The Machine at the Heart of the World: Technology, Violence and Futures in Young Peoples' Media

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Introduction

As the title suggests, this essay takes a critical look at three themes in young people's media: technology, violence and futures. Such themes are embedded in texts and images which have been designed, constructed, packaged and broadcast to children and young people via books, comics, film and TV. But this is not a work of literary criticism. My concern is less with the literary qualities of the material than with some of their wider human and cultural implications. Chief among these is the penetration of technology into the symbolic and actual life-space of people in the present century. So over-arching is this process that it could be regarded as the greatest *fait accompli* of all time. It has overwhelmed the settled worlds of tradition and arguably brought the planet to the edge of catastrophe. Growing up in this context is far from easy. Children and young people are very vulnerable to the consequent threats to their well being. The ways such threats are represented are therefore worthy of serious enquiry.

The focus on technology is complemented by two further themes: those of violence and futures. Both play powerful roles within post-modern youth cultures. But violence is perhaps more structural and more problematic than is usually admitted, whereas futures are either obscured or mis-identified with power fantasies and developments in science and technology. The essay therefore looks carefully at a sample of contemporary material in an attempt to tease out hidden processes and to suggest appropriate responses. It is a notable fact that the *surfaces* of media productions – ie, the visual and auditory aspects - engage the senses. But very much else is also happening beneath the surface. For one thing, ideas, ideologies, commitments and particular ways of construing the world are also being communicated and legitimised. Such symbolic and epistemological processes take place at deeper levels and in a much less direct and open way. They may therefore be more influential than the overt content of media productions. For this reason alone they need to be considered carefully.

In part one I consider several futuristic fantasies which deploy images of violence, magic and machines. Two are books, three are comics, two are TV series and one of the books is a 'spin-off' from a third. In part two I look at non-fictional printed materials which attempt to treat the future as a subject of serious (or at least not overtly fictional) enquiry. The conclusions to be drawn from both areas are surprisingly consistent.

Parts one and two highlight several major concerns about the ways technology, violence and futures are portrayed in children's media. However, part three provides a counterbalance to this critical approach. It considers several examples of 'good practice.' That is, materials which open up the possibilities for deeper engagement with the world, de-mystifying otherwise obscured

phenomena and providing individuals with strategies for responding constructively to a world of uncertainty and turbulent structural change.

Part One: Machine Fantasies

1. The Machine at the Heart of the world (1)

This is a gently ironic tale. Theobald is a kindly, absent-minded, middle-aged bachelor who happens to live under the ground tending his world machine. But the machine malfunctions and he cannot be bothered to fix it. The world above begins to notice that things are not right. But when the people discover the machine, they discover its power and think that they can have whatever they want. However, the world deteriorates rapidly and the scientists appear helpless. The small boy who first witnessed the early signs persuades Theobald to re-start the machine. He agrees and everything returns to normal - except that Theobald's roof still leaks. He'll fix it one day.

There are a number of themes here. The dependence of a future world upon machines was beautifully satirised by E.M. Forster as long ago as 1909 in *The Machine Stops*. Here the picture is more benign and no real damage seems to have been done. Yet it is perhaps worrying to imagine that the world no longer functions autonomously and that a machine which could break down is holding it all together. A different order of things has emerged which can compromise nature. Further, the machine itself is dependent upon the whims of a single person who sometimes can't be bothered to maintain it. The anxiety here is certainly muted, but it echoes our own anxieties about our dependence upon machines and those who control them. A related theme in the story is that while we may think we can have whatever we want through machines, they may not be reliable and, moreover, the costs involved may turn out to be higher than we had expected.

It's of considerable interest that the scientists, the ones who we might assume to have the best chance of restoring order, are shown to be no more capable than anyone else. They just stand around and talk while the world falls apart. Could this be a reference to the incorporation of scientific expertise in systems of offence and defence that no one really controls? That's a possibility. They have their heads in the clouds and no longer know how to get things done. Perhaps they work for a multi-national company. The central puzzle of the story is the origin and nature of the machine itself and Theobald's special relationship to it. No explanation is given for this. He is very clearly not God, yet sometimes he seems to play a God-like role. Did Theobald build the machine? We are not told. He certainly seems to understand it. And why should he respond to the boy's request? Perhaps Theobald represents fallible humanity and the boy its conscience. Such questions cannot be answered because it is in the nature of stories to leave open questions.

The book takes a gentle dig at people's greed, their naivety and lack of understanding of how the world *really* works, their dependence upon machines and those who can fix them. Overall, the story raises some key questions with an

enviable lightness of touch. It permits the young reader to reflect on some key questions and, if it does not offer any simple solutions, neither does it foreclose options. The real world is indeed full of open-ended problems and the book successfully depicts this without being condescending and without forcing the reader toward predetermined solutions.

2. Transformers: the Movie (2)

The story is based on a sophisticated line of war toys that established a new segment in the market some years ago. The toys represent sophisticated machines which change shape ('transform') from robots to other machines or pseudo-beasts such as dinosaurs or sharks, and then back again. The main feature of the story is a compulsive and unexplained battle between the 'heroic' autobots and the 'evil' decepticons. Daniel is a small boy who assists the former.

Optimus Prime, leader of the autobots is 'dying'. He/it passes on the matrix of leadership (a crystal of pure energy) to the successor, Ultra Magnus. The decepticons are commanded by Unicron, an enormous robot with special powers. He/it orders the decepticons to destroy the matrix (though it is not clear why) and constructs a planet-sized space ship filled with decepticons. Galvatron destroys the second-in-command, again for no apparent reason, and the other robots accept his leadership. There follows a long sequence of battles on and in the space ship/planet. Galvatron steals the matrix from Ultra Magnus and destroys the latter. The autobots' leader is 'dead' and Galvatron declares, "it's a pity you Autobots die so easily or I might have a sense of satisfaction now!"

The vast Unicron 'punishes' Galvatron by swallowing him/it and the matrix whole. But Unicron is damaged by an autobot spaceship carrying humans and robots which crashes through its eye. The autobots and humans battle on inside the huge machine and find Galvatron with the matrix which he/it is unable to use. Hot Rod tells Galvatron that the matrix cannot be used by a Decepticon. The latter tries to 'kill' Hot Rod, but the autobot draws on the power of the matrix to overpower Galvatron and eject it forcefully through the head of Unicron. The power of the unshielded matrix then unaccountably begins to destroy the mighty Unicron's other eye and its enormous body explodes leaving a ruined head to orbit the metal planet it built. The autobots, now under the leadership of the elevated Rodimus Prime, leaves the scene to rebuild their home.

There are clearly many features of this fictional universe that do not cohere, even within the world of the story. No rationale is given for the endless war between the two types of robot (who are largely indistinguishable in all respects but name). The source of Unicron's power is not explained. He/it is capable of building a planet-sized space ship, yet remains so vulnerable as to be mechanically breached and deranged by the matrix of leadership. The power of the matrix is not accounted for either. So two nullities are set in confrontation and one unaccountably 'wins'. This is a magical situation, but one without the principles, rules and procedures which structure traditional magic. This is magic without a source and without a foundation or rationale. This is a shallow fantasy. The robots have the major roles in the story (Optimus Prime), but show no

capacity for motivation. They somehow display 'anger', 'fear', aggression'. They can 'die'. But they remain problematic. They are certainly not intelligent, even in the diminished sense of being artificially so. Their movements cannot really be accounted for or explained. The few humans in the story are not involved. They are simply onlookers. Since they are so physically puny, by comparison, there is little for them to do, even when equipped with exosuits. Daniel manages to save his father from being dropped into a bath of seething acid, but that is all. This symbolic act provides a very slender thread for reader identification. Humans are, in fact, residual categories in this context. They have nothing much to do except to witness the battle.

There is no lever, no means of intervention, for the human characters to effect any chance in the conflict, nor anything resembling a solution. The war is endless. Though Unicron is destroyed, new threats to the autobots will emerge. The dynamic for the story does not arise within it. Rather, it appears to be a product of the conditions under which the story was constructed. Those conditions include the marketing imperative, which is arguably the basic reason for the production of the story in the first place. The real dynamic modelled here is not the manufactured conflict between machines. It is the real conflict engendered by compulsive consumption and the destruction of natural qualities and resources by techno-capitalist society. The underlying rationale for the story and its many spin-offs is simply that of capital accumulation, since no needs can possibly be met here other than those of false identification with power symbols. A repetitious display of manufactured surfaces serves to engage the senses - indeed to overload them with fast cutting and intense action. But this colourful shadow play cannot nourish the sense of significance because there is nothing to engage with. The cupboard is empty - but the till is full!

The child is drawn into this surrogate world by many promises: the experience of vicarious danger, spurious power fantasies, the appeal of machines which seem to possess capacities far beyond those of weak and vulnerable people. Yet here lies a hidden (and therefore subversive) reversal: that of creator and created, of means parading as ends. For the entire universe of machines is but a fragment of human expressiveness and symbolic power, not vice versa. Hence the display of destructive physical aggression and violence diverts attention from the thin and unliveable nature of this fictional universe; that is, from the real weaknesses and wholly derivative status of machines. It is therefore hard to see how a child can deploy such material in any useful way. The fantasy does not suggest ways of dealing with the real world. With no characters, no society (with a past and future) and no hint of an ecological context, the story becomes a sequence of confusing, but structured, misdirections. As such, they occupy the attention but starve the mind and spirit.

Transformers are basically a waste of time.

3. Zoids (3)

These are another example of numerous attempts by toy manufacturers to cash in on the boom in 'futuristic' war toys. Many of the themes are similarly

stereotyped. There is a battle without cause between red and blue Zoids on a desert planet. The Zoids are mechanical war machines (they have no other function) piloted by androids (de-personalised people). Each side is commanded by a humanoid Zoidaryan, assisted by powerful mechanical beasts: Zoidzilla (a dinosaur) and Redhorn (a metallic rhino). Most fearsome of all is Krark, Prince of Darkness (a giant, pterodactyl, armed [literally] to the teeth). All the machines are armed with a variety of powerful weapons. The commonest are multiple cannons that resemble crude phalluses and spray destruction wherever they are pointed. Yet the machines are also highly vulnerable. They often get blown to pieces. When the boy in the story (again!) takes one over, the Zoidaryan in charge is unable to stop him. He has become powerless other than through the machines. The latter have all but taken over. Yet they are outwitted by a mere boy.

It is significant that the shapes of the machines are derivative of Earth-type animals, past and present. They have no distinctive shape or identity of their own. They look fearsome, but must be very inadequate or they would not need such weapons; except that machines cannot be inadequate, brave, angry, hostile - etc. This persistent association of human capacities and powers with machines is evidently one of the standard tropes of this sub-genre. However, I suspect that it undermines the interpretive autonomy of the reader in ways that children could hardly be expected to understand or compensate for.(4) The device of having the machines apparently commanded by a humanoid is not a solution for it is the machines themselves which say things like, "You are honoured blue zoid...you perish before the weaponry of Krark....Prince of Darkness." How a machine could be a prince of anything, least of all of darkness, is a wholly irresolvable question.

The language of these confrontations gives cause for concern. Zoidzilla is given lines like: "Cowards! Traitors! I'll rip their renegade bodies to pieces for this outrage!" One does not need to be a bible-thumping moralist to question whether references to punishment, torture and dismemberment amount to a nourishing diet for young minds. Such references are neither isolated nor forced. It is merely by chance that the symbolic associations of Zoid-aryan suggest 'mechanical Nazi'? This Zoidaryan certainly believes that "Namer and his friends...must be punished most severely." The combination of negative derived power, falsely transcribed emotions and capacities, exaggerated biological features (such as the weapon phallus) and sub-human cruelty creates a pattern of systematic distortion. Perhaps material of this kind should carry health warnings.

4. He-Man: The Siren Song (5)

One is hardly surprised to find that on Eternia a constant battle takes place between good and evil, between He-Man and Skeletor. The former is based at Castle Greyskull that possesses some sort of magic essential to Eternia. Skeletor, Lord of Destruction, is aided by assorted nasties while He-Man's companions include a sorceress who can change into a bird and Orco, a small flying

humanoid with much magic but no lower body. Most of the time He-Man is the gentle and meek Adam. But when danger threatens, he is suddenly transformed. In Siren Song, Skeletor has brought a new machine to attack Castle Greyskull. It emits a powerful noise (the 'siren song') which causes the walls of the castle to crumble. He-Man and friends deal with Skeletor's monstrous associates but it is Orco who saves the day. He simply casts a spell and the machine falls to pieces. Problem solved!

The first thing to notice about the story is that it is not really a story at all. Very little happens: basically a threat and a rebuff. The profuse illustration barely conceals the extreme poverty of the plot. Consider the way that Adam becomes He-Man. He utters a wish: "By the power of Greyskull - I am the power" and is transformed. This is a complete inversion of the real-life process of human development that takes effort, application and work over a sustained period. Here it is attained instantaneously merely by speaking the magic words: basic wish-fulfilment. This inversion also disrupts the 'Masters of the Universe' label given to the comics, toys and TV series. For *no real mastery can be seen in these slight tales*. The characters are insufficiently coherent to be taken as such. They 'defeat' Skeletor (death) by invoking magic, waving a weapon or deploying a crude *deus ex machina*.

The latter is deployed in The Siren Song through Orco's magic which, by being able to destroy machines, is more powerful than the rationality they represent. Yet this is not the supra-rationality of any authentic spiritual tradition. Instead it looks more like a regression to the crude (and cruel) power of the pre-rational. This is basically stone-age consciousness clothed in garments borrowed from many cultures. The term 'siren song' refers, of course, to Greek myth; to the lure of the half-wild, half-human. But there is nothing whatever siren-lime or song-like about Skeletor's machine or the noise it makes. Here is another dislocation of rich human associations that have been stripped of meaning, context and coherence. Similarly Castle Greyskull has an awkward and unsustainable role. It is a symbol of death that is used here as a source of power (life). This can be read as a further atavism: a reference back to the sub-human practice of ritual sacrifice. (6) Furthermore, by identifying death in such a loose and incoherent way with evil *and* good, it deprives the child of the possibility of resolving its most basic anxieties.

It is safe to conclude that the so-called 'Masters of the Universe' can be nothing of the sort. If they cannot handle basic categories such as good, evil, life, death, pre-rational, trans-rational, they cannot be masters of anything, and certainly not of their own under-dimensioned selves! The surface colour, the bright images and the action-filled pace serve to conceal a radical poverty of insight and imagination. This material is not worthy of children for it is literally beneath them. It 'knows' less then they do.

5. Thundercats (7)

Much of the foregoing applies to this clone of 'Masters...' so to avoid repetition I will just discuss five panels from the strip. The first shows Lynxana before

confronting the hero, or more particularly, his sword. She is pictured as being strong, lithe, capable and determined (if somewhat improbably shaped). Her left hand rests aggressively on her hip and her right hand holds a weapon she is clearly prepared to use. She looks straight out of the picture: no submissiveness here! Yet the second frame presents a complete contrast. Here she is falling back. Her weapon is pointed down and away. She is off-balance, no longer in control. Over her looms the mighty and dominant figure of Lion-O, legs apart and sword held threateningly overhead. Energy cascades from the raised weapon.Lynxana cries "...the sword! It's disrupting the force-field!" She is very clearly overwhelmed by the symbol and expression of male dominance. Her own personal 'force-field' has certainly been disrupted. She is pictured in complete submission to his, or rather the sword's. incontrovertable power. There can be few images anywhere which depict the primitive assymetrical relationship of male dominance and female submission with such stark and uncompromising clarity.

In the third and forth panels Lynxana is shown standing behind Lion-O who is now using the sword to defend them both. She develops a sudden intense dislike of the creature attacking them: "this Mumm-Ra reeks of cruelty, of wickedness and pain! I've never encountered a being so vile!" Her thoughts turn back to her defender: "No-one deserves to fall to a monster like that! No-one!" Her conversion is complete. The last frame shows here clearly in her diminished and secondary place behind the hero who is still battling with his sword. From her stance of confident splendour at the beginning of the strip she now seems to cower behind the mighty-thewed hero who, with the monster, now dominates the frame, the story and the world. The sub-text is not hard to read. Women had better learn their place or be destroyed.

6. Captain Power and the Soldiers of the Future

It is 2147 and the Earth has been laid waste by the metal wars: "when man fought machine and machines won." Lord Dread rules the Bio-Dread empire from Volcania, his stronghold and fortress. Bio-dreads are "monstrous creations that hunt down survivors and 'digitise' them." But from the fires of conflict have arisen "a new breed of warrier, born and trained to bring down Lord Dread's empire...They are the Soldiers of the Future...Mankind's last hope." (8) Captain Jonathon Power leads the team. He is "master of the incredible power suits which transform each soldier into a one-man attack force." The result is "the most powerful fighting force in Earth's history." This small group lives underground in a hidden base with other survivors of the metal wars. They are permanently under threat, but seem to live quite well between emergencies. They have access to a supporting infrastructure that mostly remains out of sight but clearly provides them with food, weapons, communications systems and the like.

Lord Dread is part man, part machine. He sits atop a high-tech console to direct his heartless empire. Yet, at times, he can move and even feel - just like any other human. But his *raison d'etre* seems to be pitting his machines against the remnants of humanity in this ruined, post-catastrophe world. He has access to a

machine intelligence that advises him, to countless android soldiers and to flying robots which obey his every command. Surprisingly, perhaps, Captain Power and his associates do not use androids or robots. But they surely could. They have a 'supercomputer' which contains the persona of a now-dead leader. So clearly the technical capacity exists to duplicate Dread's forces. Yet they rely instead on the power suits. Once the latter are donned and powered up a flare of electrical energy transforms these puny humans into powerful fighting machines that can fly, heft enormous weapons and withstand all but the most overwhelming blast. If the suits are breached they 'short out', leaving the wearer exhausted and nakedly vulnerable.

The conflicts in this ravaged earth seem interminable. Yet, curiously, neither side seems able to defeat the other. There is a permanent stalemate. Individual episodes seem to follow a common pattern: a problem or threat is experienced and some dangerous action follows (invariably causing the destruction of many of Dread's anonymous troops). Some sort of confrontation takes place between the principals, a resolution occurs...then it is back to routine survival. The series shares many of the features of examples discussed above: endemic conflict, violent confrontation, destructive machines, easy transformations to augmented states of power. But there is also one major difference. In Captain Power...the line between persons and machines is decisively breached. Dread is the machine-like man, 'heartless', yet capable of emotion. Both he and Power have access to disembodied 'intelligences' that are embodied in machines but act *as if* they were still, in some sense, human. They seem to speak, reason and understand. But there are two other features that stamp the series with the cold imprimatur of depersonalisation. One is the ability of Dread's flying robot to 'digitise' people; the other is the power suits themselves.

In this context, to 'digitise' signifies the ability of machines to reduce a living person to constituent elements that are 'coded', stored and re-assembled at will. The device has been used in many contexts (eg Star Trek) to overcome the problems of transporting people across vast distances quickly enough so as not to strain the audience's patience. But here it is used as an instrument of domination. The opening sequence shows a woman screaming as she is torn apart by the disintegrating ray. She will later be reassembled for further abuse. The apotheosis of the machine is complete and its power is absolute. It is an awesome power for it incorporates both the ability to destroy life, and to reconstitute it. As such it draws to itself all the mythic resonance of human history and culture which has sublimated the yearning of humankind to breach the bonds of death. Such machines, were they possible, would guard the gates of eternity and quite literally be God-like in their omnipotence.

There is another important feature of this process. It is the assumption that life can somehow be 'coded' and, for a while, exist, or be conserved, in a different non-living state. This view is similar to that adopted by proponents of 'artificial intelligence' (AI) who see no difference in principle between the human brain/mind system and its synthetic analogues. However the assumption is a dangerous one. I do not know if we will ever see 'machines that think.' However, I am fairly sure that if AI ever becomes a reality that what we mean by 'thinking'

and what a machine might 'mean' by it would be utterly different. For to be human and to have human qualities and needs etc. requires that one be born, possess a body and indeed a biography which yields memory, experience and identity. The 'identity' of machines must, at this point, be considered wholly problematic. It is therefore a major error to attribute human qualities to machines that, so far as anyone can see, in fact remain derivative and dependent entities. Hence, the notion that the biological structures and processes which support life can be 'copied', 'reduced', 'stored' or otherwise manipulated is revealed as an unsustainable conceit, a category error which should not be blindly accepted, even though it is repeatedly modelled on TV and film.

The power suits have a different role. They make palatable that which is wholly unacceptable. That is, depersonalisation - the rendering of human beings into machines or machine-like states of dependence. Here a technical process seems to convey power and near-complete invulnerability. Yet to attain these capacities, people must yield up their humanness: the warmth of their flesh, the grace of their movement, the autonomy of their being-in-the-world. They must become armoured, shielded, enclosed in a metal and plastic skin, separated from each other and the (residual) ecology upon which they still depend. In this process most of human life is marginalised or eliminated altogether. Here there is no room for gentleness, insight, caring. Similarly, the natural world has all but disappeared. Perhaps a machine will replace that too.

I conclude that the 'power' which the good captain, his colleagues and, indeed, Lord Dread, aspire to possess is of an inferior and derivative kind. It is a negative and destructive power that has become dissociated from its human and cultural sources and vested in sub-human forms (ie machines). As such, the struggle to survive on this or any world is irresolvable. The ultimate message of this particular fiction is that humans have lost control and, in so doing, they have also lost their souls.

Discussion

Three conclusions emerge at this point. First, much of the material is formulated and expressed via the display of surfaces which lack temporal context, humanity, society and ecological substance. The paucity of these under-dimensioned surrogate worlds may provide part of the motivation to scour all of human and natural history for symbols, references and meanings. But the use that is made of these resources cannot do them, or subsequent readers/viewers, justice. For to be incorporated in these thin and motiveless worlds they must first be stripped of their rich human significance and assimilated into an otherwise featureless frame. Dinosaurs, siren songs, rituals and rules all become flattened and diminished. History softens, loses focus, and eventually disappears in the pale glow of these spurious futures.

A second conclusion concerns the chronic primitivism displayed in these productions. It takes many forms, eg.: language, sexism, violence and punishment. Conflicts are endemic in these works because they provide the major inner dynamic for the story (there being no characters to provide their

own). Yet there seem to be only two types of conflict resolution: one is by destruction; the other is by *deus-ex-machina* (which usually means magic). In other words, these are not true strategies for dealing with conflict at all. The implicit message is that conflicts cannot be solved. You must either destroy the 'enemy' by frontal assault, by deploying machines or by waving your wand/sword/phallus in the hope that some higher power will rescue you.

Finally, there is a deeper issue to which I will return in the conclusion. It concerns the ways in which the Western worldview incorporates particular modes of understanding, with their specific strengths and confusions. One of the latter is the confusion of ontological levels: the fact that plants have qualities rocks do not; that animals have qualities lacked by plants; that people have qualities which are simply unavailable to either animals or machines. Yet Western cultures have lost sight of these distinctions due to the homogenisation of the world through the scientific revolution. The Newtonian/Cartesian synthesis constructed a mode of understanding and of action which did, indeed, provide access to immense technical power. However, the dominance of its instrumental mode of rationality has blurred our vision. It has helped us lose sight of a qualitatively differentiated world and its pattern of emergent qualities.

This helps to explain why these fictions are so confused. Here are machines which have had human qualities illegitimately 'read upon' them. Here too there are humans, and humanoid monsters which exhibit sub-human and machine-like regressions: compulsive destructiveness, fear, narrow and reactive responses. Here death masquerades as life, and life as death. Even the magic has no coherence. It is both mightier than machines (rationality) and weaker (pre-rational). It is basically a manifestation of simple wish-fulfilment. Hence the cosmology of these stories is deranged. Their reality-principles are incoherent. Of the examples considered, only the gentle ironies of Theobald and his machine provide sufficient imaginative latitude for the construction of useful responses and meanings. As frameworks for deriving understandings about human dilemmas the others are worse than useless because they fail to bring atavisms to full consciousness where they could be worked through and transcended. Instead they drive the young back toward the dark and primitive past.

These 'futuristic' fantasies are, in fact, archaic.

Part Two: Technotopia Unlimited

1. Living in the Future (9)

Living in the Future is the name of a book and a children's TV series aired in the UK in 1981. The main theme can be summarised as 'how microcomputers will improve our lives.' This proposition is repeated many times. Both the series and the book present a succession of bright and superficially attractive images: wrist TVs, a space shuttle (before the Challenger disaster), a futuristic house, a pleasure dome, and so on. Perhaps the most useful image is that which compares 17th and 20th century landscapes. It usefully invites speculation about how processes of development might continue or change. However, the crucial theme

of humankind's relations with nature are not explored, not regarded as a possible future-shaping issue or concern. The most unhelpful and biased image is that of the technologist doctor examining a patient with the aid of remotely controlled machines. To equate future health with technology in this way is to misrepresent both, particularly if one believes that the latter is at best marginally supportive of health. If a comparison had been made with convivial or decentralist alternatives, some useful contrasts could have been drawn. However, the emphasis throughout the series and the book is upon the external construction of the future through technology. There is no hint of the personal and institutional changes that many others see as crucial to any livable future. (10)

These productions are overwhelmingly optimistic in tone and presentation. The future they portray is basically safe, affluent, white, northern and anthropocentric. Far from dealing with future alternatives in the plural, it represents an illustration of a high-tech. energy and resource intensive scenario for Western societies. (11) Unconsciously biased material of this kind is unsuitable for general use since it conceals interests, assumptions and commitments and makes one particular view of futures seem 'natural'. It may therefore *reduce* options by reinforcing taken-for-granted understandings. The result may be educational in intent but it is mystificatory in effect.

2. The Usborne Book of the Future (12)

This book is comprised of three separately published segments. One features Robots, and adds almost as an afterthought 'Science and Medicine into the 21st Century'. A second highlights Future Cities, while a third concentrates on Star Travel. The three segments are profusely illustrated and most of the illustrations are of bigger and better machines. Here are robot-controlled aircraft, nuclear powered asteroids, star probes, floating cities, fully mechanised farms and so on. The ostensible subject is 'the future' but the real subject is technophilia, or love of machines. The images in this production have been clearly designed to appeal to children. Like those discussed above, they are bright, eye-catching, often dramatic. But thumbing through the pages it is obvious that people and nature are residual categories in this world. They have become subordinated to the thrust of technical imperatives that are here writ large upon the face of the universe. Here is confidence indeed, along with plenty of hubris.

The contrast between the under-dimensioned humans and the vast cityscapes and technologies is very marked. By comparison humans look puny and small. Very little is said or pictured about human development as such. When ESP appears it is not deployed for any humanly useful purpose. It is part of the armament of an ESPER battle cruiser! Productions of this kind are presented as if they were neutral and value-free. But they speak eloquently of a culture in which the apotheosis of the machine has, at least temporarily, smothered and displaced a more balanced concern for human welfare and development. Hiding behind the shining sleek surfaces of the machines is a profound insecurity and fear: alienation from the body, the self and the natural world.

3. Future World (13)

Future World is a big book that manages to avoid the shrill technophilia of the above work. It covers design for living, communications, energy, transport, space, food and medicine and is profusely illustrated throughout. It attempts to strike a more credible balance buts still gives the impression that the future is basically about technology in one form or another. Apart from the usual rockets and civil engineering projects there is a photo of a 'modern' Asian farmer spraying pesticide on his crops and a mock-up of a 'futuristic' bed. The latter has a "master control panel (which) can be used to select love, wake, sleep, and peace mood programs, all of which can be pre-set." (14) One wonders what has happened to the nervous systems of the inhabitants.   Have they been pre-set too?

Again doctors peer at patients through sophisticated screens and men and women lie passively beneath the revealing gaze of enormous scanners. Only one picture of an acupuncturist reveals that other, less mechanised, options exist. There is no need to catalogue the rest of the book for it is much like the others in general content. Despite its more moderate tone it remains firmly within the de-personalised world of the machine. This impression is heightened by the end-papers which each display stylised computer games. At an unconscious level, then, the book is literally wrapped in mechanised imagery.

4. Australian Study Topic: The Future (15)

This booklet is a serious attempt to stimulate questions and enquiries about futures issues. It was funded by commercial sources, published privately and distributed free of charge. It begins with a short piece on 'The Road Ahead'. Here we learn that "those who reject the evidence of the gradual improvement of humankind's progress over the centuries ... sometimes choose to scorn present achievements and generate at unnecessary fear of the future." The writer then ascribes our contemporary "nightmare scenarios" to these unnamed persons and argues for "the necessity of keeping an open mind". He wants students to "explore the scientific basis for some of our beliefs" and suggests that "the challenges of tomorrow will be no more troubling than the seemingly-insuperable challenges of the past." (16) This is not a promising start. It is hard to see how one can keep an open mind if one mislocates the source of "nightmare scenarios" within unnamed groups whom one disapproves of. Neither is it clear how, or which, beliefs have a "scientific basis". That looks a lot like scientism. The last assertion I have quoted simply does not hold up at all. Anyone who believes that past and future can be equated in this simplistic way ought not to be writing for school children.

The booklet does not improve as it continues. There is a piece on 'Predicting the Future' which unhelpfully reinforces the spurious and frequently-asserted assumption that futures study can be equated with prediction. Next there is a blatant 'straw man' section which summarises the very reasonable thesis of Birch's book *'Confronting the Future'*, takes one aspect of his argument (resources) and proceeds to 'demolish' it by drawing on Simon's tendentious

book *'The Resourceful Earth'* (1984). Through this and other sources, the writer finally reaches the core of his concern. "Economic freedom", he declares, "has been the key to progress in the past and ... it is the key to progress in the future". (17) From this political and econometric position he concludes that "the debate between the pessimists and the optimists is reduced to a fundamental difference in understanding about the nature of the world's resources". (18) This is complete nonsense, as anyone who had looked at the origins of dystopia would know. Population, scenarios and risk-assessment are covered with equal incompetence and barely-concealed bias.

The cover of the booklet depicts five brightly smiling faces, but in this case the cover is not to be believed. The content is less attractive. Its origins, preferred sources, leaden and contrived argument make it unsuitable for use by any but the ideologically sophisticated reader. The booklet is scientistic, pro-technology and clearly inspired by the limited agendas pursued by corporate entities. It reads like a mini-manual from the Hudson Institute which, in a way, it is. As a way of understanding future alternatives and choices it has too many hidden traps to justify its use in schools.

Discussion

The four items considered above were all produced exclusively for children or young people and the world they portray is surprisingly consistent. It is one in which capital accumulation and technical dynamism have become *the* primary motive forces within culture. Existing political patterns and technical trends are simply assumed to continue. In other words, this material portrays a particular, narrow view of the future and by so doing actually *conceals* credible alternatives. However, the major purpose of futures study is not to predict or even to forecast. It is rather to distinguish a spectrum of alternatives in any field which re-enter the present as considered actions and choices. (19) Where alternatives are concealed or obscured a radical narrowing occurs and human autonomy is thereby impaired. The explanation for the apparent unanimity of these materials is simply that they spring from, or are heavily indebted to, a dominant ideology. Hence, far from being 'futuristic' they are deeply conservative, harking back to an epistemology in decline and insensitive to the sources of cultural vitality which imply wholly different futures.

The bright world of space travel, massive artefacts and instantaneous global communication reinforces a scenario that is by no means universally accepted or desirable. It also runs counter to the intuitions of writers and artists who have widely perceived that the mere extension of present trends leads toward a range of technocratic nightmares. (20) A profound contradiction therefore arises between the up-beat rationalistic views of futures and technology widely disseminated to children through TV, film and print and the far more pessimistic views which are widely held within the culture. It is not surprising that children become confused and fearful. The structural dissonances between incommensurable views cannot be readily resolved, even by adults. It is far easier to regress into wish-fulfilment and magic than to make sense of a world that has become chronically incoherent.

Part Three: Beyond the World Machine

The machine at the heart of the world has not always been there. It was inserted at the time of the scientific revolution and steadily became universalised over subsequent centuries. The machine metaphor derives from a particular worldview which brought with it a number of assumptions and prescriptions; assumptions about people and their relations with nature; about knowledge and how to obtain it; about progress, growth, and most of all about the pre-eminence of instrumental rationality. (21)

The mechanised worldview succeeded for one major reason: it gave access to hitherto untapped power. But three centuries of human experience have also revealed the costs of this type of power and the weaknesses in the assumptions that were made. Nature is not infinitely forgiving, people are not machines, knowledge for power (after Bacon) is not the only, or even the most important form of knowledge. Furthermore, a mechanised world creates new risks and new dependencies. This is not a particularly recent insight. It was understood at the very beginning of the 20th Century by E.M. Forster who in 1909 wrote *The Machine Stops* precisely in order to counter technocratic assumptions found in the writings of people such as H.G. Wells. (22)

Yet the mere critique of the mechanised worldview was not sufficient to change it. As the century progressed so new discoveries and inventions permitted the dynamic expansion of techno/economic systems and permitted new displays of virtuosity and destruction. So as we near the end of the century there is indeed a schitzophenic-like quality to our private and public life. While the proponents of technical development continue to propagandise on behalf of the benefits of continued expansion and growth, the over-arching crisis of unsolved global problems (the 'global problematique' or 'metaproblem') looms steadily larger. (23) It is into this historically-unprecedented context that children are born, grow, are socialised, educated and entertained. Yet this survey suggests that many of the messages contained in young people's media are radically defective.

Such a conclusion could be regarded as cause for despair. So it becomes important to locate works and approaches which point in a different direction; that is away from confusion, dependence, mystification and depersonalisation toward more humanly viable concerns and ends.

1. The Magic of Le Guin

Two works merit consideration in this context: the *Earthsea* trilogy and *Always Coming Home* (24). The former presents us with a world in which magic works, but it works only in a rigorous and systematic way. Like the best fantasies, Le Guin's Earthsea is internally coherent and consistent. Power is not gained lightly and the notion of balance has been elevated to a structural principle in the narrative. The main character is Sparrowhawk and his growth to maturity as a magician provides the backbone of the three linked stories. It's clear that even magical power requires dedication, patience and hard work. However, Earthsea

is not a parable about the Protestant work ethic. Rather it draws more deeply on Taoist notions such as the mutual necessity of duality:

> Only in silence is the word,
> only in dark the light,
> only in dying life:
> bright the hawk's flight
> on the empty sky. (25)

This theme runs through each of the books. For example in *The Tombs of Atuan* (vol 2) it's clear that darkness is not evil since it alone can give meaning to light. Similarly, in *The Farthest Shore*, the discovery of a partial immortality means that the whole balance of nature is threatened. If death becomes meaningless, life too is drained of its vitality. Naming is important in Earthsea. To know the true name of any person or beast is to have access to enormous power. Consequently true names are closely guarded and the balance is maintained. There is not space to explore the many rich aspects of Earthsea. However, many themes of great importance to the young are explored without a trace of didacticism: responsibility, vulnerability, coming of age and so on. Le Guin has provided a very rich tapestry of associations and meanings which offer the young many opportunities to understand and reflect upon the 'real' world.

If *Earthsea* is a children's work which is rich enough to be appreciated by adults, then *Always Coming Home* is an adult work which also speaks eloquently to the young. It is not a story or a novel as such but a diverse tapestry of songs, stories, poems, asides etc. depicting a people and their culture in an imaginatively distant future time. The key to this civilisation is the way that technologies and machines have been marginalised, while song, dance, poetry and ritual have taken centre stage. The result is a powerful and moving account of a people who "might be going to have lived" some time in our future. It is a very different future, but one which resonates powerfully with our present. There is a City of Mind that retains the capacity to re-create all the horrors of the past. But this never happens because, for one thing, the 'worldwide technological web', the fossil fuels and other abundant resources of the Industrial Age no longer exist. In their place is "an almost ethereal technology...of nerve and gossamer." But, more importantly, the people of the valley no longer want that kind of power. For them "the question concerning the Condor's failure to build an empire with its advanced weapons is not why did they fail, but why did they try?" They cannot answer this question but suspect that the attempt was, in some very major way self-defeating - "very sick people die of their sickness." (26)

The natural environment and its web of living creatures is of great significance, an endless palimpsest to be lived in, celebrated and revered. A teaching rubric on "Praising the Oaks" ends with these words: "nine noble and pleasant oaks, vigorous trees, sweet in the male and female flower, towns of many birds and small animal and insect people, giving much shade, giving much food, great wealthy ones worthy of praise." (27) In this context people and the environment interpenetrate; they are not separate.

The story of Flicker illustrates another important dimension of this narrative. Since childhood she has seen more than others: "I had a big argument with my cousin once when she said there was nobody in the wash house, and I had seen a whole group of people there passing things from hand to hand and laughing silently..."(28) Later she sees through the eyes of the hawk and has direct perception of the universal dance of energy and form. But the totality is beyond her: "no mind or mirror can hold it without breaking," she realises. Moreover,

> we make use of such visions, make meanings out of them, find images in them, live on them, but they are not for us or about us, any more than the world is. We are part of them. (29)

Such a view has two very important consequences. It helps to re-establish a vertically-differentiated "hierarchy of being" which was obscured by the mechanical world picture. It also extends the spatial/temporal view beyond the concerns of individuals and single generations. This shift out of a narrow and self-centred here-and-now toward a broader, extended present is perhaps one of the main keys to cultural development beyond the industrial era. It re-connects us with the wider world of which we are a part, past, present and future. This extension of view is expressed most directly in a poem entitled *From the People of the Houses of Earth in the Valley to the Other People Who Were on Earth Before Them*. (30) The poem was written in our past, by a writer of our generation on behalf of a distant generation, those who will follow. Through this device, those silent voices speak across the otherwise all-but-unbridgable gulf and remind us that the very existence of all later generations depends upon those who precede them. It therefore places our lives in their wider context and highlights the responsibility we have for the continuity and survival of human and non-human life in the world.

One central central conclusion can be drawn from these works. It is that the worldview which we have inherited from the scientific and industrial revolution is destructive, narrow and alienating. But unlike the sometimes shrill voices of committed activists, Le Guin is not didactic. She is not telling us to mend our ways. Rather, she is exploring aspects of the wider world which lie beyond the purview of industrial ideology. Her magic is the magic which flows not from simple fantasy and wish-fulfilment but from re-establishing the perennial grounds of knowing and being. (31)

2. Rubenstein: Beyond the Labyrinth (32)

Brenton Trethowan is a fourteen-year-old, the middle child of three. His bedroom walls are covered with pictures of nuclear nightmares. He plays fantasy D & D games and makes decisions according the fall of dice. Twelve-year-old Victoria comes to stay and they meet Cal, a mysterious anthropologist. From these simple elements, Rubenstein has woven a fascinating story about many things. The cruel partiality of family life is one theme. Family conflicts are depicted in all their gritty realism. Yet this is not social documentary. The author knows how the world looks at the onset of puberty: the awkwardness, violent emotions, being frustrated at (and by) adults.

Cal, it seems, is not from Earth. In a neat gender-reversal, it turns out that she is from elsewhere and elsewhen. From her cultural viewpoint, life on earth died out. She came to study an aboriginal culture but arrived too late and discovered a later one that had flourished only briefly. Brenton's sense of threat and uncertainty is therefore reinforced. But this is only touched on lightly. The book takes a more subtle path toward an ambiguous ending by way of many adolescent concerns: dating, friendship, conflict and death (to name but four). Yet it is also hard-hitting. Some of the language used is entirely 'realistic' in the sense of being derived from street cultures.

In short, this is a book that is both original and entertaining. Most importantly, it constructs the world through the experience of the young and yet does not provide facile answers. Two contrasting conclusions are given. One basically says there is no hope, the other leaves open a wide range of undefined possibilities. This is a book which the young will enjoy because it reflects the world they live in and provides many opportunities to reflect upon issues of concern to them. As such, it deepens an engagement with the world, makes things clearer, opens out options and choices. Basically it says 'the future is open, you are responsible for the choices you make.' By extension, it links the notion of human agency with cultural survival. Within such a suggestion may lie some of the most potent antidotes to the poison of technocratic nightmares.

3. Calder: Living Tomorrow (33)

As suggested above, many young people's books which attempt to deal with futures fail for two major reasons: they take the existing worldview as given and they lack a critical dimension. Yet Calder's booklet, first published in 1970, pointed in a different direction entirely. It gives the lie to later work which constructed 'the future' largely from extensions of taken-for-granted technical trends. The author begins with an important disclaimer: "most books are written by people who know a lot of facts about their subjects. I know nothing about the future - no facts that is. There is no such thing as a fact about the future." Later he adds,

> "...technical changes are not the only ones that matter...The reason (for looking ahead) is to try to shape the world of the future as we want it to be, instead of the ruin that politicians and experts could make of it if we don't keep a careful watch." (34)

The book is graphically varied, balanced and deliberately understated. Nor is it merely a compendium of the usual issues. It also touches on more important areas such as values, means and ends and participation in decision-making. In a section entitled 'Could and Should...the Need to Choose' Calder asks a very important question:

> Inventions crop up all over the place and alter our lives in all sorts of different ways....But if we just accept them, without thinking, the world of our future is shaped more or less by chance. *Should* we do

things merely because they *could* be done? (35) (Emphasis in original)

There is even an outline of a workshop called Invent Your Own Future which sets out a simple procedure for actively creating and exploring future options. Here, again, the author makes explicit what is too frequently missing from the field: the recognition that "inventing the future is, above all, a matter of questioning present interests." (36) In short, this is a fine example of how futures study can be introduced and made accessible to young people. It does not preach, talk down or mystify. Unfortunately it stood virtually alone in its imaginative grasp of the field for more than ten years.

4. Gough: Project IF

Project IF (Inventing the Future) took shape out of a B.Ed. elective unit entitled *Educating for the Future*, taught at Victoria College since 1975. (37) Essentially it involves the design of curriculum materials and the implementation of teaching strategies for futures study in a range of educational settings. The main tangible products are a series of work sheets and associated workshops. The key assumptions of this work are set out very clearly. They are as follows:

1. the use of a range of futures and forecasting methods;

2. the encouragement of optimism and empowerment;

3. attention to a variety of problems, topics and issues;

4. the playful rehearsal of surprise through 'mind games';

5. an important role is given to speculation, fantasy and sf; and

6. a deliberate eclecticism with respect to scholarly sources.

From these assumptions and sources arise a rich variety of teaching strategies. They include: looking at everyday phenomena in a new way; considering future alternatives; examining and using futures methods; and using contemporary materials to generate futures-oriented puzzles. (38) Another feature of this approach is that it is explicitly related to a view of the school curriculum and Schwab's notion of 'the practical' that encourages "the anticipatory generation of alternatives." The links between curriculum theories and practices are explored, along with the role of futures concerns in both. Finally, some workshop strategies are given so that these approaches can be understood and explored by teachers, or teachers-in-training. Overall, the package provides a fine introduction to teaching futures from a creative/humanist perspective. The extensive use of contemporary materials and of humour gives it an attractive lightness of touch. As the author comments "I can think of few more constructive ways of anticipating alternative futures than to look for or to invent humour in today's crises." (39)

Discussion

The four examples considered in this section differ from most of the earlier ones in at least two major ways. First, they provide active and interrogative *commentaries* on themes of interest to young people (including technology, violence and futures). Second, they explore or depict *strategies* for dealing actively with such themes. Works of this kind may therefore help to counteract the influence of less useful material. So far as technology is concerned this group suggests that it is indeed of secondary importance in the scheme of things. While technologies can exert enormous instrumental power, this remains paltry in comparison with the transforming, symbolic powers available to human beings. This, perhaps, is the hidden theme of *Earthsea*. The idea is rendered explicit in *Always Coming Home*. Le Guin is clearly exploring an hierarchical world which is clearly differentiated into ontological layers or levels (machines can be dispensed with, but there are visions, or levels of reality, which lie beyond human apprehension). In so doing, she is helping to restore a quality and a breadth of vision that was all but lost in the world of the machine. (40) Similarly, technology is present in the work of the other writers, but it is never dominant, never determining.

A similar contrast can be seen with violence. Whereas in the earlier works it tended to be endemic and irresolvable, here it is muted and sporadic at best. In Le Guin and Rubenstein such violence as is depicted tends to be symbolic rather than overt (though in the latter case it is vividly expressed in family conflicts). In a richer worldview, violence loses its role as supplier of the primary dynamic. It is kept tolerable by other cultural processes such as ritual, adventure and experience. By placing violence back into this wider human context, these works avoid its chronic repetition and de-fuse the otherwise irresolvable problems that it creates. Futures are treated explicitly in each of this final quartet. Le Guin extends our perception by depicting a possible future culture which 'speaks' to us on a number of levels: through its struggle to transcend the major limitations our rapacious lifestyle imposed on the future; by addressing us directly through devices such as the poem mentioned above; and by setting up contrasts which de-familiarise our particular present reality, thereby permitting us to view it in a different light. It is in this sense, perhaps, that we are "always coming home." That is, always able to develop a clearer, more authentic vision than that offered by a technology-led worldview.

As mentioned, Rubenstein's main character knows his world is under threat. It is confirmed by the alien visitor. So this future is indeed problematic. The reality of alternatives is therefore implicitly dramatised in the plot structure, as well as in the ending(s) which return choice back to the reader. The other writers both elaborate futures-related themes and responses. Together these works suggest a number of strategies for dealing with a world in transition. Some are considered briefly here under the headings of demystifying, engaging and responding.

Demystifying

These works show how the surfaces that surround us can be misleading. The names by which things are called are not always their "true names." The world is not what it seems because cultures have interposed an opaque screen of linguistic signs and because reality has a much greater 'amplitude' and 'depth' than can be directly scanned by the senses. To understand the obscuring processes or those which lead deeper requires effort - the efforts of Ged to become a magician, of Flicker (in Always Coming Home) to understand her visions, or of Brenton to cope with a world under threat. There are strong demystifying imperatives in Calder and in Project IF. Calder casts doubt on experts and wants people to think for themselves. Gough uses humour, imagination and the rehearsal of surprise to help students feel empowered to act creatively.

Engaging

The fictional and non-fictional fantasies in parts one and two seem to inhibit the attempt to understand the world and engage with it. However, the present works suggest various strategies of engagement. Le Guin considers work, ritual and the direct experience of intrinsic value in nature. The latter is a particularly powerful way of transcending the illusion of separateness fostered during the industrial era. For Rubenstein the engagement is on two levels: the perception of a world predicament and the daily involvement in relationships with family, friends and the alien. For Calder and Gough the engagement is through a series of exploratory, creative and iterative processes which provide insight into different options and alternatives.

Responding

The whole thrust of Earthsea is toward maturity, growth and the responsible exercise of power. This provides the young with strategies and clues for actively responding to a world in change. Rubenstein's characters are clearly in the active mode and are shown to be capable, independent and able to take risks. Calder and Gough outline a range of responses accessible through humour, imagination, workshops etc. The collective significance of these works stands in clear and constructive opposition to those examined earlier. They suggest that coherence can be re-created, that the future is no mere abstraction (but a powerfully active principle within the moving present), and that people are not helpless. They have immense creative power to change the rules and re-negotiate meanings and commitments that seemed to be lost within the nightmare of the megamachine. (41) Thus, a different field of options opens out beyond those which are offered by most media productions. They go a long way beyond passivity, dependence and immaturity. They point, in fact, toward the constitution of humanness in a changing world. Since this is precisely what has been under threat for most of the last 300 years, these works collectively identify major life issues for the young and also suggest responses at at least three levels: epistemological, symbolic and practical.

Conclusion: schitzophrenia as a way of life?

Most surveys of children's and young people's views of futures suggest that their fears derive from the prospect of undesirable events: unemployment, social conflict, nuclear war. There is clearly some truth in this although, as I have suggested elsewhere, negative possibilities are not invariably depressing. (42) However, the evidence presented here suggests another explanation. If this analysis is correct, the future becomes fearful not simply because of perceived threats but, more profoundly, because it has been represented in ways which are disruptive and incoherent.

The chronic repetition of ontological confusions cannot but work against anyone's attempt to build up a systematic picture of the world. It is a fact that in much contemporary material basic human dilemmas are displayed in such a sparse and unhelpful way that they are stripped of human significance. The constant regression toward primitivism, violence and crude magic do not lead on to viable life strategies. They lead back towards partial and fragmented modes of consciousness which are, as I have noted, pre-, or sub-human. If we then add the misdirections of ideologically distorted discourse and the pre-judgements of a culture obsessed with empiricism, marketing, technology, we begin to see some part of the immense weight of negativity the young are expected to bear. (43)

If schizophrenia in individuals is a result of irresolvable dissonances between inner and outer experience it would appear that, so far as young people's views of the world are concerned, there is a collectively induced schizophrenia-like assault taking place from early childhood. This is very different from the necessary simplifications of developmental stages, for the latter possess a high degree of order and inner coherence. (44) Again, much the material discussed above stands in direct contrast to traditional fairy stories. As Bettelheim notes, the latter

> offer new dimensions to the child's imagination which would be impossible for him to discover as truly his own. Even more important, the form and structure of fairy tales suggest images to the child by which he can structure his daydreams and with them give better direction to his life. (45)

But "form and structure" is just what is denied in contemporary media. The positive examples considered here must be weighed against the increasingly negative influence of commercially-motivated material. It is an unequal struggle. The ideologies that drive the marketing imperative are themselves reinforced by deeply embedded epistemologies and unspoken, unregarded commitments. It is here, at these deeper levels, that resolutions lie. Meanwhile, we have a serious problem.

We may not have finally succeeded in driving a whole generation mad. Yet if there is any truth in this analysis we are much closer to doing so than we may realise. For, many years ago, a machine was inserted at the heart of our world. But unlike Theobald's machine it does not, will not and cannot work.

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