CHAPTER THIRTEEN

THE ART OF CYBERNETIC COMMUNISM[1]

David Crowley

The future seemed to disappear in Eastern Europe during the years of Soviet rule. Writers, artists and ideologists were, it seems, less and less prepared to offer clear images of the world to come. This might be of little importance, save for the fact that one of the root justifications for Marxist-Leninist rule was that the one-party-state would have the practical means and the superior understanding of the forces of history to bring about a better future, that of 'full-blown communism'. This, after all, was the utopia just over the horizon for which hardship and struggle in the present were being endured. Over time, the precise nature of this state of perfection grew increasingly hazy in official futurology. This process began in the Soviet Union in the 1930s. Stalin conducted a 'fantasectomy' of the imagination, banning futurological art and literature, in part because science fiction had been a vehicle for expressing early doubts about the possibility of utopia.[2] The Prozac aesthetic of Socialist Realism offered insipid visions of the world to come: the predictable *mises en scène* of paintings and novels in the Stalin years were factories and building sites, illuminated by the light of the remote 'radiant sun' of communism. What existence might actually be like in this distant future was hardly suggested: perhaps its most vivid expressions were the blueprints for socialist realist urban schemes and plans for leafy parks of culture and rest presented in reconstruction programme across Eastern Europe in the 1940s.[3] Rooted in nineteenth-century utopian socialism, this was a thin and rather retrospective form of futurology, particularly when compared to the cosmic dreams of the avant-garde of the 1920s. Kazimir Malevich, for instance, had imagined flying satellite towns moving freely through

[1] This is a revised version of an essay which first appeared in Łukasz Ronduda and Alex Farquharson, eds., *Star City: The Future under Communism* (Warsaw: CSW, 2011).

[2] Richard Stites, *Revolutionary Dreams: Utopian Vision and Experimental Life in the Russian Revolution* (Oxford: Oxford University Press, 1989), p. 235.

[3] See David Crowley, 'Architecture and the Image of the Future in the People's Republic of Poland', *The Journal of Architecture*, vol. 14, no. 1 (February 2009), pp. 67–84.

space and circling the Earth, while Vladimir Tatlin had dedicated many years to designing the *Letatlin* (1929–32), a fantastic human-powered 'air bicycle'.

The poverty of Stalinist futurology was not much improved when, during the height of the Cold War, ideologists in the Soviet Union and the people's republics adopted images of modernity furnished by the West. Nikita Khrushchev set dates by which socialism would overtake capitalism. 1980, for instance, was identified at the Twenty-Second Congress of the Communist Party of the Soviet Union in 1961 as the red-letter year when Soviet citizens would experience superior living standards to those enjoyed by their counterparts in the USA.[4] When the future was measured in terms of refrigerators and cars, Soviet futurology lacked the motivating force that it had once perhaps possessed, even in the misery years of the 1940s. By the 1970s, self-proclaimed modernisers throughout the Eastern Bloc, like Edward Gierek in Poland and János Kádár in Hungary, placed an overweening emphasis on the needs of the present. The communist rhetoric of investment ('work / fight / study hard today and mankind will reap the benefits tomorrow') was traded for one of immediate reward ('consume'). Hilton hotels in Budapest and Holiday Inns in Kraków and elsewhere; licensing deals with Western manufacturers like FIAT and the spread of hard-currency stores selling western goods for hard currency were all signs of disinvestment in the communist future.[5]

If utopianism was a spent force by the mid 1970s, when, one might wonder, was the last time when it was still an article of faith, particularly for Eastern-European artists, architects, film-makers and writers who had once undertaken to provide images that might hasten its arrival? After the dream-world of communism withered, was it still possible to practice futurology in the Eastern Bloc? If the utopian vision of human happiness through technological progress had faded, what else might dreams of advanced technology be?

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[4] William J. Tompson, *Khrushchev: A Political Life* (New York: St. Martin's Press, 1997) p. 238. http://www.archive.org/details/DocumentsOfThe22ndCongressOfTheCpsuVolI—accessed January 2010.

[5] On this theme see various essays in David Crowley and Susan E. Reid, eds., *Pleasures in Socialism: Leisure and Luxury in the Eastern Bloc* (Evanston, IL.: Northwestern University Press, 2010).

'Cybernetic Machines are the People of the Future'

The various nations that were corralled into a 'Bloc' in the late 1940s have differing histories. Nevertheless, Moscow's influence had common effects. This was not just a reflex of authoritarian rule: Stalin's death in 1953 and the revelations of the violence and cruelty of his regime by Khrushchev in his so called 'Secret Speech' of February 1956 were felt as a common trauma across the Bloc. To exorcise the ghosts of Stalinist irrationalism and violence, post-Stalinist authorities turned to science, new technology and other 'rational' measures of modernisation. The Scientific-Technological Revolution announced by Soviet Premier Nikolai Bulganin in July 1956 was, for instance, a programme intended to shape a new Soviet consciousness.[6] A scientifically literate and technically expert society would be better able to conduct the Cold-War competition with capitalism that had been declared by First Secretary Khrushchev. The principal symbols of the era—space flight, atomic power and modern telecommunications—broadcast the triumphs of Soviet engineering and science to the world. The Sputnik, launched in October 1957 initiated a series of 'firsts' in space exploration, including Yurii Gagarin's pioneering orbit around the Earth in 1961, and the first probe on Venus, the Verena 3, four years later. Closer to home, the Soviet Union sought other spectacular achievements to renew its claims to be a force of progress. For example, in 1959, the Soviet Ministry of Communications (Ministerstvo sviazi SSSR) commissioned a new television tower to serve the Soviet capital. Moscow's Ostankino Tower—the hub of the All-Union network, then the world's largest broadcasting complex—was completed in eight years. A symbol and instrument, it was then the tallest structure in the world.

The real achievements of Soviet science and technology were heralded by fantastic images on screen. Science-fiction films, which were not commissioned under Stalin, became a privileged genre again. The first post-war sci-fi movie released in the Soviet Union after Stalinism was not, however, a Soviet creation. *Der Schweigende Stern* (*The Silent Star*) was a 1960 East-German production made by the famous DEFA (Deutsche

[6] See Konstantin Ivanov, 'Science after Stalin: Forging a New Image of Soviet Science', *Science in Context*, vol. 15, no. 2 (2002), pp. 317–338.

Fig. 13.1 Publicity for the 1960 DEFA film *Der Schweigende Stern* (*The Silent Star*), private collection.

Film-Aktiengesellschaft) studios with an international cast (Fig. 13.1).[7] It was based on a 1951 story, *The Astronauts* (*Astronauci*), by the Polish writer Stanisław Lem. Internationalism was not just a way of harnessing cinematic talent: it was the theme of the film. On the screen, communism has swept the planet, and mankind is enjoying the benefits of nuclear technology and biological engineering. International rivalries are a thing of the past. A threat to this happy utopia comes in the form of a mysterious object, which, when decoded by 'the world's largest computer', seems to threaten the destruction of the Earth. A spaceship is dispatched to Venus, the source of this 'cosmic document'. There, the international crew finds

[7] Sonja Fritzsche, 'East Germany's Werkstatt Zukunft: Futurology and the Science Fiction Films of defa-futurum', *German Studies Review*, vol. 29, no. 2 (May 2006), pp. 367–386. See also Marko Dumančić, 'De-Stalinizing Soviet Science: Rethinking the Moral Implications of Scientific Progress in Khrushchev-era Film', *Studies in Russian and Soviet Cinema*, vol. 6, no. 1 (July 2012), pp. 75–91.

the ruins of a warlike civilization, which had already perished in a nuclear civil war. Drenched in pathos, the film's message was unmistakable.

One member of the international crew exploring the surface of Venus for signs of alien life was a French cybernetician, the creator of a chess-playing robot. In 1960, cybernetics represented a new front for post-Stalinist science. Introduced to the world by the American mathematician Norbert Wiener in his seminal book *Cybernetics*: *Or Control and Communication in the Animal and the Machine* (1948), this science had been largely prohibited during the Stalin years. Originating in the West, it was presented as an ideological weapon that would deprive mankind of its humanity. The fact that the earliest application of cybernetics by Wiener was a tracking system for US anti-aircraft gunnery lent fuel to its Soviet enemies. It was cast as a zombie science which would replace humans with docile machines. 'The process of production realised without workers!' screeched one Soviet critic with the pen name 'the Materialist'. 'Only with machines controlled by the gigantic brain of the computer! . . . what an enticing perspective for capitalism!'[8] Consequently, this adolescent science went underground with its early adepts camouflaging their interest with specialist jargon. In his 1955 novel about inter-stellar travel, *The Clouds of Magellan* (*Obłok Magellana*), Lem substituted the term 'mechanioristics' (*mechaneurystyki*) for cybernetics in an unsuccessful attempt to avoid censorship.

During the Scientific-Technological Revolution, cybernetics emerged from 'internal exile' to be widely promoted as the solution to the problems that dogged the Soviet Union after Stalin.[9] Visions of intelligent machines, which might divest man-made systems of human error, and of dynamic, self-correcting communication techniques based on feedback loops—ideas at the heart of the cybernetic project—seemed like a panacea for the evils inherited from Stalinism. On the pages of new journals like *Problems of Cybernetics* (*Problemy kibernetiki*), the planned economy was envisaged as a dynamic network, managed by intelligent computers: raw materials would arrive in the factories in perfect time to be processed on automatic assembly lines. The resulting products would match

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[8] Materialist [pseudonym], 'Whom Does Cybernetics Serve?' [1953], trans. Alexander D. Paul, *Soviet Cybernetics Review*, vol. 4, no. 2 (1974), p. 44; cited in Slava Gerovitch, *From Newspeak to Cyberspeak: A History of Soviet Cybernetics* (Cambridge, MA.: The MIT Press, 2002), p. 128.

[9] After being scorned, Wiener's work was published in translation in the Soviet Union: N. Viner, *Kibernetika ili upravlenie i sviaz' v zhivotnom i mashine*, ed. G.N. Povarov (Moscow: Sovetskoe radio, 1958).

the precise needs of their consumers. All of this would be delivered by a smooth-running transport network of trains controlled by auto-pilots responding—second-by-second—to updates about conditions on the rails or the traffic ahead. Cybernetics also stimulated new thinking about communications: Mathematics would turn the Babel of different languages and dialects in the socialist world into a common *lingua scientia* and allow for accurate man-machine interaction. The future seemed limitless. Reflecting, in 1962, on the implications of machines that could outstrip man in their abilities to think, Academician Sergei Sobolev prognosticated 'In my view cybernetic machines are the people of the future.'[10]

In an effort to draw material benefits from cybernetics, experimental institutes were established throughout the Soviet Union. Science cities like Akademgorodok were set up in the East by the Soviet Academy of Sciences in 1957 to explore the potential of cybernetics (and exploit the enormous resources of the 'Virgin Lands').[11] Populated with brilliant minds having access to the latest international scholarship, Akademgorodok was to be an accelerator of the Scientific-Technological Revolution. Siberia was by no means the only home of the Scientific-Technological Revolution. New computing centres and research institutes like the All-Union Scientific Research Institute of Industrial Design (Vserossiiskii nauchno-issledovatel'skii institut tekhnicheskoi estetiki—VNIITE), were also established across the Soviet Union. By 1967, VNIITE had fifteen branches and almost two hundred design 'laboratories' connected to high-tech industries. Unconstrained by the requirements of Central Planning, their primary task was to supply industry with new prototypes for manufacture. Architecture, too, was to be transformed by the introduction of computing into design. In the 1970s, programmers at the Rostov Civil Engineering Institute (Rostovskii inzhenerno-stroitel'nyi institut—RISI) created experimental software with the appropriately utilitarian title 'Function R1' (*Funktsiia* R1) which could determine the best arrangement and architectural forms for an industrial plant, according to functional criteria.[12] Here was the promise of an architecture without human limitation or error.

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[10] Cited in Willis H. Ware and Wade B. Holland, eds., 'Soviet Cybernetics Technology 1959–1962' (Rand Corporation report prepared for the US Air Force, June 1963), p. 11.

[11] See Paul R. Josephson, *New Atlantis Revisited: Akademgorodok, The Siberian City of Science* (Princeton, NJ.: Princeton University Press, 1997); and Alexander D'Hooghe, 'Siberia as Analogous Territory: Soviet Planning and the Development of Science Towns', *AA Files*, vol. 51 (2004), pp. 14–27.

[12] Igor Rafałowicz and Sergiej W. Żak, 'Automatyzacja projektowania w ZSRR', *Architektura* (November–December 1977), pp. 63–5.

Alongside cybernetics, ergonomics, and behavioural sciences, art played a central role in many of these self-consciously experimental enterprises. Located in research institutes and off the radar of the Soviet art establishment, artist-scientists avoided the attacks on abstraction that periodically featured in official proclamations on culture. Moreover, their official status meant that they enjoyed privileged access to Western specialist publications, where the work of kindred spirits like the artist Nicholas Schöffer was reported.

The Dvizhenie (Movement) group, founded in Moscow in the early 1960s by a group of seven young artists including Francisco Infante and Lev Nussberg—produced some of the most compelling attempts to envisage the art of the future. Jane Sharp has described their kinetic sculptures, cybernetic installations and design projects as being 'concerned with and derived from the visual arts traditions of avant-garde abstraction' and at the same time being 'technically, scientifically informed, attuned to the inventive feats of and ambitions of Soviet engineering.'[13] Exhibited in public institutions like the Kurchatov Institute for Atomic Energy (Institut atomnoi energii imeni I V. Kurchatova) and the Institute of High Temperatures (Institut vysokikh temperatur) in Moscow in the 1960s, their abstract works could be characterised as research. This was not a matter of rhetorical camouflage: science seemed to be offering novel materials for the production of a new order of synthetic art. Nussberg wrote:

> The synthesis of different technical means and art forms is [an] important side of our searches. An artist must take all the basic means that exist in nature-light-color, sound, movement (not just in time and space), scents, changing temperatures, gases and liquids, optical effects, electromagnetic fields . . . etc. All depends on the creative fire of the individual.[14]

This sense of excitement is captured in the group's early works like Infante's 1963 *Space-Movement-Infinity*, an exercise in geometry, in which a series of two-dimensional crystal forms are overlaid. Turning in an infinite space, they seem to recede to a luminous red point. It was subtitled 'Design for a Kinetic Object', and Infante developed his 'design' into a sculpture, fashioned from revolving cubes illuminated with small lights.

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[13] Jane Sharp, 'The Personal Visions and Public Spaces of the Movement Group (Dvizhenie)', in David Crowley and Jane Pavitt, eds., *Cold War Modern* (London: V&A Publications, 2008), p. 237.

[14] Lev Nussberg, untitled manuscript, undated, cited in Vyacheslav F. Koleychuk, 'The Dvizheniye Group: Toward a Synthetic Kinetic Art', *Leonardo*, vol. 27, no. 5 (1994), pp. 433–436.

What its purpose might be was never made clear. By eschewing questions of application or *faktura* (texture), Dvizhenie's art formed a connection back to Malevich's Suprematism and El Lissitzky's Prouns (artworks that were hardly accessible in the Soviet Union at the time, but could be seen in the Moscow apartment of pioneering collector George Costakis).

Members of the group enjoyed prominent commissions, particularly at the time of the fiftieth anniversary of the October Revolution in 1967. Nussberg designed a public light-sculpture in Leningrad to mark 'Fifty Years of Soviet Power'; whilst Infante was commissioned to create a kinetic sculpture in the *Exhibition of Scientific Creative Works by Young People* in the grounds of the Exhibition of Economic Achievements (Vystavka dostizhenii narodnogo khoziaistva—VDNKh) in Moscow (Fig. 13.2). He installed a three-metre-high crystalline structure entitled *Galaxy* in front of the gilded Stalin-era pavilions. This kinetic sculpture was made of metal struts and synthetic string (a clothes line). Electric motors animated the heart of the construction, changing its angular forms to the accompaniment of music, and at night *Galaxy* was illuminated with coloured lights. The piece represents the group's aspiration to devise new models of public sculpture for the new urban centres being planned across the Soviet Union. On the eve of a visit from senior figures in the Moscow Party hierarchy, *Galaxy* was the subject of an 'ideological' examination. Infante and his colleagues were judged to have gone too far in their enthusiasm for the abstract beauty of geometry, and were required to dismantle the sculpture.[15]

Although members of Dvizhenie were sometimes the focus of criticism from official quarters, they were not anti-communist. Their philosophy of art combined a 'politically correct' enthusiasm for Soviet science with an illicit interest in metaphysics. Space exploration had opened up—at least in the minds of young artists—a perspective on the infinite. The group's 1965 manifesto, broadcasting their commitment to Kineticism, announced the dawn of a new sensibility:

> We are pioneers.
> We unite the WORLD to KINETICISM
> TODAY'S man is torn apart, sick. 'Man, are you not tired of destruction?'
> TODAY'S child is already the cosmic generation.
> The stars have come nearer. Then let ART draw people together through the breath of the stars!
> PEOPLE LET US CREATE A WORLD INSTITUTE OF KINETICISM.[16]

[15] Francisco Infante, in conversation with the author, Moscow, 2007.

[16] Lev Nussberg, 'Manifesto of Russian Kineticists' (1966); English translation in Igor Golomstock and Alexander Glezer, *Soviet Art in Exile* (New York: Random House, 1977), p. 164.

Fig. 13.2 *Galaxy*, a sculpture by Francisco Infante in *the Exhibition of Scientific Creative Works of Young People*, Moscow 1967. Photograph courtesy of *Lew Nussberg und Die Gruppe Bewegung Moskau 1962–1977* (1978).

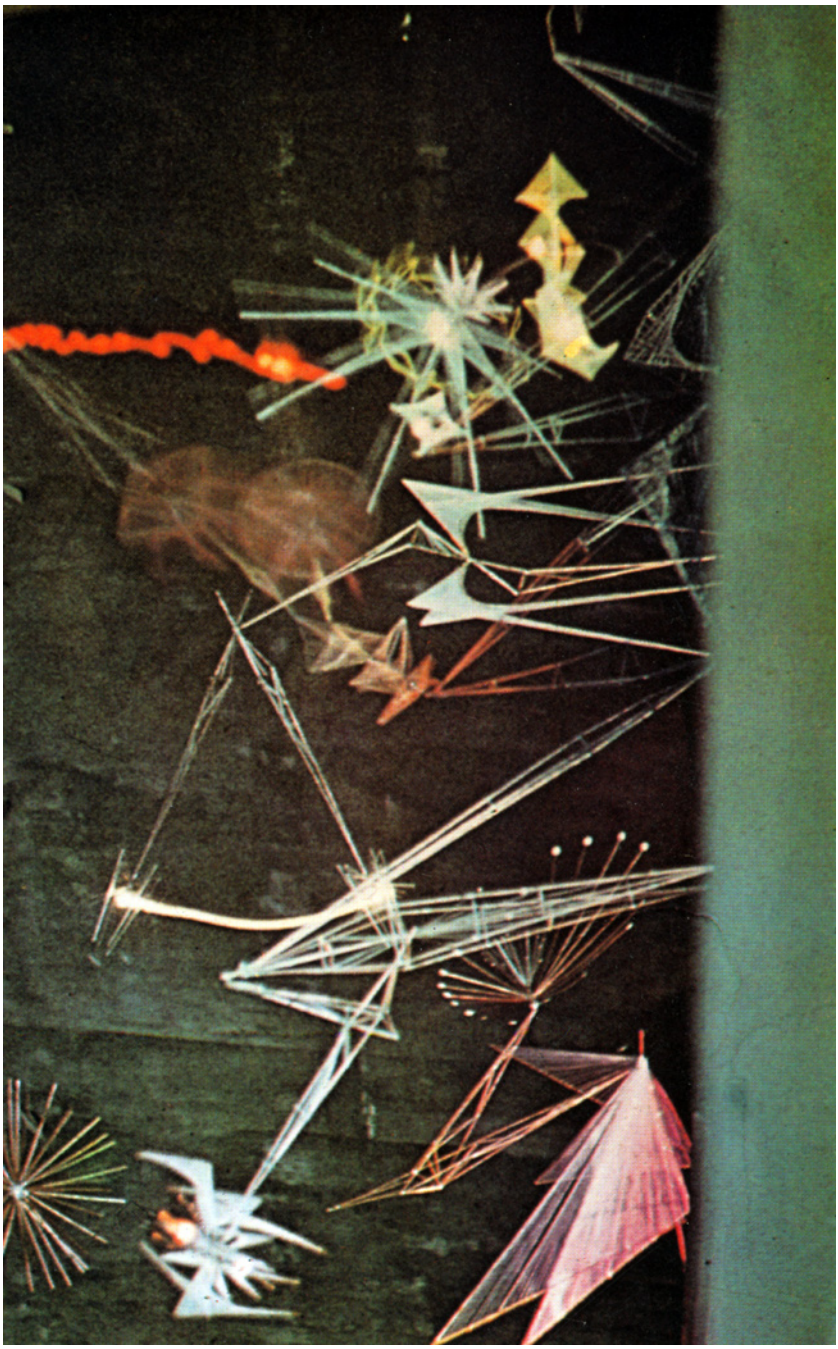

Fig. 13.3 Model of the *Cybertheatre* by Lev Nussberg, Soviet Union, 1967. Photograph courtesy of *Lew Nussberg und Die Gruppe Bewegung Moskau 1962–1977* (1978).

In space exploration, Dvizhenie deduced not man's command of science, but his encounter with its mysteries.

In 1966–67 Dvizhenie planned a *Cybertheatre* for Leningrad, an installation that would be populated with towering 'cyber-creatures', pulsating lights and concrete sounds, cascading pools of water and vaporous gases (Fig. 13.3). Visitors would follow paths through this wonderful environment, walking through the pools wearing protective clothing and avoiding plumes of steam and gas. All of this was to be programmed to respond to the passage of the visitor. The *Cybertheatre* presented its audience with a simulation of life on a strange planet (or perhaps on Earth in the future). Nussberg hinted at some kind of troubling shadows in this brave new world: 'It is of course an aesthetic fantasy, perhaps with prophetic overtones. Is not Man himself creating more and more of his environment on the planet Earth (using matter in the same way as a sculptor uses clay for his sculptures)?[17]

'The Mouth Will Disappear'

For one vocal commentator during the post-Stalinist 'Thaw', the Polish philosopher Leszek Kołakowski, the fantastic promises of future science were not to be confused with the real challenges of socialism. Once a loyal communist, he became a brave and vocal critic of official policy, damning the fetish then being made of science:

> We observe . . . the astonishing speed with which the new mythologies displace the old ones. In the intellectual life of a society in which the mechanism of traditional faith has become corroded, new myths proliferate with the greatest ease, even though they may originate in technical advances or scientific discoveries. Thousands of people fondly imagine that the friendly inhabitants of other planets will one day solve the problems from which humans cannot extricate themselves. For others, the words 'cybernetics' embodies the hope of resolving all social conflicts.[18]

If one product of de-Stalinisation in the USSR had been the Scientific-Technological Revolution and the formation of experimental institutes across the Bloc, another, in the People's Republic of Poland, had been doubt. The second half of the 1950s had been traumatic, with artists, film

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[17] Lev Nussberg, 'Cybertheater', *Leonardo*, vol. 2, no. 1 (January 1969), pp. 61–62.

[18] Leszek Kołakowski, 'The Jester and the Priest' [1959] in *Towards a Marxist Humanism* (London: Palladin, 1970), p. 57.

makers and writers—including some of the most ardent champions of socialism—demanding autonomy from the interests of ideologues and the operations of the censor. In the years that followed, the Polish intelligentsia struck an uneasy peace with the State, sometimes enduring censorship and repression and, at others, enjoying its 'gifts' in the form of publishing contracts, commissions and exhibitions. An existential mood prevailed, in which modernist fantasies of the autonomy of the artist and *auteurisme* combined uncomfortably with a growing sense of the failing modernity of Polish socialism. Kołakowski's own writing during this period was strongly concerned with discovering the individual—an active figure, conscious of his or her actions and capable of shaping events—in the debris of Stalinism. For this person, scepticism was more valuable than faith; and the needs of the present were more pressing than the challenge of imagining the future.

Kołakowski revisited this theme when he reviewed the writings of novelist, futurologist and champion of cybernetics in Eastern Europe, Stanisław Lem. Already a successful novelist (whose story *The Astronauts* had provided the narrative of *Der Schweigende Stern*), Lem set out to examine cybernetics in his *Dialogues* (1957) and the effects of as yet unknown future technologies in *Summa Technologiae* (*The Sum of Technology*, 1964) (Fig. 13.4). An influential book in Eastern Europe, *Summa Technologiae* was translated into Russian in 1968 and appeared in East Germany in the 1970s. Indifferent to the limits set by ideology or by current science, Lem later described *Summa Technologiae* as 'an attempt to predict what could not be predicted'.[19] In it, he explored the long-term trajectories of technology, including cyborgisation of the body with, for instance, artificial digestive-regulative systems, which would allow humans to adapt to diverse cosmic environments, or the use of radio communication devices as prostheses: 'If the question of speech has to be solved 'cosmically'—by the continuous use of radio communication, the mouth will disappear.'[20] Fascinated by cybernetic concepts of communication and control, Lem announced the idea of breeding or growing information that would, one day, fill the world like swarming clouds. He also anticipated the future

[19] '[What] I confronted myself with was like a paradoxon: to predict what could not be predicted. I am an anti-historicist, like Popper who thinks that history is as unforeseeable as the natural evolution of the species. On this, I agree with him', Stanisław Lem, introduction to the German edition of *Summa Technologiae*, 1978 reproduced on line http://www.fprengel.de/Lem/Summa/preface.html—accessed January 2010.

[20] Stanisław Lem, *Summa Technologiae* (Kraków: Wydawnictwo Literackie, 1964), p. 381.

Fig. 13.4 Cover of the first edition of Stanisław Lem's *Summa Technologiae*, 1964, designed by Daniel Mróz, private collection.

possibility of telepresence, which he called 'Phantomology'.[21] Wired to the phantomat, a person would be able to enjoy any possible sensation by means of neural manipulation.

Summa Technologiae presented an image of man dissolved in technology.[22] Anticipating post-humanism, Lem sketched worlds that were populated with various types of genetically, and biochemically modified human beings as diverse as 'the various kinds of ants'. His concept of 'Phantomology' disrupted all the conventional metaphysics of humanism: a mind could be stimulated into the perception of being somewhere else,

[21] Lem, *Summa Technologiae*, pp. 364–96.
[22] Michael Kandel, 'Stanislaw Lem on Men and Robots,' *Extrapolation*, no. 14 (1972–73), p. 19.

or multiple individuals could be networked to a single brain. In the same spirit, Lem also accused other science-fiction writers and film-makers of anthropocentrism by imagining the cosmos populated with human-like beings and Earth-like landscapes. His 1961 novel *Solaris* (famously made into a film by Andrei Tarkovskii in 1972) deals with the possibility that other forms of intelligence may be radically alien to the humans who encounter them.

Kołakowski wrote a long response to *Summa Technologiae*.[23] Celebrating Lem's imagination, the philosopher was nevertheless sharply critical. He called the futurologist 'a leading ideologist of scientific technocracy' and accused him of trading in fantasies. Adapting Merleau-Ponty's question 'What has remained of philosophy in the wake of the encroachments of modern science?' Kołakowski supplied his own answer—'nothing'. In other words, Lem was too wired to technology to ask deep questions of existence or, for that matter, immediate ones about the present: 'I think that consideration of intergalactic transport can be profitable even in our world where real dreams lead us to conjure up actual technologies', wrote Kołakowski. 'One day humanity will invent telephones with which you can call Pruszków from Warsaw easily, build an elevator which will work for weeks without breaking down, as well as a glue suitable for gluing, and razors suitable for shaving.'[24] These were real problems.

Lem was evidently vexed by Kołakowski's review, responding to it more than thirty years later.[25] Active in the same Thaw circles at the time, Lem saw his own writing as a critique of technological determinism, just as Kołakowski had been a thorn in the side of Marxist beliefs in deterministic historical progress. Moreover, Lem eschewed an interest in application ('a glue suitable for gluing') and so was hardly an apologist for the Scientific-Technological Revolution. Kołakowski was not, however, necessarily wrong about Lem's anti-humanism. *Summa Technologiae* was a disavowal of the central figure of Man, the hero and rallying symbol of the Thaw in Poland, as the introduction made clear:

> I don't trust any promise, I don't believe in assurances based on so called humanism. The only way to deal with a certain technology is another technology. Today, man knows more about his dangerous inclinations than he

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[23] Leszek Kołakowski, 'Informacja i utopia', *Twórczość* (November 1964), pp. 115–123.
[24] Ibid., p. 117.
[25] Stanisław Lem, 'Thirty Years Later', in Peter Swirski, ed., *A Stanislaw Lem Reader* (Evanston, IL.: Northwestern University Press, 1997), p. 68.

> knew a hundred years ago, and in another hundred years his knowledge will be even more complete.[26]

Although perhaps few grasped it at the time, *Summa Technologiae* had an innoculatory approach to progress: Lem's hyperfuturism was an inoculation against technocracy, whether dressed in Soviet stripes or any other kind. One contemporary who seemed to share a similar viewpoint was the Polish artist Krzysztof Wodiczko. At the end of the 1960s, Wodiczko began producing cybernetic artworks, which shared Lem's critical perspective on technocratic rationalism and anthropocentrism. These artworks—which he called 'products'—included *Personal Instrument* (1969), an electronic device worn on the head and hands (Fig. 13.5). Wodiczko made this while working as a designer for Unitra, the main state electronics conglomerate in Warsaw. Responding to the movements of the wearer, the *Personal Instrument* allowed the individual to amplify or diminish the flow of sound from the surrounding environment. A sensor on the glove turned the hand into a microphone. Headphones privatised the experience. While wearing it, the user excluded himself or herself from the collective (in a text accompanying the object when exhibited, Wodiczko specified that the *Personal Instrument* was 'for the exclusive use of the artist who created it'). Here was a materialisation of Lem's vision of the mouth replaced by radio. An allegorical device alluding to surveillance and anomie in the People's Republic, the *Personal Instrument* was not anti-modern, but it was critical. In its futuristic qualities, it pointed—perhaps darkly—to a world where the voice was no longer a human faculty.

Negative Utopias

Others saw different promises in technology. At the end of the 1960s, Jerzy Rosołowicz in Wrocław, Poland, promoted his concept of the *Neutrdrom*. This was to be a 100-metre-high inverted cone set on an open plain, near a large town. Travelling in an elevator at the core of the tower, visitors would shoot through darkness to the dazzling luminosity of the circular platform at the top of the structure. Standing on a mirror, they would be bathed in a cosmic symphony of light. Others could enter a 35-metre-diameter sphere rolling around the foot of the tower. Filled with light and sound, this was to be a closed universe of sensation.

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[26] Lem, *Summa Technologiae*, p. 12, author's translation.

Fig. 13.5 Krzysztof Wodiczko, *Personal Instrument* (1969), Muzeum Sztuki, Łódź.

According to Rosołowicz, the *Neutrdrom* required precisely the kind of socialist coordination that the 'Scientific-Technological Revolution' promised to deliver: 'the programming of the functional interior of the ball requires the co-operation of psychologists, physicists, physiologists, mathematicians, electronic specialists and cybernetic specialists. Its construction—the co-operation of many highly specialised plants and factories and of expert mounting and building teams.'[27] Yet this was a high-tech structure without purpose or utility. The *Neutrdrom* was an exploration into Rosołowicz's philosophy of 'neutral action' in which purposelessness was a value in its own right. He described this ethos in 1967 in proto-environmentalist terms as 'all those activities of man that bring him neither benefit nor harm. It is the opposite of conscious intentional action and, at the same time, its complement.' A 'do-no-evil' approach would redirect Cold-War science to benign ends, releasing its cosmic potential:

> Due to the contemporary communications media, the range of applications of conscious neutral action is unlimited, as corroborated by the exemplary peak in the domain of space travel and exploration achievements, in which all mankind has indirectly participated. The official and generally unequivocal interpretation of these exploits, summing up all the current knowledge and ability of man, allows us to hope that they will not be turned to our destruction—in spite of the fact that they have always, most virulently, been made to do exactly that.[28]

In the *Neutrdrom*, the visitor would be 'a creative man' (*człowiek tworczy*) rather than a consumer (*człowiek konsument*) or user (*użytkownik*), his destructive counterparts.

Piotr Piotrowski has characterised Rosołowicz schemes as "an ironic take on the engineering utopias that are generally created with a certain 'goal' in mind".[29] This was, after all, the age of the telecommunications tower and the satellite. But it is not certain that Rosołowicz was forcing open the disjunction between expression and meaning that characterises irony. Nor had he given up on the future. The *Neutrdrom* might be better understood as what Theodor Adorno called a 'negative utopia',

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[27] This text in English features as a caption on Rosołowicz's original drawing for the scheme.

[28] Jerzy Rosołowicz, 'On Neutral Action', in Paweł Polit and Piotr Woźniakiewicz, eds., *Refleksja konceptualna w sztuce polskiej. Doświadczenia dyskursu 1965–1975* (Warsaw: CSW Zamek Ujazdowski, 1998), p. 230.

[29] Piotr Piotrowski, *In the Shadow of Yalta: Art and the Avant-Garde in Eastern Europe, 1945–1989* (London: Reaktion, 2009), p. 201.

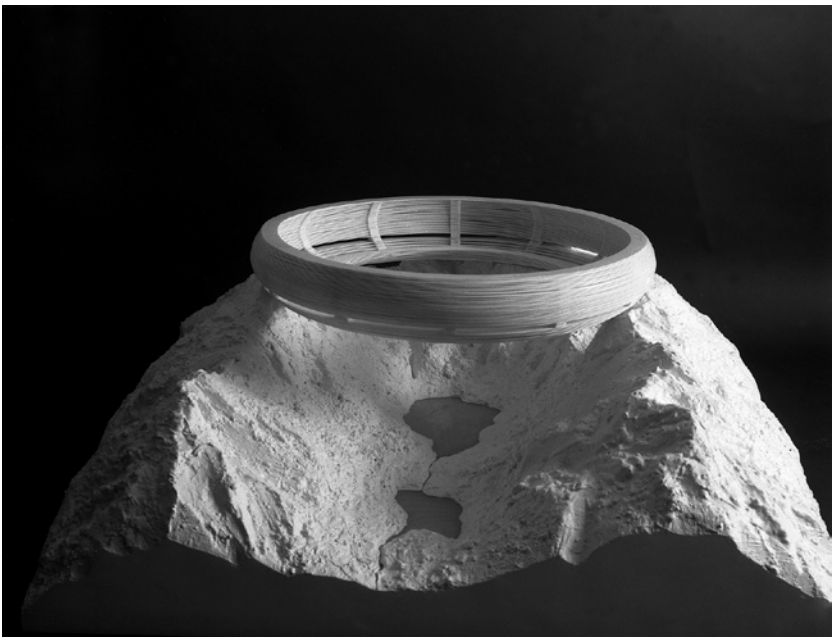

Fig. 13.6 *Heliopolis* scheme by VAL (Voies et Aspectes du Lendemain—Alex Mlynarčik and architects Ľudovít Kupkovič and Viera Mecková), 1968–70. Courtesy of the artists.

i.e. a condition or experience that resists the foreclosure of the possibility of a completely new way of being.[30] As a negative utopia, the *Neutrdrom* maintained an implacable opposition to the technocratic futurism on offer in the People's Republic of Poland: application would have been a betrayal. In other words, the *Neutrdrom* 'guaranteed' its utopian status by being unbuildable.

Clear intellectual and aesthetic parallels can be drawn between Rosołowicz's *Neutrdrom* and the work of the artist Alex Mlynarčik and the architects Ľudovít Kupkovič and Viera Mecková, members of the Slovak group VAL (Voies et Aspectes du Lendemain/Ways and Aspects of Tomorrow), who envisaged a new city, perched like a bird's nest, on the tops of mountains (Fig. 13.6).[31] Their *Heliopolis* project, a ring-shaped megastructure at 2,150 metres above sea-level, which could house 60,000 people,

[30] Theodor Adorno, *Aesthetic Theory* (London: Continuum, 2004), p. 176.

[31] Alex Mlynarčik, Ľudovít Kupkovič and Viera Mecková, *VAL. Cesty a aspekty zajtrajška* (Žilina: 1995), pp. 15–25.

was a mechanism to protect the natural environment from its greatest threat—man. The project took shape when it was proposed to hold the Olympics in the Tatra mountains. Floating high among the peaks on the Polish-Czechoslovak border (which had recently been the entry point for Soviet-led forces suppressing the Prague Spring), the landscape would be left pristine below. In fact, two of the six zones specified by the architects in their scheme were to be left untouched and inaccessible, a natural 'counter-monument' to man's destructive capacities. Like Lissitzky's Prouns produced in the Soviet Union in the early 1920s, this architecture was a gesture of impossible perfection. But the context was very different: utopian architecture, built from the dystopian logic of environmentalism, was particularly provocative in the setting of Eastern Europe in the 1960s, where to question the limits of progress was to issue a challenge to official futurology.

Dvizhenie's *Cybertheatre*, Rosołowicz's *Neutrdrom* and VAL's *Heliopolis* seem to point to an early and growing sense of environmental anxiety, one of the factors that motivated anti-communist dissent in Eastern Europe in the 1970s and 1980s. Historically, they were produced at the last moment when utopianism still had a hold on the Eastern-European imagination (even if inflected as negation). Utopianism was about to be swept away in the pervasive culture of irony, which was to absorb much intellectual life in the Bloc during the 1970s. As enthusiasm for the communist project faltered in the face of stagnation, corruption, and the renewed censorship that marked the Leonid Brezhnev years, irony seemed like the only adequate response.[32] In fact, utopianism itself was to become the subject of some of the most tart commentaries on communist rule. The parodies of the Stalinist 'good life' by Soviet Sots-artists Vitaly Komar and Alexander Melamid are well known. At the beginning of their career in the USA, they also created *Super Objects—Super Comfort for Super People* (1976), a portfolio of thirty-six colour photographs and text panels, describing impossible Soviet consumer products and devices. One product—with the brand 'Olo'—was a tongue ring ornamented with a pearl. This was less a piece of technology than an exercise in magic. Olo had the function of ensuring that nothing but positive words issued from the mouth of it user: 'Every word a pearl!' Like Wodiczko's *Personal Instrument*, this mysterious technology passed comment on the ways in which communication—a

[32] Anatoly Vishevsky, *Soviet Literary Culture in the 1970s: The Politics of Irony* (Gainesville, FL.: University of Florida Press, 1993).

core preoccupation of cybernetics—was distorted in the Soviet universe. In the *Super Objects* series, the two artists also turned the Circle, Square and Triangle—the pure geometry from which the avant-garde dreams of the 1920s had been fashioned—into the objects of an absurd cult:

> Only objects devoid of the dead weight of utilitarian function soar high aloft above the lowly world of daily life. The forms and dimensions of the figures we offer you are not fortuitous ones. They have been arrived at by mathematical computations that link together the dimensions of the Moon and of the human body . . . Buy the circles, squares and triangles manufactured solely by Renowned Artists of the Twentieth-Century Seventies, Moscow.[33]

Written just over ten years after Dvizhenie announced the birth of a 'new cosmic child', Komar and Melamid's text ridiculed not only the Constructivist avant-garde but also the faith of the preceding generation.

But what of Cybernetics? Now at the heart of the Soviet establishment, it was not exempt from the ironic trend in the Eastern Bloc. Aleksandr Zinoviev's *The Yawning Heights* (1976), a biting satire of life in Leonid Brezhnev's Soviet Union (aka Ibansk which might be translated as Fuckupia), features a long and vivid passage on 'The Rehabilitation of Cybernetics'. In this novel, smuggled out of the USSR and published in Switzerland, Zinoviev charts the rise and decline of cybernetics:

> . . . It was only recently that we had five or six cyberneticists and they were all under Secret Police surveillance . . . Last week we had a symposium and more than a thousand specialists turned up. We're moving into a boom. Things will be blown up beyond all measure. All measures of rabble will gather round trying to get in on the act. People will write theses, collect titles, decorations, prizes. Some will go off on foreign visits—the highest reward for services to our society. And then the boom will begin to blow over. In the meanwhile, any scientists worthy of the name will have been eliminated and crushed. . . . [34]

For Zinoviev, the dream of cybernetic communism had become little more than an alibi for failure.

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[33] Komar and Melamid, cited in Alla Rosenfeld, 'Stretching the Limits: On Photo-related Works of Art in the Norton and Nancy Dodge Collection' in Diane Neumaier, ed., *Beyond Memory: Soviet Nonconformist Photography and Photo-related Works of Art* (New Brunswick, NJ.: Rutgers University Press, 2004), p. 141.

[34] Alexander Zinoviev, *The Yawning Heights*, trans. by Gordon Clough (Harmondsworth: Penguin, 1981), p. 519.

Utopian Reality

Reconstructing Culture in Revolutionary Russia and Beyond

Edited by

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Maria Kokkori
and
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