

## Shaping Public Perception: Polish Illustrated Press and the Image of Polish Naturalists Working in Latin America, 1844–1885

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**Summary:** This article will investigate the ways in which Polish illustrated press contributed to communicating and reporting the work of Polish émigré naturalists working in Latin America to the Polish general public living in the Prussian, Russian and Austrian partitions of the Polish-Lithuanian Commonwealth 1844–1885. It examines the ways in which illustrations were used to shape the public's opinion about the significance of these migrants' scientific achievements. The Polish illustrated press, its authors and editors were instrumental in shaping the public's perceptions of the reach of Polish scientists, and exploring their impact on broader scientific debates, thereby situating Polish people and their work in a global context. The didactic and opinion-making role of the illustrated press was highly influential among Polish audiences during this period, at a time when the survival of Polish identity, culture, language, and education was uncertain. Illustrated weeklies were one of the vectors through which high science was made accessible to the Polish public. A study of pictures in Polish illustrated press will help to explain how they contributed towards shaping the images in the public eye of naturalists' scientific work, and discourses about science and its actors more broadly.

**Keywords:** Illustrated Press, Nineteenth Century, Poland, Natural History, Nation-Building

**Schlüsselwörter:** Illustrierte Presse, Neunzehntes Jahrhundert, Polen, Naturgeschichte, Nationenbildung

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## 1. Introduction

On 18 September 1876, a short, poignant article appeared on the pages of *Biesiada Literacka: pismo literacko-polityczne ilustrowane* (Literary Feast: Illustrated Literary and Political Magazine<sup>1</sup>). In this article the author, possibly the magazine's editor and publisher Gracjan Unger, expressed bafflement over the inadequate state of scientific communication in Polish media, commenting that:

There are many Poles currently outside of Europe who devote their time to real scientific research and work on enriching common knowledge, especially in the field of natural sciences. But, unfortunately, the names of these people are better known in other European countries than in our country. [...] Why then do we know so little about them?<sup>2</sup>

While the assertion that the histories and the work of Polish naturalists was missing from the Polish press, is not entirely an accurate one, the excerpt hints clearly at the thirst for scientific knowledge of the author, and perhaps the wider Polish audiences, and the desire for better public communication about Polish contributions to science. Transnational flows of natural history knowledge from Latin America fed into the growth of the discipline in the Polish context through the means of illustrated press. As the nineteenth century progressed the Polish illustrated press grew in number and variety of publications, reached wider audiences and became more specialised; and as would appease the author of the article in *Biesiada Literacka*, published many personal letters and works from and about Polish scholars, including the Polish naturalists working in Latin America.

From the above excerpt we can also grasp that the Polish natural historians working internationally were part of the wider European community of scholars, who were familiar with and appreciated their work, even at a time when Poland existed as a nation without a sovereign state. Migration and emigration were prominent features of nineteenth-century Polish history, but thus far scholarly attention has been given principally to the political and cultural, rather than the scientific impact of the migrants' activities.<sup>3</sup> Yet, hundreds of Great Emigration era migrants were employed in scientific professions around the world, where they made valuable contributions to their chosen disciplines.<sup>4</sup> Before the onset of mass agricultural and economic migration of Poles to Brazil and Argentina in the last quarter of the nineteenth century, over 200 Poles worked in scientific and technical professions across Latin America.<sup>5</sup> Their histories, beyond a select few, such as geologist and educator Ignacy Domeyko in Chile or engineer Ernest Malinowski in Peru, are

<sup>1</sup> All translations from Polish into English in this article are author's own.

<sup>2</sup> [Anon.] 1876, on 527.

<sup>3</sup> Notable exception is: Orłowski 1992.

<sup>4</sup> In Polish historiography, the wave of emigration that began following the November Uprising in 1830 and continued until the aftermath of the January Uprising in 1863 is called the *Wielka Emigracja* (Great Emigration).

<sup>5</sup> Number comes from archival research by the author.

largely forgotten despite the fact that the knowledge they contributed played a role in shaping Polish scientific debates. This includes four naturalists who lived and worked in Latin America between 1844 and 1885, who will be of specific interest to the readers of this special issue. In this article I will focus on the work of these naturalists, and argue that in the later part of the nineteenth century Polish illustrated press authors, editors and publishers entangled scientific knowledge with nation-building messages in the articles about natural history achievements of Poles in Latin America, regardless of the exact position the natural historians might have had on the national question.

The four Polish naturalists working in Latin America were: Józef Warszewicz who from 1844 to 1853 traversed most of Central America, and many countries in South America, Konstanty Jelski, who operated in French Guiana and Peru 1865–1878, Jan Sztolcman who collected specimens in Peru and Ecuador 1875–1884, and Józef Siemiradzki who researched in Lesser Antilles, Panama and Ecuador 1882–1883. Much like naturalists from other parts of Europe, such as Robert Hermann Schomburgk—a German credited with discovering the giant Victoria Regia water lily in British Guiana, or Joseph Hooker—one of the first British naturalists to become a full-time professional, the four Polish naturalists working in Latin America participated in the global botanical trade.<sup>6</sup> Each of them had his own reasons for heading to Latin America. Warszewicz was invited to join a Belgian expedition to Guatemala. Later he collected plants independently, selling them to various collectors across Europe, including ones at Kew Gardens.<sup>7</sup> Jelski explained that his “curiosity was the only incentive to journey; and having from the beginning entered into relations with Mr. Taczanowski, [Jelski’s] only goal was to enrich the zoological office in Warsaw.”<sup>8</sup> Władysław Taczanowski was a renowned Polish zoologist and curator at the Warsaw Zoological Cabinet, who worked closely with the brothers and counts Aleksander and Konstanty Branicki who funded much of the Polish collecting efforts in Latin America during this period. According to Sztolcman, ever since reading Johann David Wyss’ *The Swiss Family Robinson* aged eight, he hoped to travel to faraway places, a dream which eventually led to him studying natural history and joining Jelski in Peru.<sup>9</sup> Meanwhile Siemiradzki recounted feeling inspired to join Stefan Szolc-Rogoziński’s planned expedition to central Africa, for which the latter was fundraising using Warsaw newspapers, before being convinced by Taczanowski to instead head to Peru with Sztolcman.<sup>10</sup> Each naturalist spent an extended period of time in Latin America, before eventually returning to the partitioned territories, where they continued their interest in Natural History. Their public image was carefully crafted on the pages of the Polish illustrated press, where they have been described as heroes, explorers, magicians, men of science deserving a spot on the global arena. The articles and illustrations forming the

<sup>6</sup> On Schomburgk, see Holway 2013. On Hooker, see Endersby 2008.

<sup>7</sup> Manning 2010.

<sup>8</sup> Jelski 1898, on 13.

<sup>9</sup> Sztolcman 1912.

<sup>10</sup> Siemiradzki 1885.

basis of analysis in this article date from 1861–1885—that is the time when Polish leaders ascribed increased importance to sciences for regaining Polish independence, and when mass economic emigration had not yet gained momentum – but the chronological scope of their content covers the period 1844–1885, from when Warszewicz first arrived until Sztolcman left.

Communication of scientific work with the broader community was of importance to the historical actors around whom this article is focused, and it is also a subject which attracted the interest of many historians of science and knowledge.<sup>11</sup> The reason for this emphasis on scientific content produced with the general public in mind becomes clear when we consider the central position of science communication for the generation of scientific knowledge. It is true that in the setting of nineteenth-century European publications on scientific topics, many ascribed to an idea of a neat division between academic publications—the locus of legitimate scientific exchange, where original discoveries were published to further knowledge – and publications for public consumption, which popularised ideas, but did not present anything new.<sup>12</sup> However widespread the idea of such a division was, it obscures the less organised reality and contributes to a perception of an artificial dichotomy between production and consumption, which are entangled parts of the process of knowledge making.<sup>13</sup> According to historian of science Alex Csiszar the vast range of different formats of publications in which scientific ideas were shared in mid-nineteenth century Europe was astounding, and the distinction between specialised, scientific journals and other forms of publications was porous.<sup>14</sup> In *Knowledge in Transit* James A. Secord proposed a theoretical framework that knowledge and scientific work is formed in the process of communication.<sup>15</sup> Considering science as a communicative action, it has been argued, enables a better understanding of the place of science within popular culture, which in turn is essential to comprehend how claims of scientific professionals are established over competing knowledge claims.<sup>16</sup> During the latter part of the nineteenth century the Polish academic domain was relatively small in terms of numbers of academics, universities, other institutions, and associated academic publications. The generative properties of science communication via channels such as pictorial press involving historical actors of different walks of life were instrumental for developing the natural history discipline.

The year 1864, when the January Uprising fell, is the date often given as the marker of the ideological paradigm shift from Polish Romanticism to Polish Positivism. Although ideas related to progressing the nation through increased scientific literacy of the population were propagated, among others,

<sup>11</sup> This issue is addressed in: Topham et al. 2009. See also: Dawson et al. 2020; Baldwin 2015; Henson et al. 2004.

<sup>12</sup> Csiszar 2020. See also: Dawson et al. 2020; Cantor and Shuttleworth 2004; Fyfe et al. 2022.

<sup>13</sup> Csiszar 2020, on 200; O'Connor 2009, on 342. On relation between literature and journalism in the nineteenth century, see Brake 1994.

<sup>14</sup> Csiszar 2020, on 200–201.

<sup>15</sup> Secord 2004.

<sup>16</sup> Topham 2009.

by Warsaw's *Towarzystwo Warszawskie Przyjaciół Nauki* (The Warsaw Society of Friends of Learning), already in 1800,<sup>17</sup> they gained increased traction in period following 1864. *Praca organiczna* (organic work) was the preferred ideology of Polish positivist thinkers and was seen as a means to prepare the Polish nation to be in a condition fit to seize an opportunity for restoring independence, should one arise.<sup>18</sup> Organic work ideology postulated modernisation of industry and agriculture, maintaining Polish values and traditions, avoiding wastefulness of resources and alcohol abuse, and promoting cooperation between different layers of the society, such as the peasantry and nobility. It was thought that by maintaining such values and bettering themselves the Polish people would eventually regain independence. The didactic and opinion-making role of the illustrated press hence carried all the more weight for Polish audiences during the period of this study, when the future survival of Polish identity, culture, language and education was uncertain.<sup>19</sup> At a time when Polish academia was sparse, the illustrated press offered the Polish people one of the few ways in which to engage with natural sciences in their own language; and with the scarcity of home-born naturalists, the ones that succeeded in foreign arenas were presented to the Polish readership as exemplar citizens, worthy of admiration and emulation.

## 2. Readership, Circulation and Distribution of Polish Illustrated Press

According to Grażyna Wrona, a Media Studies professor, Polish popular science periodicals, have been remarkably understudied in Polish academia, despite history dating back to the mid-eighteenth century and their importance in making science more accessible.<sup>20</sup> By the end of the eighteenth century there were twenty-two popular science periodicals being published in Polish across the three partitions. In the nineteenth century, Wrona observes, Polish popular science periodicals transformed from ones imitating western styles to ones with their own model based on the scientific findings contributed by Polish scholars.<sup>21</sup> In the case of early Polish illustrated press publishers and editors were developing fresh formats to appeal to their readers. Periodicals such as *Sylvan: dziennik nauk leśnych i myśliwskich* (Silvanus: Journal of the Sciences of Forestry and Hunting) (1820–1858) or *Muzeum Domowe: dzieło poświęcone historii, statystyce, moralności, naukom i literaturze krajowej* (Home Museum: Work Dedicated to History, Statistics, Morality, Sciences and National Literature) (1835–1840) show how editors and publishers experimented with the format of illustrating the articles to move beyond using illustrations for

<sup>17</sup> Blejwas 1970 on 26.

<sup>18</sup> Wandycz 1974.

<sup>19</sup> Myśliński 1978.

<sup>20</sup> Wrona 2007, on 6.

<sup>21</sup> Wrona 2007, on 8. See also: Kamisińska 2019; Wrona et al. 2020.

purely decorative purposes and towards a more didactic function.<sup>22</sup> Editors and publishers continued developing the format and by 1859, when Józef Ugner opened the second wood engraving workshop in Warsaw and began publishing the popular weekly *Tygodnik Ilustrowany* (Weekly Illustrated), he and others would have had access not only to foreign and local models of illustrated press, but also to an already well-established local infrastructure and trained engravers enabling publication of an illustrated periodical.<sup>23</sup>

Initially Polish illustrated press periodicals reached rather limited audiences, publishing between a couple of hundred and up to 3000 copies per issue, which were circulated primarily in the Partition of the journal's origin.<sup>24</sup> These periodicals varied in their frequency, from weekly to monthly. Over time the popularity and reach of these publications grew, and by 1880s they sold between 3,000 and 11,000 copies per issue. While this might still seem low compared to the reach of publications such as *Illustrated London News*, contextualising these relatively low numbers will help to see that they are not indicative of the Polish magazines' limited popularity, but are rather revealing of the overall size and state of Polish readership.

Taking into consideration the difficulties in defining Polish national belonging and arriving at precise number, historians estimate the total number of Poles living in the former Polish territories at 12.8 million in 1850 and 17.6 million by 1880.<sup>25</sup> During the period of focus in this article the biggest centres of Polish culture were the cities of Warsaw in the Russian partition, Lviv and Cracow in the Austrian partition, and Poznań in the Prussian partition. It was in these cities that most Polish-language press publications appeared 1864–1918, with estimates as follows: 1728 distinct publications appeared in Warsaw, 814 in Lviv, 758 in Cracow and 253 in Poznań.<sup>26</sup> The high number of publications, stemming partially from the number of short-lived publications, suggests a vivid engagement and interest of Polish people with the press.

Despite the efforts of press publishers, low economic wealth and illiteracy of the Polish people were major barriers to achieving widespread readership. In the 1870s Poles who could not read or write accounted for around 80% of the two million living in the Austrian-controlled Galicia, 80% of the four million living in the Congress Kingdom and 30% of the two million living in the Prussian controlled territories.<sup>27</sup> By the end of the century, according to Krzysztof Groniowski, illiteracy in the Prussian partition was almost eliminated, while in Galicia it fell to about half of the population, and remained relatively high in Congress Kingdom at almost 70%.<sup>28</sup> Combining the 1870s' percentages with the estimates of the Polish population allows us to arrive at 2.6 million as a rough maximum for a likely number of Polish literate people

<sup>22</sup> Natora-Macierewicz 1976; [Anon.] 1820.

<sup>23</sup> Natora-Macierewicz 1976.

<sup>24</sup> Kłudkiewicz [no date]

<sup>25</sup> Kuklo et al. 2014, on 51.

<sup>26</sup> Myśliński 1978, on 8.

<sup>27</sup> Łepkowski 1973, on 5; Groniowski 1979, on 496.

<sup>28</sup> Groniowski 1979, on 551–552.



in 1870s across the three partitions. Literacy in the cities was significantly higher than in the countryside. For example, only around 37% of Cracow's population and approximately 43% of Lviv's population was illiterate.<sup>29</sup>

Growing and reaching a Polish rural readership would have been challenging for the illustrated periodicals and other publications alike. This was a particularly problematic issue, considering that in the period 1844–1885 most people based in the former Polish territories lived rurally. Even by 1890 only 17.5% of the population lived in a city of 10,000 people or more in Pomorze Gdańskie (Gdańsk Pomerania) in West Prussia, which was the most urbanised region of former Polish territory at that time.<sup>30</sup> At the same time only 8.2% of Galicia's population and 11.4% of the Congress Kingdom's population lived in cities with population of 10,000 or more. People living outside of the cities generally earned less, yet the costs of subscribing to newspapers and periodicals were higher. In 1861, a year's subscription to the Warsaw-published *Tygodnik Ilustrowany* cost 8 rubles in Warsaw and 12 rubles in other parts of the Congress Kingdom and Russian Empire.<sup>31</sup> Considering that in Congress Kingdom a middle school professor would earn 450–650 rubles a year in cities and 270–300 rubles in the rest of the country, and that annual rent on a one-bedroom dwelling in Warsaw would cost 72–180 rubles, the cost of periodical subscription seems relatively high.<sup>32</sup> It would be easy to assume hence that the Polish illustrated periodicals were mainly read by wealthy urbanites. However, as Jerzy Mysiński pointed out for the case of *Tygodnik Ilustrowany*, a periodical published in Warsaw, but which attracted readers in all three partitions, the more popular Polish illustrated periodicals were made available in libraries and public salons, where people could read them without purchasing a copy themselves.<sup>33</sup> Hence, it is likely that the number of readers would have exceeded the number of copies sold; and the potential readership should be expanded to include also those who perhaps did not have the financial means to purchase their own copies, but had access to the spaces with communal copies of the publications. More people would have read the articles and seen the pictures in Polish illustrated periodicals than the numbers of published copies would suggest.

Despite the challenges related to growing Polish readership, sharing the work of Polish naturalists who worked in Latin America with the public in the illustrated press was part of a wider, well-established trend. Antoni Waga, who is considered to be an important figure in promulgating natural sciences among the Polish public, being one of the initiators of the academic journal *Biblioteka Warszawska* (Warsaw Library) in 1840 and being responsible for a number of early Polish natural history textbooks, also chose to share his work in Warsaw's *Przyroda i Przemysł* (Nature and Industry), which from 1872 to 1881 was an illustrated “popular science weekly dedicated to the dissemination of natural

<sup>29</sup> Baczkowski 2006, on 99.

<sup>30</sup> Łukasiewicz 1994, on 87.

<sup>31</sup> Unger 1861, on 209.

<sup>32</sup> Anculewicz 1987, on 20.

<sup>33</sup> Mysiński 1978, on 15.

sciences and their applications to industry.”<sup>34</sup> A couple of decades earlier, another weekly of the same name, published in Poznań 1856–1858, devoted itself to sharing with the public “accessible lectures on all branches of natural sciences, their practical applications to the needs of life, as well as the latest discoveries and inventions” in an illustrated format. In 1871 specialised natural history popular periodical *Przyrodnik: kwartalnik ilustrowany* (The Naturalist: The Illustrated Quarterly) began to appear in Lviv. Publishing one’s findings on the pages of illustrated press was emblematic of wider trends in Polish natural history practice at that time.

Science popularisation, in the meaning ascribed by the historical actors of “making natural sciences more accessible,”<sup>35</sup> while widespread was not uniformly valued by the Polish scholarly community. This is evident, for example, in Bronisław Reichman’s 1874 article from *Przyroda i Przemysł* defending popularisations, in which this Polish naturalist was persuading opponents that: “popularisation is not about omitting difficult concepts, but about presenting them in an accessible way.”<sup>36</sup> He further, claimed that popularisation of science was a civil duty, recognised by the likes of Cuvier, Humboldt, Faraday and Tyndall. At a time when further armed uprisings seemed unlikely to bring about the desired independence, natural history, and sciences more broadly, provided an especially suitable field to overcome feelings of a colonised people, feelings of powerlessness. By engaging in sciences Polish people could be working on something of their own that was productive and of value for their community.

Regardless of their position on popularisation, those who wanted to circulate their work widely in Polish were curtailed by the limited availability of specialist Polish natural history periodicals. Some Polish academic journals dedicated to natural history existed at the time, e.g., annual publications *Sprawozdanie Komisji Fizjograficznej* (Report of the Physiographical Commission) published in Cracow since 1866, and *Kosmos: czasopismo polskiego Towarzystwa przyrodników imienia Kopernika* (Cosmos: Periodical of the Polish Natural History Society Named after Copernicus), published in Lviv since 1876, but their circulation was limited—reaching less readers than the illustrated press. As such popular press periodicals offered Polish readers the most accessible place they could read about advances in natural sciences in their own language. At different times the political attitudes of the governing powers towards Polish education and academia were more or less favourable. This in combination with the limited ability of the Polish powers to support scholarship resulted in a stunted growth of Polish scientific communities of practice. In such circumstances alternative modes of communicating Polish scientific contributions were necessary, and the publishers and editors of illustrated press periodicals provided a useful path for generating more awareness and interest in Polish scientific thought and hence contributed to sustaining its existence. Through familiarising readers with natural history and

<sup>34</sup> Brzęk 2001, on 129.

<sup>35</sup> Reichman in: Wrona 2007, on 27.

<sup>36</sup> Reichman 1874, on 254.



the work of naturalists—thus creating a community of interpretation—illustrated periodicals were contributing to both: the valorisation of natural history and the growth of the discipline.

The wide availability of different popular publications, which widened access to information, raised concerns about fragmentation of Polish scientific knowledge, and indirectly contributed towards the development of specialist journals. Józef Majer, the chairman and co-founder of Cracow's *Akademia Umiejętności* (Academy of Learning) despaired when speaking at the Academy's public meeting in 1879, that the distribution of Polish academic output "between hundreds of newspapers, magazines, books and pamphlets" was a problem, because it made it more difficult for foreigners to access and use Polish sources to support their work.<sup>37</sup> This according to Majer was not just his personal observation, but rather one of German scholars Albin Kohn and Christian Mehlis. Majer's address highlights that this perceived problem did not impact just Polish readers, or naturalists and other scholars, but also the reception of the latter's work in the international circles. August Wrzeźniowski, a Warsaw-based zoology professor, reviewing ornithologist and curator of the Warsaw Zoological Cabinet Taczanowski's 1884 book about Peruvian birds *Ornithologie du Pérou* (Ornithology of Peru), based heavily on specimens sent to Taczanowski by Jelski and Sztolcman, alluded to a solution Polish naturalists came up with to this issue:

Many readers will probably ask why such a beautiful and respectable work was announced in French and not in the native language? The answer is very easy: to publish a work that is so specialized in Polish, or another language that is not widely disseminated in the scientific world, would amount to burying it, and the entire cost of the edition would be definitely lost.<sup>38</sup>

In the same fashion, Siemiradzki published the academic outputs of his work in German, yet it is not insignificant that he has also took the effort to publish his work in an accessible way on the pages of *Wszechświat*, and later as a stand-alone illustrated book in Polish.<sup>39</sup> Whether motivated by concern over a small academic audience and hence an meagre reception of their research, or enticed by the prestige of German and French scientific publications, a significant proportion of Polish naturalists chose to publish their academic works in a foreign language. From 1880, a number of publications were set up to counter this state of things, such as *Wiadomości z nauk przyrodzonych* (News from Natural Sciences), a specialist natural history periodical, whose inaugural issue began with the following mission statement:

The serious works of our naturalists, whose numbers are fortunately increasing, are scattered among periodicals published in foreign languages, meaning that they could remain unknown in our country: we have therefore decided to publish their works at indefinite intervals here.

<sup>37</sup> Majer 1879, on 152.

<sup>38</sup> Wrzeźniowski 1884, on 365.

<sup>39</sup> Siemiradzki 1900.

Similar intention was also given by Eugeniusz Dziewulski and Bronisław Znatowicz, the publishers of *Pamiętnik Fizyograficzny* (Physiographical Diary), which began to appear in 1881 in Warsaw.<sup>40</sup> However, even as the number of specialised journals increased, the more frequently issued and widely circulated illustrated periodicals, remained a crucial outlet and mode of communicating with Polish audiences for the naturalists. Those looking for evidence of Polish scientific activity in the plethora of nineteenth-century Polish sources are more likely to gain an accurate representation of the breadth of topics pursued by Polish naturalists and the reach of these scholars' work if the research includes popular press publications.

### 3. Representations of Polish Naturalists working in Latin America in the Illustrated Press

Having explored the role of illustrated press to the growth of natural history in the Polish context, let us turn to the question of how the illustrated periodicals used the visual to convey messages and to valorise the work of natural historians working in Latin America. William J. T. Mitchell has long argued for the importance of visual literacy, as our world is filled with not just textual but visual representations that contain meanings, which are far from transparent or self-evident.<sup>41</sup> He suggests that it is helpful to think of images as spatial-temporal constructions, and consider that “our ideas of what vision is, what is worth looking at, and why, are all deeply embedded in social and cultural history.”<sup>42</sup> The images of the Polish naturalists and of the objects of their study that accompanied the articles of scientific nature on the pages of Polish illustrated press were produced to convey particular meanings, intentionally with Polish audiences in mind. Wrona points out that the 1870s was the time of increased originality of Polish illustrated press and move away from reproducing foreign images.<sup>43</sup> This offers an opportunity to interpret locally produced images, rather than those obtained by the Polish publications through the transnational trade in illustrations, that was widespread in mid-nineteenth century Europe.<sup>44</sup> Images can be powerful opinion-making tools and can be used to articulate a visual discourse. Historian Bert Hansen, among others, has argued that images are historically significant because compared to written word they convey specific meanings to the observer in a more impactful and memorable way.<sup>45</sup>

How the different naturalists were portrayed in the illustrated press depended largely on whether the pieces were authored by the naturalists themselves or by others, such as their friends, the publishers and editors of the

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<sup>40</sup> Znatowicz and Dziewulski 1881.

<sup>41</sup> Mitchell 1987; Mitchell 2015.

<sup>42</sup> Mitchell 1987, on 119.

<sup>43</sup> Wrona 2007.

<sup>44</sup> Smits 2019.

<sup>45</sup> Hansen 2009, on 7.

periodicals, political activists or fellow scientists. Aileen Fyfe argues that editors who own their publications were amongst the most influential in regard to deciding what and how things appeared in press.<sup>46</sup> In the case of Warszewicz all publications about him in the Polish press were written by other people, who often had never been to Latin America themselves. Warszewicz, other than compiling lists of plant specimens which he collected, did not publish a single paper or manuscript about his work in Latin America. Regardless of this though, he was well-known in the botanical circles thanks to the huge amounts of specimens he sent to collectors around Europe, as corroborated by the many plants named after him (e.g., genus *Warszewiczia*). In a way, Warszewicz's and to a lesser extent also Jelski's limited involvement in writing and publishing about their work, illustrates the difference in roles within nineteenth-century collecting practice of collectors and those doing the analysis of the specimens, which has been the subject of extensive scholarship.<sup>47</sup> Jelski who similarly to Warszewicz only had limited personal input in what the illustrated press published in regard to him, also attracted attention, even though less so than Warszewicz. Jelski occasionally wrote short letters about new plants or birds that he found, but it took great insistence from friends to eventually persuade him to collect and record his memories from his time in French Guiana and Peru, years after his return to Cracow. The book, aimed at female readers, that was ultimately published posthumously, entitled *Popularno-przyrodnicze opowiadania z pobytu w Gujanie francuskiej i po części w Peru, od 1865–1871* (Popular Nature Stories from the Stay in French Guiana and Partly in Peru, from 1865–1871), is incomplete as Jelski died before he finished writing about his time in Peru, and is accompanied by only one illustration—a portrait of the author.<sup>48</sup> The amount that has been written about Warszewicz and Jelski by others attests to their success as collectors, as not only did editors of the Polish illustrated press write about them, but they also achieved notability among European naturalists, and had a great number of species named after them, such as the golden-collared tanager—*Iridosornis jelskii* or the orchid *Cattleya warszewiczii*. The limited interest of Warszewicz and Jelski in shaping their public image through the press, however left that task to others, giving the editors much freedom on how to do that.

Unlike Warszewicz and Jelski, Sztolcman and Siemiradzki were actively involved in forging their presence on the pages of the Polish illustrated press. They both sent lengthy reports from their time in Latin America, presenting themselves as voyager-naturalists, on extended, adventurous journeys to collect specimens. Siemiradzki wrote in form of letters addressed to the reader and Sztolcman in a travelogue of his time abroad. Jelski who was an acquaintance, and perhaps even a friend, to both men is occasionally mentioned by both Sztolcman and Siemiradzki in their accounts. Both texts appeared in instalments on the pages of richly illustrated *Wszechświat* (The Universe) periodical and generated interest among Polish readership. *Tygodnik Ilustrowany* did not

<sup>46</sup> Fyfe 2016.

<sup>47</sup> Alberti 2002; Podgorny 2013.

<sup>48</sup> Jelski 1898.

spare the hyperbole when it casually referred to Siemiradzki's time in Latin America as "his trans-Atlantic *Odyssey*",<sup>49</sup> and informed its readers that they can find out about the epic journey in *Wszecławiat*.

If *Tygodnik Ilustrowany*'s readers adhered to the advice, they would find ample material to delve into. Since *Wszecławiat*'s onset in 1882, letters from Siemiradzki and Sztolcman's travelogue appeared as instalments nearly continuously for the first three years of the publication's existence. Between 8 January 1882 and 9 March 1884 over a third of the total issues published in that time, that is thirty-six out of one hundred and thirteen issues, included content written by Sztolcman (twenty-eight issues) or Siemiradzki (eight issues). Yet, while the weekly was an illustrated publication, none of Siemiradzki's and only two of Sztolcman's articles were accompanied by images, and in both cases, they were maps, one showing the North-West part of the South American continent and the other tracing the routes of the journeys taken by Sztolcman and Jelski (Figure 1). The lack of images accompanying Siemiradzki's letters can be likely explained by the cost and logistics of publishing images in periodicals. The 1885 monograph *Z Warszawy do Równika* (From Warsaw to the Equator) was an expanded and edited version of the letters published in *Wszecławiat*, this time accompanied by a map and over seventy illustrations by Józef Ryszkiewicz and Jan Owidzki,

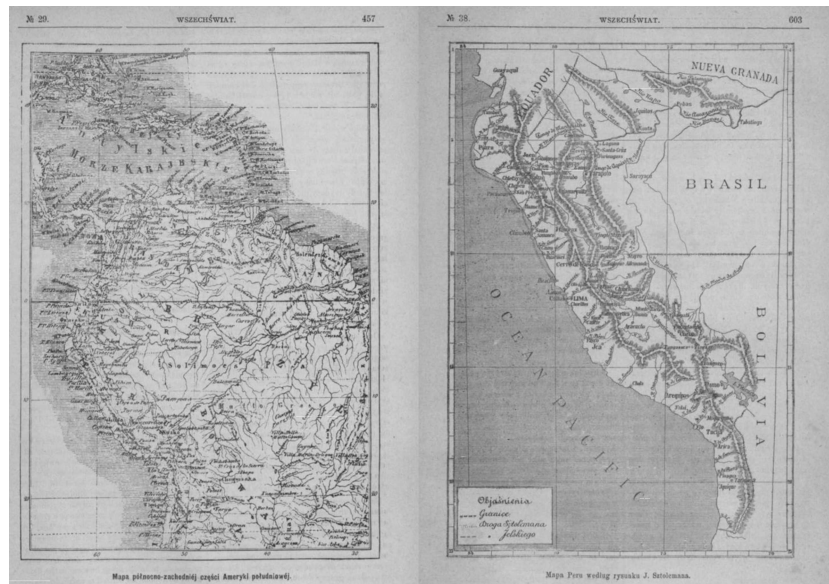


Figure 1. Map on the left—caption reads: "A Map of North-West part of South America," from Sztolcman 1882a, on 457; and map on the right—caption reads: "Map of Peru according to J. Sztolcman's draft," key reads "Borders," "Sztolcman's Route," and "Jelski's Route," from Sztolcman 1882b, on 603.

<sup>49</sup> [Anon.] 1883, on 256.

based on the sketches provided by Siemiradzki. The illustrations varied from images of people, cityscapes, bridges, mountains and volcanoes to pictures of various plants and animals, such as the umbrellabirds, toucans, and motmots above an etching of the taguo palm (i.e., ivory palm, or *Phytelephas macrocarpa*) from the Chimbo canton of Ecuador (Figure 2).<sup>50</sup> Much like Daniela Bleichmar has argued about botanical illustrations from Spanish expeditions between 1777 and 1816, Siemiradzki in his book made the nature of the parts of Latin America that he visited visible to the Polish readers.<sup>51</sup> Through looking at images provided by the naturalists, readers could learn to visually recognise the environments these professionals studied and formulate an opinion about their work.

The focus of the letters and travelogues written by Sztolcman and Siemiradzki was not purely on natural history. While it is true that detailed descriptions of plants and animals, nearly always accompanied by their Latin names, were ample, they were found among records of local culture and politics, statistics about the climate and geography, and anything else that attracted the attention of the naturalists. They effortlessly peppered their literary narration about their expeditions with descriptions of scientific methods, taxonomic details, and advice on where and how to precisely locate different species of plants or animals. Sztolcman and Siemiradzki were not alone in placing value in knowing binomial nomenclature. Anne Secord demonstrates why knowing the Latin names was important using an example of William Wilson, a gentleman bryologist who was quick to dismiss the skill and expertise of an experienced collector of medicinal herbs, calling him an “illiterate man” because the latter only knew English names of plants and his Latin was “excessively bad.”<sup>52</sup> Periodically the authors would remind the readers about their purpose for being on those marvellous journeys—that is to collect flora and fauna specimens for the collection of the Polish museums—each time stressing how laborious a task this was. Sztolcman and Siemiradzki’s accounts, divided between instalments across many issues of the magazine, while undeniably enriching common knowledge of the Polish readership about Latin America, aimed to attract and retain readers with curiosities about the far-away continent, and using that hook to also share knowledge about the practice of the craft of natural history. The naturalists-authors through the use of articles in illustrated press allowed Polish readers to imagine themselves on far-away journeys of exploration, providing an example of what was attainable for Polish naturalists and what excitements awaited those in pursuit of science.

The pieces written about Warszewicz showing him as a self-made man were also supposed to incentivise Polish audiences to partake in the pursuit of natural sciences, by showing the readers what he, and hence anyone willing to put in the hard work, could achieve. The authors argued that individual prowess in scientific endeavour benefited not just the individual, but the Polish nation as a whole. The discourse which Patience Schell argues prospered in

<sup>50</sup> Siemiradzki 1885, on 116.

<sup>51</sup> Bleichmar 2012.

<sup>52</sup> Wilson in: Secord 1996, on 384.



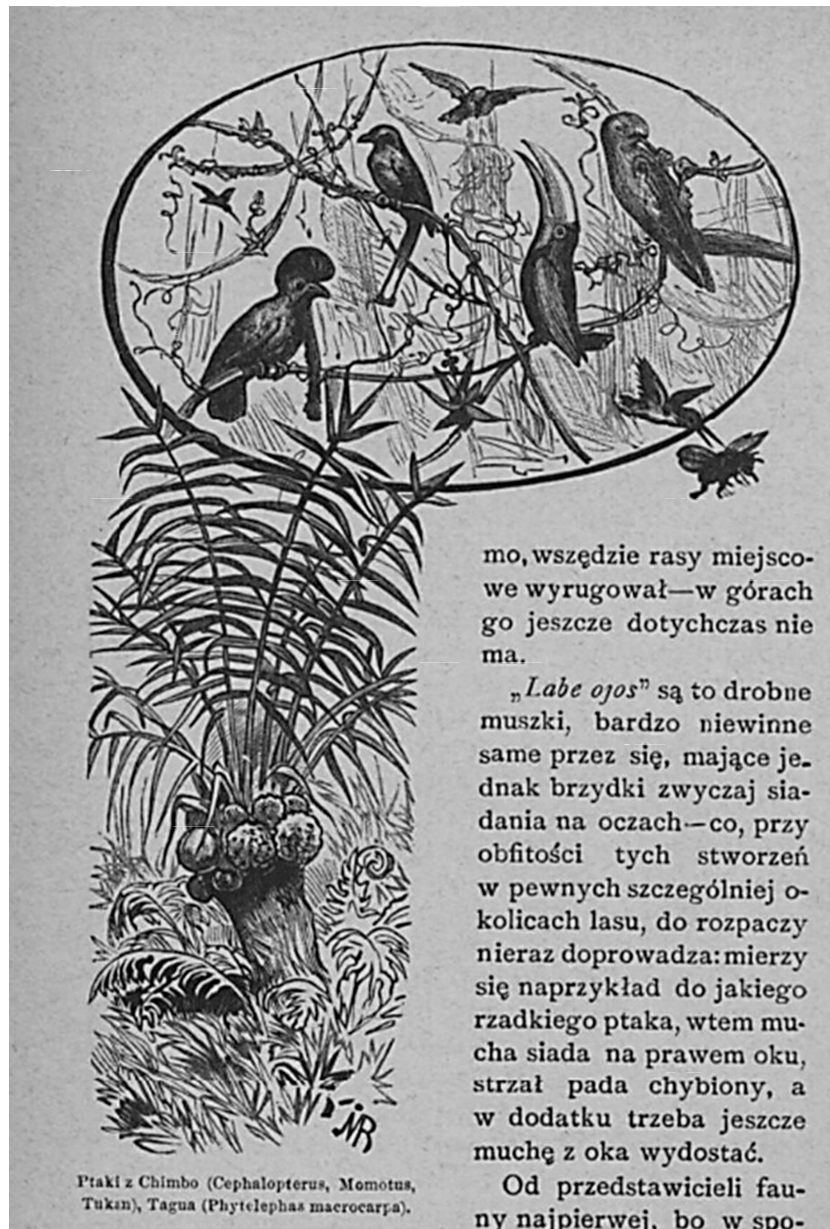


Figure 2. Caption reads “Birds from Chimbo (Cephalopterus, Momotus, Toucan), Tagua (Phytelphae macrocarpa),” from Siemiradzki 1885, on 116.

Chile in the nineteenth century, of natural history being transformative, rewarding and character building on personal level, can also be observed in the



Polish context.<sup>53</sup> Through personal engagement with natural history Polish individuals could help to strengthen the Polish nation. Karol Widman, a Polish author, historian and independence activist, began his article about Warszewicz in the following way:

Great misfortunes in the lives of nations and individual people alike, often have salutary effects [...] an example of this is our emigration, from whose womb so many men have emerged to glorify the history of our nation, for they are living testimonies that a nation, depressed by misfortune, did not fall, but is nourishing itself and preparing for a new, braver life.<sup>54</sup>

Warszewicz and the other naturalists were presented as figures “deserving real respect from their compatriots.”<sup>55</sup> When Warszewicz returned to Cracow on 1 December 1853, *Gazeta Warszawska* (The Warsaw Newspaper) was the first to publish a detailed piece about his time in Latin America. This work, split into two instalments which appeared on 2 and 3 October 1854, formed the basis for further articles about the naturalist. It was a letter by an anonymous author who explained that he wrote to the daily paper to make knowledge about natural sciences accessible to “every educated person” and “to awaken greater passion and dedication for cultivation of sciences among the young generation in the country.”<sup>56</sup> Due to Warszewicz’s disciplined work ethic and internationally recognised professional success the author saw in Warszewicz an inspiring model for the Polish youth. Indeed, just a bit later that same year, the letter was reprinted in Poznań, in a youth periodical, *Szkółka dla Młodzieży* (Little School for Youth).<sup>57</sup> But crucially this example also accentuates the agency and influence of anonymous writers to the debates about scientific topics in the public domain. The image of the naturalists was not simply crafted from the top down.

In terms of articles appearing in illustrated press, there exist at least three articles entirely dedicated to Warszewicz: a two-page headline article of *Tygodnik Ilustrowany* from 1861, a four-page article from *Strzecha*, and a six-page article in *Kolenda* (The Carol), both from 1870. All three pieces were accompanied by detailed woodcuts by local artists. The first article is likely the closest to what Warszewicz’s own account of his work in Latin America would have been, as the author of the article—Feliks Berdau—claims to have been close friends with Warszewicz, and to have written the article based on his conversations with Warszewicz over the years. The article was published when Warszewicz was still alive and residing in Cracow, and he made no apparent attempts to correct the way in which Berdau presented him. The other two articles about Warszewicz, while longer, were largely derivative of previous articles. Warszewicz’s engagement with the publication process was not vital for the success of his work in the field, but Berdau felt the need to explain his friend’s silence to the readers:

<sup>53</sup> Schell 2019.

<sup>54</sup> Widman 1870, on 185.

<sup>55</sup> Berdau 1861, on 210.

<sup>56</sup> [Anon.] 1854.

<sup>57</sup> Estkowski 1854.

Although Warszewicz is not a man of many written words, his work belongs to the general public, and as it adds a bright ray of light to the glory of our nation and awakens the respect of strangers for us, he deserves the true respect of his countryfolk.<sup>58</sup>

The excerpt reflects Berdau's perception that Warszewicz's achievements belonged not to him alone, but to the Polish people. As he was being presented as a role model for the Polish readers, his lack of involvement in popularisation of science needed to be justified away – he was not a man of written word. Implicitly this signified that to become a naturalist the reader did not have to be outspoken.

Generally the authors of articles were full of praise for Warszewicz's achievements, and present him as a hard-working and smart man, who made an effort to learn the different languages of places he visited, in order to communicate with those who would not necessarily talk with other European naturalists, but they also mention that he upset the sensibilities of some with his behaviour, speech or attire.<sup>59</sup> As Ruth Barton observed for the Victorian scientific community, “[a]mong scientific men, some were more equal than others.” In the international scientific community different local hierarchies were at juxtaposition, accentuating differences between natural history practitioners. The work of Warszewicz was observed and interpreted, his actions were compared to those of other naturalists, and his public image was then crafted by the authors of articles and the artists behind the portraits, all adding their own agendas into the mix.

The authors of the articles about Warszewicz and other Polish naturalists often compared the work of Polish naturalists to that of foreign, western European counterparts, and employed this as a form of validation. Adam Grąbczewski expressed it in the front-page obituary in *Wędrowiec*, for engineer Antoni Lewicki, in 1882:

We can proudly admit that our nation, whatever subordinate position it occupies today in the political world, in terms of historical research, belletrism, fine arts, or in the fields of exact and natural sciences, always has representatives, praiseworthy not only among their fellow compatriots, but also compared to renowned foreigners.<sup>60</sup>

Among these commendable individuals Grąbczewski highlighted four Poles working in Latin America: Władysław Folkierski, Władysław Kluger, Ignacy Domeyko, Ernest Malinowski, and five other men. Through linking scientific work to patriotic themes authors and editors such as Grąbczewski were transforming men of science into agents of independence, whose scientific achievement was notable on the international arena. The successes of Polish scientists abroad were used to generate national pride among Polish readers and to legitimise popularising of the sciences as a means of eventual regaining of independence.

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<sup>58</sup> Berdau 1861.

<sup>59</sup> For studies exploring class relations and gentleman science in British context, see: Wale 2022; Secord 1996. See also Margaretta Skinner's letter dated 15 April 1850 describing Warszewicz, in: Manning 2010, on 261.

<sup>60</sup> Grąbczewski 1882, on 177.

Foreign recognition and approval were seen as a way of accrediting Polish achievements, but it went further than just that. The authors of the articles about Warszewicz, while comparing and connecting him to western European naturalists through emphasizing the fact that Warszewicz was recommended by Alexander von Humboldt himself, worked for Louis Benoît van Houtte, sent orchids and other plants to his nursery near Ghent, and later was funded by Lord Derby (Edward Smith-Stanley), were at the same time making attempts to point out traits they saw as superior in the Polish naturalist. Warszewicz, and other Polish naturalists, worked longer and harder than others, had “youthful enthusiasm and unrelentless persistence of old-guard soldiers.”<sup>61</sup> By using rhetoric of hard work and perseverance the authors crafted an aspiring image of naturalists capable of achieving real impact on a national and international scale, even when lacking the support available to foreign, wealthier counterparts.

The articles about Warszewicz as well as shaping discourse about the image of the naturalist through text, also included actual pictures of Warszewicz. The image from the *Tygodnik Ilustrowany* headline article is a woodcut made based on a photograph of Warszewicz. Warszewicz is seated on an elegant chair, resting his right arm on a small table containing multiple potted, tropical plants. There exists a very similar lithograph portrait, from his time working for Van Houtte (1844–1850). Here too, Warszewicz sits on an elaborate chair and rests his right arm on a table covered in plants (as shown in Figure 3).<sup>62</sup> In both cases he is dressed in a suit and his left hand is decorated with signet rings. Whether of Warszewicz’s own volition or through the choices of the artists behind the image, the portraits were curated to convey an image of a gentleman botanist, and this was the image of Warszewicz that was circulated. It is possible that through such images Warszewicz was portraying himself as an equal to other European naturalists of high status and reputation. Indeed, scholar Geoffrey Belknap has shown that images published in nineteenth-century periodicals were used to strengthen notions of imagined scientific communities among natural historians at that time.<sup>63</sup> Being seen as belonging to a group, in this case the community of practice of European naturalists was beneficial for Warszewicz as it would have increased his trustworthiness and authority among his perceived peers, which in turn would help him to further his trade. His scientific work was after all tied to the social context in which he operated. He might not have always acted the part in real life, but on the illustrations in pictorial press his image could be curated so he always looked the part of a respectable European naturalist.

The image of Warszewicz presented in illustrated press changed depending on the purpose of the publication. The 1870 *Strzecha* article about Warszewicz was accompanied by a picture of a statue erected in the Cracow Botanical Garden to commemorate Warszewicz, who died four years prior in 1866 (Figure 4). The image is located centrally, takes up a significant proportion of

<sup>61</sup> Widman 1870, on 187.

<sup>62</sup> Zemanek 2012, on 31.

<sup>63</sup> Belknap 2018.



Figure 3. On the left—lithograph of Warszewicz, caption reads: “Joseph von Warszewicz [sic],” no date, signature at the bottom: “L. Stroobant Lith. In Horto Van Houtteano,” image owner: Botanic Garden Museum of the Jagiellonian University in Cracow; and on the right—illustration of Warszewicz, caption reads: “Józef Warszewicz (Drawn by J. Lewicki, based on a photograph by Rzewuski in Cracow),” from Unger 1861, on 209.

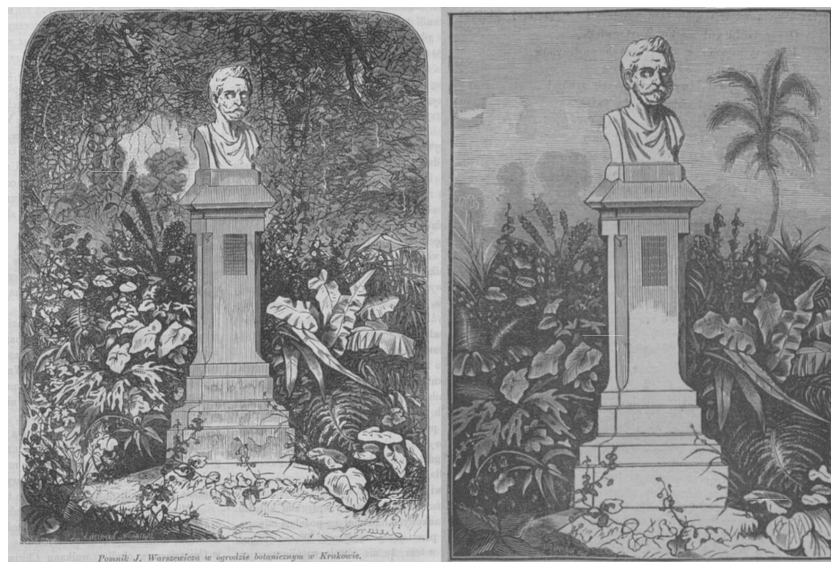


Figure 4. On the left—caption reads: “Statue of J. Warszewicz in the Cracow Botanical Garden,” from Widman 1870, on 185; on the right—another image of the statue of Warszewicz in Cracow Botanical Garden, from Nowolecki 1870, on 45.

the page and is surrounded by the text of the article. The white marble bust of the statue in the middle of the image is framed by lush vegetation invocative of Warszewicz's profession, and stands out in contrast with the dark foliage background. It makes it seem as if the statue is surrounded by wild nature, rather than by a manicured botanical garden. Another example appeared in *Kolenda na rok 1870* (The Carol for the Year 1870), an edition of an annual illustrated booklet, published around Christmas time, which as explained in its introduction, was "intended for use by all states of the society and contain[ed] articles useful for everyone."<sup>64</sup> That year it included a six-page article about Warszewicz with two full-page images. The first image was a simple lithographic copy of a photograph of Warszewicz's face (Figure 5), while the second image was a different version of the image of Warszewicz's bust statue in the Botanical Garden which also appeared in *Strzecha*, later that same year (Figure 4). Both images were produced by the same artist—Arnold Neumann. In *Kolenda's* version of the image, instead of the overgrown Polish trees, the viewers are presented with an unmistakably extraneous palm tree. To not detract from the solitary palm tree, there is simply a faint backdrop. In this version of the image, rather than being one with nature, Warszewicz seems to be elevated above nature, with his statue towering over all the undergrowth and even over the palm, thereby suggesting that Warszewicz, and other naturalists like himself were dominating and taming foreign and exotic nature. Those behind the texts and the images created an intentional and emotive image of Polish naturalists for the consumption of the Polish audiences.

#### 4. Conclusion

This article has shown that between 1844 and 1885 the Polish illustrated press provided an important avenue for the circulation of natural history knowledge among its readers. Transnational flows of natural history knowledge from Latin America communicated to Polish readership through the medium of illustrated press impacted on the perception of the discipline of natural history within the Polish context. Knowledge of the flora and the fauna of places such as Peru or Mexico was intertwined here with political messages about work, skills and qualities necessary for regaining independence. Although the periodicals were likely principally read by wealthy urbanites, the reprint practice common among Polish publications at that time, as well as the availability of illustrated periodicals in public spaces would have significantly broadened their reach. With its public focus and wide reach, illustrated press played a vital role in connecting Polish people across the three partitions by creating common points of reference—well-known naturalists being one such point—thereby contributing to the ongoing nation-building processes at a time when Poland was not an independent state.

Many different historical actors were involved in crafting the image of the Polish naturalists on the pages of illustrated press, and their diverse interests

<sup>64</sup> Nowolecki 1870.



Figure 5. Warszawicz as depicted in Nowolecki 1870, on 41.

can be observed through a close study of the articles and the illustrations. Where articles were written by other parties the naturalists were often presented with hyperbole and pomp. The figures of the naturalists were used by the authors in the nation-building processes by being presented as admirable role



models not only for the Polish youth, but the Polish people more broadly. Qualities of Polish naturalists such as their tenacity to overcome difficult circumstances in pursuit of scientific knowledge were highlighted. The example of articles dedicated to Józef Warszewicz, the naturalist least personally involved in crafting his public image among the four, illustrates the involvement of other actors in the intentional selection of visual representations to cement the image of an exemplar naturalist in the minds of Polish readers. The pictures of Warszewicz visually situated the naturalist in a broader context, be that a statue of him amongst the plants he studied, or sitting in a formal setting befitting a European naturalist. The letters and travelogues written by the naturalists themselves provided a more intimate and pragmatic view of their work, while the images produced based on the naturalists' own sketches familiarised readers with the naturalists' objects of study. Both types of images in different ways were efforts to exude professional competence of the naturalists and secure the public appreciation for the broadly construed value of the discipline. The distinctive blending of patriotic and natural history themes communicated through images and texts found on the pages of Polish illustrated press from the period 1861–1885 exemplifies the plurality of conceptualisations of scientific meaning.

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## References

- [Anon.], “Entomologia Leśna. Część Iwsza. Owad szkodliwy lasom,” *Sylwan: dziennik nauk leśnych i myśliwych* 1, no. 3 (1820): 19–35.
- [Anon.], “Korrespondencya botaniczna z Krakowa,” *Gazeta Warszawska*, 2 October 1854.
- [Anon.], “Okruszyny,” *Biesiada Literacka: pismo literacko-polityczne ilustrowane*, 18 August 1876.
- [Anon.], “Rozmaitości,” *Tygodnik Ilustrowany*, 20 October 1883.
- Alberti, Samuel J. M. M., “Placing Nature: Natural History Collections and Their Owners in Nineteenth-Century Provincial England,” *The British Journal for the History of Science* 35, no. 3 (2002): 291–311.
- Anculewicz, Zbigniew, “Rozwój prenumerat gazet polskich i czasopism w Królestwie Polskim w latach 1815–1864,” *Kwartalnik Historii Prasy Polskiej* 26, no. 4 (1987): 5–21.
- Baczkowski, Michał, *Analfabetyzm w Galicji w dobie konstytucyjnej (1867–1914)* (Cracow: Wydawnictwo Uniwersytetu Jagiellońskiego, 2006).
- Baldwin, Melinda, *Making: The History of a Scientific Journal* (Chicago: University of Chicago Press, 2015).
- Belknap, Geoffrey, “Illustrating Natural History: Images, Periodicals, and the Making of Nineteenth-Century Scientific Communities,” *Br. J. Hist. Sci.* 51, no. 3 (2018): 395–422.

- Berdau, Feliks, "Józef Warszewicz," *Tygodnik Ilustrowany*, 8 June 1861.
- Bleichmar, Daniela, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment* (Chicago: University of Chicago Press, 2012).
- Blejwas, Stanisław A., "The Origins and the Practice of 'Organic Work' in Poland: 1795–1863," *The Polish Review* 15 (1970): 23–54.
- Brake, Laurel, *Subjugated Knowledges: Journalism, Gender and Literature in the Nineteenth Century* (Basingstoke: Macmillan, 1994).
- Brzęk, Gabriel, "Historia zoologii w Polsce do 1860 roku," *Prace Komisji Historii Nauki Polskiej Akademii Umiejętności* 3 (2001): 115–158.
- Csiszar, Alex, *The Scientific Journal: Authorship and the Politics of Knowledge in the Nineteenth Century* (Chicago: University of Chicago Press, 2020).
- Dawson, Gowan, Bernard Lightman, Sally Shuttleworth, and Jonathan R. Topham, *Science Periodicals in Nineteenth-Century Britain: Constructing Scientific Communities* (Chicago: University of Chicago Press, 2020).
- Endersby, Jim, *Imperial Nature: Joseph Hooker and the Practices of Victorian Science* (Chicago: University of Chicago Press, 2008).
- Estkowski, Ewaryst, "Józef Warszewicz, botanik," *Szkółka dla Młodzieży: pismo sześciotygodniowe wraz z dodatkiem literackim* 5, no. 7/8 (1854): 472–479.
- Fyfe, Aileen, "Journals and Periodicals," in *A Companion to the History of Science*, ed. Bernard Lightman (Chichester, West Sussex: Wiley Blackwell, 2016), 387–399.
- Grąbczewski, Adam, "Antoni Lewicki," *Wędrowiec*, 21 September 1882.
- Groniowski, Krzysztof, "VIII: Na przełomie stuleci," in *Zarys historii polski*, ed. Janusz Tazbir (Warsaw: Państwowy Instytut Wydawniczy, 1979), 489–590.
- Henson, Louise, Geoffrey Cantor, Gowan Dawson, Richard Noakes, Sally Shuttleworth, and Jonathan R. Topham, *Culture and Science in the Nineteenth-Century Media* (Florence: Routledge, 2004).
- Holway, Tatiana, *The Flower of Empire: The Amazon's Largest Water Lily, the Quest to Make It Bloom, and the World It Helped Create* (Oxford: Oxford University Press, 2013).
- Jelski, Konstanty, *Popularno-przyrodnicze opowiadania z pobytu w Gujanie francuskiej i po części w Peru (od r. 1865–1871)* (Cracow: Drukarnia "Czas" Fr. Kluczycki i Spółka, 1898).
- Kamisińska, Dorota, "Polish Popular-Science Periodicals Published until 1939. Interrelationships between Science and the Arts," *Rocznik Historii Prasy Polskiej* 2, no. 54 (2019): 5–26.
- Kłudkiewicz, Kamila, "Popularne czasopisma ilustrowane," no date, online: <http://visualheritage.eu/en/portfolio/popularne-czasopisma-ilustrowane/> (accessed 8 September 2021).
- Kuklo, Cezary, Juliusz Łukasiewicz, and Cecylia Leszczyńska (eds.), *Polska w Europie = Poland in Europe*, Historia Polski w liczbach = History of Poland in Numbers, vol. 3 (Warsaw: Załad Wydawnictw Statystycznych, 2014).
- Łepkowski, Tadeusz (ed.), *Słownik historii Polski* (Warsaw: Wiedza Powszechna, 1973).
- Łukasiewicz, Juliusz, "Okres 1795–1918," in *Historia Polski w liczbach: ludność, terytorium*, ed. Andrzej Jezierski and Franciszek Kubiczek (Warsaw: Załad Wydawnictw Statystycznych, 1994), 49–120.
- Majer, Józef, "Głos Dra Józefa A. Majera. Prezesa Akademii umiejętności w Krakowie, na posiedzeniu publicznym roku 1879," *Rocznik Zarządu Akademii Umiejętności w Krakowie: Rok 1878* (1879): 150–163.
- Manning, Steve, *Discovering New World Orchids* (Nantwich: Steve Manning, 2010).
- Mitchell, William J. T., *Iconology: Image, Text, Ideology* (Chicago: University of Chicago Press, 1987).
- Mitchell, William J. T., *Image Science: Iconology, Visual Culture, and Media Aesthetics* (Chicago: University of Chicago Press, 2015).
- Mysłiński, Jerzy, "Próba określenia miejsca i roli prasy w dziejach społeczeństwa polskiego doby powstaniowej," *Dzieje Najnowsze* 10, no. 3 (1978): 5–27.

- Natora-Macierewicz, Hanna, "Rozwój warszawskiej ilustracji prasowej do początku XX w. (na przykładzie wybranych tygodników ilustrowanych)," *Rocznik Historii Czasopiśmiennictwa Polskiego* 15, no. 3 (1976): 273–286.
- Nowolecki, Aleksander, *Kolenda na rok 1870* (Cracow: Wydawnictwo Czytelnicy Ludowej, 1870).
- O'Connor, Ralph, "Reflections on Popular Science in Britain: Genres, Categories, and Historians," *Isis* 100, no. 2 (2009): 333–345.
- Orłowski, Bolesław, *Osiągnięcia inżynierskie Wielkiej Emigracji* (Warsaw: Instytut Historii Nauki, Oświaty i Techniki PAN, 1992).
- Podgorny, Irina, "Fossil Dealers, the Practices of Comparative Anatomy and British Diplomacy in Latin America, 1820–1840." *British Journal for the History of Science* 46, no. 4 (2013): 647–674.
- Reichman, Bronisław, "Przeciwnicy popularyzacji," *Przyroda i Przemysł: tygodnik popularno-naukowy*, 21 May 1874.
- Schell, Patience A., "Natural History Values and Meanings in Nineteenth-Century Chile," *Notes and Records of the Royal Society of London* 73, no. 1 (2019): 101–124.
- Secord, Anne, "Artisan Botany," in *Cultures of Natural History*, ed. Nicholas Jardine, James A. Secord, and Emma C. Spary (Cambridge: Cambridge University Press, 1996), 378–393.
- Secord, James A., "Knowledge in Transit," *Isis* 95, no. 4 (2004): 654–672.
- Siemiradzki, Józef, *Z Warszawy do równika: wspomnienia z podróży po Ameryce Południowej, odbytej w latach 1882–1883* (Warsaw: Drukarnia Ignacego Zawiszeckiego, 1885).
- Siemiradzki, Józef, *Szlakiem wychodźców: wspomnienia z podróży po Brazylii, odbytej z polecenia Galicyjskiego Wydziału Krajowego* (2 vols., Warsaw: Drukarnia A. T. Jezierskiego, 1900).
- Sztołcman, Jan, "Wspomnienia z podróży po Peru. Kraj i przyroda. Sierra," *Wszechświat: tygodnik popularny, poświęcony naukom przyrodniczym* 1, no. 29 (1882a): 456–460.
- Sztołcman, Jan, "Wspomnienia z podróży po Peru. Kraj i przyroda. Puna," *Wszechświat: tygodnik popularny, poświęcony naukom przyrodniczym* 1, no. 38 (1882b): 601–606.
- Sztołcman, Jan, *Peru: wspomnienia z podróży* (2 vols., Warsaw: Gebethner i Wolff, 1912).
- Smits, Thomas, *The European Illustrated Press and the Emergence of a Transnational Visual Culture of the News, 1842–1870* (London: Routledge, 2019).
- Topham, Jonathan R., "Introduction," *Isis* 100, no. 2 (2009): 310–318.
- Topham, Jonathan R., Andreas W. Daum, Ralph O'Connor, Katherine Pandora, and Bernadette Bensaude-Vincent, "FOCUS: Historicizing 'Popular Science,'" *Isis* 100, no. 2 (2009): 292–368.
- Unger, Józef, "Od Redakcyi," *Tygodnik Ilustrowany*, 8 June 1861.
- Wale, Matthew, *Making Entomologists: How Periodicals Shaped Scientific Communities in Nineteenth-Century Britain* (Pittsburgh: University of Pittsburgh Press, 2022).
- Wandycz, Piotr S., *The Lands of Partitioned Poland, 1795–1918* (Seattle: University of Washington Press, 1974).
- Widman, Karol, "Józef Warszewicz," *Strzecha* 3, no. 6 (1870): 185–188.
- Wrona, Grażyna, "Polskie czasopisma popularnonaukowe w XIX wieku: ewolucja formy i treści" *Rocznik Historii Prasy Polskiej* 10, no. 2 (2007): 5–31.
- Wrona, Grażyna, Agnieszka Cieślakowa, Dorota Kamisińska, Ewa Wójcik, and Renata M. Zając, "Polish Popular Science Magazines from 1758 to 1939 as a Topic and a Source in Research on the History of Popularization of Science," *Rocznik Historii Prasy Polskiej* 3, no. 59 (2020): 5–18.
- Wrześniowski, August, "Sprawozdanie," *Wszechświat: tygodnik popularny poświęcony naukom przyrodniczym*, 8 June 1884.
- Znatowicz, Bronisław, and Eugeniusz Dziewulski, "Od Wydawców," *Pamiętnik Fizyograficzny* 1 (1881): i–iii.
- Zemanek, Alicja, "Portrety botaników polskich = Portraits of Polish Botanists," *Wiadomości Botaniczne* 56, no. 3/4 (2012): 31–32.