



NORTHWESTERN UNIVERSITY
**STUDIES IN RUSSIAN
PHILOSOPHY, LITERATURE,
AND RELIGIOUS THOUGHT**

Volume 1 (2024)

ISSN 3065-0755

Northwestern

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In Search of a Harmonious Whole
Nikolai Strakhov's Organicist Critique of Darwinism

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Abstract

This paper clarifies the Russian naturalist philosopher, Nikolai Strakhov's critique of Darwinian thought as it was presented in a series of articles written from 1862 to 1896. This paper substantiates Strakhov's initial praise for *On the Origin of Species* and his sustained interest in the key Darwinian concept that organisms experience changes through time in Strakhov's broader philosophy. Strakhov's analysis of Darwinism, as this paper shows, is rooted in his adherence to the philosophical movement of Organicism, which dictates that the world is to be understood as one coherent, interconnected whole. On this basis, Strakhov critiques Darwin's dethroning of man as the highest organism in the natural world, his interpretation of the world as a series of "random occurrences," and above all else, Darwinism's ostensible theory of "external teleology," as opposed to the organicist notion that all organisms contain an inner purposiveness. Borrowing from Hegelian philosophy and working with the texts written by his close friend, the Russian philosopher Nikolai Danilevsky, Strakhov purports that in order to understand any organism, one must recognize its internal teleology. According to Strakhov, Darwinian thought, precluding the notion of internal teleology and thus perfectibility, presents an incomplete and even erroneous view of the world.



Keywords: Nikolai Strakhov, Organicism, Charles Darwin, Nikolai Danilevsky, Kliment Timiriachev, natural selection, Hegel, teleology



In Search of a Harmonious Whole

Nikolai Strakhov's Organicist Critique of Darwinism

Jillian Pignataro

In the 1860s, the Russian intellectual landscape was fundamentally altered by the introduction of Charles Darwin's (1809–1882) distinct evolutionary theories. For Russian materialists, Darwin's *On the Origin of Species* was a triumph, while the Tsarist regime and Russian Orthodox philosophers were largely disturbed by its arrival. As an Orthodox believer and a trained biologist and zoologist, the idealist and organicist Nikolai Strakhov (1828–1896) was uniquely poised to be the most important polemicist of Darwinism in Russia. Although Strakhov initially praised Darwin's *Origin*, he quickly became one of Darwin's most virulent critics, an "uncompromising anti-Darwinist."¹ Strakhov's organicism, his belief in the inherent wholeness of the universe, dictated this critique. According to Strakhov, Darwinism, which is mechanistic and not organicist, denies that the universe is interconnected, that organisms are arranged hierarchically, and that man occupies the supreme position in this world. As a consequence, Darwinism deprives organisms of any *a priori* guiding principle, a "goal" ordained in creation, and therefore precludes any theory of "internal teleology."

If one looks at the entirety of Strakhov's criticism leveled against Darwinism beginning in 1862 and continuing until Strakhov's death in 1896, it is clear that his principal issues concern Darwin's belief in "blind chance" and "randomness," Darwinists' degradation of man as the apex of organic life, the pervasive materialism and nihilism among Darwin's followers, and the preclusion of internal teleology in Darwinian thought. The interpretation that Darwin had argued in favor of a world governed by chance was widespread in its time, even from scientists. For example, Darwin's close mentor, the prolific scientist John Herschel (1792–1871) famously called the theory of natural selection "the law of higgledy-piggledy."² In relation to Strakhov, scholars have examined many of the aforementioned

1. Alexander Vucinich, *Darwin in Russian Thought* (University of California Press, 1989), 103.

2. James G. Lennox and Charles H. Pence, "Darwinism," *The Stanford Encyclopedia of Philosophy* (Summer 2024), ed. Edward N Zalta & Uri Nodelman, <https://plato.stanford.edu/archives/sum2024/entries/darwinism/>.

points of contention; in particular, Strakhov's anthropocentrism has been emphasized. In this essay, I will provide a broad analysis of an aspect of Strakhov's anti-Darwinism that remains insufficiently studied, his theory of internal teleology. Internal teleology is fundamental to Strakhov's organic worldview, which holds that an organism is a total living system that functions with internal purposiveness, each part interdependent to each other and the whole. Naturally then, internal teleology is a concept Strakhov admittedly borrows not from the natural sciences but from German Idealism, particularly from the work of his most important influence, the organic philosopher G.W.F. Hegel (1770–1831).

As one scholar notes, Strakhov's organicism "decisively shaped" how he understood Darwinism and provided the springboard by which he subsequently rejected it.³ Considering organicism is Strakhov's primary philosophical preoccupation from which all of his philosophical arguments derive, I will begin with an overview of this philosophy. Organicism originates in Plato (427–348 B.C.) and is given broader shape in the work of several German Idealists, including Hegel, especially with regard to his metaphysics of Nature. In organicism, the universe is conceived as one cohesive, living whole, harmonious, and precluding any superfluous elements; all organisms within this whole are microcosms of the macrocosm, or functionally purposive wholes unto themselves.

Strakhov's most robust definition and defense of organicism is to be found in his book *The World as Whole* (*Mir kak tseloe*). Published in 1872, *The World as Whole* is a collection of essays, many of which were written in the 1850s and 1860s, on organic and inorganic nature and man's place in the universe. In this work, Strakhov clarifies what he means by the titular phrase:

The world is a harmonious whole [стройное целое] or, as they say, a harmonious, organic whole. That is, the parts and phenomena of the world are not just connected but subordinated; they represent a ladder of right [правильную лестницу], a pyramid, and best of all, a hierarchy of beings and phenomena. The world, as an organism, has parts that are less important and more important, higher, and lower; and the relationship between these parts is such that they represent harmony, serve one another, and form one whole in which there is nothing superfluous or useless.⁴

Another fundamental aspect of Strakhov's organicism was its theistic foundation. Strakhov believed that order was given to the universe upon its creation and that the interconnectedness of all organisms was a consequence of the participation of all organisms in a shared, spiritual realm. Because of this belief, Strakhov was strictly opposed to the idea that scientific inquiry and empiricism exhausts one's knowledge of the universe. Strakhov's understanding of the

3. Brendan G. Mooney, "Strakhov on Darwinism: Humans, Progress, and Organicism" in *Reading Darwin in Imperial Russia: Literature and Ideas* (Lanham, Maryland: Lexington Books, 2023), 104.

4. Strakhov, *Mir kak tseloe*, Predislovie k pervomu izdaniju (Moscow: Ajris press, 2007), 67.

limits of empiricism was also the impetus for his opposition to spiritualism and mysticism. Strakhov's primary critique is that spiritualists were misguided in their attempts to justify their belief in the supernatural by searching for the presence of the divine in the material world. Strakhov even writes that Darwinism is a "delusion" that can be put on par with spiritualism.⁵ Considering the extent to which mysticism pervaded Russian idealist philosophy in the early 20th century, particularly with the influence of Vladimir Solovyev (1853–1900), with whom Strakhov feuded, Strakhov's simultaneous anti-materialism and anti-spiritualism was highly unique. Though resonances of Strakhov's organicism can be seen in many of the Russian neo-idealists, ultimately Strakhov's legacy was carried by his pupil, the controversial religious thinker Vasily Rozanov (1856–1919). Rozanov's belief in the unity of humanity and the common, divine origin of all organisms was inspired by Strakhov.⁶

In order to understand Strakhov's critique of Darwinism as it relates to teleological questions, it is important to begin with Strakhov's first encounter with the theory. The Russian translation of Darwin's *On the Origin of Species* was not published until 1864; however, Darwin's discoveries had been discussed and analyzed in Russia for several years prior. Not only was the French translation published in 1862, but Russian thinkers also had access to critical reviews from abroad, which naturally contained summaries of Darwin's seminal text.

Strakhov was the first thinker to introduce Darwin's *Origin* in some capacity to a Russian audience. Strakhov was not an unlikely figure to have brought Darwinism to Russia. Though a seminarist like many of his fellow *raznochintsy*, Strakhov had a consistent interest in science. In fact, shortly before his encounter with Darwin's *Origin*, in 1857, Strakhov completed his master's thesis, titled "On Mammalian Wrist Bones" (*O kostiakh zapiast'ia mlekopitaiushchikh*), which was subsequently published in the *Journal of the Ministry of Public Education (Zhurnal ministerstva narodnogo prosveshchenija)*. Shortly before Darwin's book was published in London (November 1859), Darwin's mentor, the geologist Charles Lyell (1797–1875) gave a public lecture to the British association for the Advancement of Science, in which he provided a scant overview of Darwin's discoveries. In January 1860, Strakhov published an abridged translation of Lyell's address. This translation was titled "The Appearance of Man on Earth" (*Pojavlenie cheloveka na zemle*). Unfortunately, Strakhov did not provide much information on *Origin* and Darwinian theory in this article since he had yet to read the book.⁷

It may be assumed that Strakhov first read *Origin* once it was translated into French in 1862. This is also the year that Strakhov writes his first review of Darwinian theory, an essay titled "Bad Signs" (*Durnye priznaki*), published in the Dostoevsky brothers' journal

5. Strakhov, Strakhov, *Mir kak tseloe*, Predislovie ko vtoromu izdaniyu, 76.

6. Adam Ure, "Rozanov, the Creation, and the Rejection of Eschatology," *The Slavonic and East European Review*, Vol. 89, No. 2 (April 2011): 224.

7. Brendan G. Mooney, "What is in a Word? A History of the Words 'Evolution' and 'Natural Selection' in Russian and of Kliment Timiriazev's Legacy as a Translator and Popularizer of Darwinism" in *Reading Darwin in Imperial Russia: Literature and Ideas* (Lanham, Maryland: Lexington Books, 2023), 13–60.

Time (Vremya). Despite its title, which alludes to the possible "social Darwinist" conclusions the French translator incautiously attached to Darwinism, "Bad Signs" is a largely positive assessment of Darwin. Above all else, Strakhov was enthusiastic because Darwin's *Origin* definitively showed that organisms are not static entities. The stringent belief in the constancy of organisms may be ascribed to the influence of the French zoologist, Georges Cuvier (1769–1832), who famously constructed a system of animal taxonomy. Cuvier's theory is rooted in the broader philosophical position known as essentialism. In short, essentialism is the belief in essences and may be traced back to Plato's "theory of forms." Plato and subsequent metaphysical positions founded on his essentialist theory allege that all organisms have been endowed with immutable properties, i.e., essences, or what Plato often termed forms. Plato's theory of forms, laid out in his dialogue *Phaedo*, states that all similar objects participate in a single shared form, a universal "-ness." Plato believes that the world of forms is in a sense more real than the world of empirical objects. Therefore, the universal property, the shared form that an object participates in, is a better reflection, a more "essential" property of the object than any feature detectable by the human eye.

Strakhov does not refer to essentialism as such nor Plato in "Bad Signs"; however, he does describe the "old worldview," that is the view that Darwin's *Origin* combats, as one dependent on a belief in "essences" [сущности]. Strakhov writes that if, according to essentialism, organisms are given immutable characteristics upon creation, then organisms necessarily go unchanged over time. In this way, this old worldview propounds a world that is a mere "accidental collision" [случайное столкновение] of these unchanging properties.⁸ The philosophical tides had been turning for decades if not centuries prior to 1859 and Darwin's discoveries; essentialism was questioned any moment man realized that knowledge was not the mere piecemeal "acknowledgement" of "eternal treasures of truth."⁹ However, Strakhov believed that Darwin's book represented a "great progress" and "huge step" in the field of natural sciences. It provided a succinct and accessible rebuttal to essentialism and the stagnancy it necessarily propounded. For the first time, Darwin proved the variability of species, that they evolve and gradually degenerate from one form to another; most importantly, Darwin articulated the mechanism by which this occurs, his law of natural selection—the struggle for the means of existence among all organic beings.

Albeit brief, "Bad Signs" shows how optimistic Strakhov was in 1862 with regard to Darwin and the theories laid out in *Origin*. Nevertheless, over the course of the 1860s, Strakhov cemented his position as one of the most virulent and prolific anti-Darwinists in the history of Russian thought. For instance, in 1873, Strakhov writes that "the rapidity with which Darwin's theory gained followers does not at all correspond to its intrinsic dignity" and that the current

8. Nikolai Strakhov, "Durnye priznaki (O knige Ch. Darvina "Proiskhozhdenie vidov")" in *Kriticheskie stat'i* (1861–1894) (Kiev, 1902), 385.

9. *Ibid.*

passion for Darwin is "deeply false" and "extremely ugly."¹⁰ Importantly, Strakhov never denies the merit behind Darwin's initial discovery, namely that species evolve, change form, and regenerate from each other. However, according to Strakhov, Darwin never successfully proves his theory of natural selection.

Several scholars have attempted to explain Strakhov's apparent ideological shift from a position supporting Darwin's *Origin* to that of an unequivocal anti-Darwinist. The scholar Alexander Vucinich views Strakhov's shift as a proper conversion. According to Vucinich, Strakhov had abandoned his former belief in evolution and advocated instead for philosophical idealism, a change that was fueled by his support for the Tsarist regime against its radical critics of the 1870s. In 1848, the Tsarist government implemented requirements in natural sciences in all gymnasiums. However, as Russian youth began to adopt radical politics, the regime associated these ideological trends with Darwinism. In short, Darwinism bolstered Materialism which, in turn, substantiated a nihilistic worldview. Notably, in 1871, with the assistance of the Russian historian Mikhail Pogodin (1800–1875), Strakhov convinced the Minister of Public Education Dmitri Tolstoy (1823–1889) that Darwinism was a "pseudo-science" rooted in "anti-Russian" sentiment and dogmatic materialism. Tolstoy ultimately revised the requirements for gymnasium curricula, precluding all study of the natural sciences.¹¹

Nevertheless, Vucinich's claim that Strakhov launched a campaign against science as such is spurious. According to Vucinich, Strakhov "conducted bitter attacks on science as an archenemy of the sacred values of Russian culture."¹² By "sacred values," we may presume Vucinich is referring to Orthodoxy. Science is not at odds with religion; however, scientific inquiry does have its limitations. At the end of *The World as Whole*, Strakhov refers to "real knowledge," which satisfies a human's need to not just understand the material world but to apprehend the spiritual. Naturally, "real knowledge" is not gained from empirical, scientific inquiry alone. In short, Strakhov apprehended the critique of what would be termed naturalism in the 20th century, that is the belief that all investigation of reality and the human spirit can be discerned through scientific means. Vucinich is also reductive when he states that Strakhov believed Russia must abandon Darwinism because it does not align with the "established," Cuvierian science.¹³ This false claim was echoed by one of Strakhov's ardent ideological opponents, who wrongly suggested that Strakhov "worshipped" Cuvier.¹⁴ On the contrary, Strakhov found Cuvier's belief in the "constancy of species" to be illegitimate. Over a decade after writing "Bad Signs," and after pressuring Tolstoy to amend the official

10. Nikolai Strakhov, "Darvin," *Filosofskaja kul'tura: Zhurnal russkoj intelligencii*, no. 2 (July-Dec 2005, St. Petersburg) <https://www.hrono.ru/proekty/metafizik/fk208.html>.

11. Vucinich, 103–104.

12. *Ibid.*, 103.

13. *Ibid.*, 102–103.

14. Kliment Timiriazev "Oprovergnut li darvinizm?" *Izbrannye sochinenija v 4-kh tomakh*, tom. 4 (Moscow: Sel'hozgiz, 1948–1949).

gymnasium curriculum, Strakhov writes that Darwinism's "main strength consists in the ingenious hypotheses about the very process of how species change."¹⁵ When Strakhov does discuss Cuvier alongside Darwin, he does not praise one or the other. Instead, Strakhov uses Cuvier as an example to denounce the dogmatism of Darwinists. Followers of the aforementioned essentialist worldview did not adhere to the belief that species are created and remain static because they believed in the validity of this theory. On the contrary, scientists followed closely behind Cuvier's essentialism simply because Cuvier said so and, as Strakhov writes, "it was impossible to dare to say otherwise." Strakhov continues, "That's how things go in the sciences. For some reason, some opinions begin to be considered orthodox, and others heretical; then the whole mass of scientists stubbornly and fervently stand for orthodox opinions, while heretical ones hardly dare to speak out and are met with general contempt."¹⁶

Among contemporary Darwinists, Strakhov saw a dangerous and undeserved adherence. Strakhov was undoubtedly concerned about the sweeping, seemingly blind acceptance of Darwin's theories. Even Darwin himself could not have imagined the "revolution" that his own theories galvanized in the field of natural science and beyond. Nevertheless, Darwin is still to blame. Strakhov writes in 1873 that every scientist has a certain prejudice to view their own findings as supremely authoritative, but this prejudice was particularly strong in Darwin.¹⁷ Strakhov discusses the hubris of believing that one's ideas are categorically superior to all that came before. Strakhov writes,

Highly intelligent historians of recent times, imagining that they themselves walk in the truth, often present the entire history of people as wandering in mistakes, and the entire progress of this history as a gradual liberation from delusions. But if we are convinced that people's opinions have a different meaning beyond the objective truth, then maybe we will not look so arrogantly at past times and will not prematurely boast about the present.¹⁸

In regard to Darwinism, though the old, aforementioned essentialist worldview contained very little "truth," it most certainly contained a "higher" and, most notably, more "moral" meaning.¹⁹

In opposition to Vucinich, the scholar Brendan Mooney argues that Strakhov did not experience an ideological conversion, but that his praise for Darwin was made on false assumptions. Strakhov mistakenly believed Darwinian theory was congruent with his own idealistic philosophy, his anthropocentrism, and his progressive and teleological vision of

15. Strakhov "Darvin."

16. Ibid.

17. Ibid.

18. Ibid.

19. Ibid.

life.²⁰ Mooney writes, "The history of life on earth, according to Strakhov's view, is driven by an intrinsic teleological, perfecting force that culminates in humanity."²¹ Strakhov's anthropocentrism, which Mooney stresses, is undeniable. In *The World as Whole*, Strakhov writes that not only is the world one coherent whole, but that man is the center of this world:

Man is the peak of nature, the node of being. Man is the greatest mystery and the greatest miracle of the universe. He occupies a central place in all directions of the connections connecting the world into one whole; he is the main essence and the main phenomenon and the main organ of the world. (Preface to the first edition)

Materialists and Darwinists throughout the 1870s had abandoned the fact that man is the "knot of the universe." In worshipping atoms, a materialist breaks up the world into its smallest components, he looks for a way out of this whole; he seeks to break the ties connecting him with this world, to "break his umbilical cord."²²

If one analyzes Strakhov's "Bad Signs," it is clear that Strakhov was not necessarily confused by what he knew of Darwin so far but was instead overly optimistic about its eventual development. In reality, when Strakhov praised Darwin, he simply did not have enough knowledge of Darwinian thought to realize how incongruent it was to his own organic thinking. In "Bad Signs," Strakhov reiterates his support for Darwin's theory that all organisms develop through "interaction, reproduction, improvement, and struggle"; however, he admits this "process of *internal* development" is "very complex" and not at all clear.²³ This presumes that though Strakhov saw merit in Darwin's hypothesis, he expected Darwin to present a more thorough explanation of the theory of the variability of species and evolution more generally.

Before discussing Strakhov's interpretation of Darwin's version of teleology, it is productive to consider the competing critical opinions on this subject. Teleology is the doctrine that there is a design and a purpose to the universe. Aristotle (384–322 BC) is the progenitor of teleological thinking. In his *Physics*, Aristotle presents his four causes, that is the principal explanations for movement in nature. Aristotle's fourth cause, the "final" cause states that an organism contains within itself a *telos*, that is an end or purpose. Whereas Plato's teleological thinking emphasized the external source of all change, namely the Demiurge, Aristotle believed that an organism's *telos* was immanent in nature.²⁴ Aristotelian thinking was suffused throughout early scientific thinking, was integral to the debates surrounding vitalism and mechanism in the 18th century, and culminated in Darwin's theory of natural

20. Mooney, "Strakhov on Darwinism," 102.

21. *Ibid.*, 103.

22. Nikolai Strakhov *Mir kak tseloe*, Predislovie k pervomu izdaniju, 68.

23. Strakhov, "Durnye priznaki."

24. Christopher Shields, "Aristotle," *The Stanford Encyclopedia of Philosophy*, ed. Edward N. Zalta & Uri Nodelman (Winter, 2023) <https://plato.stanford.edu/archives/win2023/entries/aristotle/>.

selection. Natural theology, a teleological way of thinking which states that the observable function of any organism proves the existence of a Divine creator and his well-thought-out "plan" for the universe, was never advocated by Darwin. Nonetheless, whether Darwin was a "teleologist" of any sort is the subject of a debate that has continued until this day.²⁵ In his discussion of issues relating to translating Darwin into Russian, Mooney writes, "This confusion over the ambiguity of the term 'teleology' led friends and foes to criticize and praise Darwin for both obviating the need for teleological explanations in science and for putting teleological explanations on a scientific footing."²⁶ As Mooney states, Darwin did not use the term "teleology" in *Origin*; however, he does discuss "final causes," adding to his subsequent followers' and critics' bewilderment. Nonetheless, it is notable that, in 1874, Darwin responds positively to the American botanist Asa Gray's (1810–1888) evaluation that in effect labeled him a teleologist. Gray is himself responding to widespread accusations in England that Darwin had eliminated "final causes" and purpose from the study of Nature. In his book, *Darwiniana*, Gray writes, "[L]et us recognize Darwin's great service to natural science in bringing Teleology back to it; so that, instead of Morphology versus Teleology, we shall have Morphology wedded to Teleology."²⁷ Darwin wrote Gray personally expressing his satisfaction with this statement: "What you say about Teleology pleases me especially and I do not think anyone else has ever noticed the point."²⁸ In addition to this correspondence, Darwin wrote explicitly in the concluding remarks to *On the Origin of Species* that according to his theory of natural selection, which works for the "good" of all beings, every alteration in an organism's development tends to "progress towards perfection."²⁹ Despite the various contestations, I will proceed on the assumption that Darwin indeed believed in final causes, that organisms' adaptations are defined by external stimuli and there is a progressive development in this adaptability.

It is also notable that the most vocal proponent of Darwinism in Russia, the preeminent botanist, Kliment Timiriazev (1843–1920), also believed Darwin was a teleologist. Timiriazev writes in an 1890 article that Darwinism "freed minds" from the "aversion" to everything teleological; Darwin created a new, natural scientific teleology. Timiriazev is especially relevant to any discussion of Strakhov's anti-Darwinism. As I discuss in more detail below, Strakhov dragged himself into a rancorous polemic with Timiriazev, prompted by the former's 1885 article, "A Complete Refutation of Darwinism." This debate was fueled by Strakhov's

25. The bioethicist John C. Lennox is the most notorious thinker to argue in favor of the idea that Darwin was a teleologist, notably in his 1993 article "Darwin was a Teleologist." Conversely, scholars such as the biologist Mark Ghiselin have vociferously argued that Darwin dispelled with the notion of teleology entirely.

26. Mooney, "What's in a Word?" 16.

27. Asa Gray, *Darwiniana: Essays and Reviews Pertaining to Darwinism* (New York: D. Appleton and Co., 1889), 288.

28. Charles Darwin, *Life of Charles Darwin*, ed. Francis Darwin (London: William Clowes and Sons, 1892), 308.

29. Charles Darwin, *On the Origin of Species By Means of Natural Selection* (London: The Folio Society, 2006), 388.

defense of the work done by his deceased friend and fellow anti-Darwinist, the Russian philosopher, historian, and ichthyologist, Nikolai Danilevsky (1822–1895). These articles, published during Strakhov's polemic with Timiriachev, provide the most comprehensive look at his anti-Darwinism and specifically his adherence to the theory of internal teleology.

To begin, Strakhov writes in 1887 that Darwinists' consistent error is in not distinguishing between the beginning and the end of a process.³⁰ In response to the question, "what purpose does such an organ serve?," a Darwinist will answer with an explanation of its current function, entirely ignoring the question of its original purpose. Though, according to Strakhov, Darwin was correct in his hypothesis that all species change, it cannot be claimed that Darwin "proved" or "explained" this theory.³¹ Darwinism purports to reveal the reason why one feature or principle of an organism developed over another, why one organism was selected for survival over another, in short, the *origin* of species. However, this system relies on the idea that organisms are perfectly adapted to their external environment, that there is a certain *tselesobraznost'* or purposefulness in the organic world.³² To paraphrase Strakhov's interpretation of Darwin's theory, "if a certain arrangement of organisms is necessary for their existence, then this excludes from the organic kingdom everything that is unsuitable and lacking purpose."³³

The Darwinian model, that organisms are molded to the blind forces of nature, is insufficient for Strakhov. He succinctly asks, "The whole dispute actually boils down to this: where should we look for purposefulness, in organisms, or outside of them?"³⁴ All Darwinists seek this purpose in circumstances external to the organism, and all anti-Darwinists, including Strakhov himself, believe every organism contains an *a priori* guiding principle (i.e., an internal teleology). Put simply, Strakhov is alluding here to the issue of external and internal teleology. A discussion of internal teleology can go back as far as Aristotle and his concept of "entelechy" [*εντελέχεια*]; however, Strakhov specifically references Immanuel Kant (1724–1804) and Hegel, writing that these two philosophers brought the question of teleology to his farthest conclusions. Summarizing both of these thinkers, Strakhov defines internal teleology

30. Nikolai Strakhov, "Vsegdashnjaja oshibka Darwinistov: Po povodu stat'i prof. Timirjazeva: Oprovergnut li darvinizm?" originally published in *Русский Вестник* no. 11, 12, 1887. http://az.lib.ru/s/strahov_n_n/text_1887_oshibka.shtml.

31. Strakhov, "Darvin."

32. *Tselesobraznost'* is often translated to "expediency," which I find does not adequately encompass the meaning for Danilevsky and Strakhov. I have chosen "purposefulness" because it is used by both thinkers to mean the extent to which an organism evolves while adhering to a preordained goal or purpose. See Stephen M. Woodburn "Nationality, Philosophy, and Science in Nikolai Danilevsky's Critique" in *Reading Darwin in Imperial Russia: Literature and Ideas*, p. 177, for a more thorough study of the use of this term and its various translations.

33. Nikolai Strakhov, "Polnoe oproverzhenie darvinizma" in *Darvinizm. Kriticheskoe issledovanie N.Ja. Danilevskogo* (St. Petersburg, 1885), 516.

34. Strakhov, "Vsegdashnjaja oshibka darvinistov."

as such: "Internal teleology discovers goals that lie within the subjects themselves, stemming from their very nature; these goals are always definite, essential, and necessary."³⁵

Internal teleology should be contrasted with external teleology. Strakhov defines external teleology in a letter written in 1861 and published in *The World as Whole*: "External teleology seeks goals that lie outside the subjects themselves, for which there is no determination within the subject; such goals are always indefinite, relative, and conditional."³⁶ Strakhov consistently believed in the law of internal teleology, and specifically that a "true" [истинный] teleologist looks at the meaning of a single organ and recognizes that the whole, as a "self-constructing" [самостроящегося] entity, consists of many parts striving for one "common goal" [общую цель].³⁷ In short, Strakhov advocated for a revised essentialism in which organisms retain their inherent purposiveness but also are eternally in flux.

In Strakhov's judgement, a scientist cannot understand an organism if he ignores its internal teleology. Darwin sought to reduce organisms to the most comprehensible units, which were themselves dictated solely by the laws of heredity and variability; however, he failed to ever explain the origin of species because he failed to seek an organism's essence and resorted to the "ruse" [уловка] that the essence, the very thing necessary for explanation, does not exist at all.³⁸ Strakhov's denunciation of what he viewed as a lack of internal teleology in Darwin was intertwined with the views of his friend and fellow philosopher, Danilevsky. In 1885, Danilevsky published Volume I of what he had hoped would be a longer series on Darwinism. Simply titled *Darwinism: Critical Research*, this text provided a comprehensive rebuttal to Darwinian theory and cautioned against the rapid acceptance of Darwinism among scientists and philosophers of his day. Danilevsky composed this work in "close contact" with Strakhov and it should be presumed that they shared many of their concerns with Darwinism.³⁹ In later writings, Strakhov repeatedly praises Danilevsky personally, once describing his "spiritual nobility," and defends the scientific and philosophical merit of *Darwinism*, what he called a "magnificent" [великолепный] book.⁴⁰

Danilevsky, unlike Strakhov, continued his work in the scientific field after he completed his master's thesis. In the early 1850's, when exiled to the Vologda province for his participation in the Petrashevsky circle, Danilevsky published a series of scientific articles. In 1853, Danilevsky was even awarded half the Geographical Society's annual Zhukov prize for his articles on the climate of the province.⁴¹ In June 1853, Danilevsky was appointed to

35. Strakhov, *Mir kak tseloe*, Part I, Letter VIII, 193.

36. Ibid.

37. Strakhov, *Mir kak tseloe*, Predislovie ko vtoromu izdaniyu, 75.

38. Strakhov, "Darvin."

39. Gerstein, 159.

40. Strakhov, "Polnoe oproverzhenie darvinizma."

41. Robert E. MacMaster, *Danilevsky: A Russian Totalitarian Philosopher* (Cambridge: Harvard University Press, 1967), 98.

be the statistician on an expedition to survey fisheries, led by the preeminent embryologist and naturalist Karl Ernst von Baer (1792–1876). In the remainder of that decade and the next, Danilevsky participated in and led several more expeditions of his own, largely focusing on ichthyology. In short, by the time Danilevsky began writing *Darwinism* in 1870, he had spent many years doing scientific field work. In *Darwinism*, Danilevsky positions himself as an unequivocal opponent of Darwinism, refuting it from a "natural-theological" position. In the text, Danilevsky presents a theory of evolution that has been described as a "borrowing" from his former associate Baer's "neo-Aristotelean teleological" one.⁴² This Baerian view of the variability and development of species that is subordinate to a theory of internal teleology is instrumental to Strakhov's anti-Darwinism.

Danilevsky died shortly after the publication of Volume I of *Darwinism*, and Strakhov, having almost been a collaborator in its composition, "made himself responsible" for Danilevsky's book.⁴³ Strakhov was even responsible for composing a final chapter and index for Volume II, compiled from Danilevsky's notes and unfinished manuscript. In January 1887, Strakhov's audacious essay "A Complete Refutation of Darwinism" (*Polnoe oproverzhenie darvinizma*) appeared in the journal *The Russian Herald* (*Russkii vestnik*). Though the article contained many of the important criticisms which Strakhov leveled against Darwinism, this essay was essentially a scientific defense of Danilevsky's ideas. In "A Complete Refutation," presumably with the intent of bolstering Danilevsky's original argument, Strakhov accuses Darwin of professing a "pseudo-teleology." Strakhov first argues that it is wrong to classify Darwinism as a theory of development. To clarify, Strakhov writes, "By development, we mean a series of changes, one of which must necessarily follow from the other, as if by virtue of a certain, permanent law, even if in essence we did not understand this necessity, as in fact we almost never understand it, and conclude about it only from the constancy of the repetition of a series."⁴⁴ Darwin's schema—that all organisms are consistently and gradually adapting to their external environment—does not even attempt to account for a "permanent law" by which all organisms develop.

Again, linking his ideas to Danilevsky's, Strakhov writes that, as organisms move towards the aforementioned "purposefulness," they respond to changes that occur in their external environment. According to Darwinism, it is not because organisms have received a certain property that they thrive in certain conditions; on the contrary, it is only because organisms live under certain physical conditions that they possess the necessary properties most suitable to them. In other words, the properties of an organism that allow it to survive in nature occur *a posteriori* to the very conditions in nature. Darwinism wants to explain all kinds of properties and differences of an organism. But as Strakhov asks, "How can we say that [Darwin's book] explains the origin of species?" It does not paint a picture of the vegetable or animal kingdom,

42. MacMaster, 148.

43. Gerstein, 160.

44. Strakhov, "Polnoe oproverzhenie darvinizma."

nor does it explain heredity, sexual differences, or any of the "essential features" of organisms. Darwinism ostensibly suggests an external teleology but even this is spurious.

According to the theory of natural selection, the dominant force acting on each organism throughout its development is its own, individual usefulness [*собственная полезность*], "the perfection of the organisms themselves, their harmony with the conditions of existence." An organism takes a series of beneficial steps towards a more perfect form. Though Strakhov considers these benefits which appear in an organism's development as indelible facets of a broader, overarching goal, they are in fact only a condition that determines the formation of this organism, only an instrument, a mere means, not an end. Since Strakhov was explicit about his indebtedness to Hegel, even writing in the preface to *The World as Whole* that the book is largely a reworking of Hegelian ideas, it is *apropos* to consider Hegel's critique of external teleology as it relates to randomness. Hegel believed chiefly in the "internal purposiveness" of all living beings. But, in trying to decipher "final causes" of any feature of an organism, man falls into "trifling reflections." By beginning at the end, the supposed "goal" of an organism is ultimately entirely arbitrary and optional.⁴⁵

In Strakhov's understanding, Darwinism claims that "there is no structure in organisms that would properly follow from a certain beginning as its cause [...]. On the contrary, the whole order arises from disorder."⁴⁶ In reducing phenomena to chance, Darwin actually eliminates reason from the universe. In fact, according to Strakhov, naturalists, materialists, positivists, etc. are more hostile than others to the "rational view of things." Scientists who look at organisms *correctly* that is, without reducing their form to chance, will see each step in an organism's development as a "manifestation of the fundamental principles that builds organic forms."⁴⁷ Each development of form is "full of the deepest instructiveness in all its particulars."⁴⁸ A correct study of the purposefulness [*целесообразность*] of organisms is really a study of the organic creation [*органическое творчество*] of organisms. According to Strakhov, nothing profound such as an organism's purpose can ever come from random particulars [*случайных частных*], since from the beginning truth must be seen as a whole.⁴⁹

As a consequence of denying internal teleology, Darwinism also obfuscates the concept of "perfectibility" as it applies to the development of organisms. As evidence shows, organisms that live under the same physical conditions develop dissimilarly. For instance, a tadpole exists in the same environment as any small fish, its external influences are of the exact same nature. However, a tadpole develops from its lower form, into a more perfect form, the frog.

45. Jeffrey Hamilton Wattles, "Hegel's Philosophy of Organic Nature" (doctoral dissertation, Northwestern University, 1973), 25–26.

46. Strakhov, "Polnoe oproverzhenie darvinizma."

47. Strakhov, *Mir kak tseloe*, Predislovie ko vtoromu izdaniju, 75.

48. Strakhov, "Polnoe oproverzhenie darvinizma."

49. Strakhov, *Mir kak tseloe*, Predislovie ko vtoromu izdaniju, 75.

Since the tadpole and any other cohabitating fish have qualitatively different developments, Strakhov believes that the tadpole's galvanizing principle must exist not in the external environment, but in the tadpole itself. Strakhov also illustrates this point with a discussion of the development of the human embryo. An embryo itself reaches personhood, just as a person once born develops either into someone insignificant or extraordinary or anything in between. Strakhov vehemently rejects the idea that external environment has a substantial impact on a human being: "It is quite clear that every person can develop only when he develops himself. Upbringing and education, in fact, do not produce development, but only give it an opportunity ..." ⁵⁰ To summarize this point, Strakhov poignantly writes in *The World as Whole*, "Truly human, truly vital phenomena do not consist in blind submission to the environment, but in getting out from under its influences, in the development of a higher life on the steps of a lower one. This is the nature of human life, this is the nature of life in general, the life of all organisms." ⁵¹ An infant needs to become a man and, with varying degrees of consciousness, he understands this goal and works to achieve it.

Therefore, a Darwinian worldview is erroneous because it claims that there is essentially no reason why an organism ended up in one form over another. There is no qualitative difference between an organism's final form after centuries of adaptation and another potential final form had the external influences been radically altered. As Gerstein puts it, Strakhov concedes that Darwin adequately explains how a man derived from an ape but could not even begin to answer *how*, and I would add *why*, man is different from an ape. ⁵² External influences exert the pressure needed for organisms to change; however, organisms not only change but they *improve*. In short, Strakhov wants to reinstate the possibility of perfection, to emphasize the organicist position that the world has parts that are higher and parts that are lower, and that these parts represent a "harmony."

In 1887, the Darwinist Timiriazev discernibly asks, is the organic world, even in all its apparent "harmony," not also a collection of chaotic elements? According to Strakhov, Darwinism's ostensible principal failing is that it denies internal teleology and thus tacitly admits that nature is subject purely to chance; however, Timiriazev writes that Strakhov's anger is misplaced. It was not Darwin who opened the door to this conclusion, but the observable natural world that proved it to be so. Is the sun not a "chaos of accidents?" he asks. If you blame a Darwinist for disrupting the incredible harmony of the organic world, its aesthetic and moral sense, then you must also forbid an astronomer to use his telescope and look at the sun. ⁵³ The same conclusions against harmony will undoubtedly be drawn. Strakhov's response to Timiriazev is simple: "the task presented to us in the organic world is

50. Strakhov, *Mir kak tseloe*, Part I, Letter VI, 160.

51. *Ibid.*, 161.

52. Gerstein, 159.

53. Timiriazev "Oprovergnut li darvinizm?"

obviously a special and incomparably higher task than the task of astronomy."⁵⁴ Because there are unobservable phenomena, changing psychic, moral and mental forms, the task set before the mind is "immeasurably higher" than the task of the Darwinist. In the solar system, the sun, the planets, the comets, etc. change temperature and movement "but none of them, not a single atom in them feels a shadow of delight or anger."⁵⁵ In other words, man is categorically different than any other organism, and Strakhov refuses to believe that man was subject to the same chance development as organisms as insignificant as mold.

In a poignant passage in "Organic Categories," Strakhov ends his argument in favor of organic as opposed to mechanical categories, with the following idea: "Those who only look for a mechanical connection between phenomena will only find a mechanical connection. Those who are dissatisfied with the mechanical connection explanation will search for something deeper."⁵⁶ In other words, Strakhov establishes boundaries, and perhaps an insurmountable one, between those who are mechanically minded and those who accept an organic worldview. Needless to say, Danilevsky similarly opposed a mechanical worldview. In an emphatic passage in *Darwinism*, Danilevsky exclaims "[H]ow pitiful, miserable the world and ourselves seem, in which all harmony, all order, and all reasonableness are only a special case of the senseless and absurd; all beauty is an accidental part of ugliness; all goodness is a direct inconsistency in the universal struggle, and the cosmos is only an accidental private exception from the wandering chaos!"⁵⁷

In his book, Vucinich writes that Strakhov's crusade against Darwinism was based on his belief in a "supreme intelligence": "Darwinism was a pseudoscience and a materialistic conspiracy, for it eliminated the role of divine powers in maintaining the regularity of natural processes."⁵⁸ Though Vucinich is correct that Strakhov's underlying criticism of Darwin was rooted in his belief in the divine, Strakhov's critique was not dogmatically theological. Strakhov rejects Darwinism because a worldview that precludes the transcendent does not even remotely explain man, a uniquely spiritual being. What Strakhov perceives to be Darwinian naturalism is anti-rational, whereas his organic understanding of the world as a whole is a more nuanced, truthful and fuller account of reality. Strakhov's critique was both rational and theistic. In *The World as Whole*, Strakhov writes, "For me, there is no doubt that men of science, pure researchers, not allowing into their work any kind of interference from fantasy or feeling, should without condition recognize the world as whole. This view alone corresponds to the full rigor of the scientific method."⁵⁹ This is substantiated by the Hegelian

54. Strakhov, "Vsegdashnjaja oshibka darvinistov."

55. Ibid.

56. Nikolai Strakhov, "Organicheskie kategorii: Po povodu stat'i g. Edel'sona 'Ideia organizma.'" In *Biblioteka dlia Chteniia*, 3, 1860 (St. Petersburg).

57. Danilevsky, *Darvinizm* quoted in K. Timiriachev's "Oprovergnut li darvinizm?"

58. Vucinich, *Darwin in Russian Thought*, 102.

59. Strakhov, *Mir kak tseloe*, Predislovie k pervomu izdaniju, 68.

notion that the truth of an individual feature will always lead one closer to the truth of the whole.

Moreover, it is noteworthy that Strakhov believes a pursuit of rationality, hence of truth, is identical to a pursuit of the Absolute. We can again see the ways in which Strakhov's thinking is indebted to Hegel. Strakhov writes in "A Complete Refutation," "The presence of reason means the presence of the spiritual, divine principle; therefore, rising into this area, we ascend to the very source of our being and knowledge." He also writes that scientific research, when done on the basis of reason and, therefore, from the "correct" organicist position, will lead man to "true teleology," where God is to be sought.⁶⁰ In short, a belief in a supreme being was inherent to Strakhov's organicism. In *The World as Whole*, Strakhov writes, "a unity of the world can be obtained only by spiritualizing nature, recognizing that the true essence of things consists in various degrees of the incarnating spirit [воплощающегося духа]."

In late 1858, Strakhov asked why the natural sciences had gripped the public to such an extent. Though he believed that the rise of materialism and nihilism were at the root of the sudden shift in perspective, he wrote that the overwhelming reason was man's desire to eliminate all doubt, to know for the sake of knowledge itself [знать—для одного знания]. Strakhov writes, "[W]e strive to solve the riddle of being, to comprehend the essence of the world among which we are placed and of which we ourselves are a member, to remove the veil from the mysterious and formidable Isis."⁶¹ However, natural science has not disentangled the secrets of nature, since it has refused to recognize the supremacy and the mystery of man, that man is the "embodied ideal of animal life," the ultimate goal of the animal kingdom.⁶² Strakhov ultimately rejected the supremacy of empiricism, writing in 1871 that, though empiricism has an "invaluable" quality, it cannot satisfy man's theoretical requirements.⁶³ Empiricism is insufficient because essences exist which are inaccessible to the human eye, and the internal teleology is dictated by these essences. Strakhov, however, is not simply reinstating the pre-Darwinian, essentialist point of view, considering the fact that he accepts the notion of the variability of species; man's highest aspiration is to adapt, change, and evolve from a lower form into a higher.

More than anything, Strakhov disliked mixing fields of research. A theologian's attempt to comment on natural science was an insult not to natural science but precisely to theology. A theologian should respect his field enough to know that the sciences cannot substantiate belief. As one of the earliest critics of Social Darwinism, Strakhov believes that one cannot

60. Strakhov, "Polnoe oproverzhenie darvinizma."

61. The metaphor of Isis's veil, based upon the statue located in the Egyptian city of Sais, was a common motif in counter-Enlightenment thinking and used to warn of the dangers of attempting to reveal all of nature's secrets. Strakhov here likely has in mind Friedrich Schiller's (1759–1805) 1795 balled "The Veiled Image at Sais" ("Das verschleierte Bild zu Saïs"), in which "organicist" themes on the wholeness of Truth are explored.

62. Strakhov, *Mir kak tseloe*, Part I, Chapter V, 250.

63. Nikolai Strakhov, "O chisto-jempiricheskom metode" in *Filosofskie ocherki* (St. Petersburg, 1893).

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draw social and moral conclusions from the discoveries of the natural sciences.⁶⁴ Ultimately, Strakhov believes that man transcends the object of knowledge that science claims for itself.⁶⁵ Strakhov teaches us that science can only provide man with limited truth. According to Strakhov and the organicist perspective, man is a member of the material world yet also is the center, the "knot" of the universe. A rational understanding of the world inevitably leads man to the recognition of himself as a cosmic being, a being who is not a mere accumulation of changes prompted by external stimuli, but a being motivated by an internal impulse; man is immeasurably higher than nature.



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64. Gerstein, 159.

65. Strakhov, "Vsegdashnjaja oshibka darvinistov."