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Liudmyla Vaniuha

Ternopil Volodymyr Hnatiuk National Pedagogical University
2, Maxyma Kryvonosa Street, Ternopil, Ukraine, 46027
e-mail: Ludmyla_vanyuha@ukr.net
<https://orcid.org/0000-0003-0851-0067>

Yaroslava Toporivska

Ternopil Volodymyr Hnatiuk National Pedagogical University
2, Maxyma Kryvonosa Street, Ternopil, Ukraine, 46027
e-mail: toporivochka@gmail.com
<https://orcid.org/0000-0003-1808-6271>

Oksana Hysa

Ternopil Volodymyr Hnatiuk National Pedagogical University
2, Maxyma Kryvonosa Street, Ternopil, Ukraine, 46027
e-mail: oksana.hysa@tnpu.edu.ua
<https://orcid.org/0000-0003-2236-7498>

Iryna Zharkova

Ternopil Volodymyr Hnatiuk National Pedagogical University
2, Maxyma Kryvonosa Street, Ternopil, Ukraine, 46027
e-mail: irynazharkova@gmail.com
<https://orcid.org/0000-0003-0217-1498>

Mykola Bazhanov

Ternopil Volodymyr Hnatiuk National Pedagogical University
2, Maxyma Kryvonosa Street, Ternopil, Ukraine, 46027
e-mail: bazhanov.kolia@gmail.com
<https://orcid.org/0000-0003-0624-4949>

I. H. Verkhratskyi (1846–1919): at the origins of Ukrainian natural science

***Abstract.** Among the scientists of European greatness, who at the turn of the XIX and XX centuries showed interest to the folklore of Galicia (Halychyna) and Galician Ukrainians, contributed to their national and cultural revival, one of the leading places is occupied by the outstanding Ukrainian scientist Ivan Verkhratskyi (in some other sources – Verkhratsky). He was both naturalist and philologist, as well as folklorist*



and ethnographer, organizer of scientific work, publisher and popularizer of Ukrainian literature, translator, publicist and famous public figure. I. H. Verkh ratskyi was also an outstanding researcher of plants and animals of Eastern Galicia, a connoisseur of insects, especially butterflies, the author of the first school textbooks on natural science written in Ukrainian. The scientist also wrote poetry and translated from foreign languages. The article covers the life and scientific and pedagogical activities of I. H. Verkh ratskyi – one of the founders of Ukrainian natural science, who made a significant contribution to the development of Ukrainian natural terminology and nomenclature, the author of the first textbooks on botany, zoology, mineralogy. The authors believe that I. H. Verkh ratskyi can be considered one of the founders of Ukrainian scientific terminology in Natural Science, and today his works in this area remain relevant. These works are also valuable from the historical and cognitive points of view as one of the sources for studying the process of formation of the Ukrainian literary language and scientific and natural terminology. I. H. Verkh ratskyi devoted himself to the establishment of the Ukrainian literary language, its scientific and journalistic backgrounds, and made a significant contribution to lexicography, dialectology, and schooling. Based on the scientific publications and memoirs of his colleagues and students, the authors have recreated the main stages of his biography and considered his professional career. His activity in the field of formation of natural science terminology have been considered in detail. Dialectological materials of the scientist and researcher I. H. Verkh ratskyi are still actively used to study the Galician and Transcarpathian dialects. His achievements as a scientist, teacher and popularizer of science has been summarized.

Keywords: *natural terminology; zoology; botany; Lviv University; Taras Shevchenko Scientific Society*

Introduction.

The history of science can be covered from different standpoints and be equally true. One of the ways to reconstruct the history of science is to study the biographies of scientists who were at the origins of various research areas. In Ukrainian natural science, there are quite a few bright figures, which are notable not only for outstanding scientific achievements but also characterized by high moral and human qualities.

An example of a man who was true to himself to the end and did not sell the scientific principles can be a prominent Ukrainian researcher of nature Ivan Hryhorovych Verkh ratskyi. His merits before Ukrainian natural science are enormous: he introduced the concepts of “globe”, “equator”, “meridian”, for the first time he studied the processes of creating Ukrainian natural science terminology and nomenclature. He belongs to the constellation of prominent Ukrainian scientists of the last quarter of the XIX – early XX centuries. His name belongs to the golden fund of Lviv University. Thanks to his scientific and educational activities, the foundations of Ukrainian natural science were laid (Zhelezniak, 2005; Zagorodniuk, Parkhomenko, & Kharchuk, 2017; Kravets & Holiney, 2016). The memory about this outstanding

natural scientist deserves to be preserved today as a guarantee of further development of a society that knows, appreciates and continues to develop the achievements of its predecessors. In addition, the study of the heritage of outstanding scientists of the past has, in addition to purely historical, sometimes also of great practical importance. Many areas that started in the XIX century receive further development today. Some ideas started in the XIX century are still working and are implemented today in various fields of science and technology (Holovatskyi, 2003).

Literature review.

The first attempts at an in-depth assessment of the life and work of I. H. Verkhatskyi can be considered obituaries written immediately after his death by prominent scientists. In the process of revived interest in life and scientific activity of I. H. Verkhatskyi, many unknown materials from his legacy were discovered.

However, there is still no scientific work that would consider the contribution of I. H. Verkhatskyi in the Ukrainian natural sciences in full. Writing such a work is complicated by the fact that there is still no complete bibliography of printed works of the scientist. To date, bibliographies present only his most basic works or works devoted to one topic, which significantly narrows the possibilities to assess his activities. Until 1940, such research was not conducted at all, so historians had to rely on encyclopedic publications (Kubiyovych, 1993). In soviet times, the works of I. H. Verkhatskyi were considered by several scientists (Shumanska, 2005; Khomliak & Shenderovskiy, 2003; Shevchuk, 2008; Bezdrobnyi, Kozurskyi, & Shenderovskiy, 2012; Hamaliia, 2013; Gamaliia, Ruda, & Zabuga, 2021).

The purpose of this article is to outline the life and work of Professor Verkhatskyi as an outstanding naturalist, the founder of several fields in Ukrainian natural science.

Results and discussion.

Ivan Verkhatskyi was born on April 26, 1846 in the village of Bilche Zolote in the Ternopil region. Here is how Vasyl Shenderovskiy writes about this region: “Ternopil. Podillia land. This region is rightly called “golden”. Nature has endowed this part of Ukraine with fertile soils, necessary water resources, honey supplying meadows and, of course, talented people. It is this land that has given humanity world-class scientists – physicists Ivan Puliui, Oleksandr Smakula and Zenon Khraplyvyi, biochemist Ivan Horbachevskiy, outstanding singer Solomiia Krushelnytska, writer Bohdan Lepkyi, Cardinal Yosyp Slipyi, composer Vasyl Barvinskyi ... And among the bright stars of this galaxy the star of Ivan Verkhatskyi is shining too” (Shenderovskiy, 2006, p. 42).

The family roots of I. H. Verkhatskyi were lost in time. Today, we know only a few immediate generations, whose lives are connected with the Ternopil region. Residents of the village of Kryvenke, now part of the Husiatyn administrative area, still remember Ivan’s great-grandfather, Pavel Verkhatskyi, who built a church in the village at his own expense. Later, his son Hryhorii moved to the village of Bilche

Zolote (now Borshchiv administrative area, Ternopil region), where he began working as a priest. In fact, on April 26, 1846, a son, Ivan, was born, who was the youngest of four children.

Vasyl Shenderovskyi writes in this regard: “The families of priests at that time made up the real Ukrainian intelligentsia. Their families were not much different from ordinary peasant families, but for a long time, the families of priests were the light that prevented the idea of national self-expression in the darkness of statelessness, cultural oppression and denationalization. Unfortunately, we still know little about them, only from individual publications. But let us mention at least the Kulchytskyis dynasty – a model of patriotic educational activities for several centuries. The Verkhratskyis also belonged to such conscious clergymen” (Shenderovskyi, 2006, 42).

When Ivan was two years old, his father died. The family moved to Lviv. All worries about the education of children fall on the shoulders of the mother. She came from a Croatian-German family, but it is to her that children owe their upbringing in the best Ukrainian educational traditions. At first, Ivan studied in elementary school, later in Lviv academic gymnasium. Yet in the gymnasium, the young man is interested in natural science: gathers collections of insects, an herbarium. After leaving the gymnasium, he entered the Faculty of Philosophy at Lviv University, where he studies natural sciences, as well as linguistics and ethnography. In 1864 he published his first scientific work “The beginnings to establish the nomenclature and terminology of natural history, of folk one” (Verkhratskyi, 1864). Later, between 1869 and 1879, five more issues of the dictionary were published one after the other.

These books were the first step in creating a Ukrainian scientific language in the field of natural science. They contain the results of the long and systematic work of the scientist, who collected several thousand folk names of plants, animals, birds, insects, created a scientific nomenclature of invertebrates. O. Rozhniatovska notes in this regard: “In addition, folk biological terminology is given, i.e. expressions that characterize the external and internal structure and functions of plants and animals. There is also information about the origin of the names, numerous beliefs, superstitions about natural objects, their properties and methods of use. The researcher revealed the enormous richness of our language. He discovered a wide range of folk names that very accurately reflect the properties of plants and animals. “The beginnings to establish the nomenclature...” were praised by Slavists as a remarkable achievement in the study of the Ukrainian language and culture. This work is still of scientific interest to historians and dialectologists of the Ukrainian language” (Rozhniatovska, 2015).

After graduating from Lviv University, I. H. Verkhratskyi failed to receive a scholarship to continue his studies abroad. He had to work in various schools and gymnasiums in Galicia: first in Drohobych (1868), and later in Stanislaviv, Riashev and Lviv (in the Academic Ukrainian Gymnasium). He mainly taught Ukrainian language and natural science. During this time, I. H. Verkhratskyi became famous as a good teacher, scientist and public figure. The positions of the Ukrainian populists were closest to him in spirit. The Ukrainian populists’ movement arose under the influence

of the works of Shevchenko, Shashkevych, Kulish, Kostomarov, Fedkovych. In general, the ideas of national liberation were close to I. H. Verkhratskyi and he did not deviate from them during his life. It is important to note that in the Drohobych gymnasium the young I. Verkhratskyi taught Ivan Franko, taught him the Ukrainian language and mathematics. It is known that in a letter to M. Drahomanov Ivan Franko wrote: “I was influenced by the development of literary taste by two teachers: Ivan Verkhratskyi and Julius Turchynskyi” (Franko, 1986, p. 242).

To obtain a qualification in zoology, Ivan Verkhratskyi entered the Jagiellonian University in Krakow, where he studied under the guidance of the famous Galician naturalist, Professor of Zoology M. Sila-Nowicki. After graduating in 1874, already as a qualified zoologist, I. H. Verkhratskyi worked as a teacher at the gymnasium in Riashev (now Rzeszow, Poland). From 1879 he taught in Stanislaviv, and from 1892 until his retirement in 1908 he taught at the Lviv Academic Gymnasium named after Franz Joseph, the oldest Ukrainian gymnasium in Galicia.

Pedagogical activity does not overshadow the scientific activity of a young scientist. At first, I. Verkhratskyi's attempts in the field of etymology and to classify Western Ukrainian dialects were of an amateurish nature. However, his descriptions of the dialects of Galicia, Bukovina, and Transcarpathia, especially the data he collected on their vocabulary and emphasis, had a positive effect because of the great factual material. And all this despite the lack of scientific methods at the time. In his younger years, he published poetry, translated and tried his hand at literary work. He publishes several books in Ukrainian with the sole purpose of contributing to the development of literature in the Ukrainian language.

During 50 years of creative work, I. H. Verkhratskyi had published almost 500 scientific papers, popular science articles, reviews and notations. Such his folklore collections as “Utmost needings to the South Ruthenian Dictionary” (1877) (Verkhratskyi, 1877), “A list of the most important expressions in Ruthenian botanical terminology and nomenclature with a review of school science in the upper classes of the gymnasium” (both – 1892), (1892) (Verkhratskyi, 1892), “New needings of nomenclature and terminology of natural history, folklore, collected among the people” (1908) (Verkhratskyi, 1908) became the golden fund of Ukrainian folklore. No wonder the Chronicle of the Taras Shevchenko Scientific Society published wonderful words about him: “Anyone who had been working for 50 years, like Ivan Verkhratskyi, in the development of native science and literature, who had been giving for the development that he could and knew, who had been working when he could not hope for his work not only material benefits but even recognition, he deserved a grateful memory of his descendants...” (Melnyk, 1922).

Besides, I. Verkhratskyi is the author of several outstanding theoretical works on floristics, which have not lost their significance till now. I. Verkhratskyi's voice was also authoritative in linguistic, historical and natural science issues (Udvari & Viga, 2005; Ciwkacz, 2009; Fałowski & Hojsak, 2020; Czetyrba-Piszczako, 2020; Bury, 2020).

He used every summer vacation for scientific trips. At various times he visited Vienna, Budapest, Trieste, Zurich, Paris, Venice, where he worked in museums, botanical gardens, visited scientific institutions. In 1878 he carried out an ethnographic expedition to the north and south of Ukraine, conducting interesting linguistic research in Kyiv, Zhytomyr, Odesa, and Kherson regions. Throughout his life, Verkhratskyi worked hard to improve the state of the Ukrainian language in science and education. Although in the second half of the nineteenth century our literary language, thanks to the classics of fine writing, had already been formed in general, but the written word of scientists, government officials, and journalists was extremely artificial and awkward. A large part of the Galician intelligentsia was under the influence of Muscovitism and focused on the so-called “higher style” with a large admixture of Church Slavonic. The unnaturalness of such a phenomenon was acutely felt by Verkhratskyi, who put it this way: “... the word of literature, whether in fiction or science, must grow from the basis of folklore ... In scientific works, language must be very diligent; the deeper the terminology has its roots in the living conversation of the people, the stronger it is and the more useful the conditions of life and duration it has” (Verkhratskyi, 1902, p. 83). He also spoke out against excessive language borrowings: “It is not at all good for us to borrow, we do not need to go all the way to Muscovitism; we have enough of our good names, although for the time it is being scattered, uncollected and disordered ... We only exist when we develop on our own, natural, written foundations” (Verkhratskyi, 1902, p. 94–95). However, the creation of a scientific language required a lot of philological and ethnographic work. It was necessary to collect among the people a large number of special terms, as well as to identify among them the most used and successful. This is what Ivan Verkhratskyi directed his forces to.

Verkhratskyi revealed the enormous richness of our language. He discovered a wide range of folk names that very accurately reflect the properties of plants and animals. These are, for example, the names of plants – “samosiia” (self-seeder), “zymozelen” (evergreens), “khreschate zillia” (cruciferous potion); birds – “svystulia” (whistler), “bilohrudnyk” (white-breasted), “tsvirkar” (crickets), “dovbalo” (woodpeckers); insects – “serpokryl” (crescent), “dzyhotka” (twig), “odnodnevysia” (diurnal). The same natural object usually has several synonymous names, which sometimes occur even in the same area. Verkhratskyi wrote: “The more names, the richer the language; therefore, having synonyms, we do not need to feel sorry at all, because, as we have been told it is in our favor, in that respect we are many times richer than other Slavic brothers ...” (Verkhratskyi, 1899, p. 6).

The scientist had been persistently collecting folk names every year for many decades. In 1908, in the “Collection of Mathematical-Natural-Medical Section of NTSh” (NTSh means Taras Shevchenko Scientific Society) he published a voluminous work entitled “New needings of the nomenclature and terminology of natural history, folklore ...”, which contained a very rich natural and ethnographic material (Pantso & Parasyn, 1996). In total, this work records about two thousand local names of plants

and about the same number of animals, as well as a huge amount of folk information about them. This is the largest work of its kind carried out by Ukrainian scientists. The material is collected in about 150 settlements, and it is specified where each name comes from. Verkhratskyi conducted these ethnographic researches mainly on those Ukrainian lands that were part of the Austro-Hungarian Empire – Galicia, Bukovina, Transcarpathia, but this also included the results of travel to Polissia and the Black Sea regions. Data from other scientists were also given.

Verkhratskyi's ethnobotanical and ethno-zoological heritage is invaluable for linguists, in particular for dialectologists. This legacy of his, along with numerous works devoted to the study of various Ukrainian dialects, deserves further study. However, the other side of the scientist's activity gained special importance – the formation of the Ukrainian scientific language on a national basis – terminology and nomenclature (systems of names of plants, animals, minerals). The terminology on natural sciences created by Verkhratskyi is given in a number of his textbooks, as well as in some special works, such as the terminological manual on botany for gymnasiums (Verkhratskyi, 1905). In 1909, the scientist published an explanatory dictionary of mineralogical terminology (Verkhratskyi, 1909). Thus, Verkhratskyi became the creator of scientific language in many areas of science.

It should be noted that the terminology proposed by him was later not fully accepted. It had been further improved. This is understandable, because the matter of forming a scientific language is beyond the power of one person. Not all terms were successful, in particular those that were not based on the folklore, but were created artificially. Unfortunately, I. H. Verkhratskyi, a profound connoisseur of various dialects, did not fully accept the literary language that was formed in both Eastern and Western Ukraine at the turn of the nineteenth and twentieth centuries.

Despite this, the achievements of I. H. Verkhratskyi are invaluable. He is considered the best specialist in terminological issues in all the natural sciences. Many naturalists and teachers from different parts of Ukraine turned to him for oral or written advice. Modern Ukrainian scientific botanical and zoological terminology and nomenclature are based mainly on the works of I. H. Verkhratskyi. Of particular value are materials relating to invertebrates, including insects, because now their folk names are almost forgotten. In the 1920s, I. Verkhratskyi's terminological legacy was carefully studied by commissions that operated in each area of natural sciences at the Institute of the Ukrainian Scientific Language of the USSR Academy of Sciences.

The end of the XIX – beginning of the XX century became the period of laying the preconditions for the formation of the Ukrainian scientific language. At that time, there was no diverse and systematic scientific terminology, and, consequently, the Ukrainian scientific language. However, at the turn of the century, the activities of the Taras Shevchenko Scientific Society in Lviv, the oldest Ukrainian scientific association, were established and developed, in the depths of which scientific criteria for term formation on a national basis began to form. As O. Romaniv rightly noted, “Scientific Society named after Shevchenko (NTSh) is a unique collective

phenomenon of Ukrainian spirituality, an important factor in the formation of the Ukrainian nation in its long historical campaign to gain an equal place among civilized peoples of Europe and the world” (Romaniv, 1992, p. 3). Its predecessor was the Shevchenko Literary Society, founded in Lviv in late 1873. The idea of creating a voluntary association for the development of the Ukrainian word in Galicia was born in the circles of the then intelligentsia as a reaction to the legislative acts that hindered this development. More or less free opportunities for legal publishing and other educational activities of democratic circles of the intelligentsia lasted only for a rather limited period: from the abolition of serfdom in 1861 to the release of a circular of Interior Minister Valuiev in 1863. During this time, not so little was done: copies of “Fundamentals” were published in the printing house of P. Kulish. M. Kostomarov published the first public Ukrainian textbook of the writer and public figure O. Konyskyi (1836–1900) “Arithmetic or dash” (1863), in which, along with rational terminological innovations, there were also inorganic borrowings for the Ukrainian language: “skladaniie” (adding), “otnosheniie” (relation), “dilytel” (divider), “prymir” (example). “Zero” O. Konyskyi called “onyk” (O-shaped), the “reverse” – “navpakove” (opposite, contrarious).

In 1863 a pamphlet by I. H. Verkhratskyi “Something about the world of God”, where there appeared terms that have survived to this day: “globe”, “equator”, “meridian”, and for the last two were given quite organic Ukrainian equivalents: “rivnodennyk (from the equal day)” and “pivdennyk (from the south)”, created by analogy with the Polish “rownik” and “poludnik” (Verkhratskyi, 1863).

In the preface to the issue “The beginnings to establish the nomenclature and terminology of natural history. Part 2” I. Verkhratskyi explained that he collected Ukrainian names in Galicia, questioning peasants, archers, poultry farmers and fishermen, and took some from books published in Ukraine. This work is not easy, especially for botanical names, which are far more numerous than zoological ones. Therefore, the author invited everyone to participate in the work, giving them appropriate recommendations for collecting plant names. The plant should be dried and a card attached to it, where it should be written its popular name, place of its growth, beliefs and superstitions associated with it. There can be several names, depending on the place of collection of the plant, and this should not interfere: “... in every language, namely, in the living one there is a diversity in that view, they are synonyms. The most appropriate name is chosen for science, and others, as trivial ones, are enclosed in parentheses ... and the more names, the richer the language; therefore, having synonyms, we do not need to grovel before anybody, because, as it is said, it is in our favor, and in that respect, we are often richer than other Slavic brothers: Muscovites, Liakhs, Czechs, Serbs and others” (Verkhratskyi, 1869, p. 4). Here is one of the typical examples of botanical nomenclature, taken from the second issue of “Beginnings ...”: “Allium cepa, Gemeine Zweibel, Zipolle, Onion. The first year they plant vysadky (large onions), and for a year they sow siianka (seeds from large onions), from which there grow small onions. Those small onions are taken and hung in bags at

both ends sewn over the stove (that's why it is called “dymky” (that means smokes)) for “wakening the onions up” and are planted for the third year to have large onions. Not well “wakened up” onions let long bellies or columns, but has small onions. If it turns out as it should, the green tops will be small in it, but the onion is big” (Verkhratskyi, 1869, p. 28).

If in the first two issues the researcher contained only terminological names written from the people “exactly as he heard and recorded, without allowing any changes”, then later, not finding the appropriate term in the vernacular, he allowed himself to create it artificially. In general, the third issue, according to its author, contains much more Ukrainian names than the first two. He explains this by the fact that he received valuable terms from his correspondents from Ukraine, and also chose many of the two books: “On wild medicinal plants of Poltava province” by F. M. Avhustynovych and “Travel with a zoological purpose to the northern shore of the Black Sea and in the Crimea” by K. Kessler. There are also many synonyms of plant names: “Triticum vulgare L., gem. Weizen, Wheat. Vusachka (from mustache) – mustache wheat (awned wheat), Bartweizen; Stryzhachka (from shear) – bare wheat (awnless wheat), Unbergranntner Weizen. Perevidka-vusata wheat (once sown in winter, once in spring, alternately, in turn); Maryianka-wheat fine-grained, red, spring, usually without awns; Holka – naked wheat, sheared” (Kessler, 1860, pp. 16–17).

In the 6th issue, in addition to the nomenclature, some folk dialects are given, scientific terms formed by the author on foreign samples due to the lack of appropriate Ukrainian are given: Straight root, Pfahlwurzel, radix perpendicularis; Woody root, Holzige Wurzel, radix lignosa; Fleshy root, fleischige Wurzel, radix racemosa, etc. The issues of “Beginnings...” are ended by I. Verkhratskyi with this tirade of the author: “Although not all the names given here are suitable for scientific terminology, it is worth knowing how our people call the rich natural fruits of their native land. Knowing this we will take one step further in getting to know our people – and knowing our people is a great and honest duty of every enlightened patriot. Only by knowing our native, our specific good we will be able to love and appreciate it” (Verkhratskyi, 1879, p. 6).

I. Verkhratskyi's work was positively evaluated not only by his contemporaries but also by scientists of the XX century, who studied the ways of development of Ukrainian scientific terminology. Thus, L. Symonenko notes: “Attempts to systematize the existing terminology and create a new one, proposed by I. H. Verkhratskyi in the “Beginnings to establish the nomenclature and terminology of natural history” are considered fundamental in the systematization of Ukrainian terminology... Terminological works of I. H. Verkhratskyi even now are of considerable interest primarily to the wealth of dialectal natural nomenclature collected in them” (Barna, & Barna, 2013, p. 31). And M. L. Khudash believes that these works are valuable from the historical and cognitive point of view as one of the sources for studying the process of formation of the Ukrainian literary language and scientific and natural terminology (Khudash, 1971).

Over time, the situation for the deployment of legal educational activities in Ukraine became more complicated, and then Oleksandr Konyskyi took the initiative to organize a hotbed in order to “help the development of Ruthenian (Ukrainian) literature”. This was done at a time when, as M. Hrushevskyi wrote, “the possibility of Ukrainian culture was endangered when even its defenders, for the most part, did not dare to go beyond the postulates of fiction on folk, ethnographic topics and basic popular literature for the peasantry”.

The statute of the society was drawn up on behalf of members of the Ukrainian Community D. Pylchikov and M. Drahomanov. On December 11, 1873, it was approved by the Galician governorship, and on June 4, 1874, the first general meeting was held. The Shevchenko Society (the first society in Ukraine named after the great Kobzar) had a literary character, but in this guise, it managed to do a lot of useful things, especially in the field of publishing after the Ems decree of 1876 banning the printing of Ukrainian books in the Russian state or import them from abroad. Thus, in 1880 the Society published a book by its member, Professor of Ukrainian Philology at Lviv University Omelian Ohonovskyi, who defended the independence of the Ukrainian language, its distinctive character from Polish and Russian. In 1889 the publication of the “History of Ruthenian Literature” by the same O. Ohonovskyi began, where the idea of the distinctiveness of the Ukrainian people and the originality of its writing was shown on the base of a large amount of gathered material. In 1885, the Society took over the publishing house of the journal for Ukrainian families “Zoria”, which soon became an all-Ukrainian literary and scientific journal, which published works by Ukrainian writers, including Lesia Ukrainka, Mykhailo Kotsiubynskyi and others. It was on the columns of “Zoria” in December 1894 that the philological section of the NTSH published an appeal “To compatriots”, where it called for the collection of folk terminology because when compiling dictionaries, it is often difficult to find a suitable Ukrainian term.

And even against the background of all these important works, there is a great scientific legacy left by I. H. Verkhratskyi, who began collecting folk names at the age of seventeen, having published his materials for the zoological dictionary in the Lviv weekly “Vechernytsi”. Later the already known “Beginnings...”, his “Utmost needings to the South Ruthenian Dictionary” were published, as well as the fundamental work “New Needings of Nomenclature and Natural Terminology...”, where more than 2000 local names of animals and as many folk names of plants were given, places of their growth, as well as information on their application, were described. The material was collected in almost 150 settlements, mainly in those lands that were part of the Austro-Hungarian Empire – in Galicia, Transcarpathia, Bukovina, this included the results of a trip to Polissia and the Black Sea regions. In 1909 the scientist published an explanatory dictionary in mineralogical terminology. Using his rich terminological material, he created a series of textbooks that supplanted the German and Polish languages (being common in Galicia at the time) and which Galician students studied until 1917.

Of course, I. Verkhatskyi's terminological elaborations were not absolutely completed. As M. Melnyk wrote, against the attempt to create the permanent nomenclature of Ukrainian plants published by I. Verkhatskyi, "... accusations were made more than once as if it were artificial, incomprehensible and difficult to study. I agree that there are a lot of artificial names in it ... But apart from that, the study of all purely folk terms is very important, because it shows the way our people create names and how we should act when creating new terms in science. This rule was followed by Verkhatskyi and therefore his scientific nomenclature of plants is the closest to the folk" (Kobiv, 1992, p. 502). Mykola Melnyk, taking the scientific names of plants introduced by I. Verkhatskyi, taking into account the work of other researchers: M. Annenkov, A. Rohovych, V. Shukhevych, O. Yanata, etc., carried out extensive ethnographic work, supplemented the list of phytonyms and published "Ukrainian nomenclature of higher plants", which contains about five thousand identified names of plants, indicating the place of their growth, opportunities for use, etc. He hoped that his collection would be useful not only for scientists, pupils and students but also for practitioners: farmers will find in it a description of almost all household, urban, meadow and forest plants with the names that are known in science and trade". (Kobiv, 1992, p. 5). Based on a careful analysis of the popular names of plants and their distribution, he developed a complete system of scientific binary names of more than two thousand of the most common plants. He significantly supplemented the work of I. H. Verkhatskyi, because the nomenclature created by the latter was quite fragmentary and concerned only the plants mentioned in the curriculum. M. Melnyk's collection found its reader: its Ukrainian nomenclature was considered normative on the territory of Western Ukraine until 1939.

Thus, in the Taras Shevchenko Scientific Society, the work on the creation of Ukrainian scientific terminology and nomenclature had acquired a real scale and depth at the same time. In various fields of science, it was developed by scientists: philologists, historians, naturalists. It is quite natural that discussions about the methodology of terminological developments sometimes broke out between them. Thus, in 1903 V. Levytskyi wrote an article in which he proposed not to take international terms as the basis of chemical terminology, but to create their own, corresponding to the spirit of the vernacular. I. Horbachevskyi opposed this, believing that terminology should have an international basis, as folk terms are too specific and will make it difficult for foreign readers to read professional literature: "I think", he said, "that our terminology must, above all, be as close as possible to international terminology, and that ... the use of folk, completely original terminology, or terminology reworked from a close Slavic language, is unprofitable and unnecessary". The discussion was quite heated and lasted for a long time, at least until the 1920s. Most experts shared Horbachevskyi's opinion, while some, in particular I. Verkhatskyi and M. Melnyk sought consensus between the two positions. They believed that Latin as a dead and laconic language is very suitable for the creation of artificial words and therefore is common in the natural science nomenclature. At the same time, popular

names do not obey the rules of binary nomenclature common in biology, because living language calls each subject in one word, albeit very accurate, and does not pay attention to its similarity to others. So biologists had to compromise, and in their dictionaries cited both Latin and German plant names, as well as Ukrainian-language equivalents, and only in their absence created their own variants.

Conclusion.

I. H. Verkhratskyi was an extremely active and hard-working man and left behind a rich scientific, literary and journalistic heritage. Herbariums, collections of various insects belonging to the scientist, later became the basis of the Natural History Museum in Lviv. The researcher's dialectological materials are still actively used to study the Galician and Transcarpathian dialects. I. H. Verkhratskyi became the founder of Ukrainian scientific terminology in natural science, and today his work in this area remains relevant. The colossal factual material collected in them will be useful to many generations of researchers of the Ukrainian natural language, scientists.

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Людмила Ванюга

Тернопільський національний педагогічний університет імені Володимира Гнатюка, Україна

Ярослава Топорівська

Тернопільський національний педагогічний університет імені Володимира Гнатюка, Україна

Оксана Гиса

Тернопільський національний педагогічний університет імені Володимира Гнатюка, Україна

Жаркова Ірина

Тернопільський національний педагогічний університет імені Володимира Гнатюка, Україна

Микола Бажанов

Тернопільський національний педагогічний університет імені Володимира Гнатюка, Україна

І. Г. Верхратський (1846–1919): біля витоків українського природознавства

Анотація. Серед вчених європейської величини, які на межі XIX і XX століть почали цікавитися фольклором Галичини і галицькими українцями, сприяли їх національному і культурному відродженню, одне з перших місць посідає видатний український вчений Іван Григорович Верхратський. Він був природознавцем і філологом, фольклористом і етнографом, організатором наукової праці, видавцем і популяризатором української літератури, перекладачем, публіцистом і відомим громадським діячем. І. Верхратський є також визначним дослідником рослин і тварин Східної Галичини, знавцем комах, особливо метеликів, автор перших шкільних підручників українською мовою з природничих наук. Вчений також писав вірші і робив переклади з іноземних мов. У статті висвітлюється життєвий шлях та науково-педагогічна діяльність І. Г. Верхратського – одного із засновників українського природознавства, який зробив вагомий внесок у розвиток української природничої термінології та номенклатури, автора перших підручників з ботаніки, зоології, мінералогії. Автори вважають, що І. Г. Верхратського можна вважати одним з основоположників української наукової термінології з природознавства, і в наш час його роботи в цій царині залишаються актуальними. Ці праці цінні й з історико-пізнавального боку як одне з джерел для дослідження процесу формування української літературної мови та науково-природничої термінології. І. Г. Верхратський віддано служив справі утвердження української літературної мови, її наукового та публіцистичного тилів, зробив вагомий внесок у лексикографію, діалектологію, шкільну справу. На основі наукових публікацій та спогадів його колег та учнів нами відтворено основні етапи його біографії та розглянуто його професійну кар'єру. Детально розглянуто його діяльність на ниві формування природничо-наукової термінології. Діалектологічні матеріали вченого і дослідника І. Г. Верхратського й досі активно використовують для вивчення галицьких і закарпатських діалектів. Підсумовано його досягнення як науковця, педагога та популяризатора науки.

Ключові слова: природнича термінологія; зоологія; ботаніка; Львівський університет; Наукове товариство імені Т. Шевченка

Людмила Ванюга

Тернопольский национальный педагогический университет имени Владимира Гнатюка, Украина

Ярослава Топоривская

Тернопольский национальный педагогический университет имени Владимира Гнатюка, Украина

Оксана Гиса

Тернопольский национальный педагогический университет имени Владимира Гнатюка, Украина

Ирина Жаркова

Тернопольский национальный педагогический университет имени Владимира Гнатюка, Украина

Николай Бажанов

Тернопольский национальный педагогический университет имени Владимира Гнатюка, Украина

И. Г. Верхратский (1846-1919): у истоков украинского естествознания

Аннотация. Среди ученых европейской величины, которые на рубеже XIX и XX веков начали интересоваться фольклором Галичины и галицкими украинцами, способствовали их национальному и культурному возрождению, одно из первых мест занимает выдающийся украинский ученый Иван Григорьевич Верхратский. Он был натуралистом и филологом, фольклористом и этнографом, организатором научной работы, издателем и популяризатором украинской литературы, переводчиком, публицистом и известным общественным деятелем. И. Г. Верхратский был также выдающимся исследователем растений и животных Восточной Галиции, знатоком насекомых, особенно бабочек и автором первых школьных учебников на украинском языке по естественным наукам. Ученый также писал стихи и делал переводы с иностранных языков. В статье освещается жизненный путь и научно-педагогическая деятельность И. Г. Верхратского – одного из основателей украинской естествознания, который внес весомый вклад в развитие украинской естественной терминологии и номенклатуры, автора первых учебников по ботанике, зоологии, минералогии. Авторы считают, что И. Г. Верхратского можно считать одним из основоположников украинской научной терминологии по естествознанию, и в наше время его работы в этой области остаются актуальными. Эти работы ценны и с историко-познавательной стороны, как один из источников для исследования процесса формирования украинского литературного языка и научно-естественной терминологии. И. Г. Верхратский преданно служил делу утверждения украинского литературного языка, его научного и публицистического тылов, внес весомый вклад в лексикографию, диалектологию, школьное дело. На основе научных публикаций и воспоминаний его коллег и учеников нами воспроизведены основные этапы его биографии и рассмотрена его профессиональная карьера. Подробно рассмотрены его деятельность на ниве формирования естественно-научной терминологии. Диалектологические материалы ученого и исследователя И. Г. Верхратского до сих пор активно используют для изучения

галицьких і закарпатських діалектів. Підитожені його досягнення як ученого, педагога і популяризатора науки.

Ключевые слова: терминология естествознания; зоология; ботаника; Львовский университет; Научное общество имени Т. Шевченко

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