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DIALOGUE SECTION

# The Museum of Fetishes

**Larry Lohmann**[1] · **Nicholas Hildyard**[1]

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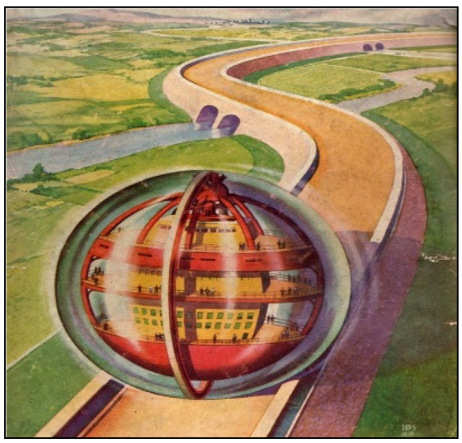
**Abstract**
In the 1950s and 1960s, exhibitions such as the World's Fair portrayed visions of the future in which technology, driven by boundless human ingenuity, opened up vistas 'of limitless promise' in a world seemingly emptied of political and ecological conflict. Today it's easy to laugh at such portrayals, but many contemporary discussions about 'energy alternatives' and similar subjects suffer from the same fetishising of technology.

**Keywords** Energy · Alternatives · Technology · Desertec · Fusion · Technoporn · World's fair

On 9 August 1984, the doors of the National Museum of American History opened for an exhibition entitled 'Yesterday's Tomorrow'.[1] Organized by two curators of the Smithsonian Institution, Joseph Corn and Brian Horrigan, the exhibition, which subsequently toured the United States, brought together a collection of over 300 20th-century films, models, toys, illustrations, photographs, popular science magazines, catalogues, posters, business reports and advertisements through which visitors were invited to explore 'the history of the future' (Utah Heritage Foundation 2011). The 'history' that the exhibits portrayed was generally one of endless linear progress in which technology, driven by boundless human ingenuity, opens up vistas 'of limitless promise' in a world seemingly emptied of political and ecological conflict. In a vision presented by General Motors at the 1964 World's Fair, oil-fuelled vehicles give way to 'speedier jets', then to cars powered by the 'inexhaustible atom' (using 'pellets of atomic energy the size of a vitamin pill', according to the science editor of Scripps-Howard newspapers) (Nye 2001: 201) and, finally, to 'sun-powered' hovercraft. Motorways criss-cross the globe, built in 'one continuous operation' by giant, road-laying 'factories on wheels' that use 'searing rays of light' to clear their way through forests and atomic reactors to punch holes through mountains. Deserts are made to bloom through 'seawater made fresh as rain' through (unspecified) new technologies; and 'aquacopters search the ocean floor to find miles-deep, vast fields of minerals and ores', which are then transported through the 'waterways of the undersea' by 'trains of submarines'.[2]



Other exhibits foresaw family cars that turn into airplanes so easily that 'a woman can do it in five minutes' (Corn and

✉ Nicholas Hildyard
nick@fifehead.demon.co.uk

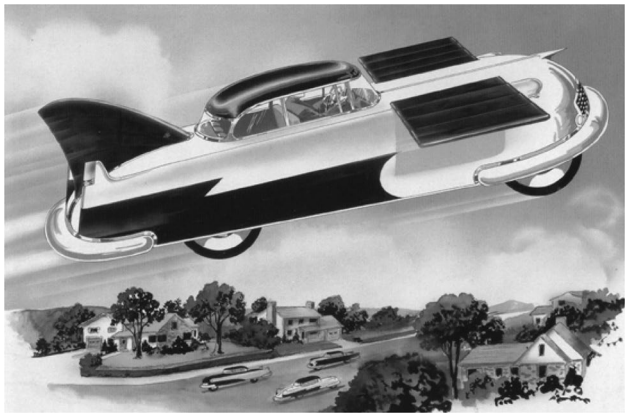
Larry Lohmann
larrylohmann@gn.apc.org

[1] The Corner House, Dorset, UK

[1] Yesterday's Tomorrow opens at NMAH, 9 August 1984, Smithsonian Institution Archives, http://siarchives.si.edu/collections/siris_sic_1690?back=%2Fcollections%2Fsearch%3Fquery%3D%2522Smithsonian%2BInstitution.%2BTraveling%2BExhibition%2BService%2522%26facets%3DMRC_4%26page%3D2%26perpage%3D10%26sort%3Drelevancy%26view%3Dlist.

[2] 64–65 NY World's Fair FUTURAMA Ride Video, http://www.youtube.com/watch?v=2-5aK0H05jk&feature=related.

Horrigan 1996); cargo rockets that transport goods from one side of the world to the other; floating cities 'populated by humans and tended to by robots[3] that would farm the sea (and, in the words of Buckminster Fuller, one of the foremost futurologists of the 1960s, allow humanity to escape the 'obsolete shipwrecks' of modern cities and move urban living from '1966 to Utopia')[4]; technologies that would enable us to 'control the weather, shaping it to our needs' by taking the lightning from the clouds or the wind from tornadoes[5]; nuclear power stations that would produce electricity 'too cheap to meter'[6] (or, alternatively, giant solar arrays that would power the whole world by the year 2000)[7]; and space colonies dotting the heavens. Food would consist of 'a meal in a pill, washed down, perhaps, with next-generation Tang' (Pollan 2003); plates would be made of dissolvable materials, eradicating the need to wash up; 'discarded rayon underpants would be converted into candy'[8]; and robots would do all the housework, leaving 'mum free to shop' while 'dad goes to the office.'[9]



Such expressions of reverence toward technological progress were not confined to comic books and corporate PR. Earlier in the twentieth century, many intellectuals including the great economist John Maynard Keynes had fallen into the belief that in a 'great age of science and technical inventions', humankind's biggest problem would become what to do with its leisure time.[10] In 1968, US Vice- President Hubert Humphrey told an audience of students that, by the year 2000, technological progress would mean 'no more pollution and automatic cleanup of existing pollution, the end of famine and starvation … the virtual elimination of bacterial and viral disease… and the reintroduction of many extinct plants and animals'. Stirringly, he concluded, 'This can indeed be the Age of Miracles. It will be your age.'[11] A few years later, leftist economist Robert Heilbroner, scorning 'the anti-growth school of thought', was still making predictions such as that 'given enough power, which nuclear energy now begins to promise us, we could literally 'melt' the rocks and reconstitute any substance by synthetic processes' (Heilbroner 1973).

[3] Ryan, 20 Predictions of the Future (We're still waiting for), *Manolith*, 30 June 2009, http://www.manolith.com/2009/07/30/pending-future-technologies/.

[4] Quoted in John Byrne, Cecilia Martinez and Daniel Rich, 'The Post-Industrial Imperative: Energy, Cities and the Featureless Plain', in J. Byrne and D. Rich, eds, *Energy and Cities*, Transaction Publishers, New Brunswick, NJ and London, 1985. Available at: http://www.ceep.udel.edu/publications/politicalecology/1985_pe_EEP_v2_post- industrial_imperative_Byrne-Rich-Martinez.pdf. Buckminster Fuller is quoted as writing: 'The concept of cities as they now exist developed entirely before the existence or the thought of electricity or automobiles… Cities, as we know them, are obsolete… Trying to rebuild cities to make them accommodate the new needs of world man is like trying to reconstruct and improve a wrecked ship as the shipwreck rests upon the reef, pounded by the surf.'.

[5] Ryan, 20 Predictions of the Future (We're still waiting for), *Manolith*, 30 June 2009, http://www.manolith.com/2009/07/30/pending-future-technologies/.

[6] The quotation is often ascribed to Lewis L. Strauss, Chair of the U.S. Atomic Energy Commission (AEC) in 1953, in a speech to the National Association of Science Writers in New York City on 16 September 1954. As reported in The New York Times, he said: 'Our children will enjoy in their homes electrical energy too cheap to meter… will travel effortlessly over the seas and under them and through the air with a minimum of danger and at great speeds, and will experience a lifespan far longer than ours, as disease yields and man comes to understand what causes him to age.' Given Strauss' position as Chair of the AEC, it has been widely assumed that he was referring to electricity from nuclear plants. However, others argue that he was referring to electricity from all sources. See ''Too cheap to meter'—the infamous nuclear power misquote", Thisdayinquotes, 16 September 2012, http://www.thisdayinquotes.com/2009/09/too-cheap-to-meter-nuclear-quote-debate.html.

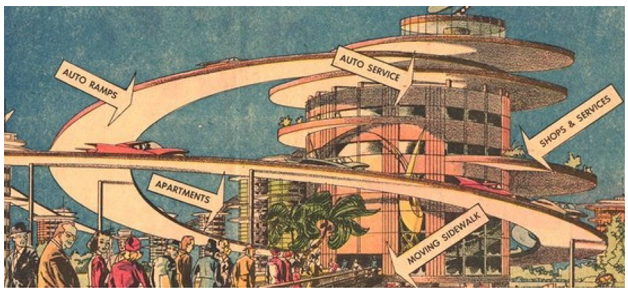
[7] The World Will Be Wonderful In The Year 2000!, Paleofuture, 29 February 2012, http://blogs.smithsonianmag.com/paleofuture/2012/02/the-world-will-be-wonderful-in-the-year-2000/.

[8] How our predictions for the Year 2000 changed throughout the 20th Century, http://io9.com/5908600/how-our-predictions-for-the-year-2000-changed-throughout-the-20th-century.

[9] Disney's 1958 Magic Highway, http://www.youtube.com/watch?v=H8jZtwRJnR.s.

[10] John Maynard Keynes, 'Economic Possibilities for our Grandchildren', London 1930, available at http://www.econ.yale.edu/smith/econ116a/keynes1.pdf.

[11] http://www.flickr.com/photos/sots/2736923275/sizes/o/.




## Uneasy Laughter

Today it's easy to laugh at such beliefs about technology and history, much as we smile indulgently at long-superseded fashions like muttonchop sideburns or bellbottom trousers. Those visions of unlimited free electricity: how very 1950s! Those descriptions of aquacopters and nuclear-powered cars: how absurdly Flash Gordon! At first glance, the over-the-top imaginative universe unearthed by the curators of 'Yesterday's Tomorrow' looks like little more than raw material for a diverting camp retrospective of unintentional kitsch.

Yet the longer the world of 'Yesterday's Tomorrow' is contemplated, the more its disturbing aspects threaten to overshadow its entertainment value. The sexism is obvious ('even a woman can do it'),[12] but what about the eerie absence of any representation of class conflict or exploitation? Why are there no black or brown faces on the moving sidewalks of the City of the Future? Where is the pollution that would have resulted from those imaginary floating cities and planet-spanning motorways? Where are the landscapes scarred and lives blighted by those submarine mining trains or fleets of aquacopters?[13] Would Indian peasants or indigenous forest dwellers find much to chortle about in a delirious dream of technological mastery that could be built only by gouging endless quantities of minerals out of the territories they inhabit? Where, too, is there any hint that time could be anything other than a straight arrow leading away from the past toward a bigger and better unknown—or energy anything other than an 'input' into this unidirectional, cumulative process?

Added to these niggles of unease is a hint of mingled embarrassment and outrage, even sadness: how could anybody ever have placed such childlike trust in these technological objects as a magic potion guaranteeing a good life for everyone? Few experiences can be more poignant than watching the substance of history being leached away, and to see the technological visionaries of the mid-20th century US striving to rapture their audience out of their memories of enclosure, factory struggles, unequal trade and industrial-scale slaughter and despoliation into a fairy tale of frictionless, eternal material advance is especially subduing.

## Have Things Really Changed?

Our complacent smirks at the quaint exhibits of 'Yesterday's Tomorrow' fade further when we ask ourselves how much has actually improved in our understanding of technology since the era in which such extravagant visions could entrance middle-class North Americans. Are we really so much smarter today about technology than Keynes was, or even the wacko futurologists who thought up those flying cars and nuclear-powered farms? Was the society they were born into really so much less savvy than ours? To express such doubts is not just to point to the obvious truth that our descendants are bound to laugh at our fashions with the same enjoyment with which we laugh at our predecessors'. It is also to wonder how it is possible, in 2019, still to cling to so many of the same foolish beliefs about energy, materials and technology that were displayed in the advertisements and newspaper columns of the 1950s US.

Underlying attitudes toward energy and technology, after all, seem to have evolved surprisingly little even as global warming, economic crisis and North- South conflicts have replaced the postwar standoff between the US and the Soviet Bloc on the geopolitical agenda. As in the 1950s, plans to re-engineer the planet are afoot: seeding the atmosphere with sunlight-absorbing particles or coating the oceans with storm-inhibiting films, for example. Cities under the sea are still being contemplated—this time as refuges from global warming[14]—together with fanciful pollution-eating technologies such as carbon capture and storage or the 'nanometer-scale traps' envisaged by the US government's Los Alamos National Laboratory.[15] The prospect of magical machines supplying limitless quantities of energy continues to fascinate physicists and Hollywood screenwriters alike: as recently as 1996, Keanu Reeves battled his way

[12] The *Wall Street Journal* would later observe that 'the futurists of the 1950 s could easily imagine astronauts working on the moon, but not their own wives working outside the home': Rachel Emma Silverman, 'The Future is Now', http://interactive.wsj.com/millennium/articles/flash-SB944516725378711715.htm.

[13] Compare the high-tech methods of undersea drilling associated with BP's Gulf of Mexico blowout of 2010, or the 400-tonne, 3500-horsepower trucks used to haul tar sands out of the ground in northern Alberta.

[14] Aqazion – Cities under the Sea, http://www.youtube.com/watch?v=h5d8hwH0OHA; Water City, http://www.youtube.com/watch?v=tJmcX_pNU0g&feature=related.

[15] Los Alamos National Laboratory, http://www.lanl.gov/index.php.

through a movie trying to save a nuclear fusion technology that would enable a glass of water to 'power Chicago for weeks'. Meanwhile, futurists like Eric Drexler visualize armies of self-replicating 'nanobots' that could repair the human body and build everything from computers to foodstuffs and houses from the molecular level. Bioengineers inform us that synthetic microbes will soon be on hand to help convert cellulose to ethanol or algae to oil. 'Computers with the capabilities of current workstations will be the size of a grain of sand and will be able to operate for decades with the equivalent of a single wristwatch battery,' promises Los Alamos in another politics-free prospectus. 'Robotic spacecraft that weigh only a few pounds will be sent out to explore the solar system, and perhaps even the nearest stars.'

Europe meanwhile pushes ahead with the Desertec Industrial Initiative through which it would be powered with North African sunshine. The International Energy Agency celebrates new technologies facilitating extraction of vast US reserves of shale oil and gas. The Lao DRP continues to depict, on its banknotes, a retro technological dreamscape populated by the giant hydroelectric dams that many of the country's leaders—advised by foreign technocrats, construction companies and electricity importers—still see as their salvation. More ambitious countries from China and Indonesia to Ecuador and Egypt tout schemes (which somehow manage to be both touchingly hopeful and terrifying and degrading at the same time) for shining 'technology cities' rising on ecologically-sensitive sites, such as Kenya's Konza, a 'silicon savannah' complete with 'technopark', 'artificial river' and financial service blocks designed to attract multinational firms looking for a 'low-cost and high-quality outsourcing destination'.

## The Temptations of Technoporn

When science-fiction writer Arthur C. Clarke coined the term 'technoporn' in the early 1990s, it was out of distress at the militaristic agenda of a rising genre of feature films characterized by "fascinating hardware and explosions" in the service of obscure conflict agendas: *Star Wars*, *Top Gun* and the like.[16]

But in another genre of technoporn—deployed in many of the museum exhibits of 'Yesterday's Tomorrow' and revived in much of the current 'energy alternatives' debate—conflict virtually disappears. In striking contrast to the present, the future is presented as largely friction-free: cities get reshaped without any sign of protest or discontent from anyone; oceans are planted with wind farms to the delight of schools of leaping fish; and people show no signs of resistance to their ordained role of passive consumers of a singular way of life that has been dictated solely by technological 'advances'.

In a description could equally well apply to the 'future ecocities' being planned today for countries from China and Indonesia to Kenya and Ecuador,[17] David Nye writes of the 'Democracity' exhibit at the New York World's Fair in 1939 that:

> 'There were no slums inhabited by ethnic minorities, or poor neighbourhoods or run-down single-family homes. There were no traffic jams, no unsightly factories, no unemployment, no polluted streams, no smog, no industrial blight … no suggestion of a large standing army or advanced weaponry. In short, science and technology had no ill effects in this utopia.' (Nye 1990) Windmills and solar panels, fusion power plants and bullet trains, spaceships and underwater cities simply appear without any sense that they might be fought over or that the struggle to capture their use for particular interests might lead to different social, political or economic outcomes.[18]
>
> For those seeking not only 'energy alternatives', but alternatives *to* capital's thermodynamic energy, this 'soft' genre of technoporn, full of temptations to intellectual masturbation, distracts from the task of organizing to transform the direction of society no less than the more militaristic variety. The futuristic narratives exemplified by many of the 'blue-sky' energy policy papers of today, no less than the museum exhibits of yesteryear, are as much about disciplining the present to be 'nonpolitical' as about attempting to colonise the future for technocracy. The irony is that insofar as the discussion on energy alternatives follows the rules of this genre, the key drivers of both climate change and inequality will be left untouched, and even the 'greenest'-looking proposals are likely to remain mere technoporn images on museum walls.

[16] Controversially, Clarke wrote: 'One day our grandchildren may be able to view [such films] with the same enjoyment we must now feel when screening Leni Reifenstahl's brilliant (and mildly homoerotic) paen to Aryan manhood, her film of the 1936 Berlin Olympics: Triumph of the Will. No great harm - as long as you realize exactly what is going on.' Arthur C. Clarke, 'Agenda 2001', Bulletin of Atomic Scientists, May 1992 Today, 'technoporn' has come to have less judgmental connotations. In urban slang, it is mainly used as shorthand for the fetishising of new technological products, usually computers or electronic gadgets, into objects of desire (as in 'Check out the gallery for some serious technoporn of this awesome hardware, where you'll see the deskside unit, graphics card and blade servers in all their glory. Then jump for the specific and awe-inspiring particulars of these muthas'): 'NVIDIA's Tesla Hardware, Supercomputers Fo' Reals', http://gizmodo.com/Spectacular-Techno_Porn/. One urban dictionary uses the following (imagined) conversation to illustrate the term: 'Guy 1: 'Dude, check out that computer that thing is da shit.' Guy 2: 'Ya man that's some sweet technoporn.'' See 'Technoporn', Urban Dictionary, http://www.urbandictionary.com/define.php?term=technoporn.

[17] Tianjin Eco-City In China: The Future Of Urban Development? (PICTURES), *Huffington Post*, 13 January 2011, http://www.huffingtonpost.com/2011/01/13/tianjin-eco-city_n_806972.html#s221860. See also Alex Davies, China is building a huge eco-city where no one will need to drive, Business Insider, *Financial Post*,3 November 2012, http://business.financialpost.com/2012/11/03/china-is-building-a-huge-eco-city-where-no-one-will-need-to-drive/.

[18] For further discussion of this element in utopias, see Fredric Jameson, 'The Politics of Utopia', New Left Review 25, Jan.-Feb., 2004. Jameson comments: 'reality seems malleable, but not the system'.

## Machine Fetishism

Any remaining condescending chuckles about 'Yesterday's Tomorrow' are likely to die in our throats entirely once we reflect how many fantasies that could have come straight out of the mental universe of the most unhinged 1960s futurologists have *already* been built—without becoming any less ridiculous or destructive in the process. Historian and social critic Mike Davis has described, for instance, the way contemporary Dubai's 'immense psychotic collections of fantasy kitsch'—technological extravagances including the world's tallest buildings and biggest theme parks and shopping malls, refrigerated swimming pools, an underwater hotel, and an indoor snow mountain in a broiling desert—conceal a vast foundation of ecological damage and brutal labor exploitation (Davis 2006).

But Dubai, Las Vegas and similar sites of excess are only the most deranged nodes of a delusion-nurturing web of steel and reinforced concrete that reaches around the world—'sustainable' pulp mills so huge they can survive only if surrounded by hundreds of thousands of hectares of monoculture plantations and constantly fed with huge quantities of fresh water and fossil fuel; Skytrains that cocoon their middle-class riders from the realities of the misery-inducing hydroelectric dams that power their transit; air travel infrastructure that convinces millions that it can be 'normal' to burn hundreds of litres of oil to fly halfway around the world for the equivalent of a few weeks' salary.

In short, whether they are imaginary constructs in a museum exhibit or actual agglomerations of metal, oil and solar cells turning the wheels of commerce and war, industrial-era machines continue to be (in the words of anthropologist Alf Hornborg) 'fetishized objects' seen to possess intrinsic, even magical powers of productivity and fertility (Hornborg 2001). Largely hidden from view is the way they are sustained through increasingly unequal exchanges of energy and materials.

Machines making possible price-reducing economies of scale, for example, 'require expanded production' and 'expanded volumes of raw material from larger sources across broader spaces' which in turn demand 'larger and more efficient vessels and infrastructure', (Bunker and Ciccantell 2005: 81) necessitating the destruction of ecosystems and commons alike. Industrial-era technology 'works' only by suppressing this context and masquerading as a self-contained bringer of plenty which needs nothing more than to be distributed and multiplied indefinitely for all humanity to benefit. Hence the shock that social critic Ivan Illich provoked in the 1970s when he observed of contemporary transport systems that 'beyond a critical speed no one can save time without forcing another to lose it'; and the disquiet that Thai rural activist Bamroong Boonpanya generated a few years afterwards when he drew an even more merciless conclusion: that what development experts have taught themselves to see as an industrially-deprived 'poverty' is the enduring global reality, while contemporary middle-class life must ultimately be consigned to the category of an 'illusion'. The uneasiness of the laughter occasioned by 'Yesterday's Tomorrow' likely stems in part from an awareness that such insights must once again be given their due.

Nowhere is it more essential to get to the bottom of this uneasiness—to confront more directly the hidden inequalities, conflicts and contradictions within energy and technology—than in today's discussions about 'energy alternatives'. Too often, such discussions resemble a visit to a museum like those that hosted 'Yesterday's Tomorrow'. Against one wall stand shiny replicas of new green technology: wind turbines, solar panels, fuel cells, hypercars, supergrids—alongside diagrams showing how environmentally benign they are. Against another are arrayed labeled bottles of new 'substitutes' for oil, coal and gas—corn-based ethanol, rapeseed-based biodiesel, hydrogen cracked out of water, hydrocarbons extruded by algae. On the wall there may even be posters diagramming space missions to mine rare metals and water from asteroids. And in the innermost hall are illuminated dioramas depicting vibrant, happy, orchard-dotted communities (this time multiracial, perhaps) maintained by a 'green growth' (or, alternatively, 'steady state' or 'dematerialized') economy benevolently clicking along like clockwork—the gift of clever policymakers, managers and technocrats who have at long last listened to the correct advice and 'got it right'. Most of the politics and material realities associated with the various contraptions and conveniences on show, or with the energy they use and transform, are again simply missing, as are the strategies of popular movements that might be considering and agitating for different futures.

The questions confronting invitees to such 'energy alternatives' discussions are thus not so different from those facing visitors to 'Yesterday's Tomorrow': How should these new visions of technological or economic salvation be read? What role do they play in the real-world politics of energy? How and what can we learn from them? And, if necessary, how can we change the subject? As with 'Yesterday's Tomorrow', what is glossed over in displays of 'alternatives' is usually more important than what is in them, and there is work to be done in finding out what that is.

There is little question that an 'energy alternatives' discussion is at least as essential as any other regarding human futures, especially for the industrialized societies whose use of fossil fuels is threatening human survival. But if it is not to degenerate into an irrelevant show of magic tricks, an overdue debt of attention must be paid to voices which up to now have too seldom been heard.

## Technology's 'Dark Side' in Popular Culture

Pop culture aficionados have always been entranced by the imaginary flying cars and personal rocket ships that populated US children's imaginations in the

1950s. But perhaps even more irresistible are the dramatic portrayals of technology's 'dark side' that intermittently appeared in fiction, newspapers and cult movies of the mid-20th century.

In the 1930s, while characters like Charlie Chaplin's tramp in *Modern Times* found themselves ground down by savagely alienating industrial machines, the concurrent cinematic fad for menacing boffins like Dr Frankenstein and Dr Moreau seemed to portend that it was mad technologists rather than mad technology that people should be worrying about—a theme later reprised in many superhero sagas as well as the *Star Wars* movies.

In the 1950s, nevertheless, the view of technology itself as a threat spread, as nuclear radiation-spawned horrors such as Godzilla, the Black Scorpion and the Deadly Mantis were 'sent careening toward teenagers in drive-ins across America,' (Engelhardt 2012), while the unimaginably advanced alien machines at the centre of the film *Forbidden Planet* (1956), although capable of creating an artificial paradise, wound up unleashing technologically-enhanced 'monsters from the Id'.

Many stories repeated the machine fetishism of the exhibits of 'Yesterday's Tomorrow'—only rather than casting technology as a self-contained generative force, they reinterpreted it as harbouring an intrinsically anti-human spirit within its very gears and circuits.

The barely-controllable menace of population increase re-emerged in the 1960s as the 'dark side' of technology-boosted abundance, reinforcing the picture of a simmering, eternal enmity between 'nature' and a technologized 'society' that had long been used by orthodox economics to justify inequality. 'Who is entitled to the riches made possible by technology?' was one implicit, racially-inflected subtext. Paul Ehrlich's book *Population Bomb* inspired films such as *Soylent Green*, set in a dystopian New York where acute food shortages have led the authorities to feed human remains to the living, albeit disguised as 'iron rations'; Ehrlich himself took to the airwaves to propose spiking the US's food aid to India with anti-fertility drugs.[19] As time went on, computer simulations helped storytellers limn additional apocalypses of resource depletion, nuclear war, climate change, pollution, and mass die-offs from 'planetary overload' (Solnit 2012), which often derived much of their charge from white anxieties about race and immigration.

Such genres of dystopian imagining proved long-lived. In place of the giant extraterrestrial amoeba that tries to eat a Pennsylvania roadside restaurant in *The Blob* (1958), one contemporary nightmare (not yet filmed) features 'grey goo', the result of out-of-control, self-replicating nanorobots consuming all matter on earth in the course of building more of themselves. Updating the nuclear war-devastated landscapes of *On the Beach* (1957) and *A Canticle for Leibowitz* (1960) are fresh post-apocalypse scenarios ranging from the *Mad Max* series to *The Hunger Games*. The Incredible Hulk, an early poster child for the satisfactions of assertiveness on the part of those betrayed by technology, was later joined by numerous other mutants and interplanetary proletarians determined to stand up for their rights in series such as *Alien Nation* and *X-Men*.

Indirection, projection, displacement and evasion regarding the political structure of technology have always been keynotes of popular stories about technological destruction. A prime example is disaster movies, in which train wrecks, towering infernos, radioactive leaks, global warming and financial crashes alike tend to be reduced to management mishaps, correctible interruptions to a 'normal', preordained, technology-mediated equilibrium. As in typical journalistic depictions of catastrophe, the heroes are good managers caught up in the moment, preoccupied with trying to pick up the pieces, get people to safety, and control the horrendous damage. They are precluded by the scenario itself from engaging in any analysis beyond cursing the carelessness or inexpertise of the bad managers who supposedly brought on the disaster by failing to act in accordance with their job descriptions.

In the version of this Hollywood narrative adapted by the World Bank and the International Monetary Fund for their reports (and perfected during the same era that the disaster movie came to maturity), the role of the hero-managers is to parlay the rolling calamities of official neoliberal policy into opportunities for succeeding catastrophe plotlines.[20]

[19] Paleofuture, 'The Population Bomb Scenario' 1, 2 and 3 (1970), http://www.paleofuture.com/blog/2007/3/12/the-population-bomb-scenario-1-1970.html, http://www.paleofuture.com/blog/2007/3/21/the-population-bomb-scenario-2-1970.html#comment3095920, http://www.paleofuture.com/blog/2007/7/18/the-population-bomb-scenario-3-1970.html. See also Belasco, 'Meals to Come: A History of the Future of Food', 2006: 66; Paleofuture, 'Paleofuture TV', http://www.paleofuture.com/paleofuturetv/.

[20] O'Connor (1994): 53–75 and 125–151, for analysis suggestive of the presuppositions linking disaster movies and conventional environmental economics.

A typical opening scene might feature squalid shantytowns squatting beneath gleaming high-rise buildings or dispossessed rural villagers collecting firewood beneath towering electric pylons and jet contrails. Amid handwringing about delays in technology 'reaching the poor', the failure of economic growth to 'trickle down', 'market failures', and the non-attainment of the Millenium Development Goals, disaster managers from government bureaucracies, the World Bank or the International Monetary Fund intervene. Their job is not to determine the extent to which impoverishment, inequality and environmental destruction are organic components of economic, energy and technology policy but rather to figure out 'what went wrong' so that the old policies can be relaunched as soon as possible and the spurious promise of 'normality' can return. As economist Kenneth Boulding noted in the early 1970s in his 'Ballad of Ecological Awareness', such experts (like disaster movie heroes) simply have no time for history:

… it is neither games nor fun
To look at plans of yesteryear and ask 'What have we done?' And learning is unpleasant when we have to do it fast
So it's pleasanter to contemplate the future than the past.' (Boulding 1970)

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