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Gare, Arran. (2002). The environmental record of the Soviet Union. *Capitalism, nature, socialism*, 13(3): 52-72.

Available at: <http://dx.doi.org/10.1080/10455750208565489>

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THE ENVIRONMENTAL RECORD OF THE SOVIET UNION

Arran Gare

Introduction

It is now clear that one of the legacies of the Soviet Union was a severely degraded environment. This seems to prove that communism offered no solution to the environmental destructiveness of a capitalist economy. However, what is also becoming clear is that within the Soviet Union there had been a strong environmental movement. This movement was the surviving remnant of something far greater. It was engendered by the Bolshevik revolution as part of the broader tradition of the left-wing Bolsheviks. These Bolsheviks had a much more radical agenda than the Stalinists who came to prevail; their project had been to create a new culture facilitating the democratic organization of the economy and a new relationship between society and nature. This radical tradition also provided a perspective from which the ultimate failure of the kind of command economy created by Stalin was anticipated. A command economy continues the domineering orientation to people and to nature of capitalism in a more extreme form. Ultimately, it was predicted, this would lead to a new form of serfdom and to stagnation. The failure of the Soviet Union, both politically and environmentally, thus vindicated the left-wing Bolsheviks. The environmental disasters of the Soviet Union illustrate the inevitable self-destructive tendencies and uncontrollable dynamics of any society that attempts to reduce people and nature to mere instruments of production. It shows that what is required to create an environmentally sustainable society is one in which the creativity of people and nature are fully acknowledged, a society in which the divisions between organizers and the organized, between managers and workers, has been overcome, and people are able to live as creative participants in a creative nature.

Environmental Destruction in the Soviet Union

Major concern about the ecological record of the USSR surfaced in 1978 when the *samazidat* book *The Destruction of Nature in the Soviet Union*, written under the pseudonym Boris Komarov, was published, painting a picture of massive environmental destruction.¹ In 1979 Zhores Medvedev published details of how several hundred square kilometers of forest and agricultural land in the Urals had been severely contaminated by radionuclides when a nuclear waste storage site exploded in 1957.² More dispassionate writers amassed evidence

¹ Boris Komarov, *The Destruction of Nature in the Soviet Union* (London: Pluto Press, 1978). Komarov's real name is Zeev Wolfson.

² Zhores A. Medvedev, *Nuclear Disaster in the Urals* (New York: W.W. Norton, 1979).

supporting Komarov's claims and showing why environmental destruction was occurring.³ Then, with *glasnost*, partly a response to the nuclear meltdown at Chernobyl and the devastation it caused, and then with the collapse of the Soviet Union, it became clear that Komarov had not been exaggerating. The Soviet Union had been an environmental disaster.

Medvedev tried to characterize the amount of environmental destruction in the Soviet Union in a short article published in 1990. He succinctly summed up the situation:

The Soviet Union has lost more pasture and agricultural land to radioactive contamination than the total acreage of cultivated land in Switzerland. More land has been flooded by hydroelectric dams than the total area of the Netherlands. More land was lost between 1960 and 1989 through salinization, changes in the water table, and dust and salt storms than the total areas of cultivated land in Ireland and Belgium put together. Amidst acute food shortages, the total acreage of cultivated land has declined by one million hectares a year since 1975. The Soviet Union is losing its forests at the same rate as rainforests are disappearing in Brazil. In Uzbekistan and Moldavia, chemical poisoning with pesticides has led to such high rates of mental retardation that the educational curricula in secondary schools and universities have had to be modified and simplified.⁴

A good sense of this destructiveness of Soviet practices can be gained by looking at just one instance, the transformation of the Aral Sea and its environment.⁵ The Aral Sea was once the fourth largest lake in the world. After damming the rivers that flowed into it from the 1950s onwards, the lake's area decreased by 40% and its level dropped 13 metres (which orthographical norms should be used in CNS: US, Australian, UK spelling?), increasing its salinity. In 1957 the Aral Sea produced 49,000 metric tons of fish. In 1989 commercial fishing had ceased. The pesticides and fertilizers used on irrigated cotton together with salt from the dry seabed now blow over 200,000 km² surrounding the lake. Around 43 million metric tonnes of salt are carried annually from the sea's dried bottom, contaminating agricultural land. The whole climate of the area was changed. It is now hotter in summer and colder during the rest of the year. This has destroyed crops and killed livestock. In 1989, through frosts, 500,000 hectares of cotton plants were killed, 70% of the fields sown with grain were lost, and more than 500,000 sheep were killed. The water table has fallen and drinking water has become increasingly difficult to obtain. And the health

³ See Thane Gustafson, *Reform in Soviet Politics: Lessons and Recent Policies on Land and Water* (Cambridge: Cambridge University Press, 1981), Joan DeBardeleben, *The Environment and Marxism-Leninism: The Soviet and East German Experience* (Boulder: Westview Press, 1985) and Philip R. Pryde, *Environmental Management in the Soviet Union* (Cambridge: Cambridge University Press, 1991).

⁴ Zhores A. Medvedev, 'Environmental Destruction of the Soviet Union', *The Ecologist*, 20 (1), January/February, 1990, pp.24-29, p.24.

⁵ *Ibid.*, p.27f. See also Pryde, 1991, *op.cit.*, pp.221-232.

of the population has declined dramatically with increasing infant mortality, intellectual retardation among children, epidemics, hepatitis and throat cancer. Of the 173 animal species that lived around the sea and its delta, only 38 have survived.

This does not mean that the people and the rulers of the Soviet Union were indifferent to ecological problems. There were countervailing forces trying to prevent or check such environmental destruction, such as the movement against projects threatening the pristine wilderness of Lake Baikal, the deepest and most voluminous body of fresh water in the world. Proposals to establish two large plants at the edge of the lakes to process wood cut from the steep mountains surrounding the lakes and a proposal to blast the mouth of the Angara River to increase the flow of water out of the lake to generate more hydroelectric power sparked a celebrated campaign by scientists, writers, artists and the press to preserve the lake. A resolution protecting the lake was passed by the Council of Ministers in 1969 and updated in 1971 and 1977, and a final resolution was passed in April 1987 to ensure that the lake would not be damaged.

Despite such concern, it is clear that the Soviet Union was never able to come near to addressing its environmental problems. Although environmentalists had an effect, the overall situation for the environment was bleak. Even the pollution of Lake Baikal was only mitigated, not prevented. While after the 1987 resolution of the Council of Ministers the two large wood processing factories were removed, a hundred smaller enterprises were still discharging untreated effluent into the lake.⁶

What were the reasons for this failure? Philip Pryde, one of the best historians of Soviet environmental history who detailed its main failings, suggested that the problem could be summed up in three words: priorities, funding, and enforcement.⁷ Priority was always for economic growth, consequently the funding required to address environmental problems or prevent them from happening was woefully lacking. Associated with this, enforcement was frequently lax. Principles and directives, even when formulated at the highest levels of government within the Soviet Union, were usually ignored. While campaigns by environmentalists were empowered by these principles and directives, lower levels of the bureaucracy conducted their activities so as to exclude public scrutiny and to protect its senior members. They were able to cover up failures, often with disastrous consequences. As Pryde wrote in relation to the coverup of a fire in the control room of a nuclear reactor, 'A *glasnost*'-era article stated that only a miracle averted meltdown, and that had this not been covered up for almost a decade, Chernobyl might have been

⁶ Pryde, 1991, *op.cit.*, p.87.

⁷ *Ibid.*, p.90.

prevented.’⁸ Even where enforcement was effective, this involved paying fines which, from the point of view of these officials, were less of a burden than abiding by directives. What mattered to these officials was meeting their planned production targets, and, most importantly, looking after themselves. As Pryde put it, ‘The problem of “narrow departmentalism” - the tendency of one ministry to look after its own interests to the exclusion of broader planning and public concerns - has shown great resistance to reform.’⁹

This in fact appears to have been the crucial problem within the Soviet Union and accounts for the low priority given to environmental concerns, poor funding and the lack of proper means to enforce directives. Douglas Weiner, following the analysis of communism by Fehér Heller and Márkus,¹⁰ argued that the over-riding principle of decision-making in the Soviet Union was of augmenting the power of the bureaucrats. As he put it:

[I]n Soviet-type systems all economic investments, no matter how profitable or sensible they might seem or how likely to contribute to the general well-being, are likely to be judged by their likely effect on the stability of the system in the short term. ... [T]his is tantamount to generating as big a flow of resources as possible into the hands of the central bureaucrats. ... From a political standpoint, investments that seemed likely to create or enhance autonomous pockets of power irrespective of their economic and social “merit” appeared to the system as threats and were not approved. Conversely, those that manifestly propped up, reproduced, or augmented the power of the central bureaucratic apparatus were most heavily favored. Where decentralized investments seemed unavoidable, the system compensated with an increase in the capacity of the bureaucracy to monitor those potential nodes of autonomy, thus undercutting the economies achieved in the first place.¹¹

Stalin’s ‘Plan for the Great Transformation of Nature,’ Krushchev’s Virgin Lands campaign and his project to open Siberia with the Bratsk-Angara Dam, and Brezhnev’s River Diversion Project and Baikal-Amur Mainland Railroad, all functioned to increase the power of the central bureaucracy.

Despite this, there is a continuous record of opposition by environmentalists from the early 1930s to the 1990s. What is astonishing is how this movement was able to continue under Stalin when all other opposition was silenced, how in the 1960s their cause was taken up so widely by the media, and how they were able to interrogate and sometimes humiliate government officials.¹² Weiner suggests that ‘A conclusive, let alone unitary, answer to ... [the question of how environmentalists were able to sustain their opposition]

⁸ *Ibid.* p.44.

⁹ Pryde, 1991, *op.cit.*, p.90.

¹⁰ Ferenc Fehér, Ágnes Heller and György Márkus, *Dictatorship Over Needs: An Analysis of Soviet Societies* (Oxford: Basil Blackwell, 1983).

¹¹ Douglas R. Weiner, *A Little Corner of Freedom: Russian Nature Protection from Stalin to Gorbachev* (Berkeley: University of California Press, 1999), p.15.

¹² See *ibid.*, chap.15.

probably will never emerge from available archival sources; we can only speculate.’¹³ However, the continuity of the opposition and its toleration despite its challenge to the power base of officialdom suggests such a fundamental fissure in Soviet culture that the roots must lie deep in the foundations of the Soviet Union and of Russian culture.

The Origins of Soviet Environmentalism

It appears there was such a fissure. There was a history of opposing attitudes towards nature in Russia, even before the revolution. In *Models of Nature*, Weiner identified three of these.¹⁴ First, there was a utilitarian approach according to which nature is conceived only in terms of its exploitability, and conservation is important if at all only to maximize the benefits of exploitation. Plants and animals useful to humans should be preserved and fostered; harmful organisms should be eliminated and replaced with useful organisms. More radical utilitarians, the ‘nihilists’ of the 1860s and 70s, believed that people could create a paradise on earth through the scientific mastery of nature. The utilitarian tradition reflected the influence of French thought on Russia.¹⁵

The second tradition was associated with conservative neo-romanticism. It was more influenced by German and, to a lesser extent, Swiss thought and arguably had deeper roots in Russian culture.¹⁶ Members of this tradition tended to be hostile to modernity and yearned for a return to a more pastoral age. One of its leading exponents, the entomologist Andrei Petrovich Semontov-tian-shanski pronounced industrial man a ‘geological parvenu’ who was ‘disrupting the harmony of nature’s picture, ... that grand tableau which serves as the inspiration of the arts: music, painting, sculpture and architecture’. Anticipating ideas of the deep ecologists, he argued that ‘we should strive especially vigorously to realize ... not only a broad right for human beings to live and develop in all of their spiritual variety, but also the right (upon which humanity now tramples) of all living things to their existence!’¹⁷ To this end

¹³ *Ibid.*, p.17.

¹⁴ Douglas R. Weiner, *Models of Nature: Ecology, Conservation, and Cultural Revolution in Soviet Russia*, Bloomington and Indianapolis: Indiana University Press, 1988, p.10ff.

¹⁵ On the influence of French science on Russian science and its significance, see Douglas R. Weiner, ‘The Roots of “Michurinism”: Transformist Biology and Acclimatization as Currents in the Russian Life Sciences’, *Annales of Science*, 42, 1985, pp.243-260. On the philosophical orientation of the ‘nihilists’ see Andrzej Walicki, *A History of Russian Thought*, Stanford: Stanford University Press, 1979, chap.11.

¹⁶ On the impact of German Neo-platonic, Objective or Absolute Idealist and Romantic philosophy on Russian culture see James H. Billington, *The Icon and the Axe: An Interpretative History of Russian Culture* (New York: Vintage Books, 1970) and Arran Gare, *Nihilism Inc.* (Sydney: Eco-Logical Press, 1996), chap.10 & 11.

¹⁷ Weiner, 1988 *op.cit.* p.35, 36.

Semontov-tian-shanski called for the protection of landscapes and monuments to nature.

The third tradition, like the first, was associated with science. However, this was a tradition of anti-mechanistic science in the tradition of Schelling and Alexander von Humboldt.¹⁸ It was based primarily in the science of vegetational communities or 'phytosociology', the forerunner of plant ecology. Weiner sees this new discipline as emerging from rich practical traditions in agronomy, forestry and meadow management. The pioneers of this new discipline 'looked to variegated "virgin" nature as a model of harmony, efficiency, and productivity that the agriculturalists should strive to emulate.'¹⁹ These scientists could be regarded as the rationalist wing of the neo-romantics, and shared the conservative romantics deep respect for all life.²⁰

Different Marxists aligned themselves with these different traditions of thought, largely according to their interpretations of Marx. Thus the environment became a major issue after the Bolshevik revolution. The Marxists influenced by Plekhanov interpreted Marxism as a science of natural and human history showing the inevitability of the triumph of communism in which the proletariat, having seized the means of production, will release the pent up forces of production constrained by capitalist social relations. This form of Marxism continued the utilitarian attitude to nature of the nihilists.

Radically opposed to these were the left-wing Marxists (the Forward Group, named after the Bolshevik journal *Vpered*), most importantly, A. V. Lunacharskii and Aleksandr Bogdanov. These Marxists were familiar with the ideas of German thought - Herder, Goethe, Schiller, Hegel, Schelling and the Romantics who had created the intellectual milieu within which Marx had developed his basic ideas, and the later developments of these ideas in philosophy and the sciences. They believed that the goal of communism was to overcome the divisions between people and the alienation this engendered and to create a genuine, democratic community within which divisions between organizers and the organized would be overcome. To this end, they believed that communism required the creation of a new culture (*Proletkul't*) to replace the culture on which capitalism had been based. This culture would include a new science conceiving nature and humanity as self-organizing activities/resistances, which would enable the proletariat to properly understand themselves and their potentialities and to organize democratically. Developing the tradition of science inspired by Schelling and von Humboldt, they were naturally aligned with the third tradition of conservation.

¹⁸ See Billington, *op.cit.*, p.443f. On this tradition, see Andrew Cunningham and Nicholas Jardine, eds, *Romanticism and the Sciences* (Cambridge: Cambridge University Press, 1990).

¹⁹ Weiner, 1988 *op.cit.* p.12.

²⁰ Weiner acknowledged this in Weiner, 1999 *op.cit.*, p.62.

The struggle was played out within the complex figure of Lenin, the leader of Bolshevism. Manifestly, Lenin aligned himself with Plekhanov and what came to be orthodox Marxism. He was vehemently and particularly hostile to Aleksandr Bogdanov whom he saw as a political threat, and he was hostile to the whole idea of developing a new proletarian culture and even more so to the idea of developing a new science. However, Lenin was also influenced by the tradition of Humboldtian science, having read M.N. Bogdanov's *From the Life of Russian Nature* and V.N. Sukachev's *Swamps, Their Formation, Development and Properties*, a pioneering text in community ecology. And as an activist, Lenin was opposed to the determinism of orthodox Marxists. Such interests were reflected in his philosophical speculations and his apparent dissatisfaction with orthodox Marxism. He developed his own notion of dialectic to give a place to consciousness in the struggle to transform society. This was the dialectic between spontaneity and consciousness, a dialectic in which spontaneity had an important part to play, but which would eventually be brought under conscious control. This justified the development of a vanguard party to lead the spontaneous opposition to capitalism of the proletariat and the peasantry. While Lenin's most celebrated philosophical work, *Materialism and Empirio-criticism*, was a relatively crude attack on the ideas of Bogdanov and the radical Marxists, he later undertook a careful study of Hegel's *Logic* and came to the conclusion that most Marxists did not understand Marx. As he put it, 'It is impossible to understand completely Marx's *Capital*, and especially its first chapter, without having thoroughly studied and understood the *whole* of Hegel's *Logic*. Consequently, half a century later none of the Marxists understood Marx.'²¹ So while hostile to left-wing Marxism and the *Proletkul't* movement it generated, Lenin was no orthodox Marxist and was sympathetic to their attitude to nature and the third tradition of environmental thought, the tradition based on anti-mechanistic science.

Conservation After the Bolshevik Revolution

Lenin's concern with conservation and support for the third tradition became evident soon after the revolution. In January 1919, with the Bolshevik government fighting for its life, Lenin took time out from his other concerns to hear the case for conservation. He allowed the formation of ecological zones in which exploitation of natural resources was prohibited. These wilderness reserves were placed under the auspices of Narkompros, the Commissariat for Enlightenment (or Education) directed by the left-wing communist Lunacharskii, and staffed and promoted by some of Russia's leading scientists, including the bio-geologist Vernadskii. This included participation in the creation of the first republican-level *zapovednik* in the Miass region of the southern Urals, the Il'menski *zapovednik*, formalized on 4th May, 1920. Initially

²¹ From Lenin, *Philosophical Notebooks*, cited in Robert C. Tucker ed., *The Lenin Anthology* (New York: Norton, 1975), p.639.

promoted by some of Russia's leading geologists, including Vernadskii, this was the first national *zapovednik* to be created by a government exclusively in the interests of the scientific study of nature.

By 1925, Narkompros was required to organize a whole new agency to 'unify and regulate the policies of the various commissariats and governmental agencies involving questions of conservation.'²² By late 1927, 29 wilderness reserves with a combined area of about three million hectares had been established, with twelve more reserves_ having been promoted by the State Committee on Conservation, at some stage of environmental review.²³ There were also hundreds of game reserves and hundreds more 'monuments to nature'. Taken together these territories had a combined area of 7 million hectares; and beaver, saiga, moose and egrets were moving away from the brink of extinction. By 1929 there were 61 *zapovedniki* with a combined area of 3,934,428 hectares.²⁴

These *zapovedniki* became the bases for scientific research, opening up new lines of enquiry and community ecology (the study of *biocenoses* or biotic communities) flourished as nowhere else in the world.²⁵ By the 1930s, Soviet ecologists were years if not decades in advance of Western ecologists.²⁶ One of the most promising figures was Vladimir Vladimirovich Stanchinskii who, influenced by Vernadskii, studied the food webs of biological communities to show how energy was appropriated and transformed until all the energy potential had been exhausted. He invoked the Second Law of Thermodynamics to explain the decreasing biomass for each level of the trophic ladder - from autotrophs, which get their energy from the sun, to herbivores to carnivores. Stanchinskii argued that by studying the energy flows in a whole range of biocenoses, humans would be able to calculate the productive capacities of these natural communities and would be able to structure their own economic activity in conformity with them. He also saw such a program of biocenotic research as an aid in achieving biotic protection of cultivated croplands and thereby overcoming the need to use harmful pesticides. However, Stanchinskii was only one of a vibrant community of highly original thinkers in the field. Other research included Alpatov's work on the role of density in regulating animal populations, Severtsov's statistically based attempts to correlate fertility with longevity in animals, and Gauze's experiments in population dynamics which led him to postulate the competitive-exclusion principle for which he is still known.

²² *Ibid.*, p.53.

²³ See Weiner, 'The Historical Origins of Soviet Environmentalism', *op.cit.* p.387f.

²⁴ *Ibid.*, p.61.

²⁵ *Ibid.*, chap.6, 'Models of Nature: The *Zapovedniki* and Community Ecology'.

²⁶ This is evident from Kashkarov's survey textbook of community ecology, *Environment and Community*, published in 1931. See *ibid.*, p.164ff.

Lunarcharskii, Bogdanov and the Radical Bolsheviks

Why should the radical Marxists be supporters of conservation? One obvious connection has already been suggested. Like the radical Marxists, the conservationists had their roots in early nineteenth century German thought and its developments. Both radical Marxists and conservationists were hostile to mechanistic, utilitarian forms of thinking and were influenced by the anti-mechanistic ideas inspired by the German Romantics. However, there was more to the radical Marxists than this. To fully understand the program of the radical Marxists and why they were natural allies of the conservationists it is necessary to understand their whole project.

The radical Marxists were influenced by Georges Sorel, the theorist of anarcho-syndicalism. Arguably, despite their willingness to embrace new ideas and to criticize Marx's ideas, these Marxists were much closer to the spirit of Marx's thought than those who thought of themselves as orthodox.²⁷ They were opposed to authoritarian forms of organization and believed that the goal of communism is to create a society in which workers will control their own destinies. Like Sorel, they believed that ideas (or 'myths') were important to inspire people to action. Lunacharskii's main contribution to the radical Marxists was his (and Gorkii's) plan for a socialist religion of humanity to counter the arid atheism of Plekhanov's Marxism and the turn to 'God-seeking' of former revolutionaries.²⁸ Bringing religion down to earth, socialism should provide a sense of community, satisfy the yearning to transcend oneself and satisfy the quest for communion with the universe and the rest of humankind. The core of this vision was the celebration of human creativity and sociality and the quest to liberate these from oppressive and divisive social forms. This was the defining feature of the radical Marxists.

Lunacharskii himself was a literary critic, dramatist and art theoretician and was most concerned to promote the arts.²⁹ However, the project of the radical Marxists extended to a transformation of all dimensions of culture. The most fully developed philosophical articulation of this vision was provided by the original proponent of *Proletkul't*, Aleksandr Bogdanov, Lunacharskii's brother-in-law.³⁰ Bogdanov rejected the way Marxists had divided social reality into base and superstructure, and he rejected the determining role Marx had

²⁷ This is implied by James D. White brilliant study of the relationship between Marx and Russian thought in *The Intellectual Origins of Dialectical Materialism* (London: Macmillan Press, 1996).

²⁸ On this, see G. L. Kline, *Religious and Anti-religious Thought in Russia* (Chicago: Chicago University Press, 1968).

²⁹ See A. Lunacharsky, *Self-education of the Workers: The Cultural Task of the Struggling Proletariat* (London, 1919).

³⁰ Other figures in this movement were V.A. Bazarov, P. Yushkevich, I.A. Berman, S.A. Suvorov, N. Valentinov and the novelist Maxim Gorkii.

ascribed to the forces of production. For Bogdanov, what was crucial in Marx's thought was his emphasis on the primacy of social praxis, particularly as this had been expounded in the *Theses on Feuerbach*. Economic life, Bogdanov argued, is an integral part of social being, and social being is identical to social consciousness.³¹ Reformulating Marx, Bogdanov argued that social being has two levels, the technical and the organizational. The organization of activity at the technical level generates technical knowledge or technology. Technology denotes not material equipment but the organization and utilization of knowledge related to external nature. Increasingly complex technology requires more complex organizational forms. This is the realm of ideology, or what has been called in idealist philosophy, the realm of spirit - concepts, thought, norms, all of those things which are called ideas in the broadest sense of the word.

Conceiving culture and its history in such terms revealed what is required to create a socialist society. Only when the proletariat can oppose the old cultural world with its own political force, its own economic plan and its new world of culture, with its new, higher methods, will genuine socialism be possible.³² So, just as Marx, adopting the standpoint of the working class, had transformed economics, all domains of culture need to be transformed in accordance with this new perspective. Art, literature, philosophy and science were all accorded importance by Bogdanov as ideological labour, their object being a transformation of the way people organize their experience in order to achieve a common understanding of the world. Bogdanov believed that the greatest contribution he could make to fostering a proletarian culture was to develop a new science of organization. Building on the anti-mechanistic ideas of Ernst Haeckel and the Monist League, he devoted most of the rest of his life to this, producing what he regarded as his most important work, *Tektology: The Universal Organizational Science*.³³

Bogdanov believed that our organizational experience could be used as a substitute for understanding the rest of nature, and argued that this provides

³¹ A.A. Bogdanov, *Poznanie s istoricheskio tochki zreniia* [*Knowledge from an Historical Point of View*], (St. Petersburg, 1902), p.193f.; translated and quoted by Alexander Vucinich, *Social Thought in Tsarist Russia* (Chicago: University of Chicago Press, 1976), p.212.

³² Aleksandr Bogdanov, *Voprosy sotsializma*, [*Problems of Socialism*], (Moscow: t-vo. knigoizd. pisatelei v Moskve, 1918), p.73.

³³ A.A. Bogdanov, *Tektologia: Vseobshchaya Organizatsionnay Nauka*, [*Tektology: The Universal Organizational Science*], Vol.I, (St. Petersburg, 1912); Vol.II, (Moscow, 1917); Vol.III, (Moscow, 1922). The revised, third edition of 1925 was recently republished in two volumes (Moscow: Ekonomika, 1989). The first volume of this has been translated, edited by Peter Dudley, and published as *Bogdanov's Tektology, Book I*, (Hull: Centre for Systems Studies Press, 1996), p.72ff. *Essays in Tektology* is essentially a condensation of the three volume work.

the basis for a monistic world-view, allowing us to see ourselves as self-organizing participants in a self-organizing nature. It is not only we who organize. Nature itself is the first great organizer, and humans are only one of its organized products. 'Inorganic' nature is highly organized. 'Matter,' Bogdanov argued, 'with all of its inertia, is being perceived as the most concentrated complex of energy, that is, precisely activities; its atom is a system of closed motions, the speed of which exceeds all others in nature.'³⁴ And the simplest of living cells 'surpasses in complexity and perfection of its organization all that man can organize.'³⁵ Bogdanov concluded:

Thus, the experience and ideas of contemporary science lead us to the only integral, the only monistic understanding of the universe. It appears before us as an infinitely unfolding fabric of all types of forms and levels of organization, from the unknown elements of ether to human collectives and star systems. All these forms, in their interlacement and mutual struggle, in their constant changes, create the universal organizational process, infinitely split in its parts, but continuous and unbroken in its whole.³⁶

It was because culture was seen as so central to the creation of genuine socialism that the radical Marxists gravitated to the Commissariat of Enlightenment, Narcompros.³⁷ The *Proletkul't* movement, originally promoted by Bogdanov and taken up by Lunacharskii, was organized soon after the Bolshevik revolution as part of a more radical project to encourage the workers to develop a new culture that would enable them to organize themselves and their productive activity. Lunacharskii's first declaration as Commissar of Narcompros was:

The people themselves, consciously or unconsciously, must evolve their own culture ... The independent action of ... workers', soldiers', and peasants' cultural-education organizations must achieve full autonomy,³⁸ both in relation to the central government and to the municipal centres.

The Proletkul't movement opposed both the New Economic Policy and Trotskii's proposal to establish a command economy, and inspired the Workers' Opposition who strove to democratize the factories.³⁹ From Lenin's point of view, the radical Marxists placed too much emphasis on the role of spontaneity in the creation of a socialist society, particularly in the circumstances of the time, and he felt threatened by Bogdanov. However, these were the people to entrust the protection of the spontaneity of nature. Their cosmology, in

³⁴ Bogdanov, *Essays in Tektology*, p.42.

³⁵ *Ibid.*, p.5.

³⁶ *Ibid.*, p.6.

³⁷ On Lunacharskii's policies and influence, see Sheila Fitzpatrick, *The Commissariat of Enlightenment* (Cambridge: Cambridge University Press, 1970).

³⁸ Quoted *ibid.*, p.89.

³⁹ Zenovia A. Sochor, *Revolution and Culture: The Bogdanov-Lenin Controversy* (Ithaca and London: Cornell University Press, 1988).

recognizing the dynamic creativity of humanity and their capacity to be self-organizing, simultaneously called for communion with the cosmos and revealed the self-organizing dynamics of nature. It was a short step from here to appreciate the need to give due regard to these dynamics and to appreciate the importance of conserving the natural environment.⁴⁰ Having gained power over conservation it is hardly surprising that Narcompros would support scientists such as Vernadskii and the ecologists, particularly Stanchinskii. These were the scientists who belonged to the same tradition of thought as the radical Marxists and consequently developed ideas consonant with Bogdanov's tektology.

Conservationists Versus the Stalinists

In 1928 Stalin, who had initially supported the New Economic Policy, reversed his stance and embraced his erstwhile opponents' view (Trotskii, Zinoviev and Kamenev) that the whole economy should be centrally organized, and in the process established himself as dictator. In 1929 he set in motion the first Five Year Plan as a comprehensive strategy to industrialize the Soviet Union and to collectivise agriculture and launched a cultural revolution. While under the New Economic Policy Lenin had given a central place to spontaneity, with Stalin's move to a totally planned economy, spontaneity was to be dominated by "consciousness." All aspects of society, including its education, art and literature were to be reduced to instruments of the economy. Narcompros was subordinated to the economic commissariats and in September 1929, Lunacharskii resigned his position as commissar in protest at the repudiation of his ideals of humanistic education and cultural pluralism.

This logic was ineluctably extended to the domination of science by the party, and this involved a new attitude towards nature. Initially, the Militant Dialectical Materialists, A.M. Deborin and his colleagues of the Communist Academy, were empowered by this new regime. They attempted to dictate the form that science must take, requiring of scientists that their theories accord with Engels' *Dialectics of Nature*. This book had been written between 1873 and 1883 but was not published until 1925. The Deborinites soon challenged the claim by ecologists to have the true materialist view of nature. But they merely wished to make ecology conform to Engels' view of nature, not to destroy it. While their efforts resulted in the silencing of some ecologists, particularly those who had promoted reductionist ideas, most, including Stanchinskii, were able to reformulate their ideas to accord with this scheme. Stanchinskii simply stressed the historical, dynamic and dialectical nature of his concept of biocenosis, replacing the static notion of 'equilibrium' with the more acceptable 'proportionality' and emphasizing the continuous self-creation of the

⁴⁰ As Bogdanov appeared to do. See Loren R. Graham, "Bogdanov's Inner Message" in Alexander Bogdanov, *Red Star: The First Bolshevik Utopia*, ed. Loren R. Graham and Richard Stites (Bloomington: Indiana University Press, 1984).

biocenosis. He depicted this self-creation of the biocenosis as emerging from interactions between both its components and the abiotic environment, with the result that new syntheses were continually arising in successional series.⁴¹

After all, [Engels'](#) work itself belonged to the tradition of German anti-mechanist science. And Engels' work justified the concern with conservation.

However the Deborinites soon fell from favour. They were challenged by a new breed of academic politicians led by M.B. Mitin who attacked Deborin for not serving the revolution. Reviving the ideas of the nihilists of the 1860s that science should be nothing but an instrument for the development of technology, they gained the support of Stalin who dismissed Deborin and his colleagues as 'Menshevizing idealists'.⁴² Thereafter, proletarian science was no longer anti-mechanistic science, but science in the service of Five Year Plans devoted to the domination of nature.

In September 1929, the same month that Lunarcharskii had resigned as head of *Narcompros*, the remaining conservationists within the bureau convened the First All-Russian Congress for the Conservation of Nature in order to plan the course of the conservation movement. Stanchinskii argued that a truly planned economy functioning within the sustainable limits of the productivity of nature could be achieved only with the active participation of conservationists. He pointed out how biocenotic research could aid in such areas as biotic protection, which would obviate 'the use of pesticides, which often contain toxic substances ... that not only kill the pests but cause injury to human and to useful organisms.'⁴³ His concern for the applicability of ecological research was manifest in his proposals for the siting of wilderness parks (*zapovedniki*). He argued: 'We must select for *zapovedniki* the most typical territories which will have the greatest economic significance as natural *etaloni* [models]... The network of *zapovedniki* must be linked with the Five Year Plan.'⁴⁴ It was also proposed at the congress that an inventory of all natural resources in the Russian Soviet Federal Socialist Republic be made, and it was argued that the conservation organizations must be able to review Plan targets and monitor Plan fulfilment. Stanchinskii's arguments carried the day, and the Congress resolved:

The economic activity of man is always one form or another of the exploitation of natural resources ... The distinction and tempo of economic

⁴¹ Douglas R. Weiner, 'Community Ecology in Stalin's Russia', *Isis*, 75, 1984, 684-696, p.692.

⁴² That Stalinism was a conscious throwback to the nihilism of the 1860s has been argued by James H. Billington in *The Icon and the Axe*, (New York: Vintage Books, 1970), p.534f.

⁴³ Cited by Douglas Weiner in *The History of the Conservation Movement in Russia and the U.S.S.R. from its Origin to the Stalin Period*, Ph.D. Thesis, Columbia University, 1983, p.334.

⁴⁴ Cited *ibid.* p.338.

growth can be correctly determined only after the detailed study of the environment and the evaluation of its production capacities with the aim of its conservation, development and enrichment. This is what conservation is all about.⁴⁵

The ecologists became trenchant critics of the implementation of collectivization. To the project of increasing harvests by 35% A.A. Teodorovich exclaimed: 'without conservation, without rational ... use of natural resources there cannot be any talk about increasing the harvest.'⁴⁶ N.N. Podiapol'skiii; an agronomist warned in March, 1930 that the tractor and the combine would be environmentally destructive, imposing a uniformity hitherto unknown. And the ecologist Kashkarov opposed the collectivization of traditional societies, arguing that:

... the entire life cycle of the Kirghiz is determined by ecological considerations ... The Kirghiz is the product of his habitat: His annual cycle of activity and his nomadic wanderings are dictated by ecological considerations, his psychology and practical philosophy of life as well.⁴⁷

Such attitudes were completely at odds with the new orientation of the Stalinists. This orientation was exemplified by a young Soviet engineer, M. Ilin who wrote a book for young students, *New Russia's Primer: The Story of the Five-Year Plan*. With titles of chapters such as 'Conquerors of Their Own Country', 'The Conquest of Water and Wind', 'On the March for Metal', and the 'The War with the Kilometres', Ilin pronounced:

Within a few years all the maps of the U.S.S.R. will have to be revised. In one place there will be a new river... in another a new lake... A great new power has appeared in Nature - the power of human labour. Not only the blind forces of Nature, but also the conscious, organized, planned labour of man now fashions rivers and lakes, plants forests, and transforms deserts, moderates and accelerates the flow of waters, creates new substances and new species of plants and animals.⁴⁸

Inevitably, conservationists, indeed, the whole science of ecology, came under attack from the proponents of the new order. On 30th June, 1930 a letter from V.V. Karpov was published in the journal of conservation *Okhrana prirody* attacking the organization for conservation. Karpov argued:

It is clear ... that the old theory of conservation of nature for the sake of nature itself ... an idea which reeks of ancient cults of nature's deification ... stands in sharp opposition both to our economic as well as our scientific

⁴⁵ *Ibid.* p.348.

⁴⁶ *Ibid.* p.353.

⁴⁷ *Ibid.* p.377.

⁴⁸ M. Ilin, *New Russia's Primer: The Story of the Five-Year Plan*, trans. George S. Counts and Nucia P. Lodge (Boston and New York: Houghton Mifflin Co., 1931), p.141f.

interests that there is no place for it in our land of socialism-in-the-making...⁴⁹

The general aim of the Stalinists was expounded by Kashchenko:

The final goal of acclimatization, understood in the broad sense, is a profound rearrangement of the entire living world - not only that portion which is now under the domination of man, but also that portion that has still remained wild. All living nature will live, thrive, and die at none other than the will of man and according to his designs. These are the grandiose perspectives that open up before us.⁵⁰

The assault on the conservation and ecology movement was soon underway. In 1933 Prezent and Lysenko visited Askania-Nova, following which they succeeded in closing down Stanchinskii's pathbreaking research. Stanchinskii and his supporters were vilified as 'mongrels of society' and 'saboteurs' and were arrested, presumably for opposing Stalin's great plans for the great transformation of nature. The reserve was converted to the All-Union Institute for Agricultural Hybridization and Acclimatization of Animals. At the Academy of Sciences' Ecological Conference of January, 1934 Prezent explained that the holistic conception of the biocenosis implied natural limits to the ability of people to transform nature and was therefore in opposition to socialist construction. Following this, Prezent prevented (after the book had been typeset) the publication of Stanchinskii's major work and succeeded in putting an end to much of the original theorizing on ecology in the Soviet Union.

The Survival of the Conservation Movement

Recent research by Douglas Weiner has revealed that Prezent was not as successful in destroying ecology and the conservation movement as had been generally believed. The conservation movement, and even ecology, survived, although theoretical ecology stagnated.⁵¹ In the early 1930s the area of land in *zapovedniki* was actually increased from 3,934,428 hectares in 1929 to 6,114,568 hectares in 1933.⁵² However, administrators were under increasing pressure to make them serve a purely economic function, conservationists were continually on the defensive and the ecologists continued to be derided as bourgeois, as undertaking science for science's sake, and as being excessively concerned with protecting the inviolability of wilderness.

One of the most important conservationists was Vailii Nikitich Makarov, a former Social Revolutionary who in 1930 had been appointed director of the Zoological Museum of Moscow State University and then president of the All-

⁴⁹ Cited Weiner, 1983, *op.cit.*, p.424.

⁵⁰ Cited *ibid.* p.517.

⁵¹ Weiner, 1999, *op.cit.*, p.60f.

⁵² Weiner, 1988, *op.cit.* p.243.

Russian Society for Conservation (VOOP) in 1931.⁵³ Makarov instituted a policy of 'protective coloration', muting criticism of the regime's resource policies and paying lip service to 'socialist reconstruction' while preserving the Society as a place where alternative visions of development could be freely discussed. Under Makarov's leadership, the conservationists continued to campaign with some success even during the purges of 1934 and 1937. Their gains were due to the success with which they were able to rebuild personal relationships with the leadership of the RSFSR and other republics. In particular, the Premier of RSFSR, Rodionov, protected the conservationists.

It was not until after the Second World War that the conservationists' achievements were really undermined. In March, 1949 Rodionov was removed from office and later executed. In the same year Makarov's effective leader of the *zapovedniki* system was ended when A.V. Malinovskii was appointed head of the Main *Zapovednik* Administration. Malinovskii recommended that large tracts of land be taken away from the *zapovedniki* and opened up for economic exploitation. In 1950 VOOP came under sustained attack. In 1951 Makarov was removed from its presidency and efforts were made to dissolve the organization. VOOP survived, but was transformed and essentially corrupted. But then in 1953 Stalin died and the conservation movement came to life again.

In 1954 a conference on the nature reserves was convened by three voluntary organizations, VOOP, the Moscow Society of Naturalist (MOIP) and the Moscow branch of the Geographical Society of the USSR (MGO). Extending beyond concern with the *zapovedniki*, new voices were heard expressing concerns that prefigured a broader agenda for the movement, the issues of pollution and resource management outside the reserve system. This was the beginning of the conservation movement that played an increasing part in criticizing government policies and practices in the following decades.

Although VOOP was in disarray and geographers and geologists came into prominence at the meeting in 1954, this movement was still continuous with this early conservation movement. But while the later environmental movement had some successes, it was a mere trace of what it might have been if Stanchinskii and his colleagues had had their way. Then ecology would have been the dominant science mediating between humans and their environment. It would have provided the framework within which all economic planning would have been formulated. However, for the ecologists to have succeeded to this extent, the Soviet Union would have had to have taken a radically different path than it did either in the 1920s under the New Economic Policy or with the rise of Stalin and the centrally planned economy. However, the environmental movement of the second half of the twentieth century was not only a development of the conservation movement of the 1920s. It was a surviving remnant of the project of the radical Marxists to create a new culture, the core

⁵³ On Makarov and his successes, see Weiner, 1999, *op.cit.*, p.39ff.

of which was to have been a new science that construed humans as creative, self-organizing participants in a creative, self-organizing nature. This would have formed the foundation for overcoming class divisions and creating a society where work was democratically organized, an alternative to both the NEP and to Stalinist centralization.

Why did the conservation movement survive in any form? Perhaps because the original Bolsheviks who had survived the Stalinist purges realized that this movement represented the core ideals that Bolshevism originally stood for. Clearly the New Economic Policy was seen by Lenin as a pragmatic compromise with the times. While Lenin felt threatened by Bogdanov, there was no doubt of his fondness for Lunacharskii, even when against his decrees Lunacharskii continued to promote the *Proletkul't* movement. Lunacharskii embodied the highest ideals of communism. Nobody who had struggled against the autocracy of the Tsars and participated in the revolution could believe that Stalin represented what they had fought for. Scientists, as Bogdanov argued, were people who had overcome the division between intellectual and manual labor, between organizers and organized. The conservationists were exemplary scientists, clearly upholding with great courage a realm outside an order in which everyone and everything was being reduced to mere instruments. They were the people thinking about the long-term future of society, humanity and nature. It is hardly surprising that members of government made up of the original Bolsheviks were sympathetic to them and protected them from the Stalinists. The conservation movement was the ghost of authentic communism.

Conclusion

The history of the Soviet Union shows that there is a close relationship between the way nature is understood and treated and the way people are understood and treated. Fyodor Dostoevskii's nephew, Andrei Dostoevskii, was one of those deported to the White Sea Canal project, part of Stalin's project to totally transform nature. Perhaps 120,000 people died on this project. After a year of labor, Dostoevskii managed to return to Leningrad. This convinced his close friend, Andrei Petrovich Semenov-tian-shanskii, 'that violence to nature and violence to people literally went hand in hand.'⁵⁴ If this is so, then any social order organized for domination will be destructive of both nature and of people. A capitalist economy reduces nature to nothing but a source of raw materials to be exploited, and people to nothing but labor power to be used to generate profits. As it dehumanizes people, it purveys a world-view denying any significance to people or to nature. Driven by dynamics that escape the comprehension of all but a few of its participants, it inexorably destroys the environmental conditions not only of its own, but also of humanity's continued existence. But under a centrally planned economy people and nature were also denied significance. They were regarded as mere forces to be bludgeoned into

⁵⁴ Quoted by Weiner, *ibid.*, p.355.

instruments of the grandiose projects of its governing elites. The outcome was a pathetically corrupt system that, even in the eyes of its leaders, had undermined the creativity of its people and had damaged nature so badly that its economic plans were being undermined. A centrally planned economy is not the answer to capitalism as Soviet ideologists proclaimed; it generates if anything even more environmental destruction.

By contrast, the radical Marxists wished to foster human creativity, not reduce people to instruments, and this way of thinking extended to the rest of nature. These Marxists, and Bogdanov in particular, appreciated that not only capitalism has immanent dynamics that are ultimately destructive of the conditions of its own existence. A bureaucratically organized society could also develop self-destructive dynamics. The only way to avoid such dynamics would be to create a society in which the division between organizers and organized had been overcome; that is, to create a genuinely democratic society. Under these conditions people would freely choose their futures. This would have been real communism. Whether this social form would have inspired and enabled people to develop their economies without destroying their environments is still an open question. It has not yet been tried.