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At home among strangers: Alfred Russel Wallace in Russia

Georgy S. Levit · Sergey V. Polatayko

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Abstract Alfred Russel Wallace (1823–1913) was an influential figure within Russian pre-Synthetic evolutionary biology, i.e. the time period before the Synthetic Theory of Evolution was established (ca. 1880–1930s). His major works were translated into Russian and his general ideas were read and discussed by both insiders and outsiders of scientific evolutionism. At the same time, Wallace played a controversial role in the growth of Darwinism in Russia, and Charles Robert Darwin (1809–1882) has eclipsed Wallace in his influence on Russian evolutionary thinking. In this paper we briefly outline Wallace's impact on Russian pre-Synthetic scientific evolutionism and its general intellectual climate. We demonstrate that both Russian pro-Darwinian evolutionists and anti-Darwinians (scientific anti-Darwinians as well as creationists) were fully aware of Wallace's contributions to the development of evolutionary theory. Yet, Wallace's radical selectionism, as well as his controversial arguments for "design in nature", predetermined his special place within the Russian intellectual landscape.

Keywords Alfred Russel Wallace · Neo-Darwinism · Old-school Darwinism · Orthodox creationism

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G. S. Levit (✉)
History of Science and Technology Programme,
University of King's College, 6350 Coburg Rd, Halifax,
NS B3H 2A1, Canada
e-mail: georgelevit@gmx.net

G. S. Levit · S. V. Polatayko
National Research University ITMO,
Lomonosova str. 9, 191002 St. Petersburg, Russia

Introduction

After the publication of *On The Origin of Species* in 1859 (Darwin 1859), and especially after the German translation in 1860 (Darwin 1860), most Russian biologists rapidly began to accept evolutionary theory. In Russian historiography, Russia is commonly labeled as "the second birthplace of Darwinism." Though the theory became instantly popular in the Russian empire, its dissemination was not met with massive and direct clerical opposition. As (Georgievsky and Khakhina 1996) put it: "The major specificity of the relationships between evolutionary theory and religion in Russia was the absence of open confrontation between them, which could lead to rigid *resistance to the development of science*". This is not to say that worldviews inspired by Darwin's theory did not encounter any resistance in tsarist Russia. Still, even the Orthodox Church, the most powerful religious institution in Russia at the time, did not directly oppose evolution, for the following two reasons.

First, in contrast to the Roman Catholic Church, the Russian Orthodox Church (ROC) had no institutional instruments to formulate a coherent concept opposing or supporting a theory of evolution (such as the famous *Encyclical Letter* of Pope Pius XII). The Sacred Synod of the ROC has no organs analogous to the Pontifical Academy of Sciences or to the Vatican's Congregation for the Doctrine of the Faith. The theological claims of the Patriarch within the ROC are merely "opinions", which do not reflect the official position of the Church. Instead, the ROC has developed its relationship with science through the mediation of the state. In 1804, state censorship became compulsory for all publications in the Empire prior to printing (Dobrovolsky 1962). The scope of issues compulsory censorship dealt with was much broader than

purely religious matters. The Ministry of Religious Affairs and Public Education, established in 1817, controlled and determined the strategy of censorship in relation to both religious and secular literature, including scientific publications (Zhirkov 2001). In 1865 the state censorship law was changed and publishers obtained the right to publish voluminous (more than 10 quires) and highly specialised scientific works without being required to undergo preliminary censorship, although the reduced law still posed significant restrictions. Darwin's *On the Origin of Species* was published in 1864 under the explicit approval of censorship officials, translated into Russian by Sergey Rachinsky (1836–1902), Professor of Botany at Moscow University (Darwin 1864). The publication of Darwin's theory caused intensive discussions also outside the professional community. For example, a literary critic Dmitry Pisarev (1840–1868) published in the popular journal *Russkoje Slovo* [Russian Word] the voluminous paper *Progress in the Realm of Animals and Plants*, in which he made Darwin's *Origin* accessible, explaining it chapter by chapter. At the end of the paper Pisarev concluded that "Darwin's theory was an urgent demand of our time" (Pisarev 1864). The author also briefly outlined the history of publication of the *Origin* and mentioned Alfred Russel Wallace (1823–1913) who, Pisarev (1864) claimed, "came close to Darwin's conclusions". The readers of the literary journal were consequently well informed about Wallace's role in the discovery of the theory of natural selection.

In contrast to the *Origin of Species*, Darwin's *The Descent of Man* was only published after serious difficulties with censorship. The "Committee of Foreign Censorship" responsible for the publication of Darwin's work was headed by the great Russian poet, Fyodor Tyutchev, who invested significant efforts in trying to convince the Chief Department of Censorship to publish the book. But even after its publication, there were attempts to restrict its circulation. 1st edition, 1871–1872, 2nd 1873, 1896 translated by Sechenov; translated by Filipov in 1908.

At the same time during which these difficulties occurred, Carl Vogt's (1817–1895) lectures on evolutionary anthropology (Vogt 1866), as well as Thomas Huxley's *Man's Place in Nature,* were translated and published successfully. In contrast, the entire print-run (1975 copies) of Haeckel's *Natural History of Creation*, translated into Russian (Haeckel 1873), was destroyed following an order from the Committee of Ministers (although the book was published again a year later). The reason for prohibiting the book was its "disrespect" towards the Bible and Christian teachings (Dobrovolsky 1962, p. 94). Haeckel's *The Riddle of the Universe* had been published twice at the beginning of the twentieth century (1902 and 1906) and prohibited both times, because of its emphasis on the "animal origin of man" (Dobrovolsky 1962, p. 232). Censors openly admitted that scientists were allowed to read Haeckel in German and that the prohibition was primarily for the protection of youth against harmful ideas. In other words, the repressions of censorship were directed against the popularisation of Darwinism, rather than strictly against scientific publications.

The second reason for the relatively mild clerical resistance to evolution was the very nature of early Darwinism in Russia. Russian scientists who worked from the basis of Darwin's theory were far less speculative than their British and German colleagues, especially when compared to the latter. For example, A. O. Kowalevsky (1840–1901) and I. I. Metschnikov (1945–1916) were critical of Haeckel's speculations that had ultimately resulted in a monistic, anti-Christian philosophy (Levit 2007).

In this context, Wallace was introduced to the Russian audience as one of the influential evolutionists whose works had not only purely scientific, but also with significance on a larger scale. Wallace's special role in Russia was determined by his controversial position within evolutionary science: on one hand, his research contributed significantly to the development of selectionism; on the other hand, his claims concerning "design in nature" strengthened the anti-selectionist arguments of Orthodox theologians.

In this paper, we briefly outline the impact of Wallace on Russian pre-Synthetic evolutionism and "philosophy" during the time period 1880 to ca. 1930. By "philosophy" we mean publications that were theologically motivated, but non-theological in their essential argumentative basis. The objective of these publications was to protect the Christian-Orthodox worldview from the rising potential dangers of Darwinism. We demonstrate that both Russian pro-Darwinian evolutionists and scientific anti-Darwinians were fully aware of Wallace's contribution to the development of Darwinism. At the same time, the controversial "pro-creationist" claims of Wallace (1904) determined his special place within the intellectual landscape in Russia.

Wallace and scientific evolutionism in Russia

The major works of Wallace did not encounter problems with Russian censorship; they could be freely translated and published. The only work by Wallace which experienced difficulties with the State censors was his contribution to the edited volume *Nationalization of Lands: Its Necessity, Goals, and Methods* (Muratov 1899). This volume was composed of papers by Herbert Spencer, John Stuart Mill, and many others, including Wallace's *Note on Compensation to Landlords*. The censorship committee decided that the book was "especially harmful", although not because of any one paper, but rather because it was

edited in such a way that a reader could potentially gain the impression that leading European intellectuals were against private property. The whole print-run of the book (2,360 copies) was destroyed (Dobrovolsky 1962, p. 218).

The first publication of Wallace's book in Russia was his *The Malay Archipelago* (Wallace 1869), which appeared in 1872 and was translated from the second English edition (Wallace 1872). His work, *Contributions to the Theory of Natural Selection* (Wallace 1870), was translated into Russian and published three different times (Wallace 1876b, 1878a, b), causing controversy between biologists and theologians (Fig. 1). Two volumes of *Scientific and Social Studies* (Wallace (1903–1906) were also published at the turn of the century. Wallace's *Man's Place in the Universe* appeared in press almost simultaneously in 1904 (Wallace 1904).

Finally, his opus magnum *Darwinism,* originally published in 1889 (Wallace 1889), was published in Russian twice (Wallace 1898, 1911) due to the efforts of Michail A. Menzbier (1855–1935), a Professor of Zoology at Moscow University. Menzbier was a pupil of Nikolaj Alexeevich Sewertzoff (1827–1885), a well-known Russian zoologist and geographer, passionate traveller, and adventurer. Nikolaj Sewertzoff was one of the first biologists in Russia who actively propagated Darwinian ideas. Menzbier was one of the early followers of Darwinism in Russia and a teacher of many outstanding evolutionists including Alexei Sewertzoff (1866–1936), a founder of the Russian school of evolutionary morphology (Levit et al. 2004). Menzbier personally translated Wallace's *Darwinism* and wrote a voluminous introduction explaining his importance to the Russian reader. This introduction, originally written in 1898, deserves a closer look (cited from: Menzbier 1911).

After summarizing Wallace's biography prior to 1858, Menzbier pays close attention to the publication circumstances of Darwin's *Origin* and especially to Wallace's paper *On the tendency of varieties…* (Wallace 1858). From Menzbier's viewpoint, since Wallace described the struggle for existence and determined "the presence of a factor later called natural selection", it is understandable why Wallace should be regarded as equal in rank with Darwin. Although, Menzbier continued, Wallace gave Darwin priority in the complete description of the origin of species, he has done more than anyone else for the study of geographic distribution of various organisms in nature as well as for the studies of coloration. His *Malay Archipelago*, Menzbier claimed, was not only a fascinating reading for a general audience, but also an important collection of evidence in favour of the theory of natural selection. Menzbier pointed out the importance of Wallace's *Contributions* (Wallace 1870) and his *The Geographical Distributions of Animals* (Wallace 1876a, b), which remained untranslated. Menzbier also discussed *Tropical Nature* (Wallace 1878c) and *Island Life* (Wallace 1880). From Menzbier's point of view, both books were a supplement to *Archipelago* and, in principle, developed the same argument, although the question of the origin of man was of special interest to the reader. After quite a detailed description of *Island Life,* Menzbier turned to the very *Darwinism* that he had introduced in the paper. Menzbier emphasised that Wallace came to his discovery of the struggle for existence and natural selection absolutely independently "by means of

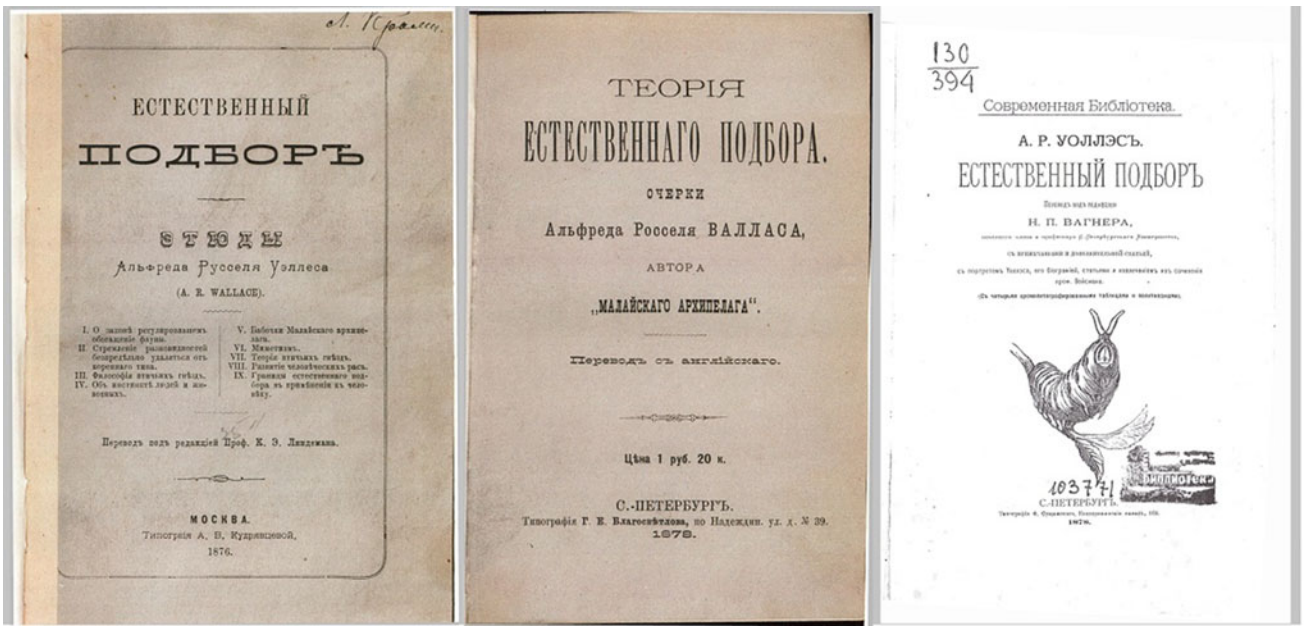

Fig. 1 First (1876), Second (1878) and Third (1878) Russian Editions of Wallace's *Contributions to the Theory of Natural Selection.* Only the 3rd (Wagner's) edition can be regarded as complete

the deep investigations into the tropical flora and fauna". Wallace attached even more importance to the principle of natural selection, negating Darwin's idea of sexual selection. Wallace's special merits were in the field of zoogeography, Menzbier argued. Yet, there are two points, he thinks, where Wallace turned away from the straightforward logic of Darwinism. First, Wallace "while accepting genetic connection between humans and lower animals, put a sharp boundary between them in relation to intellectual and psychic activities" (Menzbier 1911, p. XXV). He denied the evolutionary transition from the "mindless" animal world to the appearance of the human mind. Second, Wallace denied the possibility of explaining the transition of inorganic matter into "organized matter" "by simple laws". Menzbier argued that Wallace "was completely wrong" in this respect (Menzbier 1911, p. XXV) and wondered that Wallace was unable to amend these views over years. Menzbier explained Wallace's stubbornness by his over-commitment to the principle of natural selection, which however "cannot be considered as an exclusive factor in the progress of humanity" (Menzbier 1911, p. XXVI).

Considering Menzbier's exclusively important place within Russian evolutionism, his paper allows us to draw two conclusions. First, the Russian community of Darwinians was well aware of Wallace's significance in the development of evolutionary theory. Second, Wallace's version of Darwinism was seen as a powerful, but far too narrow approach to the problem of evolution accompanied by the claims unacceptable for contemporary Darwinians.

The example of other outstanding evolutionists of the time proves the first thesis. Ilja Metschnikoff (1845–1916), who, together with Alexander Kowalevsky, played a crucial role in the growth of evolutionary theory and developmental biology in the Russians speaking world, wrote that Darwin and Wallace developed the theory of natural selection "almost simultaneously" (Metschnikoff 1950, p. 485). But outstanding evolutionists were not only aware of Wallace's general merits as a co-discoverer of natural selection; his technical works were also known. Thus Kowalevsky, in a letter (1879) to Metschnikoff, mentions the larva of *Prosopistoma,* reminding him of those described by Wallace (Polyanski 1955, p. 113). At the same time, however, the frequency of references to Wallace in published works remains much lower than references to Darwin.

Wallace, Weismann and neo-Darwinism

One of the most influential Russian evolutionists of the late pre-Synthetic period (see Kutschera and Niklas 2004) was Yuri (Juri) Philipchenko (1882–1930), a founder of the first Chair of Genetics and of an influential scientific school (Kolchinsky 2006), which included, among others, Theodosius Dobzhansky (1900–1975). In 1923 Philipchenko published the book *The Evolutionary Idea in Biology* (Philipchenko, 1923; 2nd ed. 1926; 3rd ed. 1977), wherein he summarized the most important steps in the development of the theory of biological evolution. In this work, Philipchenko devoted a significant amount of space to Wallace. Philipchenko numbered Wallace among Darwin's "first apostles" along with Herbert Spencer (1820–1903) and Ernst Haeckel (1834–1919). From Philipchenko's point of view, they represent three currents in evolutionary biology: neo-Darwinism, neo-Lamarckism, and the orthodox (old-school) Darwinism.

Analyzing the roots of neo-Darwinism, Philipchenko appeals to Wallace's *The Theory of Bird's Nests* (1867), where he famously stated that "a very large mass of facts relating to the sexual colouration and the mode of nidification of birds, including some of the most extraordinary anomalies to be found in their natural history, can be shown to have an interdependent relation to each other on the simple principle of the need of greater protection to that parent which performs the duties of incubation" (cited from: Wallace 1868). This kind of evidence later led Wallace to the rejection of the theory of sexual selection (Philipchenko 1926, p. 63). At the same time, Philipchenko explained, Wallace was far from accepting the universal nature of the principle of natural selection and believed in the existence of a "superior intelligence" that intervened in the evolutionary process. In this sense Wallace contradicted himself, since the possibility of intervention by an intelligent being makes the entire theory of natural selection unnecessary.

Analyzing *Darwinism* (Wallace 1889; 1898), Philipchenko paid attention to the fact that Wallace rejected not only the idea of sexual selection, but also the inheritance of acquired characteristics and the direct environmental impact on heredity; in that sense "Wallace was more Darwinian than Darwin himself". Such a "pure Darwinism", Philipchenko continued, "is certainly not Darwin's own Darwinism" (Philipchenko 1977, p. 65). Wallace represented the radical "right wing" of Darwinism that pushed forward the single factor theory of evolution and therefore laid the foundations for the explanatory paradigm of neo-Darwinism (Kutschera and Niklas 2004; Kutschera 2008).

Philipchenko's description of the splitting of Darwinism into the old-Darwinian and neo-Darwinian schools is close to that of Romanes. At the end of the nineteenth century, the Canadian-born English psychologist George John Romanes (1848–1894) recognised the crucial importance of the question 'whether natural selection has been the sole,

or but the main cause of organic evolution' (Romanes 1895, p. 1). Answering this question, Romanes contradistinguished Darwin (admitting that natural selection had been assisted by 'subordinate principles') and Wallace, who, along with August Weismann (1834–1914), maintained that natural selection should be regarded as the only cause of evolution. Romanes (Romanes 1895, p. 12) coined the term neo-Darwinism to denote "the pure theory of natural selection to the exclusion of any supplementary theory". In the category of "supplementary theories", Romanes included "Lamarckian factors" (use-inheritance) and the theory of sexual selection. Darwinism, in any form, was to be distinguished from a neo-Lamarckism that assigned higher importance to Lamarckian factors than to natural selection. The original Darwinian line of thinking preserved the priority of natural selection, but combined it with Lamarkian factors, moderate orthogenesis, and some mutationism. This "old-Darwinian" school was initially represented by the 'German Darwin', Ernst Haeckel, and later by his successor at the University of Jena, Ludwig Hermann Plate (1862–1937). Describing the schism between two schools and their impact on the development of evolutionary theory, Philipchenko claimed "Haeckel, but not Wallace was the most influential figure among all apostles of Darwinism" (Philipchenko 1926, p. 67).

From our point of view, Philipchenko provided a clue that explains a seeming paradox: Wallace was well known among Russian biologists, but at the same time his actual presence in the texts of Russian evolutionists was relatively low. The first reason was the narrowness of Wallace's selectionism (emphasised by Menzbier as well), which excluded other hypothetical factors of evolution. Many leading Russian evolutionists were committed to long-term empirical research programmes and were very cautious in tipping the balance in favour of certain factors of evolution. For example, one of the leading Russian Darwinians, Kliment Timiryazev (1843–1920), was skeptical about the use-inheritance, but was inclined to accept the factor of a direct effect of the environment on an organism's heredity (Timirjazev 1937). Another example is one of the leading evolutionist, Vladimir Schimkevich (1858–1923), a full member of the Russian Academy of Sciences, who championed the idea of saltational evolution, but did so without opposing saltationism and Darwinism (Kolchinsky 2002, pp. 256–258). One more example is Alexei Sewertzoff who wrote in 1912: "As far as possible I do not connect my inferences with any theoretical explanations of the causes of the evolutionary process, i.e. with Lamarckism or Darwinism" (Sewertzoff 1912, p. IX). He was ready to accept Darwinian selectionism as a primary factor only two years later, in 1914: "We accept that the primary factor of the evolutionary process is the process of summation of hereditary organismic changes, i.e. the Darwinian principle, and discard the Lamarckian principle of the inheritance of results of use or disuse" (Sewertzoff 1914, p. 140). Sewertzoff rejected the direct effect of the environment as well, but at the same time Sewertzoff (1939) p. 534) was ready to accept "saltations" and disagreed with Wallace regarding his overcommitment to gradualism (Sewertzoff 1939, pp. 446–447). Sewertzoff clearly stated that "evolutionary theory in its present form was formulated by Darwin and Wallace" (Sewertzoff 1944, p. 217), but, in his major work, the monograph *Morphological Regularities of Evolution,* which was initially published in German (Sewertzoff 1931) and then in Russian (1939), Sewertzoff cited Wallace only three times compared to dozens of references to Darwin and Haeckel. The neo-Darwinian radicalism of Wallace narrowed the scope of his potential followers (Olsson et al. 2010).

The second reason (however tightly interconnected with the first) for the impression that Wallace was of minor importance in the Russian scientific landscape is that he was overshadowed not only by Darwin, but also by Haeckel. For example, Metschnikoff cited Wallace in his biological works quite often, but nevertheless, in the representative volume *Metschnikoff: Selected Works in Biology* (Metschnikoff 1950), Haeckel was cited twice as much as Wallace. At the same time, one should keep in mind that Haeckel's fame in Russia was controversial. Many Russian evolutionists, like Kowalevsky and Metschnikoff, held that Haeckel was too speculative in his theories. It is remarkable that the Archive of the Ernst-Haeckel-Haus in Jena holds not a single letter to Haeckel, from either Kowalevsky or Metschnikoff, although there are more than 100 letters from other Russian correspondents in the Archive (Hossfeld and Breidbach 2005). Also revealing is the character of Metschnikoff's references to Haeckel and Wallace. In his *Essay to the Question on the Origin of Species* [Ocherk voprosa o proiskhozhdenii vidov, 1876] (Metschnikoff 1950, pp. 7–238), Metschnikoff devoted several pages to a quite detailed appreciation of Wallace's contribution to the early developments in evolutionary theory and his empirical studies into the mechanism of natural selection within certain systematic groups (e.g., Papilionidae). At the same time Metschnikoff is critical towards certain arguments of Wallace: for example, his underestimation of Darwin's study of variability in domesticated animals. "It is interesting", Metschnikoff argues, "that a disagreement about such an essential point of two ingenious founders of the theory of natural selection, is a good example of differences in scientific characters of both researchers explaining the dominating position of Darwin compared to Wallace" (Metschnikoff 1950, p. 129). Metschnikoff means here that Wallace tended to "extremely radical" views as opposed to Darwin's balanced approach. Metschnikoff, who maintained that "it

is useful to point out factors perhaps independent or partly independent from natural selection" (Metschnikoff 1950, p. 179), had difficulties going along with the radicalism of Wallace's neo-Darwinian. In that sense Metschnikoff is a wonderful proof of our first thesis, but how does it explain the second considering that Haeckel was a radicalist as well?

Haeckel also appeared too radical for Metschnikoff, but his radicalism was of a different nature. Metschnikoff criticized Haeckel for being unable to distinguish between "brave hypotheses" and "scientific truths", for being too speculative and for not citing his Russian colleagues often enough, but not for the narrowness of his views. Yet if Haeckel "abandoned strictly scientific methods", as Metschnikoff claimed (Metschnikoff 1950, p. 228), why, he did repeatedly discuss the views of this "apostle" of Darwinism (Metschnikoff used this term in relation to Haeckel in quotation marks)? The answer is in Haeckel's dominating position within continental evolutionism. Criticizing Haeckel's phylogenetic trees, Gastrea theory, *Naturphilosphie,* or reference lists, Metschnikoff was arguing with a central figure in the evolutionary sciences.

Wallace and the anti-Darwinians

In addition, it is of importance to look at the classical works of the Russian anti-Darwinians as an indicator of Wallace's impact on Russian evolutionism. Arguably two most influential anti-Darwinians of the pre-Synthetic time were Nikolai Danilevsky (1822–1885) and Leo Berg (1876–1950), though Berg relied heavily on Danilevsky in his arguments.

As Kolchinsky wrote: "The main place amongst Russian antagonists to Charles Darwin's theory of evolution, and especially his conception of descent of man, belonged to Nikolaj Jakovlevich Danilevsky, the prominent Russian naturalist, economist, historian, philosopher, a head of the late Slavophils, and the author of the original conception of exclusive types of mankind cultures and natural laws of their development. His two-volume work *Anti-Darwinism* (1885, 1889) directly split the biological community by giving rise to heated controversy between advocates of the evolutionary theory and its antagonists" (Kolchinsky 2006).

In his monumental *Darwinism: The Critical Study* (a better title for this work would be "Anti-Darwinism"), which inspired generations of anti-Darwinians, Danilevsky cited Wallace only seven times (compared to 23 references to Haeckel) (Danilevsky 1885–1889). Danilevsky expectedly mentioned the role of Wallace as a co-discoverer of natural selection, but critically attacked him for abandoning natural selection in relation to anthropogenesis. Danilevsky labeled this concept as "inconsequent" and "non-defendable" (Danilevsky 1885–1889, p. 44). Several references were devoted to "interesting examples", such as insects and butterflies as described by Wallace, and the problem of colouration. Danilevsky also appeals to Wallace, developing the argument that Darwinism is purely an English teaching; therefore, it was not an accident that two Englishmen developed the same idea at approximately the same time. The character of references to Wallace in Danilevsky's *Darwinism* suggests that Danilevsky was fully aware of his scientific achievements, but at the same time didn't see Wallace as a major target of his anti-Darwinian attacks.

Even more telling in this respect is Berg's *Nomogenesis* (Berg 1922, 1926), which became a genuine encyclopedia of mature scientific anti-Darwinism. The nomogenesis-theory was developed in the early 1920s by Lew/Leo Berg (1876–1950). His book *Nomogenesis* was first published in Russian (1922) and then later translated into English (Berg 1926 [reissued 1969]). The theory was based on a huge amount of empirical data and offered a very consequent and strong criticism of the Darwinian evolutionary theory (Levit and Hossfeld 2005).

Berg's own nomogenesis-theory in opposition of Darwinism suggests a number of relatively independent logical claims. The most basic assertion is that evolution is a directed process: "Darwin believed that characters vary in all directions, like, let us say, rays issuing from the sun. […] We, on the contrary, claim that variation of characters is confined within certain limits, that it follows a definite course, like an electric current moving along a wire" (Berg 1969 p. 158). It is important to emphasize that Berg's theory represented a purely scientific anti-Darwinism without creationist elements, which are characteristic of the version of Darwinism developed by Wallace. Berg saw Ludwig Hermann Plate (1862–1937), pupil and successor of Ernst Haeckel (1834–1919) at Jena University, as his main scientific opponent. Plate championed the "old-school Darwinism" versus the neo-Darwinism of Wallace and August Weismann. In the Russian edition of *Nomogenesis* (Berg 1922), Berg cited Wallace only six times (compared to 9 references to Haeckel, and 23 references to Plate), i.e. even less than Danilevsky. Berg mentioned Wallace in two cases: when talking about neo-Darwinism as opposed to Plate's Darwinism and when discussing mimicry and coloration. Berg, as well as Danilevsky, seemed to be fully aware of Wallace's contribution to the evolution of Darwinism. At the same time, Berg evidently regarded Wallace as a figure of minor importance for contemporary discussions. Berg regarded the "old-Darwinian school" (Darwin, Haeckel, Plate etc.) as the most serious opponent in evolutionary debates. In that sense a brief analysis of major figures in Russian scientific anti-

Darwinism also suggests that they were fully aware of Wallace's importance for the development of selectionism, but considered Darwin and, later, Haeckel as primary reference figures. In addition, Berg evidently considered the old-Darwinian school as proper Darwinism, while Wallace's consequent selectionism appeared to him as a too radical modernisation of the original concepts.

Alexander Gusev's book on Wallace

In 1878 a Professor of Apologetics at the Kazan Spiritual (Orthodox) Academy Alexandr Fedorovich Gusev (1842–1904) published a series of essays under the title *A Naturalist Wallace and his Russian Translators* in the theological journal *Pravoslavnoje Obozrenije* (Orthodox Review). Gusev's work had a subtitle *Concerning the Publication of Wallace's Book "Natural Selection, 1878"*. These essays were also later published as a book (Gusev 1879b). Gusev was a theologian, an expert in religious ethics, and quite a prominent figure in his time (Grigoriev 1905), who was known, for example, for his critical attacks on the towering Russian writer and philosopher Leo Tolstoy (1828–1910).

Gusev's most general objective in this book was to defend Christianity from assaults of "non-believers", who used all kinds of means, including "dishonest" methods such as mistranslations or incomplete translations of leading Western intellectuals, such as Wallace. Specifically, Gusev aimed to defend the "genuine" worldview of Wallace, whose *Natural Selection* (Wallace 1876b) appeared in press under the editorship of a zoologist, Karl Eduardovich Lindemann (1844–1928), a Professor of the Peter Agricultural Academy (Moscow). Lindemann's edition of the book had been published in Russian with serious flaws. Lindemann, Gusev correctly argued, voluntarily shortened the original text in order to skip some controversial claims made by Wallace, which Lindemann (and the Editorial Board of "Priroda"[Nature]-series) held as "unscientific". Gusev claimed that Wallace presented a holistic worldview, where "scientific" and "unscientific" parts were tightly interconnected, and that it was misleading and unethical to publish such a distorted version of his works. Fortunately, *Natural Selection* was re-published two years later (Wallace 1878b) under the editorship of Nikolai Petrovich Wagner (1829–1907), Professor of the St. Petersburg University. Wagner's edition was not only a complete and correct translation, but was accompanied by a biography of Wallace, some excerpts from August Weismann, and Wagner's own paper ("additional article"). Thus Wagner presented major figures of what was later known as "neo-Darwinism", accompanying the publication with a scientific paper discussing some crucial issues of contemporary evolutionism. Remarkably, Wagner criticized both Darwin and Wallace for underestimating developmental processes and emphasized that it was this inattention to the data of embryology that led Wallace to accept a special "supreme law" to explain the evolution of human brain (Wagner 1878, p. 452). Wagner spent a lot of space criticizing the anthropological views of Wallace.

Wagner was the first one to point out the incompleteness of Lindemann's edition. Gusev acknowledged both Wagner's criticisms of Lindemann and the high quality of Wagner's own edition of Wallace's *Natural Selection* (Gusev 1878, p. 486–487). At the same time, Gusev expectedly disagreed with Wagner's criticism of Wallace. In his paper, Wagner argued against Wallace's idea that the "superior intelligence" influenced the development of the human mind. Wagner maintained that one could interpret human evolution in entirely materialistic terms. Gusev has addressed himself to the task of arguing with Wagner's criticism of Wallace by presenting "briefly and precisely" the "original views" of Wallace on the descent of man (Gusev 1878, pp. 488).

Gusev's special interest in Wallace was exclusively due to his "pro-creationist" claims (Wallace 1904). This allowed him to oppose the "consequent Darwinism" (Darwin's own perspective) and the concepts of Wallace in relation to anthropogenesis. Darwin, Gusev argued, was unable to explain the origin of religious cults and aesthetic faculties of the human mind. He emphasized that in Wallace's writing, readers would find an idea that was "highly valuable and sacred for many". Therefore, Gusev's objective was not only "to elucidate", but also "to strengthen" Wallace's ideas (Gusev 1879a, pp. 60–61).

Gusev was interested, first of all, in Wallace's idea that human "spiritual" faculties point to the participation of a Great Mind or Supreme Intelligence in anthropogenesis (Wallace 1904). The theory of natural selection was unable to explain the human ability to construct the idea of eternity, religious sensitivities, and the sense of beauty. "Savages" lived in very harsh natural conditions, concerning themselves with their very survival. It is therefore unimaginable that in these conditions nature would shape in early humans something like religious feelings, which are completely useless and even harmful since they produce unnecessary anxieties and urge people to waste their material recourses (e.g. funeral rites). However, even the Stone Age humans demonstrated religious feelings. The same can be said about the "something" that urged all "savages" to "waste their time" and to go through painful rituals (such as tattoos) for the sake of aesthetic ideals (Gusev 1879a, pp. 67–68). The next part of the argument concerned the parallels between animals and humans. If humans had developed their religious abilities due to natural selection we should be able to find some primitive

religiosity in animals, but this is not the case. Darwin, by contrast to Wallace, revealed his inability to grasp the essence of religion. "Religion is a yawning chasm separating animals and humans", Gusev argued (Gusev 1879a, p. 80). There are no aesthetic sensitivities in animals as well. Wallace, Gusev continued, also correctly claimed that the origin of "conscience as ability to distinguish moral from immoral" cannot be explained by purely "natural causes" (Gusev 1879a, pp. 92–93). Over the course of the book Gusev examined in detail various sides of Wagner's arguments against Wallace (concerning human voice, limbs, etc.) and concluded that none of these features could be explained through natural causes, but that it could only be explained by the existence of the "Great Mind" as "correctly stated by Wallace".

Gusev's book had significant effect on Russian creationism. In 1905, Konstantin Grigoriev (1875–1925), Professor of the Kazan Spiritual Academy, published Gusev's biography, where he, among others, stated that in his *Darwinism,* Wallace (1898) continued to argue for the divine intervention in the origin of man, and that "Gusev's arguments against Wagner are still effective against Menzbier" (Grigoriev 1905, p. 41). Therefore, one can argue that Wallace influenced Russian theological landscape by strengthening anti-Darwinian arguments of theologically motivated "philosophers".

Conclusions

Alfred Russel Wallace occupied a significant place within the Russian pre-Synthetic intellectual landscape. His major works were translated into Russian and his general ideas were discussed by Darwinians, anti-Darwinians and popularisers of evolutionary theory. At the same time, Wallace had been eclipsed by Darwin in his influence, for several reasons. First, Wallace's radical selectionism looked conceptually poorer than Darwin's theoretical system. Many scientists who weren't ready to accept the neo-Darwinian "single-factor" approach to explaining evolution felt that Darwin's "multi-factor" approach was more promising and opened wider explanatory possibilities. Although it is true that by the early twentieth century, the identification of Darwinism with selection theory was becoming widespread not only "in both Britain and America" (Bowler 2004), but also in Germany and Russia; but, at the same time, due to the incomplete and sometimes even contradictory data of palaeontology, anatomy/morphology, biogeography, systematics, and genetics, the reconstruction of evolutionary history and evolutionary mechanisms was still provisional, even speculative. Accordingly, in the late 19th and at the beginning of the twentieth century, the theory of natural selection was seen as just one of several possible explanations of how evolution proceeded (Levit et al. 2008). Wallace's version of selectionism appeared as too narrow and too radical even for many Darwinians. Haeckel's (and his followers') old-school version of Darwinism seemed to be more "Darwinian" than Wallace's neo-Darwinism. An important indicator of this was Berg's anti-Darwinian book *Nomogenesis,* where an "old-Darwinian" Ludwig Plate appeared as the major target for Berg's anti-Darwinian assault.

A significant factor, which determined Wallace's special place among evolutionists, was his controversial claims about the descent of man. Wallace's attitude towards anthropogenesis allowed a clash between two major figures within the Darwinian movement and to construct arguments leading to what is known today as "scientific creationism". Gusev's book is a characteristic example of this strategy.

The controversy around the three Russian editions of the *Contributions to the Theory of Natural Selection* (Wallace 1870, 1876b, 1878a, b) (Fig. 1) demonstrated that some representatives of the Russian scientific "middle class" (exemplified by Lindemann and the editorial board of "Priroda"-series), with all probability, realized that Wallace's claims for "design in nature" would strengthen the theological opposition to evolutionary theory (especially to the Darwinian theory of anthropogenesis). Lindemann tried to prevent this by means of scientific fraud (incomplete translations), but internal scientific mechanisms (personalized in Wagner) uncovered Lindemann's fabrications and presented to the Russian reading audience the correct version of Wallace's work. Yet, Wagner's scientific honesty led exactly to the effect of which Lindemann was afraid of: Wallace's arguments were picked up by the Orthodox theologians and directed against the growing Darwinian movement in Russia. In this sense, Wallace's role became quite controversial; he appeared to be at home among strangers, and a stranger among his colleagues and friends.

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