Blumenbach in Russia: Influences, Translations, and Implications

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Introduction: Methodological Remarks on the Predicate "Russian" in the Study of Blumenbach's Influence on Russian Science

There is a certain ambiguity in the use of the predicate "Russian" in the Russian cultural discourse of the 18th and 19th centuries. Up to the rise of the Communist regime in 1918, the term "Russian" ("русский") had both ethnical, geopolitical and religious meanings, and the latter played an even more defining part than the former. The core problem in understanding its specificity consists of the lack of the idea of nationality or citizenship in the Russian Empire: by the end of 19th century, language, social class (*soslovie*), territorial gains, and religion were major indicators for the state authorities, ethnographers and statisticians defining the population of the Russian Empire.[1] This situation has deep historical roots. As Richard Pipes (1923–2018) put it: "In the early period of the Empire, approximately from the middle of the sixteenth until the middle of the eighteenth century, the attitude of the government toward its non-Russian subjects was influenced strongly by religion. Where discrimination existed, the principal reason was the desire of the regime to convert Moslems, Jews, and other non-Christians to the Orthodox faith."[2]

[1] Cadiot 2005, p. 442.
[2] Pipes 1969, p 433.

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In these terms, a family could be Russian not because they themselves, their relatives, ancestors, and descendants belonged to an ethnical group self-identifying as "Russians", but because they were or became baptized in the Orthodox confession. A corresponding situation existed in some other European states of those time, e.g. Karl Marx, ethnically a Jew, could be formally considered a German as his father, Heinrich Marx, had converted to Christianity in the state Evangelical Church of Prussia in 1817 to be allowed to practice law in Prussia.[3] Although it was an act of freethinking and emancipation for the German Jews, in Russia it was impossible to occupy any governmental or public position being a non-Orthodox, except for some specific exceptions. It consequently meant that even the members of other Christian churches, like Catholic or any of the Protestant denominations, were usually forced either to convert to Orthodoxy or to abandon their hopes for further carrier growth in various formal institutions in Moscow or St. Petersburg. Ronald Grigor Suny (*1940) introduces an eloquent formula to highlight this phenomenon of Russian culture: "Religion was more than belief; it was a part of the ethnic essence of a people, a matter of a core identity that extended beyond personal conviction."[4]

Those specific exceptions mentioned above concerned the periphery of the state. The first German university in the Russian Empire was opened in 1802 in Dorpat (now the University of Tartu, Estonia). Being established in 1632 by a Swedish statesman Baron Johan Skytte (1577–1645) and named *Academia Gustaviana* after then King of Sweden Gustavus Adolphus (1594–1632), it became an outstanding place in Russia, where many prominent scientists and scholars of German and Scandinavian origin and Lutheran confession taught. Among them one could mention Karl Ernst von Baer (also Karl Maksimovich Baer, Карл Максимович Бэр, 1792–1876), Jakob Johann Freiherr von Uexküll (1864–1944), graduated from Dorpat University in 1889, and Gustav Teichmüller (1832–1888), a professor of philosophy at Dorpat and a confident to Karl E. von Baer in his last years. The language the teachers used in the aulas was German, but Baltic Germans considered themselves as Russian subjects, being at the same time actors of the German-language cultural space.

This brief sketch reveals the methodological difficulties in studying an individual's influence on Russian science or scientists in pre-Revolutionary Russia. Should we, for instance, consider the professors of Dorpat university as Russian scientists and scholars? On the other hand, it is a fact that Swiss mathematician Leonard Euler (1707–1783), German physician Laurentius Blumentrost the Younger (1692–1755), the Bernoulli brothers, German physiologist and anatomist Caspar Friedrich Wolff (1734–1794) and many other brilliant names of 18th and 19th centuries were those who developed Russian science, being members of St. Petersburg Academy, and played an important role in rendering the very Russian scientific discourse. Mutual influences were sometimes very sophisticated. A curious example of such a Russian

[3] http://www.judentum-projekt.de/persoenlichkeiten/wissen/karlmarx/index.html

[4] Suny 2000, p. 489.

scientist was Mikhail Lomonosov (1711–1765): an ethnic Russian, he studied in Kyiv, Moscow, and St. Petersburg, spent five years at German universities and became a deist and a follower of Christian. Wolff's (1679–1754) natural philosophy, who wrote in Latin, German, and later in Russian, and whose scientific views were cosmopolitan from the perspective of the Age of Enlightenment. Noteworthy is that in the 18th century a lot of translations of both classical and contemporary texts appeared in Russian. The translations were of a different kind, but they made it possible to teach the essential subjects in Russian or at least to Russian students.

Thus, we could point out three main sources of influence of the Westerners on Russian science: firstly, Russian champions or plain followers of certain authors, methods, or disciplines; secondly, the membership of Western scientists in the St. Petersburg Academy or other academic institutions; thirdly, the influence on the Russian scientific discourse in general, which can be demonstrated on specific thesauri of the disciplines, establishment of new scientific branches, development or criticism of certain views, etc. For the purposes of this paper, we will consider "Russian scientists" everybody, who would be considered such by the Imperial authorities of that time including the non-Russian-speaking population. In addition, all immediate and long-term actors shaping the scholarly discourse of the Empire will be considered "Russians", independently of their ethnic origin or cultural background. This categorization is explained by the objective of this paper: We are interested in the influence of Johann Friedrich Blumenbach (1752–1840) on the emerging scholarly discourse within the Russian Empire and the shaping of the specific Russian tradition in science and philosophy.

Blumenbach was a figure, whose influence on Russian science could be measured in the given dimensions. Being a foreign, and – since 20th December 1826 – an honorary member of St. Petersburg Academy of Sciences,[5] he was regarded as a leading German zoologist and naturalist, whose books were translated into Russian and whose views were the subject of teaching in the Russian medical schools and universities. In our contribution we scrutinize the main indicators of Blumenbach's influence in Russia, paying special attention to the circulation of the translations of his books, and distinguish his role in shaping Russian original biological discourse in the light of the adaptation of Blumenbach's concept *nisus formativus* (or "Bildungstrieb") in the works of Russian naturalists. We trace out the implications of Blumenbach's influence in the works of "pre-Darwinian Russian evolutionist" Pavel Goryaninov (1796–1865) and discuss its virtual connection with Alexei Sewertzoff's (1866–1936) doctrine of aromorphosis. We sum up our ideas in the conclusions section.

[5] See Blumenbach's webpage on the Russian Academy of Sciences website, URL: http://www.ras.ru/win/db/show_per.asp?P=.id-49440.ln-ru (access date: 07.07.2025). According to Летопись Российской академии наук, т. 2, СПб., "Наука", 2002, с. 196–197 (Letopis' Rossiiskoi Akademii Nauk, St. Petersburg: Nauka, 2002. Vol. 2, p. 196–197) Blumenbach became a foreign member of the Russian Academy of Sciences in 1826, the same year that J. W. von Goethe and K. E. von Baer (the latter as a corresponding member) were also elected.

2. General indicators of Blumenbach's influence in Russia

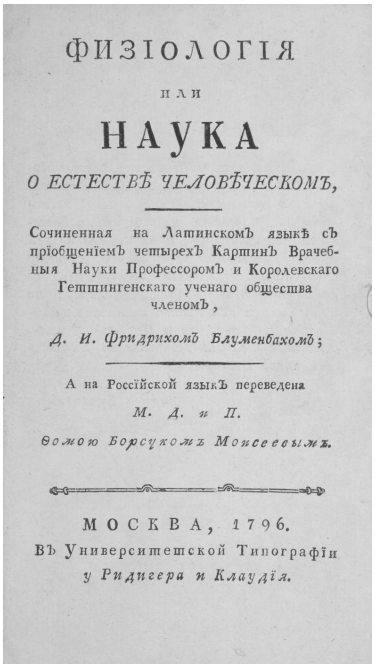
2a. Translations

Translations and following publications are important indicators of the scientific influence as under conditions of the 18th and early 19th centuries they required significant personal and material investments. Below we describe all existing translations of texts by Blumenbach into Russian. As our research in the catalogs of the scientific library of St. Petersburg State University, the National Library of Russia, Library of the Russian Academy of Sciences, and the Archive of the Russian Academy of Sciences (all in St. Petersburg) showed, there are four translations of Blumenbach's works in Russian: "Физиология, или Наука о естестве человеческом" (*Fiziologiya, ili Nauka o estestve chelovecheskom*) made by Foma Borsuk-Moiseev; "Руководство к естественной истории" (*Rukovodstvo k estestvennoi istorii*) made by Petr Naumov and Andrei Teryaev; "Некоторые рассуждения, почерпнутые из естественной истории" (*Nekotorye rassuzhdeniya, pocherpnutye iz estestvennoi istorii*) made by Alexander Turgenev; "О единстве рода человеческого и его разнообразностях" (*O edinstve roda chelovecheskogo i ego raznoobraznostyakh*) made by an unknown translator. Besides, we encountered only one mentioning of a book entitled "Начальные основания сравнительной анатомии" (*Nachal'nye osnovaniya sravnitel'noi anatomii*) – the book, which we know literally nothing about, except for its translator, Alexander Sevast'yanov.

1. *"Физиология, или Наука о естестве человеческом"* (*Fiziologiya, ili Nauka o estestve chelovecheskom,* Engl.: *Physiology, or Science of The Human Nature*) was a translation of Blumenbach's *Institutiones Physiologicae* from the Latin and was originally published in Moscow in 1796. We studied the exemplar kept in the National Library of Russia.

It is a full translation with no omitted chapters or passages based on the first (Latin) edition of the *Institutiones Physiologicae* (1787). The Appendix with four commented pictures was kept and reprinted in the Russian edition, so the only difference is in the preface, added by the translator. However, Blumenbach's preface, in which he explains – among other things – his principles for giving references to literature and pictures was not (as it was in the German, French and Dutch translations of the first edition) included. Remarkably, the translation was approved by the Moscow university censor and "professor of logic and metaphysics" Andrei Bryantsev (1749–1821), which meant that there were no contradictions between Blumenbach's text and the doctrine of the Orthodox Church. Russian censorship, especially at universities and pedagogical schools, was focused on the correspondence of any book with the main ideological source in the Russian Empire, the Holy Bible (*Sacra Scriptura*) and the Holy Tradition (*Sacra Traditio*). That is why many censors themselves were either the members of the clergy or of clerical background. The latter

applies to Bryantsev, a professor of philosophy at Moscow University, who studied at a clergy school in Vologda and whose father was a clergyman.[6] The fact that Bryantsev approved the book meant that no physiological or medical data presented in the book was prohibited or considered to be harmful to the students. The same idea is given in the *Preface*, where the translator says that physiology is the unshakable foundation of the whole of medicine, and true studies and books on the science of human nature are very much in demand. He explains, that he had chosen Blumenbach's "most subtle manual" because of its thorough instructions, absence of speculations, comprehensive commentaries, and recommendation of the State Medical College, where it was taught.[7]



ФИЗІОЛОГІЯ

ИЛИ

НАУКА

О ЕСТЕСТВѢ ЧЕЛОВѢЧЕСКОМЪ,

Сочиненная на Латинскомъ языкѣ съ пріобщеніемъ четырехъ Картинъ Врачебныя Науки Профессоромъ и Королевскаго Геттингенскаго ученаго общества членомъ,

Д. И. Фридрихомъ Блуменбахомъ;

А на Россійской языкъ переведена

М. Д. и П.

Борсукомъ Моисеевымъ.

МОСКВА, 1796.

Въ Университетской Типографіи

у Ридигера и Клаудія.

Figure 1. Title page of Foma Ivanovich Borsuk-Moiseev's translation of J. F. Blumenbach's Institutiones physiologicae. *Source: www.blumenbach-online.de.*

Some words should be said about the translator. Foma Ivanovich Borsuk-Moiseev (also Barsuk-Moiseev, 1768–1811) was born to a Jewish family in what was at that time called Malorossiya (now Ukraine), studied at Kyiv-Mohyla Academy ("Barsuk" is eventually an anagram for the old-Ukrainian word "bursak", i.e. student) and graduated from the Faculty of Medicine of Moscow University in 1793. In the following year he became the first Russian M. D., according to a degree by Catherine the Great's (1729–1796) in 1791. He stayed in Moscow as *professor extraordinarius* at

[6] Biographical details are taken from the Chronicle of Moscow University ("Летопись Московского университета", *Letopis' Moskovskogo universiteta*), URL: http://letopis.msu.ru/peoples/540 (access date: 07.07.2025).

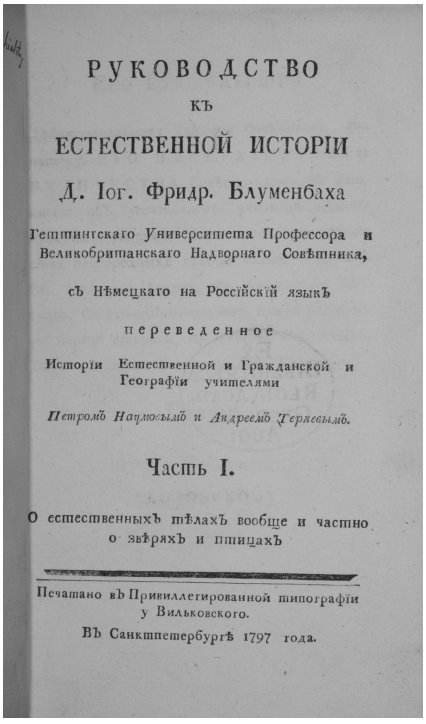
[7] Blumenbach/Borsuk Mojseev 1796, pp. III–IV.

the Faculty of Medicine (1795–1804) and professor of the Department of Anatomy, Physiology and Forensic Medicine from 1804 until his resignation in 1811 (probably because of his addiction to alcohol). However, he obviously enjoyed a considerable reputation, as he was elected the University's Deputy at the coronations of Paul I (1754–1801) in 1797 and Alexander I (1777–1825) in 1801 respectively. Being a doctor and researcher of a vast sphere of interest, from practical medicine to health preservation, he delivered lectures on Physiology, Pathology, Therapy, Semiotics and Dietetics. He also translated the books of the most eminent contemporary European authors on medical and biological issues from French and Latin.[8]

2. *"Руководство к естественной истории"* (*Rukovodstvo k estesstvennoi istorii,* Engl.: *A Guide to Natural History*) was a translation of Blumenbach's *Handbuch der Naturgeschichte* from the German originally published in St. Petersburg in three volumes in 1796 and 1797. We studied the copy kept in the National Library of Russia. Interestingly, according to the preface of the Russian volume, the translators intended to improve and enhance Russian students' systematic knowledge in natural history. To achieve this goal, they chose to translate Blumenbach's work, acknowledging its seminal character and because they had access to the then most recent 4th German edition (1791) of the *Handbuch der Naturgeschichte*.[9]

[8] Biographical details are taken from the Chronicle of Moscow University ("Летопись Московского университета", *Letopis' Moskovskogo universiteta*), URL: http://letopis.msu.ru/peoples/291 (access date: 07.07.2025).

[9] There is additional information about the way how this translation came about. On the 11th of October 1790 (Julian calendar; = Gregorian calendar the 30th of September 1790) Georg Thomas von Asch (1729–1807), a high-ranking official in the Russian medical administration with close personal ties to Göttingen, informed Blumenbach that a Russian translation of the third edition (1788) of his *Handbuch der Naturgeschichte* was being planned (see: Dougherty 2010, p. 334 nr. 633, http://webdoc.sub.gwdg.de/ebook/mon/2012/ppn%20654201889.pdf#page=352). The translator was to be Johann Georg von Koch (1735(?)–1805); on him see: https://mineralogicalrecord.com/new_biobibliography/koch-johann-georg/; on his carrier see Kaplunovskiy 2014. p. 112. Half a year later, von Asch informed Blumenbach, that there were new plans for a translation of the fourth edition (1791) of the *Handbuch* (letter von Asch to Blumenbach, 14th of April 1791 (Julian calendar; = Gregorian calendar 3rd of April 1791; see: Dougherty 2012, p. 47 nr. 670, http://webdoc.sub.gwdg.de/ebook/mon/2012/ppn%20688942709.pdf#page=59). Blumenbach had sent to von Asch those parts of the new (fourth) edition that were already printed, that is: before the printing process was completed and the new edition was officially published. Von Asch asked Blumenbach to send the remaining parts of the book and the copperplate engravings. As translator, again von Koch is mentioned. It is noteworthy that in 1797 von Asch sent Blumenbach a bound, but incomplete volume of the finished translation; von Asch mentions that he had received this copy from von Koch. The question whether von Koch was involved somehow in the translation that was actually published, certainly requires further investigation.



РУКОВОДСТВО
КЪ
ЕСТЕСТВЕННОЙ ИСТОРІИ
Д. Іог. Фридр. Блуменбаха
Геттингскаго Университета Профессора и
Великобританскаго Надворнаго Совѣтника,
съ Нѣмецкаго на Россійскій языкъ
переведенное
Исторіи Естественной и Гражданской и
Географіи учителями
Петромъ Наумовымъ и Андреемъ Теряевымъ.
Часть I.
О естественныхъ тѣлахъ вообще и частно
о звѣряхъ и птицахъ
Печатано въ Привиллегированной типографіи
у Вильковского.
Въ Санктпетербургѣ 1797 года.

Figure 2. Title page of Andrei Mikhailovich Teryaev's and Foma Ivanovich Borsuk-Moiseev's translation of J. F. Blumenbach's Handbuch der Naturgeschichte. *Source: www.blumenbach-online.de.*

This edition is more voluminous than the German original (in 2 volumes): Vol. 1 is dedicated to "natural bodies in general and animals and birds"; Vol. 2 – "amphibia, fish, insects, worms and cold-blood bodies in general" (including plants); Vol. 3 – "fossils and minerals". This demonstrates the fields of interest and activities of the translator, Andrei Mikhailovich Teryaev (1767–1827), who was a State Councilor and an enthusiast of mineralogy in Russia. Teryaev implemented Catherine the Great's decree, issued in 1783, to teach mineralogy and natural history as a single subject alongside physical, philosophical, and historical sciences in regional centers across Russia. He was a naturalist of a broad education: he studied mineralogy, botany, and zoology in Russia and abroad, and then became a professor at the Smolny Institute of Noble Maidens, Pedagogic School, and Medical Surgery Academy.[10] He knew Blumenbach's system of fossils and minerals, which he mentioned in his *History of Mineralogy* (1819) along with Carl Linnaeus' (1707–1778) and Joseph Pitton de Tournefort's (1656–1708) zoological and botanical classifications. He considered Blumenbach's *Handbuch der Naturgeschichte* to be the best contemporary book on minerals and zoology, and mentioned that to translate this book and apply it in the educational process was definitely a state task. Concerning the length of the translation, the translators remark in their foreword, that the Russian edition holds

[10] Anonymous. 1827; and Энциклопед. Словарь Эфрона (*Efron's Encyclopedic Dictionary*), 1 ed., vol. 33, p. 96.

an advantage over the German original, because all Linnean characteristics of animal *genera* and *species* were translated from Latin into Russian. This feature of the translation became a driving force of interest in it and of its usage, so that it became even more popular than the original – a fact that was acknowledged by J. F. Blumenbach himself.[11] Thus, it is clear that generations and generations of male as well as female students of universities, high schools, and gymnasia were educated in natural sciences based on the principles established by the German theorist. This translation was quoted by prominent scholars in early 19th century,[12] and they used it as an important educative source on zoology. An illustrative example of Blumenbach's influence as an author of his handbook on natural history is Prof. Yakim Zembnitsky's (1784–1851) speech delivered before the graduates of Pedagogical Institute in St. Petersburg on the 22st of December, 1841. Among other things he said: "To say nothing of the various and numerous zoological works based on the Linnaean system, let us note that, as it had appeared, many textbooks were published by various authors, compiled according to this system for teaching the science of animals. Among the works of this kind, the following are especially worthy of note: Guide to Natural History by Blumenbach and Initial Foundations of Natural History by [Nathanael Gottfried] Leske. Both of these naturalists, having accepted Linnaean articles on animals, changed some orders in the articles, and in other ways arranged his genera, some of which appeared under new names, and partly included newly discovered breeds of animals; but for the brevity of the textbook, not violating the systematic order, they necessarily had to limit themselves to only the most remarkable breeds according to their properties, benefits, harm and use in society."[13] So we see that Zembnitsky acknowledged Blumenbach's creativity in systematization of the genera and his strife for keeping the contemporary knowledge up-to-date.

Unfortunately, we cannot provide any precise information about the other translator of this work by Blumenbach, Petr Naumov (dates unknown). It seems that he was – like Teryaev – a teacher of natural and civil history and geography and could be associated with the author of a brochure entitled "Об отношениях

[11] Teryaev 1819, pp. 27–28. Blumenbach also highlights this feature of the Russian translation in a note on the translation, see Blumenbach 1797.

[12] See Mukhin 1805, p. 7.

[13] Rus.: "Не говоря о разных и многочисленных зоологических сочинениях, имеющих основанием Линнееву систему, заметим, что с появлением ее издано разными авторами множество учебных книг, составленных по этой системе для преподавания науки о животных. Между сочинениями этого рода особливо достойны примечания: Руководство в (sic!) Естественной Истории Блюменбаха и Начальные основания Естественной Истории Леске. Оба эти естествоиспытателя, приняв Линнеевы статьи животных, изменили некоторые отряды в статьях, инде другим образом расположили его роды, из которых иные явились под новыми именами, а отчасти включили вновь открытые породы животных; но они для краткости учебной книги, не нарушающей систематического порядка, необходимо должны были ограничиться только примечательнейшими породами по их свойствам, пользе, вреду и употреблению в общежитии". – We translate the quotation from Zembnitsky 1842, pp. 16–17; Zembnitsky mentions A. Teryaev and P. Naumov's translation, ibid., pp. 24–25.

российских князей к монгольским и татарским ханам, от 1224 по 1480 год" (*Ob otnosheniyah rossijskih knyazej k mongol'skim i tatarskim hanam, ot 1224 po 1480 god*, English: *On the Relations of Russian Princes to Mongol and Tartar Khans, from 1224 to 1480*) printed in St. Petersburg in 1823, whose name is given as Petr Antonovich Naumov. If Petr Antonovich Naumov and the co-translator of *Handbuch der Naturgeschichte*, are the same person, we know his year of birth (1763), but there is no information on the year of his death.

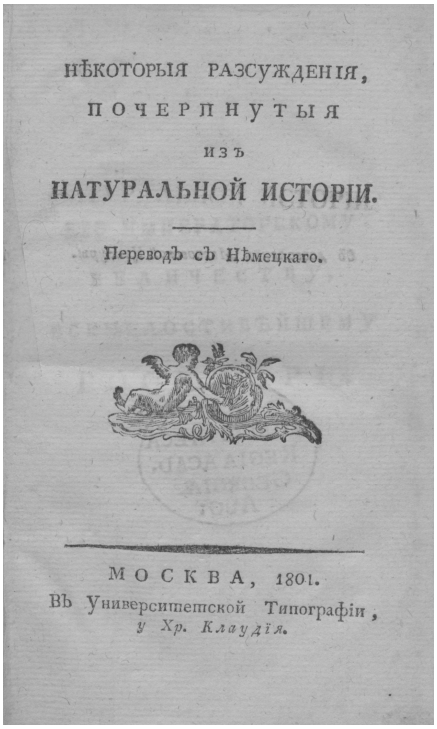

НѢКОТОРЫЯ РАЗСУЖДЕНІЯ,
ПОЧЕРПНУТЫЯ
ИЗЪ
НАТУРАЛЬНОЙ ИСТОРІИ.
Переводъ съ Нѣмецкаго.
МОСКВА, 1801.
Въ Университетской Типографіи,
у Хр. Клаудія.

Figure 3. Title page of Alexander Ivanovich Turgenev's translation of J. F. Blumenbach's Beyträge zur Naturgeschichte. *Source: www.blumenbach-online.de.*

3. *"Некоторые рассуждения, почерпнутые из натуральной истории"* (*Nekotorye rassuzhdeniya, pocherpnutye iz natural'noi istorii,* Engl.: *Some Considerations, Drawn from the Natural History*) was Alexander Ivanovich Turgenev's (1784–1845) translation of the *Beiträge zur Naturgeschichte*. It was printed in 1801 by the university press in Moscow. Brother to Andrei (1781–1803; a poet and a translator,) and Nikolai (1789–1871; a participant of the Decembrist revolt in 1825) and later a prominent Russian historian, Alexander Turgenev studied in Göttingen from 1802 to 1804, after he had translated Blumenbach's book. Two extant lecture notes by Turgenev record Blumenbach's classes that he attended, covering Natural History and Mineralogy.[14]

[14] https://blumenbach-online.de/quellen-literatur/Vorlesungsmitschriften-englisch.php (access date: 26.08.2025).

4. In this last group we should list two translations about which nothing definite is known. The problem is, that we were not able to find physical copies of these books in the academic libraries of Russia and therefore rely on secondary sources.

4a. *"О единстве рода человеческого и его разнообразностях"* (*O edinstve roda chelovecheskogo i ego raznoobraznostyakh,* Engl.: *On the Unity and Variety of Mankind*) was most probably a translation of Blumenbach's thesis *De generis humani varietate nativa*, however it was apparently translated not from the Latin original, but from the French translation and published in Moscow in 1801/1804.

Identifying this text is almost a detective story. The major problem is that there are no copies of this book left in Russian libraries. There are references to the Russian version of *De generis* in various guidebooks from the 19th century,[15] but there are no traces of a physical copy of the book. The loss was already reported in 1988[16], and we suppose that the book was among the 3.5 million volumes of miscellaneous content that were destroyed that same year in the fire at the Library of the Academy of Sciences in St. Petersburg (then Leningrad). The translator is said to have been Foma Borsuk-Moiseev, who was also responsible for the translation of Blumenbach's *Institutiones Physiologicae*.[17]

4b. *"Начальные основания сравнительной анатомии"* (*Nachal'nye osnovaniya sravnitel'noi anatomii*, Engl.: *The Elements of Comparative Anatomy*) was a manuscript of the translation of Blumenbach's *Handbuch der vergleichenden Anatomie* (1805) by Alexander Fyodorovich Sevast'yanov (1771–1824) in 1812.

The only reference to this manuscript appears in the *Chronicles of the Russian Academy of Sciences* (Rus.: *Letopis' Rossiiskoi Akademii Nauk*), where it is noted, that A. F. Sevast'yanov presented his translation to the Academy on 13th of May, 1812.[18] Alexander Sevast'yanov was an outstanding scientist and member of the Academy, famous for his original works in zoology, paleontology and geology as well as for his brilliant translations from Latin, German, and French of the key texts in the spheres of his interest. For instance, he translated Linnaeus's *Systema Naturae*, Abraham Gottlob Werner's (1749–1817) lectures on *Geognosie* and Alexander von Humboldt's (1769–1859) essay on the physiognomics of plants. Neither biographic literature[19] nor catalogues in the Russian National Library or St. Petersburg State University provided us with any information about his Blumenbach manuscript, however, the existence of such a translation would not be a surprise. The only way to check this information from the *Chronicles*, is through the Archive of the Russian Academy of

[15] Metropolitan Eugene 1845, p. 26; Gennadi 1875, vol. 1, p. 68; Zmeev 1886, p. 16.
[16] Zhilyakova 1988, p. 68.
[17] http://enc.biblioclub.ru/Termin/1526438_Barsuk-Moiseev (access date: 07.07.2025).
[18] Annals of the Russian Academy of Sciences 2002, p 103.
[19] Tarasov 1995, p. 10–14.

Sciences in St. Petersburg. Presently this is not possible, as the archive has been closed for relocation since 2020.

2b. Blumenbach's membership in the Russian Academy

We have already mentioned that Johann Friedrich Blumenbach was a foreign member of St. Petersburg Academy of Sciences, and on the 20th December, 1826, became an honorary member. In electing him, his works on zoology and natural theory were taken into consideration. *The first recorded encounter between Blumenbach and the Russian Academy took place as early as 1789,* when he and Ignaz Edler von Born (1742–1791) submitted their papers to participate in a competition, launched by the St. Petersburg Academy of Sciences. This competition had been initiated by Caspar Friedrich Wolff, who was then residing in St. Petersburg. Wolff who wrote an extensive commentary on both papers, entitled *Von der eigenthümlichen und wesentlichen Kraft der vegetabilischen, sowohl als auch animalischen Substanz*. In this text he developed the idea of a *vis essentialis*, which he had introduced for the first time in his thesis in 1759. In his commentary, Wolff was very concerned to distinguish his own concept from Blumenbach's *nisus formativus* in order to prevent any confusion.[20] Another interaction with the Academy occurred on 19th of October, 1814, when Blumenbach, then perpetual secretary of the Royal Society of Sciences at Göttingen, sent the second volume of the society's *Commentationes Societatis Regiae Scientiarum Gottingensis recentiores* for 1811–1813 to St. Petersburg as a gift.[21] According to F. W. P. Dougherty, there were even plans to offer Blumenbach a professorship in Moscow.[22]

An important source of information about Blumenbach's reception in Russia is provided by the well-known *Brockhaus and Efron Encyclopaedic Dictionary* (Rus.: *Энциклопедический словарь Брокгауза и Ефрона* [ЭСБЕ] in 86 vols., 1890–1807), where he was called "an eminent naturalist"; the *Encyclopaedia* mentions that his major achievements lay in the field of comparative anatomy, which he himself developed with both his powerful oral teaching and his influential treatise *Handbuch der vergleichenden Anatomie und Physiologie*, translated into "almost all European languages" – a statement, that might implicitly prove the existence and recognition of Sevast'yanov's manuscript translation, mentioned above. However, Blumenbach did not publish a book with this title. Two publications might be confused here, namely the *Handbuch der vergleichenden Anatomie* (1805, [2]1815, [3]1824) and *Institutiones physiologiae*. (1787, [2]1798, [3]1810, [4]1821), Hence, this remark can scarcely be interpreted as an indirect prove of the existence of Sevast'yanov's translation of the *Handbuch der vergleichenden Anatomie*; it may just be a reference to Borsuk-Moiseev's translation of *Institutiones physiologiae*. It is also said that Blumenbach's favorite subject was the

[20] Raikov 1952–1959, vol. 1, pp. 153–154.

[21] Annals of the Russian Academy of Sciences 2002, vol. II. (1803–1860), p. 136.

[22] Dougherty 2015, p. 337–338, nr. 1618 (14.9.1803), see: http://d-nb.info/1071075608/34 (access date 07.07.2025).

natural history of man, and that it was him who introduced the division into five races, which dominated in science until the late 19th century. His collection of skulls is said to be regarded as world-wide famous and the basis of scientific craniology, and *Über den Bildungstrieb und das Zeugungsgeschäfte* is mentioned as his *opus magnum* in physiology, due to which he made himself widely known.[23]

Another type of biographical sources about the German scientist are private memoirs. The most famous, probably, are those of Carl (Karl) Rouillier (Rouille) (1814–1858), a descendant of poor French émigrés and professor at Moscow University since 1842. He translated a report by Ludwig Storch (1803–1881) about his recollections of a lecture given by Blumenbach. Rouillier's text was entitled "The Wisest of Orangutans" and is not a scientific text, but rather an entertaining anecdote about Blumenbach's strange kind of humor (in his later years). It tells the reader a story of Storch's visit to 71 years old Blumenbach, who was still teaching, and about the cheerful and sociable character of this great investigator of human nature.[24] Although Rouille had not met Blumenbach himself, he found that this text about Blumenbach was worth to be translated. That means, he could expect that in 1858 some Russian readers still knew who Blumenbach was and that they were interested in this text about him. It is noteworthy that Rouillier created one of the first pre-Darwinian Russian evolutionary schools, the members of which were Anatoly Bogdanov (1834–1896) and Nicholas (Nikolai) Sewertzoff (1827–1885), the father of Alexei Sewertzoff (1866–1936).[25] Being a passionate lecturer, Blumenbach attracted many scholars, naturalists and tourists, who attended his classes in Göttingen. During his tour in Germany, Eduard Ivanovich Eichwald (born as Johann Karl Eduard Eichwald, 1795–1876), a Russian naturalist and paleontologist, visited Blumenbach, who was in his mid-eighties, but read bravely and vividly.[26]

2c. Circulation of Blumenbach's publications in the Russian Empire

It is well-known that European philosophers paid special attention to Blumenbach's ideas. The pillars of German idealism, Immanuel Kant (1724–1804) and Georg Wilhelm Friedrich Hegel (1770–1831), quoted his writings eagerly: the former expressed strong approval of Blumenbach's concept of *Bildungstrieb* (a term, which – in its Latin version *nisus formativus* – was of exceptional importance for the Russian

[23] Энциклопедический словарь Брокгауза и Ефрона (ЭСБЕ), vol. 7, p. 108–109.
[24] Bulletin of Natural Sciences, 1858, p. 24.
[25] See Raikov 1952–1959, vol. 4, pp. 14–15.
[26] Raikov 1952–1959, vol. 2, p. 372.

Figure 4. Johann Friedrich Blumenbach (1752–1840). Portrait (1824) by Ludwig Emil Grimm (1790–1863), Source: https://commons.wikimedia.org/wiki/File:JohannFriedrichBlumenbachLudwigEmilGrimm1823_(cropped).jpg; public domain. The portrait was created in 1824, which coincides with the period when Ludwig Storch – according to his memoirs – attended a lecture by Blumenbach.

scientists, as we will thoroughly discuss below); the latter took into consideration Blumenbach's principles of the classification of human varieties and races. As Robert Richards (*1942) put it: "The concept of the *Bildungstrieb* became a staple in German biology at the end of the eighteenth century, being adopted by the likes of Johann Wolfgang von Goethe, Johann Gottfried Herder, Alexander von Humboldt, and even Kant."[27]

The close relation between speculative and natural philosophy, quite typical of the Age of Late Enlightenment and Romanticism (and Blumenbach was certainly

[27] Richards 2019, p. 147.

the last major natural philosopher in the sense of traditional metaphysics[28]) did not fail to influence Russian thinkers educated abroad. German university cities, like Tübingen, Göttingen, Jena, Heidelberg, were very popular among Russian students, especially those, who wanted to prepare themselves for a professorship in Moscow or St. Petersburg. The style of omniscience and polymathy, which many German authors were famous for, was adopted by the young Russian intellectuals. A good example of such an intellectual is Alexander Ivanovich Galich (born as Govorov, 1783–1848), a Schellingian philosopher, teacher and writer, who studied at the Universities of Helmstedt and Göttingen between 1808 and 1813. In his late speculative anthropological treatise *The Picture of Man* (*Kartina cheloveka*), published in 1834, he mentioned Blumenbach among the other scientists, whose works and achievements encouraged ethnographers and anthropologists to study "natural differences between various peoples and tribes". Galich said, that such a development was not only based on the differences in the spirits of peoples, but also provided the educated public with the mixed doctrine of peoples' temperaments, morals, habits and preferences.[29]

We can therefore discern two main branches of Blumenbach's influence in the Russian Empire: on the one hand, it was through Blumenbach's own translated textbooks as well as genuinely Russian lecture courses based upon Blumenbach's works (as his approach to natural history was eagerly treated by the Russian teachers at universities in Moscow and St. Petersburg) and various medical and biological theses; on the other hand, it was through his scientific ideas, e.g. the comparative method in anatomy and physiology, the concept of *Bildungstrieb*, or *nisus formativus*, and the principles of racial classification. As for the first aspect, recent Russian research has shown that textbooks on natural history written by Blumenbach contained significantly less religious content than those of contemporary authors. This characteristic, which was also found in the works of other German authors of that time, contributed to a tendency in Russian pedagogy to emphasize the study of nature as independent and relatively free from religious connotations. [30]

As for the second aspect, Blumenbach's classification of races was thoroughly studied and criticized by Karl Ernst von Baer, who prepared a thought-provoking, however unpublished manuscript on the descent of man entitled *Über Ursprung und Verbreitung der Menschenstämme* in the early 1820s. Von Baer examined, if the (supposed) five races had developed independently or had had a common origin, and was inclined to the latter.[31] Among the anthropological achievements, Blumenbach's physiological views were also of high interest: his *Geschichte und Beschreibung der Knochen des menschlichen Körpers* (1786) was an essential source for Petr Andreevich Zagorsky's (1764–1846) *Sokrashchennaya anatomiya, ili Rukovodstvo k poznaniyu stroeniya*

[28] De Laurentiis 2021, p. 93.

[29] Galich 1834, p. 27.

[30] Bezrogov and Tendryakova 2018, p. 27, 45.

[31] Raikov 1952–1959, vol. 2, pp. 112–114. See also Raikov 1961, p. 288.

chelovecheskogo tela (1802; *An Abridged Anatomy, or The Guide to the Knowledge of The Human Body for the Students of Medicine*), the first Russian textbook in Anatomy.[32] Zagorsky was an outstanding Russian anatomist and physiologist, the founding father of the independent Russian anatomic school, and the pioneer of experimental and comparative anatomy in the Russian Empire. By the end of his life, he was appointed rector and *professor emeritus* of St. Petersburg Medical Surgery Academy (now S. M. Kirov Military Medical Academy) and possessed the rank of a Collegiate Councilor (*kollezhskii sovetnik*). His textbook was exceptionally popular in medical institutions and became a pillow book for a generation of Russian anatomists. To cut a long story short, Blumenbach had a reputation of one of the pillars of contemporary anatomy and physiology, and we could find his name mentioned in various texts. We mention just two names in this regard: Jakov Kuzmich Kaidanov (1779–1855), the author of the thesis *Tetractys vitae* (1813), who was familiar with the speculative natural philosophy of Lorenz Oken (1779–1851), Friedrich Wilhelm Joseph Schelling (1775–1854) and others[33]; and Ludwig Heinrich Bojanus (1776–1827), who quoted Blumenbach in his *Introductio in Anatomen comparatum* (1815).[34]

3. *Nisus formativus* and Its Conceptual Implications

Now we turn to Blumenbach's influence on the scientific views of Russian naturalists and the specific Russian scientific discourse. It concerns the issue of Blumenbach's translations and reflections on his legacy by Russian authors. It is noteworthy that one of the sources of this influence was a Russian translation of Kurt Polycarp Joachim Sprengel's (1766–1833) book *Kritische Übersicht des Zustandes der Arzneykunde in dem letzten Jahrzehend* (1801), entitled *Kriticheskoe obozrenie sostoyaniya vrachebnoi nauki v poslednem desyatiletii* (1803; Engl.: *A Critical Overview of the State of Medical Science in the Last Decade*).[35] The author of the translation was Vassily Yakovlevich Dzhunkovsky (1767–1826), then a librarian at Medical-Surgery Academy in St. Petersburg and later professor and from 1821 to 1826 rector of the Imperial University of Kharkiv. It was a two-volume edition, in which the essential events in various field of medicine (from physiology to pathology and to issues of applied medicine) in the 1790s were presented. We found four loci, which deal with the name of Blumenbach. Firstly, he is mentioned because of the publication of his treatise *Institutiones physiologicae* in 1786 in Göttingen, characterized as a very useful, although brief scientific sketch, which provided the reader with some novel concepts, like variations of the formative drive (i. e. *nisus formativus*).[36] Secondly, the German scientist is mentioned

[32] Zagorsky 1802. Blumenbach's *Geschichte und Beschreibung* is mentioned in the list of sources (*Libri Osteologici*) in vol. 1.
[33] Raikov 1952–1959, vol. 1, pp. 355–356.
[34] Bojanus 1815.
[35] Sprengel 1803.
[36] Sprengel 1803, vol. 1, p. 42.

because of Johann Christian Reil's (1759–1813) attempts to misappropriate Blumenbach's discovery of the formative drive within the inner organs of the human body – some drive of irritability, which was also known under other names.[37] Thirdly, it was erroneously claimed that Blumenbach denied the existence of the formative drive in blood, but attributed it to every inner organ and part of the body (a statement which correlated with the previous one).[38] Fourthly, Blumenbach was highly praised for his physiological treatise, which was both concisely and clearly written by a man of profound knowledge and vehement temperament to define his arguments.[39]

It is a well-known fact, that Blumenbach played a crucial role in substantiating the vitalist doctrine in biology, which caused the development of miscellaneous speculations on the matters of nature by Western biologists. During the 1820s and 1830s, natural philosophy was of high interest among Russian biologists as well. Natural philosophy was based upon the principles of Schellingian philosophy and exploited Lorenz Oken's views on nature. It was an amalgam of miscellaneous approaches to the understanding of nature, combining scrupulous experimental research with the most vehement speculations. The range of representatives of this movement was very broad, extending from extreme supporters who, as Boris Raikov (1880–1966) contends, cultivated an atmosphere of *dementia philosophica*, to scholars, whose support was limited to select aspects of natural philosophy.[40] Among the men in the first group were physiologist and Schelling's follower Daniel (Danilo) Vellanskiy (1774–1847), partly agrobiologist Mikhail Pavlov (1792–1840), and botanist Pavel Fyodorovich Goryaninov (1796–1865); botanist and folklore scholar Mikhail Maksimovich (1804–1873), geologist Grigory Shchurovsky (1803–1884) and young Karl Ernst von Baer belong to the second group. Although the movement itself was in decline by the early 1840s and faced substantial criticism from former allies such as von Baer, it nonetheless represented a significant step towards recognizing that nature is not static, and that it is necessary to identify driving forces underlying its perpetual dynamics. For this reason, Blumenbach's concept of the *Bildungstrieb* (*nisus formativus*) became influential, as it was regarded as a universal force, sufficient for explaining the dynamic unity characteristic of nature.

In this regard Goryaninov's works as well as their later interpretations are of outstanding importance. Goryaninov studied and later taught at the Medical-Surgical Academy (now S. M. Kirov Military Medical Academy) in St. Petersburg, where he became professor in 1832. Because of his support for the idea of a close connection between inorganic and organic matter, he is often regarded as one of the Russian "pre-Darwinian evolutionists", a term coined by Boris Raikov in the 1950s. Taking a step back, we have to acknowledge that such a view is clearly contestable

[37] Sprengel 1803, vol. 1, p. 271.
[38] Sprengel 1803, vol. 2, p. 144.
[39] Sprengel 1803, vol. 2, p. 311.
[40] Raikov 1961, p. 427–428.

and dubious and rather demonstrates a tendency in Soviet historiography of science to find the patriotic analogues to foreign discoveries and theories as evidence of the originality of Russian scientists. Goryaninov is a notorious victim of the struggle for priority among Russians biologists, led by the Communist party: He was associated with the foundation of cell theory, which was, in fact, developed by Matthias Jacob Schleiden (1804–1881) and Theodor Schwann (1810–1882). It was Boris Kozo-Polyansky (1890–1957), a Russian botanist and champion of the symbiogenesis theory, who wrote a comprehensive article on Goryaninov's life and work and was the first to present this view on Goryaninov as a Russian scientist, which was supported by many other influential researchers.[41] However, Goryaninov accepted crucial tenets of contemporary natural philosophy and understood evolution as a gradual, spiral development from simple forms of organization to more complex ones: "Evolution follows a gradual way of repetitive nixi (nisi), vici (vires), i.e. the ascension drives (repetitus vicibus, per nixus reascendentes pedetentim) […]."[42] Thus, he saw evolution as a general natural law, that needs no further factors to be explained.

Goryaninov's magnum opus *Tetractys naturae* (1843) met contradictory acknowledgement. On the one hand, there were those who supported Goryaninov's ideas and method: Kondratii Ivanovich Grum-Grzhimailo (1794–1874), an eminent Russian pediatrist and the editor-in-chief of the medical journal *Drug Zdraviya* (Engl.: *The Friend of Health*), found it a brave work of a "ingenious analytic view on the earthly nature", and greeted the author as the one who "discovered the mysteries of nature, its rank in its particular and general existence, its plan in creation of non-organic and organic bodies, its work in design of living matter, its strive for the variety in particular and unity in general".[43] The reviewer saw the main quality of the work in its demonstration of perfection in nature: the species and genera becomes more and more perfect, delicate and better organized, and the human being appears to be the most perfect and best-designed being among the representatives of three natural domains. On the other hand, *Tetractys* faced strong and disrespectful criticism from von Baer. He reviewed Goryaninov's book (to be accurate: its first Latin edition, which is known under the title *Primae lineae systematis naturæ*) after the author had presented it at the Academy of Sciences on 15th of May, 1835. Within a month (on 26th of June) von Baer gave an oral report on the work, in which he described the book as a poor work, which would make no influence and leave no footprint in memory of the future generations. He argued, that the Academy should treat the book as a "Nichtigkeit" (i.e. nothingness) with all possible strictness ("mit aller Härte").[44] The Academy agreed with von Baer's opinion, and Goryaninov's work was officially declared to be of little scientific importance. As has become obvious now, the basis for this controversy was Goryaninov's natural-philosophical

[41] Aleksandrov 1993, pp. 63–64.
[42] Kozo-Polyansky 1947, p. 15.
[43] Raikov 1952–1959, vol. 2, p. 439.
[44] Raikov 1952–1959, vol. 2, p. 442.

perspective, which could be considered both as his book's advantage or disadvantage by his academic contemporaries. While Grum-Grzhimailo praised it for its speculative power and comprehensive generalizations, von Baer criticized its lack of attention to empirical data and its overwhelming apriorism. The ambiguity in the reception of Goryaninov's view is highly illustrative of the decline of the age of natural philosophy, whose dawn was associated with many glorious figures, including Blumenbach's.

It was presumably in 1837, that Goryaninov introduced the term "nixus" (in Russian "никса") in his zoology course, reinterpreting Blumenbach's *nisus formativus*. Some important emphases need to be made. Goryaninov was primarily a botanist, but he held a chair in zoology for some time. In 1837, he published a textbook on zoology with an explicit reference to the "theory of Blumenbach" and writes "with sympathy for it".[45] He also explicitly and repeatedly used the term "nisus formativus" when he mentions Blumenbach's theory.[46] He also already refers to a concept of his own, regarding a "special force" of living organisms.[47]. As for Kozo-Polyansky, he declared that he was influenced by Goryaninov. He exaggerated Goryaninov's role as the inventor of cell theory, preceding Schwann – an idea supported by the Soviet historian Boris Raikov. In general, however, Raikov was critical about Kozo-Polyansky's interpretations, although he agreed that Goryaninov relied on Blumenbach and re-formulated Blumenbach's "nisus." Raikov therefore tried to distance Goryaninov from Blumenbach and align him more closely with the British botanist John Lindley (1799–1865), who introduced the concept of "nixus," as well as with other botanists. Raikov's aim was to bring Goryaninov's ideas closer to Charles Darwin's (1809–1882) and to modern interpretations. He claimed that Goryaninov used the term "nisus" not in a metaphysical sense like Blumenbach, but in a natural scientific sense, and that Goryaninov used the plural "nixus" (or "nisus"), because he maintained that there are many forces and not just a single one, as Blumenbach had stated. Moreover, Raikov was (like Kozo-Polyansky) aware of the fact that Goryaninov also used the Russian translation of the term "nixus" (or "nisus"), but was against interpreting it in terms of Alexei Sewertzoff's aromorphosis.[48] Anyway, it doesn't challenge the thesis that Goryaninov was influenced by Blumenbach, that Goryaninov used the term "nisus formativus" and translated it as "образовательное стремление" (Rus.: "obrazovatel'noe stremlenie" – literally "formative drive").[49] For comparison, Haeckel was profoundly influenced by Darwin, but developed a totally different theoretical system. We can refer to Lindley more explicitly using Raikov's research as a basis. He analysed the story in details,

[45] Raikov 1952–1959, vol. 2, p. 423.
[46] Goryaninov 1837, p. 18, 19.
[47] Goryaninov 1837, p. 27.
[48] Raikov 1952–1959, vol. 2, p. 444.
[49] See Goryaninov 1837, p. 18, 19, 29.

although he was biased in favor of Lindley for ideological reasons, claiming that Russians were ahead of the rest of the planet also regarding evolutionary theory.[50]

According to the Russian botanist, *nixus formativus* is a repetitive force or many forces acting in evolution; his own translations into Russian were "efforts" or "gradual development". In his article quoted above, Kozo-Polyansky claimed that Goryaninov's term "nixus" means an evolutionary impulse, saltation, and driving force of evolution *per se*. Therefore he maintained that Goryaninov introduced the new Russian term "nixy" (Rus.: "никсы") based on the neologism "nixus", which Kozo-Polyansky traced back to Blumenbach's concept of *nisus formativus*. It should also be noted that the term *nisus formativus* and its German counterpart *Bildungstrieb* were Blumenbach's own adaptations of a concept originally proposed by Georges-Louis Leclerc de Buffon: "Blumenbach adopted Buffon's species concept with minor changes, replacing the 'moule intérieur' with a 'Bildungstrieb' (formative drive) […]." Of particular interest is the sequence of adaptations of the term in Russian: According to Kozo-Polyansky, Blumenbach's idea of *Bildungstrieb* was adapted by the above mentioned Jakov Kaidanov, using the term "nisus". Goryaninov, who was familiar with Kaidanov's works, transformed it into "nixus" by Goryaninov under the influence of Lindley.[51]

Returning to Kozo-Polyansky's interpretation of Goryaninov's term "nixus", one finds, that he closely aligns it to the idea of "saltation" which refers to the concept that significant evolutionary changes can occur in large, discrete jumps rather than through the gradual accumulation of small changes. When comparing the views on natural development in the works of Kaidanov and Goryaninov, Kozo-Polyansky identifies a pivotal difference between the related terms *nisus* in the case of Kaidanov, and *nixus* in that of Goryaninov. He argues that Goryaninov was particularly concerned with uncovering the mechanisms and principles underlying evolution, and thus sought to formulate phylogenetic laws – an endeavor that, according to Kozo-Polyansky, was beyond Kaidanov's scope. This implies that Kaidanov simply adopted the term *nisus* from Blumenbachian discourse, whereas Goryaninov actively reinterpreted it as *nixus*, anticipating what would later become known as saltationism. It is noteworthy that this kind of overinterpretation put forth by Kozo-Polyansky carried methodological significance: it enabled an anti-Leibnizian perspective, countering the principle known from antiquity and shared by Georg Wilhelm Leibniz's (1646–1716) metaphysics that "nature does not make leaps" (*natura non operatur per saltum*). The interpretation of *nixus* provided Kozo-Polyansky with an additional historical-philosophical argument to substantiate the view on the leaps occurring in the natural process of new organisms formation – a concept that was crucial to his own theory of symbiogenesis.[52] Specially, he argued that while Kaidanov conceived of *nisus* as a universal factor of evolution (which is a driving force

[50] Cf. Aleksandrov 1993, p. 65.
[51] Kozo-Polyansky 1947, pp. 73–75.
[52] Kozo-Polyansky 2010, pp. 111–112.

behind all nature), Goryaninov employed his term *nixa* (and *nixy* in the plural) to describe the emergence of novel features, which Kozo-Polyansky regarded as comparable to the conception of aromorphosis.[53]

The term of aromorphosis itself was coined in biological discourse by the Russian academician Alexei Nikolayevich Sewertzoff in 1914. According to Sewertzoff, aromorphosis is "a rapid progressive evolution and an event of crucial macroevolutionary significance."[54] In other words, it is a "morphophysiological process," which represents "the complication of organization of the descendants comparing to the ancestors".[55] This term was later adopted by Sewertzoff's student Ivan Ivanovich Schmalhausen (1884–1963), who was one of the key architects of the Modern Synthesis of evolutionary theory. Schmalhausen placed an even greater emphasis than his mentor on the morphoecological interpretation of aromorphosis. Although this is not the proper place to thoroughly discuss the specifications of various views on aromorphosis, we have to mention the concept of vital energy, which is of paramount importance for our topic. Essentially, both Sewertzoff and Schmalhausen agreed that the defining characteristic of aromorphosis is an increase in the degree of organization of the leading form. This, in turn, results in a heightened intensity of what Sewertzoff termed "vital energy", which ultimately leadings to a higher level of adaptiveness.[56] Such a novel original variation of the classic idea of *vis vitalis* symptomatically reminds us of Blumenbach's concept of *Bildungstrieb*. One should certainly be very critical of Kozo-Polyansky's overinterpretation of Goryaninov's views and his supposed anticipation of saltationism and aromorphosis; however, it is well-known that Sewertzoff, as a child, was strongly and profoundly influenced by his father Nicholas Sewertzoff, who had studied under Carl Rouillier, as well as by Rouillier's successor in the position of the editor of Moscow Society of Naturalists' journal *Vestnik estestvennykh nauk* (Rus.: *Scientific Bulletin*) Sergey Usov (1827–1886). It is therefore quite plausible to assume that Alexei Sewertzoff's understanding of vital energy could have its origins in Blumenbach's works.

4. Conclusions

Johann Friedrich Blumenbach's works were translated into Russian only very selectively, and the existing translations seem to be motivated mainly by the professional interests of the individual translators. We found information on at least four translations of Blumenbach's works into Russian (from German, Latin and French), which were published in the late 18th and early 19th century. Of two of them (on physiology and natural history) were used as textbooks for medical students and

[53] Kozo-Polyansky 1947, pp. 76–75.
[54] Levit, Hoßfeld, Olsson 2004, p. 347.
[55] Sewertzoff 2012, p. 101.
[56] Levit, Hoßfeld, Olsson 2004, p. 347.

high school students, and copies of them have survived until today because of their relatively wide circulation. The educational need combined with the absence of genuinely Russian textbooks on anatomy and physiology allowed Blumenbach's works to exert an implicit influence on the Russian doctors and students of biology since many courses were based on his treatises.

Natural scientists, natural philosophers and the educated public in late 18th and early 19th centuries Russia were perfectly familiar with the name and works of Blumenbach. There is no doubt that for Russian medical doctors, anatomists, physiologists and anthropologists Blumenbach was a scientific figure of the first rank, as multiple references to of Blumenbach in medical, physiological and philosophical books prove, published e.g. by Russian authors like Petr Andreevich Zagorsky, Karl Ernst von Baer, Jakov Kuzmich Kaidanov, and Ludwig Heinrich Bojanus. A brilliant lecturer himself, Blumenbach could provide the European universities and medical schools with first-class generalizations as well as prolific ideas, that gave way to the original national developments, such as the Russian national anatomic school. It is therefore no surprise that Blumenbach's achievements were recognized with the membership at the St. Petersburg Academy of Sciences, and his name was included in the *Brockhaus & Efron* encyclopaedic dictionary as that of a prominent scientist.

An original and profound theorist as well as an influential educator, Blumenbach introduced many productive ideas into the contemporary biological discourse, among them a typology of human varieties or "races", as well the concept of *Bildungstrieb*. His outstanding achievements could not be neglected by those who sought to develop their own approaches to the theoretical and practical study of man in all ways possible – from comparative anatomy and craniology to natural-philosophical reflections on man's place in nature and the universe as a whole. At that time, the combination of scientific and contemplative perspectives could provide researchers with unexpected methodological solutions or put some traditional problems in a different dimension or paradigm framework. Many such natural philosophers were inspired by German idealism, especially by Schelling; yet eminent scientists, like Lorenz Oken and Blumenbach played a crucial role in shaping the future course of biological inquiry. Russian thinkers, researchers, and naturalists were very well acquainted with Blumenbach's legacy and ideas – just as later authors, such as Boris Kozo-Polyansky or Boris Raikov, who acknowledged the methodological and ideological importance of foreign predecessors in forming the views of Russian biologists, in spite of all tendentiousness and partiality that sometimes colored their perspectives.

From the perspective of the history of ideas, it is noteworthy how Blumenbach's concept of *nisus formativus* evolved within the Russian scientific tradition beginning with straightforward translation and adaptation, then acquiring new meanings and being amalgamated with related terms, such as those used by Lindley, and eventually transformed into the term *nixy*, that was only loosely connected to Blumenbach's original notion, both semantically and conceptually. Blumenbach's concept, coined

within a relatively autonomous scientific culture, underwent stunning transformations. Although the adaptation and conceptual development of his *nisus formativus* was interpreted in idiosyncratic ways by some Russian researchers, there is no doubt that the concept attracted significant attention in the Russian-language discourse as well as among Russian naturalists – however broadly one defines the term "Russian".

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Note: For ease of reference in the footnotes and for alphabetical ordering in the bibliography, author's names originally in Cyrillic have been transliterated. In the bibliography, these transliterated forms are enclosed by square brackets.

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