious attitude and technological progress.[1] Notwithstanding such historical analyses, I intend to go into what I regard as a more fundamental relation between technology and the philosophy of religion. In other words, I will show that a general religious orientation is an inescapable presupposition of technology, while acknowledging that no simple doctrinal response to the problems of the technological age would be appropriate. That is why I am leaning upon a more general philosophy of religion rather than a specific theological tradition. Moreover, I will argue that the philosophy of technology is hampered by its own tendency to assume a secular attitude to questions of meaning and ultimacy. This tendency towards secularism will be explored throughout the book, since for many philosophers of technology the question of the meaning of technological action is not itself a meaningful one.

In the end, the news is neither simply good nor bad. I repeatedly return to a negative capability from which arises the insight that, in the realm of technological action, we *know not what we do*. This is very different to most philosophers of technology who urge some kind of political, social, psychological or philosophical reform. I commend no particular solution since mere solutions tend to unwittingly reflect and reinforce the metaphysical orientation behind the aggressive and progressive technological paradigm. Instead I am calling for an end to the idea that we know what

[1] See Weber, *The Protestant Ethic and the Spirit of Capitalism*; White, *Medieval Technology and Social Change*.

we are doing, or that we can solve the problems directly as they arise. Is this just false modesty expressing a denial both of intellectual and technical progress, or perhaps a false consciousness, typed as it is, on a laptop and by the light of technological progress? I believe not, though I must say more about the assumptions I am making. For those suspicious of any theological orientation that seem to be assumed, I wish to assert the strictly philosophical nature of the task at hand: to recognise that we know not what we do is a purely negative insight that asserts nothing positive. It is true that only after a thoroughgoing declaration of our failure to understand our present denial of ignorance may something else, something positive (either in poetic or prophetic form), be possible, and to that extent a theological orientation must be admitted from the start. But that orientation depends upon nothing given through what is often taken to be revelation or doctrine.

Our negative capability offers us, then, the hope of a profound reorientation in which being reveals itself in wholly new ways. At this stage we can say no more about this reorientation other than affirming its possibility. Thus we can agree with Heidegger that "only a god can save us". And even though this seems to express passive resignation to our technological fate,[2] it is, in fact, the most active form of real engagement since it acknowledges our indebtedness to something other than ourselves, and perhaps other than being, that gives the gift of fire. The gift of Prometheus cannot be returned, and the call to understand this gift is only just beginning.

[2] See Heidegger "Only a God Can Save Us". This statement is made in this important interview for *Der Spiegel* which Heidegger asked to remain unpublished until after his death and which has subsequently been called Heidegger's last will and testament by William Richardson. Heidegger here is referring to our inability to resolve the problems of our technological age directly, a central theme which I will return to later in this book.

CHAPTER ONE

TECHNOLOGICAL AMBIVALENCE

1.1 Questioning Technology

We are surrounded by technologies that have transformed life over the last 100 years. Yet that transformation is far too complex to be considered simply positive or negative, good or bad. So we live with an acute ambivalence towards modern technology, an ambivalence that can be understood as the expression and combination of three general attitudes to technology.

First of all there is the popular optimism derived from the progressive view that technological power liberates human beings from natural enslavement. Second, there is a general concern that certain forms of modern technology are bringing about unanticipated environmental problems, some of which are there for all to see (e.g. thalidomide; DDT; asbestos) and others which are yet to be clearly identified but demand that we employ a stringent precautionary approach to industrial and technological progress (e.g. genetically modified organisms). The assumption is that these environmental problems must be understood so that they can be solved. This does not amount to a critique of technology as such since these problems are thought to be highly specific often requiring very particular technical solutions. In other words, there is no problem with technology per se, but with particular technologies; with nuclear waste, with genetically modified organisms or with excessive carbon emissions. Indeed when we isolate the concept 'technology' from particular technologies, it can appear to lack any meaningful content. This brings us to the third general attitude: an anxiety about technology itself.

Like the second position, this third attitude is related to the growing awareness of the great dangers that modern technology places our world in. What primarily distinguishes this view is the so-called *substantivisation* of technology – it tends to regard the varied problems to be related to the structure of an identifiable entity: technology itself. Technology represents a distinct attitude and approach to reality that has inherent problems. Consequently the real solution to problems arising from the use of

technology should be sought outside the technical domain. From this point of view any technical solutions to particular technical problems tend to conceal a more fundamental problem. Simply stated, the answer to the problems of technology cannot be more technology.

This characterisation of three typical attitudes to modern technology is somewhat artificial. For the most part the first two attitudes are intermixed: a general optimism about the progress of technology need not be undermined by specific concerns relating to particular technologies. There will always be technical issues that need resolution, but that need not imply any unease with the general direction of modern technology.

There are also a great many people for whom technology does represent a serious concern. When pressed many of these people would admit that the problems are specific to particular technologies and so would hesitate to rail against 'technology' as such, but nevertheless a general unease is widely felt and often expressed in popular forms of media – in the newspapers, in films and on television. This deep anxiety concerning technology can sometimes be related to specific problems – from mobile phone radiation to genetically modified organisms to nuclear waste. But very often the rhetorical tone and romantic flights of the popular media provides a fertile ground for demonising technology as such without a clear 'target'. At the same time, a lot of journalism assumes the unquestionable value of the progress of technology. But whichever side a given journalist chooses to represent, an ambivalence to technology seems to be general attitude of the media as a whole.

I want to argue that this technological ambivalence reflects a poorly expressed concern over three aspects of existence that are under threat: the cosmological, the anthropological, and the theological. So far we have mentioned only the threat to the world itself. This cosmological threat arises largely through the environmental pollution that increasingly threatens life on earth. Secondly it is important and more difficult to consider the extent to which technology is responsible for social and existential alienation and therefore how much of an anthropological threat, a threat to our humanity, technology is. In anthropological terms C. S. Lewis has argued that the instrumental attitude behind technology that drives man's conquest of nature must inevitably result in the loss of man's essential humanity: "[m]an's final conquest has proved to be the abolition of man."[1] Finally, and perhaps most elusively of all, I will examine how technology can bring about nihilism and the spiritual degradation that nihilism entails, a threat that I will call theological. I will examine, with

[1] Lewis, *The Abolition of Man*, p. 64.

particular attention to Martin Heidegger, the threat to being itself which I shall relate to this theological dimension. Although this theological threat expresses itself directly in the nihilism of the modern age, it also impacts upon how we treat the environment, each other and ourselves. It is crucial to understand that our attitude to the cosmological, the anthropological and the theological are interrelated. A changing attitude to one inevitably affects the others. The death of God, the abolition of man, and the destruction of the environment, all emerge as interrelated phenomena. It is interesting to ask whether these phenomena are contingent upon a more essential change. What deep metaphysical assumptions can bring about so fundamental a shift? And what connection could such assumptions have with modern technology?

In attempting to question technology as such, philosophers have sought the essential aspect of technology, and perhaps more than anyone else, Heidegger has generated a literature debating his philosophy in terms of its technological essentialism. What exactly does Heidegger mean when he speaks of the essence of technology? Although terms like essentialism may encourage a misreading of Heidegger's reflections on technology, it is understandable that he has been labelled in this way.[2] Heidegger famously states that the essence of technology is nothing technological thus asserting that what drives this 'juggernaut of progress' is not the devices themselves. Heidegger says:

> The essence of technology is by no means anything technological. Thus we shall never experience our relationship to the essence of technology so long as we merely conceive and push forward the technological, put up with it, or evade it. Everywhere we remain unfree and chained to technology whether we passionately affirm it or deny it.[3]

Heidegger's concern for technology ranges across much of his life's work. He provides the foundation for a philosophical questioning of technology as such, taken up by such thinkers as Herbert Marcuse, Jürgen Habermas, José Ortega Y Gasset and Albert Borgmann, who do not regard technology simply as a tool but as a challenging attitude that pervades all areas of life and thought. The philosophy of technology owes more to Heidegger than any other single figure in the history of philosophy.

Philosophers of technology should not forget the many blessings of technological power that surround us. There are few areas of our lives that

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[2] See Feenberg, *Questioning Technology*, pp. 14-17; and Thomson , *Heidegger on Ontotheology*, pp. 58-76.

[3] *The Question Concerning Technology*, p. 4.

have not been entirely transformed by technology, at least in their outward aspect. New technology becomes integrated in our lives seamlessly such that we often remark that we cannot imagine how we lived without such and such. Indeed our world picture of pre-modern man, of classical Greece or medieval Europe, can sometimes appear to be of a totally different world. As a schoolboy, the image presented of the 'Dark Ages' of medieval Europe seemed barely conceivable, the difference being framed particularly in technological terms – the lack of heating, of clean water and sanitation etc. Many teachers recognise that the way to surprise schoolchildren is to have them imagine a world without games consoles, mobile phones and televisions. Thus, from a certain point of view, technology appears to transform human life in an unambiguous way. Moreover, we might be said to inhabit a technological world such that the engineer-philosopher, Billy Vaughn Koen can say, "the environment of man is a collage of engineering problem solutions"[4]. Most of us do live within a world of technology from the moment the alarm goes off in the morning. We probably operate over 10 technical devices in the first hour of an average day.

Moreover, there are many today who would not question Francis Bacon's view that metaphysics has done less to change the world than have gunpowder, printing and the compass.[5] The outward signs and wonders of technology are there for all to see. Evident too are some of the detrimental consequences of certain specific technologies, such as the environmental damage of nuclear waste, or the devastation of environmental habitats due to mass deforestation. But there are subtler effects that present themselves: the social changes from dispersed rural communities to the development of urban centres with certain uncomfortable consequences (the London tube on a Monday morning, for example); the change in our relation to other places that comes about through the availability of travel. Still more subtle are the changes in thought and perception that technology may precipitate. Do we see human beings in terms of their productive output, or forests in terms of the leisure activities that may be pursued there? Indeed the more obvious problems can be regarded as consequent upon the subtler changes to thought and perception that occur in the age of technology; outward signs of inner changes. We may ask, for example, do we see the world as inherently inanimate and purposeless because we are able to manipulate atoms, genes and chemical systems for the purposes

[4] Koen, *Definition of the Engineering Method*, quoted by Mitcham, *Thinking Through Technology*, p. 139.
[5] See Francis Bacon, *Novum Organum*, Aphorisms Book One, CX.

projected by us? Or is such manipulation the product of the slow breakdown from the ordered cosmos of Aristotelian and Christian thinking and the rise of nihilism?[6]

We have already made a provisional distinction between those who would question particular aspects of modern technology, most clearly articulated in environmental concerns, from those who question technology as such. The former view is widespread and generally concerns itself with the direct actions of human beings.[7] The latter view is based upon an essentialist or substantivist notion of technology – the idea that technology is not simply a neutral tool, but has a decisive affect on our manner of being in the world, to be found particularly in Heidegger, Jacques Ellul and Albert Borgmann.[8] The environmental problems of technological society are not unrelated to this essentialist concern, rather they represent symptoms of a deeper problem that cannot be addressed by technical solutions.

These so-called technological essentialists who attempt to question technology as such have particular difficulties. First of all, they are criticised for their substantivism which appears to overlook the complex empirical details of technological change. Consequently recent philosophers of technology have reacted to this attitude by establishing an empirical turn in the philosophy of technology.[9] Secondly, technological essentialism has been associated with technological determinism or fatalism: the idea that technological systems and rationality are determining our thought and action in fundamental ways. This fatalism seems to question human freedom and capability which for some philosophers is enough to reject substantivism out of hand. The philosopher and physicist Mario Bunge, for example, critically undermines what he sees as romantic critiques of technology which "fail to distinguish technology from its applications, and endow it with an autonomous existence and, moreover, with power over man."[10]

But have those who seek to question technology itself identified a real issue beyond the difficulties that specific technologies throw up? Can we

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[6] See Dupré, *Passage to Modernity*, especially, pp. 72-4.

[7] See Stephanie Mills (Ed.) *Turning Away from Technology: A New Vision for the 21st Century* for a representative sample of the critique of various technologies most often on ecological and social grounds.

[8] Technological essentialism is described in Feenberg, *Questioning Technology*, especially pp. 15ff.

[9] See Peter Kroes and Antonie Meijers (Eds.) *The Empirical Turn in the Philosophy of Technology*.

[10] Bunge, 'The Five Buds of Technophilosophy', p. 67.

identify patterns of thought or behaviour that reflect fundamental limitations set up by a technological paradigm? If these patterns are in place, then they are by nature elusive. From this critical stance technology is associated with a way of thinking, which itself restricts how we might go about raising the question concerning technology. For example, the dominion of what I will call *technological thinking* could mean that we only seek technical solutions to specific technical problems and deny the existence of any substantivised notion of technology. From this point of view technological thinking might place us in denial of the essential problem. So those thinkers who question technology as such identify a characteristic form of understanding that envelops all efforts to resist the technological imperative. From this point of view, technology represents far more than the array of devices and processes on hand for man to take or leave as he wishes. For Heidegger in particular, technology is regarded as a manner of apprehending reality, which involves the twofold aspect of revelation, namely the giving and receiving of reality. Man apprehends reality inasmuch as reality gives itself to be apprehended. Thus Heidegger calls technology a mode of revealing, which reveals itself not just *to* man, but also *through* man.[11]

Thinking itself is involved in this manner of revealing and so modern philosophy has come to characterise a similar manner of technological disclosure. For Heidegger thinking itself has become a branch of technology, a technical activity which can, in theory, be replicated by devices. Utilitarianism, for example, is an obvious theoretical counterpart to technology, in which everything real is defined in terms of its utility or value. From a utilitarian point of view, technologies can be quantitatively assessed in terms of their ability to deliver the greatest happiness to the greatest number. The ubiquity of modern cost-benefit analysis, the modern expression of the utilitarian approach, gives credence to the notion that utility itself is an idea that goes unquestioned. Today we would scarcely admit to pursuing something with no utility, still less, no value. The attempt to question technology can appear almost synonymous with the attempt to question value as such, and we will consider the interesting connections that Heidegger in particular, but also Borgmann and Marcuse, have offered on this matter.

The fact that the good – which is of supreme value – cannot be determined by subjective will must be considered. Aristotle's definition of the good life (*eudaimonia*) as something rooted in the activities of virtue or excellence (*arete*) reorients a conception of value from subjective

[11] *The Question Concerning Technology*, p. 12.

experience to being itself.[12] From the point of view of early Greek philosophy, virtue is neither easily accomplished nor simply defined.[13] It is this incapacity to determine the nature of the good in purely subjective terms that allows it to escape the nihilism of modern subjectivity. This is because, to quote a cliché, virtue is its own reward, a reward that yields not simple subjective pleasures, but an ontological depth that draws the human spirit towards its fulfilment, its *telos*.

In simple terms we have considered how for some philosophers formal[14] rational/technical discourse cannot question technology as such: its only concern can be for specific technical issues. We now turn to poetic and romantic discourse. The clearest example to consider will be science fiction, a popular form which is able to question technology in an informal way. However, it will become clear that such informal discourse, in the work of science fiction in particular but also in the Romantic movement generally, has not been able to seriously undermine the prevailing technical rationality. On the contrary, the power of aesthetic forms has been marginalised and neutralised by the one-dimensionality of modern discourse.

1.2 The Oblique Discourse of Science Fiction

It is striking to consider how potent a critic of modern technology science fiction is. Very often this popular cultural form has the question of technology as a central theme even though criticism of technology is most often informal and unsystematic. The arts have often provided a space in which oblique critique of conventional social forms can take place, and if questioning technology is problematic at the level of philosophical and political discourse, then it is not surprising that science fiction offers a good place for such questioning. The heritage of science fiction is rarely acknowledged though it must be borne in mind since it bears upon the critique of technology.

The emergence of Romanticism in the latter part of the eighteenth century provided a concerted challenge to the Enlightenment dream of man's control of nature. This tradition of unease with science and

[12] Aristotle, *Nicomachean Ethics*, Book 1, Chapter 7.

[13] Plato's sustained contemplations on virtue are well known, particularly in *The Republic* and the *Meno*. The history of philosophy bears witness to the influence of Plato's legacy and the tension Plato seems to set up in establishing a form of transcendental idealism.

[14] We should note that in the context of the question of technological rationality the term *formal* refers specifically to that which has no intrinsic relation to ends.

Enlightenment rationalism is powerfully present in the poetry of Blake, Coleridge and Wordsworth in England, as well as the European thought of Goethe, Schiller, Nietzsche and Schelling. Industrialism and modern science were clearly at the forefront of the provocation, and although it would be one-sided to reduce the Romantic movement only to its reactionary elements, it is not surprising that Romanticism later became identified with the 'Counter-Enlightenment'.[15]

From the nineteenth century, the genre of science fiction began to develop a number of these Romantic concerns about the trajectory of rationalism within the context of an extrapolation of technological progress. These extrapolations can be seen most notably in Mary Shelley's *Frankenstein*, Aldous Huxley's *Brave New World* and modern-day myths such as *Star Wars* and *The Matrix*. As technology develops, questions about our relation to it become ever more urgent. As Mike Alsford comments,

> Writers from Shelley, Verne and Wells, through Asimov, Heinlein and Vogt to Gibson, Stephenson and Cadigan have, in their own way, speculated upon humanity at its various crossroads. Once we have harnessed nuclear power, where will we allow it to take us? Once we are able to create thinking machines, how will they affect our sense of identity? And once we are able to recreate and re-engineer ourselves, who and what will we become?[16]

While science fiction cannot fully perform the function of philosophical reflection, its relation to Critical Theory has been explored in some depth.[17] It is an imaginative discourse that can raise radical questions about the nature of present and future possibilities. Despite its often futuristic context, it is our present attitudes that are the primary concern of science fiction.

Aldous Huxley's *Brave New World* is a classic example. First published in 1932, Huxley imagines the London of 2540AD in which reproductive technology has released women from the burden of natural birth, and social stability is ensured through a deeply conditioned caste system. Social conditioning takes place through a variety of means that include mood-altering drugs and hallucinogens providing a consistent assurance that everyone has the best possible quality of life. The story does not, of course, end there. The drama unfolds as the world outside state control is brought into contact with this technological vision.

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[15] Garrard, *Counter-Enlightenments: From the Eighteenth Century to the Present*.
[16] Alsford, *What If?*, p. 18.
[17] See Carl Freedman, *Critical Theory and Science Fiction* and Alsford, *What If?*

The hedonistic nihilism expressed in *Brave New World* clearly provokes the question of what pleasure is actually for, and whether meaningful happiness can be administered. Since technology seems so apt to deliver the better life illustrated by Huxley and others, we can recognise in Huxley's allegory a highly pertinent critique of the restricted notion of happiness and the good life that technological society seeks. Comparisons with Orwell's *1984* are especially illuminating, as Neil Postman shows:

> What Orwell feared were those who would ban books. What Huxley feared was that there would be no reason to ban a book, for there would be no one who wanted to read one. Orwell feared those who would deprive us of information. Huxley feared those who would give us so much that we would be reduced to passivity and egoism. Orwell feared that the truth would be concealed from us. Huxley feared the truth would be drowned in a sea of irrelevance. Orwell feared we would become a captive culture. Huxley feared we would become a trivial culture, preoccupied with some equivalent of the feelies, the orgy porgy, and the centrifugal bumblepuppy. As Huxley remarked in *Brave New World Revisited*, the civil libertarians and rationalists who are ever on the alert to oppose tyranny "failed to take into account man's almost infinite appetite for distractions." In *1984*, Orwell added, people are controlled by inflicting pain. In *Brave New World*, they are controlled by inflicting pleasure. In short, Orwell feared that what we fear will ruin us. Huxley feared that what we desire will ruin us.[18]

Along similar lines to Postman, I will argue that it is precisely the circumscription of the good life by a narrow notion of technological availability that most characterises the threat of technological thinking. But should we not resist the literary conceits of writers and storytellers who express their own prejudices against modernity in provocative but largely unsubstantiated allegories? What could possibly be wrong with the desire to eliminate suffering and death that drives the structure of this Brave New World? Have such emotive dystopian visions hampered our attempts to develop legitimate therapies to alleviate suffering? Are the critiques of Huxley and other science fiction writers effective in encouraging a genuine questioning of the trajectory of modern technology? On the whole my answer to these questions would be negative. The trajectory of modern technology is not brought into real questioning by science fiction. In fact the broadly rationalist discourse established by modern culture has neutralised the critical power of this literature by locating it in the realm of subjective aesthetics. Similarly poetry might

[18] Postman, *Amusing Ourselves to Death*, p. vii.

occasionally be read for pleasure but it no longer forms a significant part of cultural discourse in the technological age. Moreover, it is possible that the relative popularity of science fiction suggests nothing more than an interesting distraction that acts as a pressure valve releasing the tensions of rationality and bureaucracy. Science fiction has at best achieved an oblique challenge to the status quo, or even, as Marcuse would argue, provided a resource for maintaining the one-dimensional thinking of technological society by provisioning forms of 'acceptable protest' that simply suppress effective and genuine critique, an idea we shall develop in chapter 3.[19]

It is often remarked that within the genre of science fiction, science and technology provide only the context for considering man's relation to the world, that the farther reaches of time and space provide thresholds in which human nature can be seen more clearly by its contrast to other conceptions of life. Indeed, Alsford calls the scientific and technological context of science fiction accidental rather than essential.[20] While there is some truth to this, it is worth remembering the extent to which the genre grew directly out of the European Romantic tradition whose concern with science and technology was explicit and reactionary. It is also significant to consider that science fiction could only emerge in the context of a modern understanding of progress and linear time, both of which can be understood as essential to science and technology. So while it might be more accurate to designate this genre 'future fiction' as Alsford argues, that futurity is always tightly bound up with the extrapolations of present science and technology. There seems to be a strong current of technological ambivalence in science fiction that cannot be adequately explained away as narrative context or the essentially arbitrary structural element of what Robert Scholes calls 'structural fabulation.'[21] This

[19] See Marcuse, *One-Dimensional Man*, Chapter 5.

[20] *What If?* p. 17. It may be true that "Science fiction is no more written for scientists than ghost stories are for ghosts" (Brian Aldiss, Quoted in *What If?*, p. 18), yet equally true is it that philosophical reflection is not written for scientists as scientists. That is to say that philosophical reflection is undertaken not by the scientist as scientist, but by the philosopher. Of course a scientist may take up philosophical reflection, but in doing so he enters a realm of questioning that, unlike modern science, is uncircumscribed. The sciences present themselves as circumscribed domains with discrete methods, while philosophy eschews any a priori domain and method.

[21] Scholes, *Structural Fabulation: An Essay on the Fiction of the Future*. The recognition of the continuity of the fictional world and our own is the recognition of the structural within an otherwise fabulous world science fiction. Thus science fiction must remain at once immanent and transcendent.

ambivalence pervades the work of, for example, Arthur C. Clarke (*2001*), H. G. Wells (*Things to Come*) and Philip K. Dick (*Do Androids Dream of Electric Sheep*), and is particularly evident in the dystopian strain within the genre. We now turn to the concept of utopia which is especially significant to science fiction.

The idea of utopia, literally meaning 'no place', has a rich history from Plato's *Republic*, through Augustine's *City of God*, to Thomas More's *Utopia*. While religious mythology often refers to the origin and destiny of the world, the beginnings and ends of things are located in a primordial, that is, an ahistorical place. To be sure, the identification of utopia, as 'no place', might be just as ahistorical, yet in the modern age the development of a strong notion of historical time and progress, prompted perhaps by the historical character of the Jewish and Christian understandings of the world, seems to have been taken up somewhat differently in modern literature and film. Utopia may well be informed by the eschatological emphasis in Christianity in which the 'things to come' need not reside in a world beyond the world. Science and technology appear to have reconfigured man's relation to ultimate possibilities by providing a new source for imagining what might be to come. The future seems to be 'in our hands.' Science fiction, in particular, has found an important place within our culture to reflect on what we might like to do with our new powers.

Nevertheless, the notion that utopia might be regarded as the establishment and perfection of the technological society, has become what Paul Ricoeur calls, "a rationalist corruption of Christian eschatology."[22] Only since Francis Bacon's *New Atlantis* do science and technology become an important, perhaps the decisive aspect in the development of utopia. First published in 1624, Bacon's utopian novel describes an ideal land in which technical discovery and knowledge create a society of human virtue and enlightenment. Prior to Bacon, the Kingdom of God was often believed to be 'at hand' in a different, more trans-historical, sense. Consequently, in *The End of Time* Josef Pieper asks whether the Utopian-millenarian hope for an intra-historical salvation goes hand in hand with the secular historicism that discloses the absence of a genuine philosophy of history born from the presence and continuity of history as being in time. Perhaps only a technological society can wholly ignore the presence of a philosophy of history by assuming the passive objectivity of

[22] *History and Truth*, p. 81. Ricoeur is here specifically referring to the secular view of uninterrupted progress, rather than 'utopia' as such. Nevertheless, the point is entirely consonant with the view presented here.

'historical time'. In his affirmation of a philosophy of history, Pieper presents history as necessitating theology, thereby denying a central presumption of modern historicism, that history must, or even can, be secular. 'Historical development', 'progress', 'already', 'still'; these notions imply a historical sense that itself assumes a direction towards, a teleology that cannot be uprooted from its theological soil.[23] Nevertheless, I must be fair to Bacon and others who would wish to realise eschatology in a more literal sense and through the direct action of human beings. We must not be too quick to assume that traditional theological reverence was simply displaced by modern scientific arrogance. It is certainly not so simple. A figure such as Pierre Teilhard de Chardin reminds us that the call to action, to physical, scientific and technological action may be fully consonant with the response of man to his spiritual nature - that there is no necessary opposition between technological action and divine calling.[24]

While utopia can be regarded in social and spiritual as well as technological terms, and can further be seen in contrast with the problems of the manifest society, the much later idea of dystopia is more, albeit negatively, explicit about its technological concern. The Baconian dream becomes a technological nightmare in which man's inability to understand and control his technological creativity results in unforeseen and devastating results. The technological initiative is wrested from humanity in dramatic ways, not only indicating a deep-seated unease with technological power, but also questioning the assumption that technology is something that human beings are in control of. Mary Shelley's *Frankenstein, or The Modern Prometheus* (1818) is among the first and purest forms of this technological ambivalence, with Fritz Lang's *Metropolis* and Chaplin's *Modern Times* also providing powerful expressions of similar concerns.[25]

It is interesting to note that visions of utopia often turn out to be structurally flawed and lead to the question concerning technology being raised. H. G. Wells' *Things to Come* and 'The Masterpiece Society' from *Star Trek: The Next Generation* are more than a little ambiguous in their presentation of the perfect society, while Huxley's *Brave New World* and Burgess' *A Clockwork Orange* are more explicit in their critique. To be

[23] Pieper, *The End of Time*, pp. 24-8.

[24] Teilhard saw his work as a palaeontologist and evolutionary biologist as a natural expression of his spiritual nature and calling. Many of Teilhard's writings reveal this continuity though the more biographical essays are of particular interest: 'My Fundamental Vision' in *Towards the Future*; 'How I Believe' in *Christianity and Evolution*.

[25] See Alsford's, *What If?*

sure narrative structure demands the unfolding of a story in which perfection is always underway and only ever fully realised – if at all – at the end. It could be said that the ambivalence towards social transformation can be explained by the stylistic necessities of dramatic narrative. But this explanation does not seem sufficient. Within the context of thought and action two aspects are always implied which might be summed up in the *not yet*. The *not yet* both prefigures the presence of utopia as well as recognising its absence, just as any action always implies an uncircumscribed, often obscure telos.

The point here is that utopia cannot be a secular notion any more than the parousia because both rely upon the realisation of that which will never be simply historically actual. This idea of utopia establishes and reinforces the view that philosophy cannot define a domain wholly independently from its transcendental conditions. Likewise, history cannot be viewed in a secular way with the overplus of theological belief as an optional extra. History, progress, and development are essentially theological notions though philosophers often assume that they can be viewed in secular ways. Theologians such as Paul Tillich and Teilhard de Chardin often affirm the theological view that an ultimate concern is implied in any conception of progress and are thus able to indicate the continuity between matter and spirit that forestalls a secular conception of history. This point becomes clear when we see that a secular history is, in fact, a series of essentially unrelated happenings – which indeed is not history; secular progress and development become quantitative additions to the lot of man – which denies the teleological character of progress. As Pieper says "A philosophy of history that is severed from theology does not perceive its subject matter."[26]

While it is true that science fiction often addresses specific technological problems, these specifics tend to provide a context for a general questioning of technology that in the informal context of the narrative is neither fully articulated nor philosophically rigorous. Science fiction stories provide an oblique focus on the problems of technology without having to present a coherent theoretical account of the problematics involved. That is to say that the narrative form can question and challenge on its own terms, without having to adhere to the systematic discourse of modern positivist philosophy.[27] This is a double-edged sword: it is able to articulate a concern which cannot normally be directly confronted, but at

[26] Pieper, *The End of Time*, p. 24.
[27] Of course I would argue that philosophy does not really adhere to this systematic positivist caricature of itself.

the price of being too often dismissed as unrealistic, fantastical or philosophically irrelevant. It is worth asking why romantic poetry has been so much more influential in modern philosophical discussions than science fiction. Obviously it has the advantage of a long and impressive heritage, but is not even this influence becoming increasingly marginalised as philosophical discourse gives way to positivism?

Although I hope to give some voice to the technological ambivalence of modern culture, I also want to acknowledge that the concerns expressed by this ambivalence have little rational ground – as long as rationality is conceived in the narrow sense that technical logic demands. Unease concerning particular technologies such as nuclear power or genetic modification can certainly be given a rational account, but, as has already been noted, questioning technology as such is more problematic. It seems to introduce an untenable essentialism that is contradicted both by our common sense view of technology as the neutral application of science, as well as the more philosophically astute observation that the category *technology* has no substantive content.

So I will attempt to sketch out the elusive challenge to technology that cannot take the form of simply questioning particular forms of technology. For many critical theorists and philosophers of technology the fact that such discourse distances itself from a consideration of specific forms of technology reveals a major limitation. Carl Mitcham's seminal work in the philosophy of technology makes a clear distinction between the humanities and engineering approach.[28] Engineers have the benefit of practical experience with the specifics of technology and often find the humanities discourse obtrusive, prejudiced and uninformed. Mitcham argues that humanities philosophers of technology too often close themselves off in a "romantic subjectivity" which amounts to an uncritical critical stance – a naïve anti-technology.[29] While Mitcham may attempt to be even-handed in his account of humanities and engineering philosophy of technology, in my view he fails to appreciate the hierarchical relation that must exist between science (engineering), philosophy and theology. This hierarchical relation is based upon the notion that philosophy and theology attempt to understand their own metaphysics by way of articulation, while technology, and accordingly, science ignores (or even conceals) its metaphysical commitments by ignoring or denying the presence of metaphysics at all. It is for similar reasons that Heidegger

[28] Mitcham, *Thinking Through Technology*, pp. 62f.
[29] Mitcham, *Thinking Through Technology*, p. 64.

makes the radical claim that science cannot think.[30] The basic concepts of all art and science constitute the domain of philosophy while ultimate concerns remain the proper domain of theology and so all cultural enterprise begins in these 'primary sciences'. So we must consider further our relation to metaphysics, since metaphysics will provide the ground for all thought, and thought the ground for all action, including, of course, technological action.

The notion that modernity shall rid us of the sophistry and illusion of metaphysics has run its course. Certainly, the metaphysical realm has been displaced in a variety of ways, but this displacement is not substantial. Speaking theologically we might say that the gods have withdrawn, not that they have vanished altogether or that they were never there in the first place. They remain beneath a thin veneer of an unacknowledged metaphysics which discloses itself in countless ways. The very existence of ethical, aesthetic and creative spheres of life express a depth to existence that cannot be circumscribed by rational narratives. Moreover, the orientation to the future implicit within progressive and technological societies does itself speak of, what Teilhard de Chardin calls our faith in the future.[31] It may, then, be proper to acknowledge the theological dimension of our relation to the metaphysical – that first philosophy, as Aristotle believed, intimates theology[32] – but no doubt too many readers will be shifting uneasily in their seats at this theological leap. Consequently we will first take the long route through philosophical reflection.

1.3 Dialectical Thinking in Affirming the Ideal

Philosophy, we are told, begins in wonder. Wonder seems to be evoked as we recognise the infinite mysterious depth of things. That all things have an infinite depth may not appear immediately obvious, but the simple presence of anything at all is entirely mysterious. What scientists and engineers can say about the chain of causality concerning any thing actually tells us surprisingly little concerning its simple presence about which science has nothing to say. Not only has science nothing to say about presence, its very manner of investigation precludes ontological

[30] Heidegger, *What is Called Thinking?*, pp. 7-8.
[31] *The Future of Man* Chapter 9.
[32] For a penetrating discussion of Aristotle's understanding of the theological ground of first philosophy see Hanley, *Being and God in Aristotle and Heidegger*, especially chapter 3.