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The influence of Friedrich Engels on Alexander Bogdanov's *Basic Elements of the Historical View of Nature*

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Abstract

Alexander Bogdanov's first work of philosophy, *Basic Elements of the Historical View of Nature*, was fundamentally influenced by Friedrich Engels. As a Marxist philosopher seeking to elaborate a comprehensive, systematic, and scientific worldview appropriate for worker–students, Bogdanov found inspiration in Engels's *Anti-Dühring*, which provided him with his monist conception of being and his 'historical view of nature' and pointed him toward three critical elements of his work: the monism of motion (energy), Spinoza's naturalist and determinist system, and Charles Darwin's conception of natural selection. Bogdanov's overall goal was to demonstrate that in nature, life, the psyche, and society there is no such thing as self-generated motion; all change occurs because of external action. For the individual and for society this means that existence determines consciousness, and societies evolve as a result of their struggle for existence, which is manifested first and foremost in labor.

Keywords Bogdanov · Engels · Monism · Naturalism · Determinism · Dialectic

Introduction

Alexander Bogdanov was a polymath whose philosophical works are highly original constructions that give evidence of vast knowledge of the scientific and philosophical literature of his day. Bogdanov never discussed his intellectual influences, however, and this has given rise to a great deal of speculation regarding the sources of his ideas, which has ranged from Wilhelm Ostwald to Herbert Spencer to Ernst Haeckel to a host of lesser known writers.[1] As far as his first work of philosophy, *Basic*

[1] For example, Sochor (1988) mentions Wilhelm Ostwald, Henry Louis Le Chatelier, Charles Darwin, and Herbert Spencer. Gloveli and Biggart (1991) name Ostwald, Darwin, Ernst Haeckel, Ludwig Noire, George Simmel, Alois Riehl, Théodule Ribot, Félix le Dantec, Friedrich Nietzsche, and Joseph Dietzgen. Gare (2000) mentions Ludwig Noire and discusses the relevance of Haeckel and Ostwald. A few scholars suggest the importance of Spinoza. Bugaeva (2016) points out that Bogdanov uses Spinoza's treatment of emotions

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Elements of the Historical View of Nature (Bogdanov 1899) is concerned, very little has been said,[2] and, for the most part, the usual suspects have been rounded up.[3] What has been oddly overlooked, in my opinion, is the influence of *Marxism*—the works of Marx and Engels—on Bogdanov.

It is not that anyone denies that Bogdanov was a Marxist but that the emphasis has been on Bogdanov as a *revisionist*[4]—that he wanted to 'update' Marxism. This no doubt explains the attention that has been paid to the possible influence on him by European thinkers who were 'more modern' than Marx or Engels. It also explains why no one has previously noticed Bogdanov's intellectual debt to Friedrich Engels. Just the opposite, since he is famous for criticizing Engels's application of the Hegelian dialectic to nature, it would seem self-evident that Bogdanov must have rejected Engels's philosophical and scientific outlook. This certainly seemed obvious to Georgi V. Plekhanov and Vladimir I. Lenin, the two most respected Russian Marxists of the day,[5] and Bogdanov himself never admitted any debt to Engels and frequently indicated his differences from him.[6]

However, in this article I shall argue that in the writing of *Basic Elements* Bogdanov was inspired first and foremost by Engels. This debt begins with 'the historical view of nature' of the title, which is Engels's dialectical conception of change shorn of the Hegelian triad. Engels also gave Bogdanov his conception of being and pointed Bogdanov in the direction of all the key elements of Bogdanov's worldview: monism of motion (energy), Spinoza's naturalism and determinism, and Darwin's conception of natural selection. In fact, contrary to the common understanding that

Footnote 1 (continued)
in *Empiriomonism*. Gare (2000) suggests that Spinoza influenced Bogdanov through his reading of Haeckel, while Wegner (2011) links Spinoza to Bogdanov by way of Spinoza's influence on Haeckel and Mach.

[2] Only Alexander Vucinich, James White, and Nikolai Krementsov have written more than one or two sentences about it, and even they devote no more than a few pages to it (Vucinich 1976; White 1998, 2019a; Krementsov 2011).

[3] Alexander Vucinich calls Bogdanov's historicism 'a synthesis of Darwin and Ostwald' (Vucinich 1976). Krementsov (2011) calls it 'a peculiar mix of Herbert Spencer's positivism, Ernst Haeckel's monism, Charles Darwin's evolutionism, and Karl Marx's historical materialism', White (1998) discusses the influence of classical German philosophy on Bogdanov through his reading of Ludwig Noiré.

[4] The great exception here is James White who has argued that 'If Bogdanov's critics had taken the time and effort to compare Bogdanov's ideas with those of Marx, especially with Marx's early writings, they would have found that, far from being a heretic, Bogdanov represented the mainstream of Marx's thought and had highlighted some of its main themes' (White 2019a). See also White (1978).

[5] Plekhanov condemned *Basic Elements* as a 'decisive rejection of materialism' (White 2019a). In 1908, in the course of the split between Lenin and Bogdanov, Lenin's 'Ten Questions to a Lecturer', which were intended to expose Bogdanov's deviation from Marxism, made no reference to Marx at all, but only to Bogdanov's supposed rejection of Engels and of 'dialectical materialism'. Lenin began with '1. Does the lecturer acknowledge that the philosophy of Marxism is dialectical materialism ? If he does not, why has he never analysed Engels' countless statements on this subject?' He followed this with a series of statements by Engels that he called on Bogdanov to accept or refute (assuming that Bogdanov would refute them) (Lenin 1962).

[6] In *Empiriocriticism*, Bogdanov criticizes materialists who argue that matter is what causes sensations but who do not realise that this inevitably leads to Kant's notion of things-in-themselves. 'This was approximately the point of view of the French materialists of the eighteenth century and of the modern philosophers Engels and his Russian disciple, Bel'tov [Plekhanov].' (Bogdanov 2019 [1906]). Bogdanov also devoted a considerable part of his chapter, 'Dialectical Materialism,' in *The Philosophy of Living Experience* to a thorough critique of Engels's discussion of the dialectic in the Anti-Dühring (Bogdanov 2016 [1923]).

Bogdanov synthesised a wide and eclectic variety of thinkers to create a distinctive and original worldview to 'update' Marxism, I will argue that in fact he was intent on creating a truly Marxist scientific philosophy and that he purposefully chose to be guided by the authoritative Marxist texts on science.

The purpose and goals of *Basic Elements*

Given that Bogdanov did not discuss his influences, my conclusion may be considered just as speculative as any other. The citations in this article will reveal an obvious similarity between Bogdanov's and Engels's ideas, but the question that must be answered is: does this similarity reveal the influence of Engels on Bogdanov or does it suggest no more than that the two thinkers took their ideas from a common source or perhaps even that the similarities are coincidental?

These latter two possibilities would be reasonable conjectures if Bogdanov had written for the contemporary scholarly community, and it would then make sense to comb through Bogdanov's works looking for the sources of his ideas in European scientific and philosophical literature.

This approach, however, ignores the fundamental feature of Bogdanov's attitude toward philosophy; in the period 1897–1906, he was not an armchair philosopher but a revolutionary Marxist.[7] He did not discover Marxism at the end of a philosophical quest but began to identify as a Marxist before he began to write philosophy, and his Marxist outlook shaped his philosophical development. In the third book of *Empiriomism*, published in 1906, Bogdanov wrote, "And if Marxism is a true scientific theory, and no philosophy is organically connected to it, then it is necessary *to ground philosophy in a Marxian way* (having elaborated philosophy in a Marxian way, of course) but in no way to ground Marxism on some sort of philosophy" (Bogdanov 2019 [1906]).

If Bogdanov wanted to write a work of scientific philosophy from a Marxist point of view, it is unthinkable that he would *not* have begun with Engels's main works on science that were currently available, the *Anti-Dühring* and *Socialism: Utopian and Scientific*.[8] Consequently, if we find that Bogdanov developed key ideas and concepts that appear in these works, we should consider it most probable that Bogdanov took Engels as his starting point before speculating about other possibilities.

The purpose and the audience of *Basic Elements* should also be considered. On the face of it, *Basic Elements* is not a scholarly contribution to the contemporary European quest for a scientific philosophy; instead, as Bogdanov himself said later, it was intended to serve "the broad needs of our workers for an overall worldview"

[7] Bogdanov wrote his first two works, *A Short Course of Economic Science* and *Basic Elements of the Historical View of Nature* as a result of leading Social-Democratic workers' study groups. In 1899 he was arrested for 'social propaganda' and spent four years in provincial exile. He collaborated with Lenin in the creation of the Bolshevik party, and during the Revolution of 1905, he wrote tactical leaflets about armed uprising, served on the Bolshevik bureau in St. Petersburg, and served on the Executive Committee of the St. Petersburg Soviet of Workers' Deputies. He continued to be an active Bolshevik until his break with Lenin in 1908.

[8] Engels's *Dialectics of Nature* was not published until 1925.

(Bogdanov 1925). Thus, Bogdanov did not provide any sort of scholarly apparatus, and he did not engage with the works of other scientific philosophers. Moreover, the title page announced that it was "by the author of *A Short Course of Economic Science*" implying that it would be of interest to the same Social-Democratic worker-activists for whom Bogdanov had written his first book. Additionally, *Basic Elements* was written in a popular and accessible style, and the most difficult issues of human psychology and cognition were placed in an appendix rather than in the text where they logically belonged but where they might have caused a non-specialist reader to stop reading. Since Bogdanov was writing for Social-Democratic workers, it is hard to imagine that his inclusion of Engels's ideas could have been accidental and not intended.

There are two more considerations that suggest that Bogdanov was indeed influenced by Engels's works: the identical nature and goals *A Short Course of Economic Science* (Bogdanov 1897) and *Basic Elements of the Historical View of Nature*, and the relevance of Engels's project in the *Anti-Dühring* to the needs of Russian Marxists in their polemic with the Narodists.

A Short Course of Economic Science

In the autumn of 1894, at the beginning of his third year studying natural sciences at the University of Moscow, Bogdanov was found guilty of 'student activism,' was expelled from the university, and was exiled to the provincial city of Tula, an industrial centre.[9] Tula was a place of exile not only for student activists but for workers who had been radicalised by Social-Democratic agitators in St. Petersburg. Some of these workers had formed study circles to continue their Marxist education, and Bogdanov was approached by one of the organisers to give lectures in political economy. Bogdanov's political orientation up until that time had been toward Narodism, he had an unclear conception of scientific socialism at the time, and he began by teaching economics from bourgeois textbooks. 'Lively discussions' with his students led Bogdanov further into the study of Marxism (Bogdanov 1924), and over the course of 1896, he began to call himself a Marxist. He developed lectures on economics from a Marxist perspective, and in 1897, he gathered those lectures together to create his first book, *A Short Course of Economic Science*.

A Short Course of Economic Science was unlike anything written by another Russian Marxist intellectual in the 1890s. Works by the leaders of Russian Marxism—G. V. Plekhanov, P. B. Struve, V. I. Lenin, for example—were highly polemical works that either defended the superiority of the Marxist over the Narodist interpretation of Russian economic trends or argued in favour of one or another strategy or set of tactics for the Social-Democratic movement. Bogdanov's *Short Course*, on the contrary, had no polemical content; it was simply an economics textbook for worker–students, a straightforward, systematic presentation of the principles of political economy from a Marxist perspective.

[9] For detailed coverage see White (1981, 2019b).

The Marxian content was obvious, as attested to by Lenin. "The chief merit of Mr Bogdanov's *Course* is the strict adherence to a definite line[10] from the first page to the last, in a book that treats of many and very extensive problems,' and 'Mr Bogdanov, in general, uses only the terminology of the school of economics to which he adheres" (Lenin 1960b). But Bogdanov did not limit himself to explaining the principles of *Capital* at an introductory level. His *Short Course* was a highly original work of research and synthesis in which he revealed an extraordinary talent for systematically organising a field of knowledge into a coherent whole. Bogdanov clearly had read widely in European history, and he placed the principles of Marxian economics seamlessly into a historical narrative. He first introduced the basic concepts of political economy, followed this with a history of the European economy, and concluded with history of European economic thought.

Even when Bogdanov touched on subjects far afield from *Capital*, he still wrote from a Marxian perspective. He divided European history into the periods of primitive clan communism, slavery, feudalism and guilds, and, capitalism, and he presented them from the standpoint of historical materialism: i.e. the idea that a society's economic base determines its cultural superstructure. In Lenin's words,

> in outlining a definite period of economic development in his "exposition" he usually gives a sketch of the political institutions, the family relations, and the main currents of social thought in connection with the basic features of the economic system under discussion. The author explains how the particular economic system gave rise to a certain division of society into classes and shows how these classes manifested themselves in the political, family, and intellectual life of that historical period, and how the interests of these classes were reflected in certain schools of economic thought. (Lenin 1960b)

Bogdanov's modus operandi in *A Short Course* can be summarised as follows. He began by adopting the outlook of historical materialism and mastering the content of *Capital*. He acquired a broad knowledge of European social and economic history. He then wrote an economic textbook for workers that expressed Marxian economic concepts, was written from a Marxian perspective, and was a highly original, synthetic, and systematic. Because it was a textbook, Bogdanov did not cite his sources, and, because of the tsarist censorship, he did not mention Marx's name.

As we shall see, *Basic Elements* can be characterised in exactly the same way.

[10] Lenin was writing in a legally published journal and could not write 'Marx' or 'Marxism' because of tsarist censorship.

The philosophy and science of Marxist determinism

The fact that a Marxist who led groups of workers in the study of economics wrote a Marxist economics textbook needs no explanation, but why would a Russian Marxist think the workers needed a systematic worldview? The answer, I believe, is to be found in the context of the debate over Russia's future that raged between Narodists and Marxists[11] in the middle of the 1890s.

The Narodists argued that Marx's economic analysis applied only to Western Europe and that Russia, whose economy was based on the redistributory, communistic peasant commune, could bypass the capitalist stage of development and move directly to socialism. The Marxists believed that in *Capital* Marx had described a process of development that was universal, and they argued that according to the laws of economics Marx had discovered, capitalism would inevitably expand in Russia, the commune would be crushed, and the agents of the coming socialist revolution would not be the peasantry but the industrial working class.

This had clear practical implications for revolutionary activists–whether they should devote their activities toward the peasantry or the working class—but it had moral implications as well. The Narodists had no scientific theory promising them success. They emphasised the 'subjective element' in history—the key role of individuals choosing of their own free will to work against heavy odds for a progressive, morally desirable outcome. The Marxists *did* have a theory that promised success, and they were confident that they were part of an historically inevitable process—in the long run, socialism would triumph.

The problem for the Marxists was the short run. They found themselves in the position of welcoming a morally repugnant historical process—the breakdown of the peasant commune, the dispossession of Russian farmers, the rise of private property, the domination of capitalist selfishness and greed, an immiserated working class, etc. The way out of this moral dilemma was to insist upon the scientific, determinist aspect of Marxism. Those who considered the rise of capitalism to be a progressive phenomenon considered themselves to be dispassionate, scientific observers of a historical process that was not the result of their subjective desire but of the impersonal, inexorable forces of history. If Marxism was not a science, then welcoming the rise of capitalism would be morally indefensible.

The Narodist-Marxist conflict burst into polemical flame with the publication of a provocative article in 1894 by the great publicist, N. K. Mikhailovskii. In it he asserted that Marxists are not "materialist in the general philosophical sense … nor are they interested in the scientific side of materialism." The basis of his claim was that, in order to be scientific, socialism must be shown to be "the final link of a chain of causes and effects, the scientific necessity of which is scientifically proven." This, he said, is precisely what the Marxist conception of history fails to show. History, Mikhailovskii argued, is made by human beings who possess free will, who are not

[11] The fact that many individuals who were labeled 'Narodist' were actually followers and friends of Marx is not important here. Discussions of this can be found in Mendel (1961), Kindersley (1962) and Pipes (1970), but by far the most comprehensive treatment appears in White (1996, 2019b).

subject to the laws of material nature, and "who are guided by certain goals and ideals" (Mikhailovskii 1894).

This was not a polemic that Bogdanov was immediately involved in, however. In January, when Mikhailovskii's article was published, Bogdanov was in his second year at university and identified as a Narodist. But it would seem that Bogdanov was aware of the debate, from a remark he made in the introduction to Book III of *Empiriomonism*, "even at a time when I was not particularly familiar with the Marxist worldview, it always struck me as amusing when the so-called critical Marxists of the day argued that Marxism still 'was not philosophically grounded'" (Bogdanov 2019). This must have been a reference to Peter Struve (the leading 'critical', i.e. neo-Kantian, Marxist) who remarked in *Critical Remarks on the Question of the Economic Development of Russia* (1894), "we cannot but recognise that a purely philosophical foundation of this doctrine [historical materialism] has not yet been given" (Struve 1894).

Even if we cannot know for certain that Bogdanov read Struve's book, we do know that Bogdanov read Lenin's response, 'The Economic Content of Narodism and the Criticism of it in Mr Struve's Book,' since he credited it as a decisive factor in his decision to join the Social-Democratic camp (Bogdanov 1923). Moreover, immediately after quoting the passage from Struve cited above, Lenin added: "from the standpoint of Marx and Engels, philosophy has no right to a separate, independent existence, and its material is divided among the various branches of positive science" (Lenin 1960a). Lenin's reference, as we shall see, was not to 'Marx and Engels' but specifically to Engels's *Anti-Dühring*.

In fact, Mikhailovskii had misunderstood what Engels was up to in the *Anti-Dühring*. When Mikhailovskii made reference to 'the scientific side of materialism' and 'the final link of a chain of causes and effects' he had in mind the out-dated model of metaphysical materialism—the 'billiard ball' conception of the universe as consisting of material particles interacting according to the laws of motion. (Such a model would have supported the Narodist and not the Marxist position, since metaphysical, mechanistic materialism had failed to explain how an immaterial mind can acquire reliable knowledge of the world and had ended up with Kantian dualism—a dualism that provided for a transcendent world of free will, morality, etc.)

Engels proposed far different concepts of causation, material reality, and change (to be discussed below), and he also defended scientific socialism from another angle—the perspective of the practicing natural scientist, which is to discover the laws of nature through empirical research and experiment and not to be concerned with metaphysics. From such a perspective, Marx had undertaken an empirical study of economics, social development, and history and had produced a scientific description of the world. According to Engels, 'modern materialism,' by which he meant Marxism,

> no longer needs any philosophy standing above the other sciences. As soon as each separate science is required to get clarity as to its position in the great totality of things and of our knowledge of things, a special science dealing with this totality is superfluous. What still independently survives of all former

> philosophy is the science of thought and its laws—formal logic and dialectics. Everything else is merged in the positive science of Nature and history. (Engels 1939)

It should not be at all surprising that this approach would have appealed to Bogdanov, who had been engrossed in the study of science since high school. He had then studied the natural sciences for two and a half years at the University of Moscow, and, at the time he became a Marxist in 1896, he had already been studying psychology in the Medical Faculty of the University of Kharkov for a year. As Bogdanov put it later:

> At the time when life, in the form of comrade-workers, prompted me to become familiar with Marx's historical materialism, I was occupied principally with the natural sciences and was an enthusiastic supporter of the worldview that could be designated as the 'materialism of natural scientists.' ... Attempting to arrive at a strict monism in cognition, this worldview constructs its picture of the world entirely out of one material – out of 'matter' as the object of physical sciences.... A strict tendency of scientific objectivism is thereby attached to monism and from this proceeds the extreme hostility of this philosophy to all the fetishes of religious and metaphysical-idealistic worldviews. (Bogdanov 2019)

It would thus appear that Engels's natural-scientific view of Marxism—prompted by Lenin—helped to propel Bogdanov toward becoming a Marxist.

Basic Elements of the Historical View of Nature

Like his *Short Course of Economic Science*, Bogdanov's *Basic Elements of the Historical View of Nature* included a vast amount of knowledge accumulated from a variety of sources, which Bogdanov organised into an original, coherent, synthetic system of scientific philosophy. And, also like the *Short Course*, Bogdanov took classic works of Marxism as his starting point and his guide. Only in this case he looked not to *Capital* but to *Herr Eugen Dühring's Revolution in Science* and *Socialism: Utopian and Scientific*. Because it was a textbook, he did not cite his sources, and, because of the tsarist censorship, he could not mention Engels's name.

Engels

The influence of Engels first appears in the title of Bogdanov's book, since the 'historical view of nature' is nothing other Engels's dialectical view of change shorn of Hegelian triadic logic, which Bogdanov replaced with the idea of 'dynamic equilibrium'. (I will return to this later, as I follow the order of Bogdanov's presentation.)

Next, Bogdanov's definition of truth is very similar to Engels's. Engels dealt with the question of how we can trust sense perceptions in the following way:

> The proof of the pudding is in the eating. From the moment we turn to our own use these objects, according to the qualities we perceive in them, we put to an infallible test the correctness or otherwise of our sense-perception. If these perceptions have been wrong, then our estimate of the use to which an object can be turned must also be wrong, and our attempt must fail. But, if we succeed in accomplishing our aim, if we find that the object does agree with our idea of it, and does answer the purpose we intended it for, then that is proof positive that our perceptions of it and of its qualities, *so far*, agree with reality outside ourselves. (Engels 1975)

Bogdanov applied the concept much more expansively, using it as a means of evaluating all cognition:

> Truth is distinguished by the fact that it does not contradict reality. … An error is a contradiction of reality, it contradicts 'nature', and it is revealed only when the false judgement either connects or collides with reality. ... People come into contact with reality, with nature, in all the various processes of their activity – cognitive, productive, destructive, etc… Judgements obtained by previous cognition can serve as a starting point and can lie at the basis of further activity, no matter what kind. It is then that a judgement's agreement with or contradiction of reality – the falsity or truth of the judgement – becomes clear. (Bogdanov 1899)

Bogdanov also took from Engels the idea that truth is relative. According to Engels we should be "extremely distrustful of our present knowledge, inasmuch as in all probability we are but little beyond the beginning of human history, and the generations which will put *us* right are likely to be far more numerous than those whose knowledge we … are in a position to correct" (Engels 1939). Bogdanov said that "no kind of cognition can provide unconditional, absolute truth.… Old meaning is necessarily replaced by new…. As activity broadens, former truth becomes insufficient and must change" (Bogdanov 1899).

Engels proposed that the world is not composed of fixed and separate things. "To the metaphysician," he said, "things and their mental images, ideas, are isolated, to be considered one after the other apart from each other, rigid, fixed objects of investigation given once for all" (Engels 1939). Bogdanov agreed. "The essence of this error is the idea that what is in nature is fixed, unchanging, and absolute—the so-called static concept of things" (Bogdanov 1899). "The static conception: nature is the totality of an infinite number of absolutely separate, unchanging, and fixed essences" (ibid).

Instead, Engels replaced the concept of things with the concept of processes. He conceived of reality as a realm of constant change, and he argued that the great merit of the Hegelian system was that "the whole natural, historical and spiritual world was presented as a process, that is, as in constant motion, change, transformation and development; and the attempt was made to show the internal interconnections in this motion and development" (Engels 1939). Engels also replaced mechanical cause-and-effect with the notion of dialectical change "which grasps things and their

images, ideas, essentially in their interconnection, in their sequence, their movement, their birth and their death" (Engels 1939).

This was precisely the position taken by Bogdanov:

> Until now it has been usual to designate the singularity and unity of an observed process by applying one of the old terms – 'object', 'thing', 'force'. But the lasting habit of always attaching a static concept, even if only partly, to these expressions, inevitably gives rise to a certain confusion and lack of clarity. Therefore, we are resolved in the presentation that follows to systematically employ other – although more complex, still less ambiguous – expressions in place of them: 'form of process', 'form of change', 'form of movement'. This must designate not the processes themselves but what in its flow appears to cognition as permanent and particular, what forces us to recognise their unity of existence and singularity within nature. (Bogdanov 1899)

To provide a practical example of how to think of things as continuous and interconnected processes, Engels used the example of an organic being, while Bogdanov used the example of a stone. In Engels's words, "every organic being is at each moment the same and not the same; at each moment it is assimilating matter drawn from without, and excreting other matter; at each moment the cells of its body are dying and new ones are being formed" (Engels 1939). Bogdanov describes the surface of a stone and considers how it continuously shares particles with the air, soil, and moisture of its environment. He concludes that "objects do not possess *complete* singularity from the environment that surrounds them. They merge together with their environment in an endless series of processes of interchange and interaction" (Bogdanov 1899).

In regard to the historical or dialectical view of nature, Engels seems to have had two different conceptions in mind—Heraclitan and Hegelian. In the Heraclitan sense, Engels used 'dialectical' to refer to the thought of the classical Greek philosophers.

> When we reflect on Nature, or the history of mankind, or our own intellectual activity, the first picture presented to us is of an endless maze of relations and interactions, in which nothing remains what, where and as it was, but everything moves, changes, comes into being and passes out of existence. This primitive, naïve, yet intrinsically correct conception of the world was that of ancient Greek philosophy and was first clearly formulated by Heraclitus. (Engels 1939)

Engels also called Spinoza a "brilliant exponent of dialectics" (Engels 1939), and he treated Charles Darwin as a contributor to the dialectical view of nature. "Nature works dialectically and not metaphysically; [nature] does not move in an eternally uniform and perpetually recurring circle but goes through a genuine historical evolution. In this connection, Darwin must be named before all others" (Engels 1975).

It was this sort of dialectical view of nature that Bogdanov took from Engels, and Bogdanov used the word "historical" to refer to it. "According to the historical conception," Bogdanov said, "nature is an endless process made up of an immeasurable

number of finite process that flow together with one another and that do not have completely separate, independent existence" (Bogdanov 1899).

What Bogdanov did not take from Engels was the Hegelian dialectic. Hegel's triadic concept of development, of the unity of opposites, the transformation of quantity into quality, etc. was quite alien to Bogdanov's natural science background, and he rejected it.

> It [the historical view] is frequently designated by the Hegelian term dialectics, dialectical outlook. But it seems to me that the term 'historical' understanding of things expresses the essence of the matter more clearly. The word 'dialectics' implies facts of development that are characteristic, as we will see, rather of only living nature, and it is hard to accept it as universal. Further, the term points precisely to 'development through contradictions' which is even less a universal fact. (Bogdanov 1899)

In place of the dialectic, Bogdanov developed the concept of dynamic equilibrium and dynamic conservatism. Behind the apparent stability (dynamic conservatism) of forms is a dynamic equilibrium of opposing forces in which one predominates over another. There is never an exact equilibrium in any form-process ('thing') but rather a continual variation that in cases of apparent stasis (a rock, for example) are unobservable to human cognition. Liquid water, for example, is a dynamic equilibrium between a tendency to vaporise and a tendency to remain liquid. At 100 °C, a 'crisis' occurs when the force that had been counter-balanced (the tendency of vapour to escape) overcomes the force that had been predominant (the tendency of water to remain a liquid) and the water begins to boil. According to Bogdanov, all processes of nature are subject to this dynamic equilibrium of opposing forces (Bogdanov 1899).

Engels also pointed Bogdanov toward what would be essential to his monist conception of being: the concept of the transformation of energy.

> Although ten years ago the great basic law of motion, then recently discovered, was as yet conceived merely as a law of the *conservation* of energy, as the mere expression of the indestructibility and uncreatability of motion, that is, merely in its quantitative aspect, this narrow, negative conception is being more and more supplanted by the positive idea of the *transformation* of energy, in which for the first time the qualitative content of the process comes into its own, and the last vestige of a creator external to the world is obliterated. (Engels 1939)

This became a key element in Bogdanov's understanding of being and of the laws of nature. Regarding the 'universal law of the unity and conservation of energy', he said,

> According to this law, all forms of energy are commensurable with one another, since a given quantity of energy of one kind can turn into a completely definite quantity of energy of another kind and vice versa. Under such transformations, energy is not lost, does not disappear. All that a given body loses of one form of energy is acquired by it or its surroundings in the same form or in other forms of energy. It is only the form of energy that changes; its quantity remains unchanged. More briefly, the law is expressed thus: 'Energy is one and eternal.' (Bogdanov 1899)

It has often been suggested that Bogdanov was influenced by Wilhelm Ostwald's monist conception of energy, but that is not self-evident in *Basic Elements*, in which Bogdanov mentions Ostwald only twice. He refers to Ostwald the first time in a footnote where he only cites Ostwald's lecture, "The Inadequacy of Scientific Materialism," but draws no conclusions regarding energetical monism from it, and the second time where he quotes Ostwald to the effect that the concept of energy does not require the concept of matter.[12]

In fact, Bogdanov does not actually say that the basis of reality—being—is energy, and neither does Engels. For Engels the key concept involved in the 'transformation of energy' is actually 'motion (so-called energy)' (Engels 1939). This is exactly Bogdanov's position; he does not treat energy as a 'thing' but as *process*, as motion, and hence as the continual process of change that constitutes reality.

> Since energy is manifested only in changes and in nothing more, since it is only measured by them, and since it only is cognized in them, it is obvious that for cognition energy is absolutely the same as the changes that take place in nature. If any particular meaning can be applied to the word 'energy', it can only be that the term expresses the commensurability of all the changes that happen in nature, the reduction of them to one quantitative measure. (Bogdanov 1899)

Spinoza

What Bogdanov did not find in Engels was a philosophical *system*. As noted above, Engels defended scientific socialism from the perspective of the practicing natural scientist, which is to discover the laws of nature through empirical research and experiment and not to be concerned with metaphysics. He did not, for example, justify the Hegelian dialectic on philosophical grounds but simply by providing examples from nature that he thought exemplified it.

Bogdanov, however, sought a holistic, determinist world picture. In order to demonstrate that existence determines consciousness, he needed to deal with the question of the relation of 'mind' and 'matter,' and he also needed to demonstrate the interconnectedness and regularity of universal reality. He found the model for this in

[12] "After all, must not energy have something that carries it!', say the advocates of matter. 'But why?' logically asks Ostwald, 'Is nature really obliged to consist of a subject and a predicate?" (Bogdanov 1899).

the philosophy of Benedict Spinoza, a philosopher recommended in the *Anti-Dühring* as a 'brilliant exponent of dialectics'.

First of all, not only did Spinoza conceive of reality as consisting of a single substance—"the eternal and infinite Being, which we call God or Nature" (Spinoza 1883), but he explicitly did away with the dualism of mind and matter, considering them to be attributes of that single substance, proposing that "the order and connection of ideas is the same as the order and connection of things" (Spinoza 1883). Bogdanov did not conceive of reality as a 'substance,' but, as we have seen, he conceived of nature as consisting of one state of being: 'motion (or so-called energy).'

In *Basic Elements*, Bogdanov did not directly argue that the mind is identical to nature, but he did point in that direction, since he treated life as a form of motion within the other forms of motion that constitute the 'unity of existence.'[13] First, he argues that life is a process of nature like any other. "It is completely natural to call the separateness and unity of a process of life a 'form of life' just as we gave the general term 'form of motion' to the separateness and unity of any process in general. Cognition begins its work on a 'form of life' by singling it out from surrounding nature simply as a particular form of motion" (Bogdanov 1899). And then he makes the same argument about consciousness. "Thus, a certain unity of methods definitely indicates that it would be inaccurate to delimit the sphere of psychology from other realms of biological science too sharply." (Bogdanov 1899).

Second, Spinoza conceived of nature as being subject to universal causality according to the 'principle of sufficient reason':

> Of everything whatsoever a cause or reason must be assigned, either for its existence, or for its non-existence'. 'Everything in nature proceeds from a sort of necessity, and with the utmost perfection'. 'Nature is always the same, and everywhere one and the same in her efficacy and power of action; that is, nature's laws and ordinances, whereby all things come to pass and change from one form to another, are everywhere and always the same; so that there should be one and the same method of understanding the nature of all things whatsoever, namely, through nature's universal laws and rules. (Spinoza 1883)

Bogdanov called this the 'law of specific action', and he formulated it in the following ways. "Experience has shown that in general there are no processes that could change their form without a corresponding external influence—that wherever a change of form is observed, sufficient investigation will be able to ascertain a preceding external influence which caused the change." "Identical forms of processes under identical influences undergo identical changes." "If the same influence in a particular form causes the same change, this means that the action of the given influence on the given form could not and cannot be other than it is. … an effect is completely determined by its conditions" (Bogdanov 1899).

Consistent with the principle of sufficient reason and the idea that the mind is part of nature, Spinoza argued that the operation of the mind is determined by exterior causes. According to Spinoza, "In the mind there is no absolute or free will;

[13] Bogdanov did not *completely* resolve the problem of mind-matter dualism until he adopted the neutral monism of Richard Avenarius and Ernst Mach in *Empiriomonism*.

but the mind is determined to wish this or that by a cause, which has also been determined by another cause, and this last by another cause, and so on to infinity" (Spinoza 1883).

As Bogdanov put it, "Contemporary science recognises that the law of causality is completely applicable to the facts of consciousness and to the psyche in general," and he further state that "the idea of free will would make scientific sociology impossible" (Bogdanov 1899).

> Study leads to the universal law of causality, which is true for all nature, both internal and what is called 'external'. … Consequently, an external world exists which influences the internal world and changes it. But the same law of causality does not permit a sharp, static delimitation of external nature from consciousness. … Thus, the difference between consciousness and external nature is only a relative difference; there is no strict boundary between them. They flow together in the indivisible unity of the world process. (Bogdanov 1899)

Darwin and Spinoza

Although Spinoza's philosophy is unsurpassed as a systematic, monist, determinist, and naturalist worldview, it was what Bogdanov considered to be a product of 'static thinking'. Bogdanov's (and Engels's) conception of being as a continuous flow of processes therefore required a logic of change that was missing from Spinoza's construction. He found this in the Darwinian conception of evolution, which had been validated by Engels as manifesting the dialectical view of nature, but he incorporated Spinoza's principles of striving, pleasure, and pain into his explanation of how natural selection works.

Bogdanov's first principle of evolution reflects Spinoza's assertion that "everything, in so far as it is in itself, endeavours to persist in its own being" (Spinoza 1883). Bogdanov called this 'the struggle for existence': "the struggle for existence is, in general, the expenditure of energy in the external world, directed toward the preservation of forms of life" (Bogdanov 1899). He went on to define the expenditure of energy in terms of 'vital capacity': "that form of life has more vital capacity which with the same expenditure of energy produces more changes in the external environment that are useful for it and that are directed toward the preservation of the form" (Bogdanov 1899).

Moreover, evolution through natural selection—"greater vital capacity is selected and preserved; less vital capacity is eliminated" (Bogdanov 1899)—occurs through the operation of pleasure and pain. It would seem that Spinoza showed the way, when he wrote that "pleasure is the transition of a man from a less to a greater perfection," and "pain is the transition of a man from a greater to a less perfection" (Spinoza 1883).[14] Bogdanov transforms the concept of greater or lesser 'perfection'

[14] Although Spinoza (1883) expressed this in terms of 'man', he really applied it to all of nature, since his propositions regarding the human mind (and body) apply 'not more to men than to other individual things all of which, though in different degrees, are animated'.

into a greater or lesser 'vital capacity': "Pleasure is the psychical reflection of the growing energy of an organism, of its increasing vital capacity. Pain, just the opposite, expresses the lowering of vital capacity" (Bogdanov 1899).

Bogdanov also explains natural selection in a very Spinozian fashion. The mind, Spinoza says, strives to increase pleasure and diminish pain. "The mind, as far as it can, endeavours to conceive those things, which increase or help the power of activity in the body," and "the mind shrinks from conceiving those things, which diminish or constrain the power of itself and of the body" (Spinoza 1883). And here is how Bogdanov describes the phenomenon of psychical selection in the formation of habits:

> Among the various forms of activity of the psychical-motor apparatus of higher organisms, a huge role is played by the phenomena of so-called consciousness; among these are the feelings of pleasure and pain. Pleasure is a kind of state of consciousness which causes motor reactions that are directed toward continuing and repeating it; pain is the opposite state, which is connected with reactions that are directed toward ending and destroying it. (Bogdanov 1899)

Bogdanov also used the same principles to explain the evolution of the psyche itself: "But the theory of biological causality—selection—does not permit any explanation other than that consciousness gradually developed from the unconscious because it was useful for life" (Bogdanov 1899), and, furthermore, that the evolution of the psyche occurred through the seeking of pleasure and avoidance of pain, as in the following passage.

> If we suppose that there is consciousness in an amoeba, then we would have to draw the conclusion that it boils down to the distinction of pleasant and unpleasant, and perhaps a few degrees of force of both. … Thus the primary origin known to us in the realm of life, from which all the grandiose wealth of the human psyche – including its consciousness and unconsciousness – must have developed, boils down to an insignificant number of motor reactions in which the discrimination of useful and harmful, weak and strong stimuli is manifested. We can consider this to be the starting point of the world of reflexes, instincts, feelings, sensation, and will. (Bogdanov 1899)

In fact, Bogdanov so closely adheres to Spinoza's outlook that he approaches panpsychism.

> There still is no absolute lack of consciousness [in the amoeba]. In diminishing the force, complexity, and specificity of consciousness, we change only the quantity and combination of those elements-changes from which consciousness takes shape, and these elements are identical with elements of all other particular processes of nature. In this sense, absolute lack of consciousness is impossible, since it would signify absolute inalterability, pure non-being. (Bogdanov 1899)

Historical materialism

The idea that Bogdanov was creating a specifically Marxist scientific philosophy (and hence would naturally be expected to have read and been influenced by Engels's works on science) is ultimately substantiated by the last section of the book 'Society'. It is here that the purpose of the monist, naturalist, determinist system that he had elaborated up to this point becomes evident: it is to justify historical materialism, the idea that the material, economic basis of a society determines its ways of thinking.

In the first three sections—'Nature', 'Life', and 'Psyche'—Bogdanov had developed the ideas that nature is 'one and eternal', that it is entirely subject to cause and effect, that life is an integral part of nature, and that human consciousness is, as well (i.e., existence determines consciousness). His next task, in the section titled 'Society', was to show how society was also part of nature and subject to its laws, and he did so by applying the concepts of the struggle to survive, vital capacity, and natural selection.

He begins by defining society as "a group of organisms of one species that are connected through consciousness by a certain joint action in the struggle for life," and he asserts that for human beings this social connection "boils down to the joint action of labour, to collaboration." Bogdanov then argues that,

> Since the basic content of social processes consists in the struggle to exist of a group of people through joint labour, social forms cannot be anything other than forms of social labour', and he goes on to say that 'the realm of the external world in which social labour immediately produces changes … is composed of what are called the means of production—the materials and tools of social labour that is immediately directed toward external nature. (Bogdanov 1899)

Bogdanov classifies social forms of adaptation to the environment from direct adaptation to more indirect adaptation as follows:

> First, technological forms – the separateness and unity of those social processes which include in their flow labour activities that are directed toward the immediate change of what is external to society: nature.
> Second, forms of social production or forms of collaboration. Their existence is revealed in the mutual relationships in which people stand in the processes of labour that immediately change external nature.
> Third, ideological forms. Until now we defined them by negative means, that is, they are not technological and not socially-productive. We will try to define them in a different way. In the sphere of technology and in the expressly-productive sphere, people are obviously adapted to the immediate struggle with external nature. Ideological forms are also forms of adaptation. To what does a socialiaed person adapt to in the sphere of ideology? Only one answer is possible: to the technological and socially-productive relationships that are present. Consequently, social forms of ideology are forms of adaptation of society to

> its existing internal relationships in the realm of technology and collaboration. (Bogdanov 1899)

And he concludes,

> The development of social forms is dependent on changes in the means of production. The primary forms of these forms of adaptation are technological. They take shape under the most immediate influence of external changes. Forms of social production – forms of the mutual relationships of people in the immediate labour struggle with nature – change depending on the technological changes that are connected with them. Ideological forms, being the result of the adaptation of social individuals to their technological and social-productive relationships, develop under the influence of changes that occur in the first two groups of forms. (Bogdanov 1899)

Conclusion

The key elements of the world picture that Alexander Bogdanov presented in *The Basic Elements of the Historical View of Nature* reflects key ideas and concepts that were either directly expressed by Friedrich Engels or were expressed by figures—Spinoza and Darwin—whom Engels positively referred to as dialectical thinkers. Bogdanov's goal was to provide a philosophical and scientific substantiation of historical materialism, and he wrote it for the benefit of Marxist worker–students. There would seem to be no reason to hypothesise the formative influence of any other European thinkers upon this work, and I would suggest that echoes of other thinkers that might be found in *Basic Elements* are the incidental result of Bogdanov's broad knowledge of the scientific and philosophic literature of his day.

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Compliance with ethical standards

Conflict of interest The author declares that they have no conflict of interest.

References

Bogdanov, A. (1897). *Kratkii kurs ekonomicheskoi nauki*. Moscow: Izdanie knizhnogo sklada A. M. Murinovoi.

Bogdanov, A. (1899). *Osnovnye elementy istoricheskogo vzgliada na prirodu: Priroda, zhizn', psikhika, obshchestvo*. St. Petersburg: Izdatel.

Bogdanov, A. (1923). Moe prebyvanie v Tule. *Revoliutsionnoe byloe, 2*, 16–18.

Bogdanov, A. (1924). *O proletarskoi kul'ture, 1904–1924*. Leningrad; Moscow: Izdatel'stvo tovarishchestvo 'Kniga'.

Bogdanov, A. (1925). 'Aftobiografiia A. A. Bogdanova (Malinovskogo)'. In G. A. Bordiugov (Ed.) (1995). *Neizvestny Bogdanov v 3-kh knigax. Kniga 1. Stat'i, doklady, i vospominaniia, 1901–1928.* Moscow: AIRO-XX.

Bogdanov, A. (2016 [1923]). *The philosophy of living experience* (David G. Rowley, Trans.). Leiden: Brill.
Bogdanov, A. (2019 [1906]). *Empiriomonism. Essays in philosophy, Books 1–3* (David G. Rowley, Trans.). Leiden, Boston: Brill.
Bugaeva, L. (2016). Bogdanov and Eisenstein on emotions: The affectional, theory of expressiveness, and emotional script. In P. Tikka (Ed.), *Spherical book I*. Helsinki: Tangential Points Publication Series.
Engels, F. (1939 [1878]). *Herr Eugen Dühring's revolution in science.* New York: International Publishers.
Engels, F. (1975 [1880]). *Socialism: Utopian and scientific.* Beijing: Foreign Languages Press.
Gare, A. (2000). Aleksandr Bogdanov's history, sociology and philosophy of science. *Studies in the History and Philosophy of Science, 31*(2), 231–248.
Gloveli, G. D., & Biggart, J. (1991). "Socialism of science" versus "socialism of feelings": Bogdanov and Lunacharsky. *Studies in Soviet Thought, 42*(1), 29–55.
Kindersley, R. (1962). *The first Russian revisionists: A study of 'Legal Marxism' in Russia*. London: Oxford University Press.
Krementsov, N. (2011). *A Martian Stranded on earth: Alexander Bogdanov, blood transfusions, and proletarian science*. Chicago: University of Chicago Press.
Lenin, V. I. (1960a). *Collected works* (Vol. 1). Moscow: Progress Publishers.
Lenin, V. I. (1960b). *Collected works* (Vol. 4). Moscow: Progress Publishers.
Lenin, V. I. (1962). *Collected works* (Vol. 14). Moscow: Progress Publishers.
Mendel, A. P. (1961). *Dilemmas of progress in Tsarist Russia*. Cambridge, MA: Harvard University Press.
Mikhailovskii, N. K. (1894). Literatura i zhizn'. *Russkoe bogatstvo, 1*(pt. 2), 88–123.
Pipes, R. (1970). *Struve: Liberal on the left, 1870–1905*. Cambridge, MA: Harvard University Press.
Sochor, Z. (1988). *Revolution and culture: The Bogdanov–Lenin controversy*. Ithaca: Cornell University Press.
Spinoza, B. (1883). *The ethics* (R. H. Elwes , Trans.). Edinburg: George Bell and Sons.
Struve, P. B. (1894). *Kriticheskie zametki k voprosu ob ekonomicheskom razvitii Rossii*. St. Petersburg: Tip. I. N. Skorokhodova.
Vucinich, A. (1976). *Social thought in Tsarist Russia: The quest for a general science of society*. Chicago: University of Chicago Press.
Wegner, P. E. (2011). Hegel or Spinoza (Hegel); Spinoza and Marx. *Meditations, 25*(2), 103–110.
White, J. D. (1978). From Marx to Bogdanov. *Co-Existence: An International Journal, 15*(2), 187–206.
White, J. D. (1981). Bogdanov in Tula. *Studies in Soviet Thought, 22*(1), 33–58.
White, J. D. (1996). *Karl Marx and the intellectual origins of dialectical materialism*. London: Macmillan.
White, J. D. (1998). Sources and Precursors of Bogdanov's Tektology. In J. Biggart (Ed.), *Alexander Bogdanov and the origins of systems thinking in Russia* (pp. 25–42). Aldershot: Ashgate.
White, J. D. (2019a). *Red Hamlet: The life and ideas of Alexander Bogdanov*. Leiden, Boston: Brill.
White, J. D. (2019b). *Marx and Russia: The fate of a doctrine*. London: Bloomsbury Academic.