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## Good Gardeners of Planet Earth? The Vision of *Silent Running*

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*(Please note that if you haven't seen this film, major plot spoilers are about to follow, so you may prefer to watch it before reading any further.)*

### **Introduction: *Silent Running***

Doug Trumbull's 1972 movie *Silent Running* begins with shots of a beautiful garden in which we see a man swimming naked. Gradually, we discover that the garden is one of several built on a fleet of spacecraft, and that the forests they house are the only remnants of earth's plant life. We learn (from a flashback to a speech made when the ships' mission began), that these forests were to be preserved in space for many years and eventually used to re-plant what the speechmaker refers to as "our foul earth". (How or why the earth has become deforested is never explained, nor does it try to answer such obvious questions as 'how do its inhabitants breathe?' But I'm happy to allow Trumbull a lot of artistic licence, given the interest of his vision).

The film's central character, Freeman Lowell (superbly played by Bruce Dern), has devoted himself to the project since its inception and spent eight years aboard the space vessel *Valley Forge*. He believes the replanting of the earth is imminent and when one of his crewmates accuses him of dreaming, he replies "You don't think that it's time that somebody cared enough to have a dream? What about the forests? You don't think anyone should care about these forests? What's gonna happen if these forests and all this incredible beauty is lost for all time?". To which he gets the weary answer, "It's been too long. People got other things to do now".

Soon afterwards, the crew are told that the mission is over, the forests are to be destroyed (using nuclear explosives), and the ships "returned to commercial service". Lowell is horrified, but his crewmates are thrilled to be going home (which suggests that the earth can't be that "foul"). They begin the detonations. Lowell becomes increasingly desperate and angry until he finally attacks them, kills them, and steals the ship and the last remaining forest. He tells mission control that the ship has suffered an explosion and a catastrophic systems failure, so it is out of control; then flies the ship through the rings of Saturn, leaving behind faked evidence that it has been destroyed, so he won't be pursued. He is left alone, apart from three robotic companions, the ship's maintenance drones, who he renames Huey, Dewey and Louie. (They are the first really cute robots in cinema history, the spiritual parents of R2D2 and all the others who came later.) Louie is destroyed in an accident and Huey is damaged through Lowell's carelessness, but he teaches Dewey how to care for and maintain the forest. However, the search party eventually finds him, and he has only a few hours before they dock and discover that he's lied about the explosion and has killed the crew. Worst of all, he knows the last forest will be destroyed when they arrive. So, Lowell puts Dewey into the forest dome and launches it into space. He explains to the other drone, Huey, that he's too badly damaged to help Dewey. Lowell tells the drone that when he was a kid, "I put a note into a bottle, and it had my name and address on it. And then I threw the bottle into the ocean. And I never knew... if anybody ever found it". He then destroys the ship, killing himself. The film's final image is of the lonely robot using a child's watering can to keep the last plants alive.

I want to argue that this, rather bleak film offers us some rich insights into the topic of utopian gardens and may even offer some clues to a way out of the current environmental crisis. To understand why, we first need to look more closely



at what a utopia actually is; although I've been using the term throughout this series, I have deliberately not defined it too carefully, but I need to do so before I come back to *Silent Running*.

### **What is a Utopia?**

George Orwell argued that “the dream of a just society... seems to haunt the human imagination ineradicably and in all ages, whether it is called the Kingdom of Heaven or the classless society, or whether it is thought of as a Golden Age which once existed in the past and from which we have degenerated”. While that may well be true, there is more to utopia than a “just society”. Indeed, it can be argued that neither the ‘kingdom of heaven’ nor the ‘golden age’ can be considered utopias, because they were (or will be) simply presented to us. The mark of utopia is, arguably, human intervention – human design and intention. Both Krishan Kumar and J. Colin Davis have argued that, although utopianism has very ancient roots, utopias are essentially modern. (Although somewhat confusingly, historians usually regard the modern world as beginning around 1500.)

There are, for example, no real utopias in the Classical tradition, which is characterised by nostalgia for a better past, perhaps because of a sense of helplessness in the face of nature, usually embodied in a series of cruel and capricious gods. As a result, the ancient Greeks and Romans seemed unable to imagine how human power could ever be sufficient to overcome the fates. Nor, are there any real Christian utopias, because for a Christian, paradise is in God’s gift – humans may prove themselves worthy to enter heaven, but they cannot create it. And for similar reasons, an arcadia is not a utopia; it’s an ideal place of tranquil, rural contentment, but while it was a place humans might seek and – if they found it – retreat to live there, it was seldom imagined as a place people could create from scratch. Another kind of ideal society is the land of plenty, embodied in the medieval peasant myth of the land of Cockaigne (or Cockayne), where food and drink were plentiful and obtained without effort (it rained cheese, for example). When Pieter Bruegel the Elder painted *La uilekkerland* (the German name for The Land of Cockaigne, 1567) he included an egg that was not merely pre-cooked but ran around on its own legs, with its shell already opened and a helpful spoon inserted. The idea of the land of Cockayne lasted well into the twentieth-century, as for example in the song, “The Big Rock Candy Mountain” (1928), which was written (incorporating some earlier, traditional elements) and popularised by the cowboy singer Harry “Haywire Mac” McClintock (1882–1957). He imagined a paradise for hobos, where:

“All                    the                    cops                    have                    wooden                    legs  
 And                    the                    bulldogs                    all                    have                    rubber                    teeth  
 And the hens lay soft-boiled eggs”

– just as in Bruegel’s painting. The Big Rock Candy mountain (and its predecessors) might be paradise, but they are not utopia – for the slightly surprising reason that nobody does any work.

Two things were essential for the emergence of real utopias: America and science. Sir Thomas More’s *Utopia* (1516) was the first (it was, of course, More who coined the word and gave the concept its deliberately ambiguous name: utopia is a pun in Greek – if spelt *ou-topos* it means ‘no place’, but spelt *eu-topos* it means ‘good place’). And it is not a coincidence that More’s *Utopia* appeared soon after Amerigo Vespucci published accounts of his voyages, which showed that Brazil and the West Indies were not part of Asia (as had been assumed after Columbus), but were a separate continent. (It was the published letter *Mundus novus*, attributed to Vespucci, that established the continent as the “New World”.) More’s book is written in the form of a traveller’s tale whose fictional narrator, Raphael Hythloday, is supposed to have been one of Vespucci’s shipmates. Such tales were a popular genre at the time, which seemed to reveal an endless series of fabulous new worlds as Europeans travelled ever-more widely; the discovery of new worlds fed the utopian imagination.

The discovery of America gave rich new life to an ancient tradition of using distant peoples and their customs as a mirror with which to reflect on (or satirise) one’s own society. The most famous example is probably Michel de Montaigne’s essay “Of Cannibals” (1580), which used the indigenous people of Brazil to argue for what would now be called cultural relativism; the claim that there was no single absolute standard by which to judge the different traditions and values of the world’s different peoples. Montaigne used gardening and farming to make his contrast. He notes that ‘we’ (by which he meant his fellow educated, white, Europeans) describe those fruits which “nature produces of herself and by her own ordinary progress” as “wild”. Instead, Montaigne argues, we should realise that it is those “whose natures we have changed



by our artifice” which “in truth, we ought ... to call ... wild”. The fact that Europeans prefer cultivated to natural fruit is a mark of “our own corrupted palate”. People have tried to gain power “over great and powerful mother nature”, but “by our inventions, ... we have almost smothered her”.

Montaigne then argued that what was true of fruits was true of people, the people of America had not been corrupted by cultivation; like the fruit they ate, they were both more natural and more moral than Europeans. As a result, he claimed, these people “never die but of old age”, which some attributed to their climate:

“but I rather attribute it to the serenity and tranquillity of their souls, free from all passion, thought, or employment, extended or unpleasing, a people that pass over their lives in a wonderful simplicity and ignorance, without letters, without law, without king, or any manner of religion.”

Clearly, Europeans could not claim any kind of superiority over such people, and had no basis on which to criticise their customs. Even cannibalism, which was supposedly common among the tribes he was discussing, could be considered moral; Montaigne argued that the indigenous Americans ate prisoners taken in battle, as form of symbolic revenge, but claimed there custom was less repugnant than such supposedly civilised European practices as torturing prisoners, executing them or allowing them to starve to death. He concluded that Europeans were unable to face the possibility that their traditions, manners and customs might be no better than those of the people they were conquering. “These men are very savage in comparison of us” he imagined Europeans saying, “they must either be... or else we are savages; for there is a vast difference between their manners and ours”.

Such dramatic contrasts between European and indigenous customs, particularly in America, fuelled the eighteenth-century Enlightenment ideal of the ‘noble savage’, the uncorrupted natural man. However, the New World presented an even bigger shock to European ideas of knowledge. Until the Renaissance, most European scholars assumed that the world’s wisdom was all to be found in either the Bible or the Classical authors of Ancient Greece and Rome (a belief that was, in itself, a form of the Golden Age myth). The main work of medieval scholars was to recover, restore and annotate such fragments of ancient wisdom that had survived. However, the discovery of the New World presented an enormous challenge to these assumptions. Here was a vast continent, full of unknown plants and animals – and people with strange and unexpected customs. Yet neither the Bible nor the classical authors contained any hint of these wonders. The apparent ignorance of Europe’s most revered sources of authority gave a massive boost to the claim that new knowledge was possible, that human reason might be applied to solving the world’s problems. (Such claims were, of course, at the heart of Francis Bacon’s new experimental philosophy.)

The possibility of new knowledge fed directly into the idea of utopia. Perhaps we didn’t need to live as our ancestors had? Perhaps we could learn from the diverse customs of other people, picking and choosing from all kinds of societies and customs? Perhaps we could work out a new – and perfect – way to live?

As I noted, it has been argued that, unlike other kinds of ideal societies (Arcadias, Golden Ages or Big Rock Candy Mountains), utopias are created by human effort. As a result, Colin Davis argues, a utopia is the only kind of ideal society that could potentially be created by science. As we saw in earlier lectures, the first specifically scientific utopia was Bacon’s *The New Atlantis* (published, after his death, in 1627), the last of the long series of books in which he promoted his new, experimental philosophy. Like all scientific utopias, it is built on the assumption that (in Davis’ words) “nature is deficient or unaccommodating and must be altered”. If, as Montaigne argued, cultivation is corrupting, then a garden cannot make a paradise – only unspoilt nature can be. However, if Bacon was right, and humans can apply their reason to “the relief of man’s estate”, a garden could become the emblem of utopia. (As we saw in earlier lectures, experimental, botanical gardens were an important part of the *New Atlantis*; and Charlotte Perkins Gilman’s utopian novel *Herland* envisaged the women turning their country into a perfect garden.)

The claim that *nature* is in some sense imperfect puts both scientific utopians and gardeners (who are, in my argument, often the same people) in direct conflict with many influential intellectual traditions in Western thought, most obviously with natural theology (which I discussed in the first lecture). Throughout the seventeenth and eighteenth centuries, there had been a near universal assumption among Europeans that however strange and wonderful the world’s products were, they had one thing in common – God had made them all. As a result, the study of nature was a pious activity, since it was



the study of God's handiwork. The beauty and complexity of God's creations confirmed his existence and revealed his nature, since only a benevolent, loving God would fill the world with beauty for our enjoyment, food for our sustenance and cures for our diseases. Natural theology meant that there was no conflict between science and religion. On the contrary, many saw the two as complementary and as late as the nineteenth century, hundreds of English vicars spent their Sundays in the pulpit and their weekdays in the hedgerows, collecting plants, birds and butterflies. Perhaps all this natural history collecting left the vicars too busy to look after their own gardens. There's an old joke about a vicar looking at his beautiful garden and complimenting his gardener on what he and the good Lord had accomplished together. To which the gardener replies, you should have seen it when the Lord had it to himself... Even the most devout gardener felt the need to give God a hand (while the atheist gardener has no faith in leaving nature to her own devices).

During the eighteenth and nineteenth centuries, large numbers of people (particularly in Europe) began to doubt whether God had indeed made the natural world (either he was wholly absent or had made the laws of nature, leaving nature's details to the working out of those laws). Nevertheless, many thinkers continued to assume that nature could nevertheless be a source of moral guidance for humans. As the French *philosophe*, Paul-Henri Thiry, (Baron d'Holbach), argued "Man is unhappy because he is ignorant of nature" (*Système de la nature*, or "System of nature", 1770). And one of the deputies to the French national convention, Antoine-Clair Thibaudeau, called on "all men to consider the great and magnificent spectacle of the power of nature, the variety of her productions, and the harmony of her phenomena. She is the source of good laws, of useful arts, of the sweetest pleasures and of happiness..." (1795). Numerous Enlightenment thinkers made similar claims; they effectively gave God's old job – of providing humans with moral rules to follow – to Nature itself.

However, the growth of evolutionary ideas in the nineteenth century was a major challenge to the claims of both natural theology and Enlightenment nature philosophy. Charles Darwin's theory of natural selection suggested to many that God had not made nature, not least because nature no longer seemed benevolent. Darwin's nature was cruel, capricious and destructive: "The face of Nature may be compared to a yielding surface, with ten thousand sharp wedges packed close together and driven inwards by incessant blows, sometimes one wedge being struck, and then another with greater force". If Darwin were right, the relentless, pounding force of natural selection – "the war of nature", powered by "famine and death" – could no longer be considered "the source of good laws, of useful arts, of the sweetest pleasures and of happiness..." It was this vision of nature, not just the undermining of traditional Christianity, that caused so many to reject Darwin's theory.

Many years ago, in a book review, I argued that "In England, gardening rather than creationism is the organized resistance to the idea of the survival of the fittest; our flower-beds would be full of grass, and our lawns composed entirely of dandelions, if we let natural selection take its course". I thought I was being original, but later discovered that I had been beaten to this insight by Thomas Henry Huxley, who made the same point more than a century earlier (and with far greater eloquence). Gardening, Huxley suggested, provided an alternative to Darwin's bleak vision.

### **Evolution and Ethics**

When Thomas Huxley was a young Victorian naturalist, he delighted in disputing with clergymen (and privately described his style as 'episcopagous', or bishop-eating) while offering combative and witty defences of Darwin's evolutionary ideas. However, in 1890, Huxley (then in his mid-sixties) took a break from eating bishops and bought himself a nice quiet home near Eastbourne.

In an essay he published soon afterwards, Huxley described the view from the window, which looked out on the ancient landscape of the South Downs, unchanged for countless centuries. Beneath the gentians was the chalk, over a hundred meters thick, yet built from the fossil remnants of countless millions of minute creatures. As Huxley had explained in his earlier lecture, "On a Piece of Chalk", the white band that symbolised England embodied the central, most frightening fact of Victorian geology; time was a bottomless abyss and as the Victorians dug like moles – mining and quarrying to construct their canals and railways – the growing mounds of fossils confirmed both that the Earth was unimaginably ancient but also (and more alarmingly) that most of the creatures God had supposedly designed were already extinct. Even worse, the recognition gradually grew that the whole of human history was a trivial moment, overshadowed by the thousands of silent centuries during which the earth had been devoid of humans and human purpose. The almost infinite vastness of time seemed to humanity's insignificance and confirmed the futility of all our endeavours.



Yet as Huxley looked out of his window, he thought he saw a hopeful contrast to the pitiless cosmic processes that had shaped the landscape:

“Three or four years have elapsed since the state of nature, to which I have referred, was brought to an end, so far as a small patch of the soil is concerned, by the intervention of man. The patch was cut off from the rest by a wall; within the area thus protected, the native vegetation was, as far as possible, extirpated; while a colony of strange plants was imported and set down in its place. In short, it was made into a garden.”

It is, of course, no accident that the image of civilization – the garden – was described as a “colony”, from which the natives had been “extirpated”. Huxley (along with Darwin and most of their contemporary British empire-builders) would have had no time for Montaigne’s arguments; they were convinced that those they called ‘savage’ people were anything but noble. Such peoples were in urgent need of civilising and those savage peoples who, like indigenous plants, proved resistant to European notions of cultivation were liable to “extirpation”, a word whose original meaning was horticultural (to clear land of stumps; from *stirps*, the stem or stock of a tree).

Given these views, it is unsurprising that few Victorian men idealised uncultivated nature. Moreover, thousands of years of cultivating their small island had made the British particularly prone to seeing a garden as the *opposite* of a wilderness; the purpose of cultivation (culture) was to vanquish nature. Like most Victorian gardens, Huxley’s contained the fruits of empire; he grew plants from all over the world, exotic plants that could not survive “except under conditions such as obtained in the garden” and had been refined by cultivation and breeding to serve human needs. As a result, he argued, the plants were “as much works of the art of man as the frames and glass-houses in which some of them are raised”. Greenhouses and the plants in them were civilisation’s monuments, just as cathedrals were: “we call these things artificial, term them works of art, or artifice, by way of distinguishing them from the products of the cosmic process, working outside man, which we call natural, or works of nature”. Every human artefact – cathedral, iron bridge or garden – was relentlessly battered by wind and rain as nature endeavoured to “reclaim that which her child, man, has borrowed from her”. Like many of his contemporaries, Huxley saw gardening as morally improving, but not just because it provided fresh air and healthy exercise; gardening exemplified the constant effort to keep the heartless cosmic process from extirpating human values.

Huxley used two terms to describe the force with which humans oppose the pitiless “cosmic process” – the “horticultural process” and the “ethical process”. And for Huxley, they were synonymous; gardening was applied ethics. Huxley argued that in a really well-run colony the native ‘savages’ – whether people, plants and animals – would all be conquered and replaced by “an earthly paradise, a true garden of Eden”, in which everything served “the well-being of the gardeners”. The ideal colonial administrator would abolish “the coarse struggle for existence of the state of nature”, and replace nature with “a state of art; where every plant and every lower animal should be adapted to human wants”.

So, rather paradoxically given that he was an ardent defender of Darwinism, Huxley saw halting natural selection as the key to paradise. By contrast, many Victorians feared that curbing natural selection would lead inevitably to degeneration; civilisation made life too easy, protecting the sickly from disease, while a misguided compassion allowed the weakest to not only survive but multiply. As a result, the poor, the improvident and the stupid would out-breed and overrun their betters. Huxley discussed these claims, particularly the assumption that under the utopian conditions he had described, the new garden of Eden would be destroyed by overpopulation. One solution was eugenics – a newly coined term – and Huxley acknowledged that many of his contemporaries were discussing the possibility that humans should take control of their own breeding, selecting and destroying as necessary. Huxley was deeply sceptical about whether such schemes were practical, but even if they were, he believed they were utterly immoral. For them to work, people would have to eliminate the “natural affection and sympathy” that bound society together. Without these instincts “there is no conscience, nor any restraint on the conduct of men”; society could not function without a moral code.

But if a eugenic state was unworkable, how were humans to avoid the degeneration that seemed inevitable under the “artificial conditions of life” that they were creating? For Huxley, the simple answer was that they could not; at least, not permanently. He argued that the underlying problem was human nature. Everyone sought to maximise pleasure and minimise pain with no thought for the needs of society as a whole: “That is their inheritance”, he declared, “from the long series of ancestors, human and semi-human and brutal”. Our pre-human ancestors had bequeathed to us their violent and selfish “innate tendency to self-assertion”. This, he argued, was “the reality at the bottom of the doctrine of original sin”. However, if the least attractive aspects of human nature were to be explained by human nature, so too were our



better angels; cooperation, sympathy and above all our “artificial personality” – conscience. These traits allowed us to live and work together, to overcome nature.

While Huxley accepted that human moral sentiments have evolved (like every other feature of the human mind and body), he reminded his readers that “the immoral sentiments have no less been evolved”. Evolution explained how the “good and evil tendencies of man” has come into existence, and yet nature was “incompetent” to provide any reason why “what we call good is preferable to what we call evil”. Nature really was red in tooth and claw (as Tennyson had feared), remorseless and uncaring, and so could not provide moral guidance. Hence Huxley’s conclusion that “the ethical progress of society depends, not on imitating the cosmic process, still less in running away from it, but in combating it”.

If nature cannot guide ethics, where could those like Huxley who had rejected all religious faith, turn for moral guidance? He made rather vague gestures towards an ethical system that reminded everyone to reject “fanatical individualism”, and remember instead their “duty to the community”. These were principles, as he readily acknowledged, that were fully compatible with many of the world’s philosophies and religions, including Christianity. (If one accepted that humans were a single species, it was not surprising to find that their evolved moral sensibilities shared many features.)

As has often been noted, Huxley – despite his episcopalous predilections – regularly utilised religious language and metaphors in his writings (some of his essays were actually called “Lay Sermons”). In characteristic vein, he concluded his argument about evolution and ethics with a call to what sounds suspiciously like a good, Christian life. We should follow “a course of conduct which, in all respects, is opposed to that which leads to success in the cosmic struggle for existence”. We must, he argued, accept the need to struggle continuously against the cosmic process, “cherishing the good” while facing evil “with stout hearts set on diminishing it”. Many a Victorian preacher would have nodded in agreement.

Huxley fully shared Bacon’s faith in science; human reason could and would improve our lives. As a biologist, he would have seen improved agriculture as an important part of the ‘relief of man’s estate’. And as a convinced Darwinian, he would have been excited by the prospect of “experimental evolution” that I discussed in the last lecture, that promised the power to invent new kinds of plants. He was clearly on the side of culture and cultivation. Not only did Huxley not share Montaigne’s faith in nature, he saw the garden as a metaphor for humanity’s struggle against the heartless “cosmic process”, a place where we made ethical progress as we pulled up the weeds.

### ***Silent Running***

So, let’s look at *Silent Running* again: what does this garden in space tell us?

Many people have described the film in terms of a clash between nature and technology, but I completely disagree. Consider an early scene where Lowell’s shipmates complain about the smell of the fresh fruit and vegetables he brings in from the garden. He dismisses what they eat as “Dried, synthetic crap” and claims they’ve “become so dependent on it that I bet you can’t live without it”. When they ask what’s so good about food that has come “out of the dirt”, he tells them it is “nature’s greatest gift”. Yet, despite Freeman Lowell’s passion for nature, he is a gardener, a cultivator; as he says, “I grew it, I picked it and I fixed it”. Although he calls the domed enclosures “forests”, they are wholly artificial environments, enclosed in high-tech glass covers (which presumably shield the plants from cosmic radiation), lit by electric light and tended by robotic labour – in other words, they are gardens. And, as Huxley said, the plants inside them are “as much works of the art of man as the frames and glass-houses in which some of them are raised”. And “we call these things artificial,... by way of distinguishing them from... works of nature”.

I mentioned earlier that although the Earth is briefly described as “foul”, it can’t be that bad since the other members of the crew are so happy to be going back. When Lowell is arguing for the value of the forests and everything they represent, he says that “On Earth, everywhere you go, the temperature is 75 degrees. Everything is the same. All the people are exactly the same”. To which one of his crewmates responds that “there’s hardly any more disease. There’s no more poverty. Nobody’s out of a job”. The Earth is apparently a completely controlled, artificial environment. Lowell clearly thinks it’s horribly bland and boring, but I suspect that many people alive today would sacrifice the Earth’s forests if they could get a world with no disease, poverty or unemployment. Perhaps the Earth in *Silent Running* has already become a utopia – at least, in some people’s opinion?



After he has killed his crewmates, Lowell becomes increasingly depressed and has a moment of self-disgust when he realises that he's become so lazy that he has started eating the "dried synthetic crap" he despises. So he says to the drones, "Let's go to the forest and get some real food". The film critic Paul Glistner has suggested that Lowell's character was based on the American writer, Henry David Thoreau, who famously said that "...in Wildness is the preservation of the World" (1862). In Glistner's opinion, "This is certainly a sentiment which Lowell would heartily agree with". Perhaps he would have, but of course Lowell doesn't go back to nature, or to the wilderness, he goes out into his garden; he can't live without his artificial environment any more than his shipmates can manage without synthetic food. What is offered by *Silent Running* is not, I would argue, a choice between the natural and the artificial, but between two competing visions of technology, of cultivation. It is a choice between an earth that has been cultivated to the point where human needs are met, but there is apparently no room for any other species, or Lowell's garden, which – as we are shown – has frogs, snails, birds and rabbits as well as plants.

In the final image of the film the robot is alone because Lowell can't forgive himself for murdering the others. In his defence of the forests, he had forgotten the "natural affection and sympathy" that Huxley argued human society depends on; failed to make the moral judgements that only humans can make. Lowell's human nature (the violent and selfish "tendency to self-assertion", which Huxley called "the reality at the bottom of the doctrine of original sin") means he is unfit to enter the new, technological garden of Eden he has fought to create. The film forces us to ask whether utopia and humanity are compatible; perhaps nature can only thrive in our absence? It is hard not to wonder whether perhaps the planet would be better off without us.

However, if – like me – you find the thought of our voluntary extinction unappealing, the only option is gardening. We have no choice but to be the gardeners of planet earth. The notion that we could or should go 'back to nature' is incoherent (at best). We can decide to control 'invasive' species and replant indigenous ones; we can decide to avoid artificial fertilisers and use only organic compost; we can encourage pollinators and wildlife. But rewilding is still gardening. Organic farming is still gardening. Preserving wilderness is still gardening. In each case, we are following Huxley's advice and keeping the "cosmic process" at bay by applying *human* ethical standards.

If the choice is extinction or gardening, and we choose to garden, we still have to decide what kinds of gardeners we want to be. Today's biotechnology companies promote themselves in distinctly utopian ways; Monsanto, for example, explained on their website that "Today's farms are maintaining the incredible production potential developed during the 20th century, all while reducing inputs, improving soil health, and using less energy. Talk about making Mother Nature proud". However, increasing numbers of people find such claims difficult to reconcile with the daily evidence of the damage that technologies like intensive agriculture have done to this planet and the other species who share it. So we might choose instead to be organic gardeners, to reduce food waste and all kinds of overconsumption, in order to reduce the damage we are doing. Developing a more sustainable form of planetary gardening seems like an incredibly urgent priority, but it is, I think, a mistake to think of that goal in terms of making our farms and gardens more 'natural'. Apart from anything else, such claims tends to ignore – or even to demonise – culture and technology. *Silent Running's* final image, of the little robot (innocent of original sin) in the garden holding a child's watering can as it drifts away into space, forces viewers to consider whether humans are fit to be gardeners of this planet. However, it perhaps also suggests that technology might not be our enemy; perhaps the robots can help us to be good gardeners of planet earth?

### Further reading

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