

**SCIENTIFIC BOOKS AND THEIR PLACE IN EARTH  
SCIENCES –  
THE PERSPECTIVE OF SCIENTISTS AND ACADEMIA  
IN LATVIA**

**GRĀMATAS VIETA ZEMES ZINĀTNĒS – ZINĀTNIĒKU UN  
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**Abstract**

This study explores the dynamics of publishing Earth sciences-related books and other original publications in Latvian over the last 30 years from experts' point of view. Eight experts related to the Faculty of Geography and Earth Sciences of the University of Latvia were interviewed about their motivation for writing monographs, competition from scientific articles, and how book publishing is influenced by cultural values in an age of information technology. Results suggest that it is becoming increasingly difficult to find practical reasons for creating scientific books in Earth sciences due to their pragmatic and cultural connotations. It is implied that publication in Latvian does not contribute to productive science on a global scale. However, many works are still produced with support from international funds and national institutions, often available in bilingually and in both digital and physical formats.

**Keywords:** *Earth sciences, original publication, scientific books*

**Introduction**

Over the past 30 years in Latvia slightly more than 100 different original publications have been published in Latvian, related to Earth sciences in general or to a specific sub-field of it. Typically, they have been monographs, textbooks, teaching aids and other scholarly books, especially for the needs of higher education. The publishing activity is most often dominated by the Faculty of Geography and Earth Sciences of the University of Latvia (UL FGES), which, as of its establishment, has been taken over by the University of Latvia Press, as well as the Ministry of Environmental Protection and Regional Development of the Republic of Latvia and its directly subordinate institutions. Other publishers are maintaining only an occasional activity, why it is possible to assert that institutions directly related to experts in the field of Earth sciences typically dominate in the publishing as well (Mūrnieks, 2021).

Although in the last 10 years there have been periods with both a record high and an extremely low number of annual original publications, the general perspective has been skewed, both regarding the general meaning of such publications and their

essence in modern day Earth sciences, as well as in relation to the current criteria and principles of scientific evaluation in Latvia and the world altogether. Both the teaching methods of today's academia and learning style of students today together with other areas that once created the greatest motivation and need for the creation and printing of such scientific books has significantly changed in past few decades.

Focusing directly on the place and importance of scientific books, monographs in modern Earth sciences, eight experts in the creation and review of works with such content were interviewed in 2022. Most of the respondents at that time or at some time in the past held the status of an Earth science specialist also in an official capacity, as experts of the Latvian Science Council (LSC). All respondents are related to the UL and FGES - 6 active, 2 former representatives of the academic staff. Respondents' answers to a series of open-ended questions provided an extended insight into the author's motivation and book-writing process, the connection between the creation of monographs and scientific work and career advancement, the competition of books with the publication of scientific articles today, as well as other current events, angles, and perspectives regarding writing and publishing books in the field of Earth science.

## **Data and results**

### **The perspective of different generations**

Many questions focused on motivation, with arguments both in favour and against the creation of monographs and similar kind of scientific works. Generational differences played a significant role in shaping respondents view on the matter.

*"Rather, there are some nostalgic memories of something not done in youth, etc., which is characteristic of the '+55' generation." (Anonymous interviewee, 2022)*

*"In the past, if you wrote a book, it counted for something! In any case, the monograph was certainly valued more highly than it is today." (Stinkule, 2022)*

*"We all have, somehow from childhood, the vision that if someone writes a book, then he is the central man in that topic. You can't really say that." (Karušs, 2022)*

### **Monographs vs. journal publications**

The defining aspect of this distinction can be found in a comparison of monographs and similar scientific books writing as opposed to the publication of scholarly articles in internationally recognized journals and their different effects on academic careers nowadays. Some respondents share even very critical points of view, but the majority agree, especially on aspects regarding requirements for science evaluation and the need to publish in internationally recognized journals and databases.

*"Monographs are the most ineffective way to promote academic achievement. Evaluating a monograph in LSC is the same as a 3-page SCOPUS article."*  
(Anonymous interviewee, 2022)

*"It's nice, but the scientific monograph objectively has nothing to do with your researcher's contribution to the development of science."* (Karušs, 2022)

*"It's imperative to publish there [SCOPUS, ScienceDirect, etc.]. Respectively, a scientist has absolutely no need to publish anything in Latvian. Where else to write a book! There is no point in writing articles in Latvian, because it is not required anywhere, in all academic positions it is only required to write the necessary amount of publication per year."* (Stinkulis, 2022)

Respondents recognize the changing value of scholarly books and express varying views on their current necessity. While some still consider book writing as a significant achievement, the modern scientific system has diminished the recognition and impact of books. The diminishment of said academic influence of the monograph for its author is a recognised trend across the academia outside of Latvia as well. This shift in values has even had consequences for highly productive specialists in certain cases (Cordón-García et al., 2019).

*"In natural sciences, monographs are not taken into account when awarding the rights of an LSC expert. It is based on publications in the SCOPUS journal. Because of this natural scientist are partially even in disadvantage this way."* (Nikodemus, 2022)

*"I fell out of this circle of LSC experts, only because there really weren't, let's say, publications in international journals of mine at that time for various reasons. There was one, three were needed, but I had three monographs to refer to. But no!"*  
(Stinkulis, 2022)

Therefore, it can be concluded that the existing requirements in the scientific work environment almost do not fully motivate authors to create new books, but changes can also be observed in other factors that are attributable to the general perception of books in modern science.

*"During the last 5-7 years, the value of monographs has dropped tremendously all over the world and it has long ceased to be a matter of prestige."* (Anonymous interviewee, 2022)

The dynamics of the digital age pose challenges to produce monographs. Their slow and time-consuming nature is outweighed by the rapid pace of information updates, making hard copies quickly outdated. The high cost of publishing, particularly compared to electronic and open-access resources, further hinders monograph production. Commercial success is rare, especially in niche fields like Earth sciences, highlighting not only the financial, but time and priority management considerations as well. Monographs are increasingly resembling open access scientific journal databases, with authors shouldering the expenses of publication, distribution, and availability.

*"The system here is getting closer and closer to Open Access, where the author has to pay all expenses and then the reader has to pay for free, but, for example, in medicine, one such 5-7 pages. the article costs 2800-3500€. It is not difficult to put forward how much a monograph published like this would cost an author."* (Anonymous interviewee, 2022)

On the other hand, there is some positive incentives that turns toward ideas of creating a new Earth Science book. Scientific projects in this sense are a good way to solve the problem with funding of book publications.

*"There are various scientific projects. In Latvia, about 85% of monographs are like this. This is the specificity of Latvia in Eastern Europe - in other countries, such issuance for project funds is not allowed. Meanwhile, in Latvia even national funds are allocated for the creation of very large monographs, which is proven by the fact that the book "Latvija. Zeme. Daba. Tauta. Valsts" funding was granted by the Latvian Environment Fund, also in connection with Latvia's centenary."* (Anonymous interviewee, 2022)

*"There were postdoctoral projects in which it was planned to develop a monograph, so it had to be done, and there is no other underlying philosophy here. But realistically if I wrote that monograph as a result in the first place, of course, I actually wanted to write one."* (Lamsters, 2022)

### **Individual personal aspects**

This also indicates the preservation of personal desires in the motivation to create such publications. The origin of it tends to even border on sentimentality, inner confidence of what is right regarding personal relationships with other people - former colleagues.

*"The professor couldn't gather that group of authors at that time, he didn't succeed. And all the time it dragged along like a debt. [...] it can be considered that motivation was as a debt, responsibility towards your colleagues, whom you have helped and promised. A kind of responsibility and solidarity, towards one's performance, towards other scientists."* (Nikodemus, 2022)

But it is not just an emotional attraction, driven by nostalgia or past-based preconceptions. In other cases, it manifests itself in the form of cooperation, appreciative encouragement through collegial friendship and respect for colleagues' abilities and achievements.

*"We [...] wrote about Latvia's mineral resources with Professor Visvaldis Kuršs. [...] And we felt that it should be collected in some way and presented in the form of a book".* (Stinkule, 2022)

*"I reviewed the nice book about volcanoes by my colleague Ivars Strautnieks. There could no longer be any question of a refusal. He writes very interestingly, and the book is well thought out. I hope my review also gave him something good."* (Stinkulis, 2022)

### **Language aspects**

Some perspectives tend to combine several elements, for example, applied aspects of science, as well as issues of national identity and culture. Often these are concerns about the development and preservation of the Latvian language, which can conflict with a very pragmatic views of what should be the main job of a scientist today.

*"In my case, it works because the Latvian language is very close to me, I really want to develop it, but there are enough scientists who do not particularly care about the development of the scientific language of the Latvian language."* (Lamsters, 2022)

*"We pay too little attention to the cultivation of our language, our scientific terminology and to a certain extent also the culture of writing in Latvian."* (Zelčs, 2022)

*"I look at my work assignments [...] how you can become a world-renowned scientist. Neither of these two concepts will include 'I will now write in Latvian!'. Okay, you can endlessly philosophize about the development of the scientific language in Latvian, [...] I agree, it's all nice from the point of view of national identity. But you will never write a single article in Latvian in your life. Pointless."* (Karušs, 2022)

### **Monographs vs. textbooks**

If there is no doubt about the need for publications in scientific journal articles, then the purpose for creating monographs and similar works is not so clear. Respondents most often pointed to the form of textbooks as still existing and stable, sometimes even referring to them as full-fledged, scientific monographs and vice versa.

*"Another type of monographs that is essential, for which there is an interest in preparing them, they are textbooks for students, maybe textbooks in the Latvian language, because they are cheaper, more accessible to students, also electronically, etc." (Kļaviņš, 2022)*

*"[...] let's write so that there is something to learn from, because books are basically teaching tools. And this big green book [collective monograph "Latvija. Zeme, daba, tauta, valsts "] her, basically a teaching tool as well." (Karušs, 2022)*

Such insights are also complemented by the comparisons expressed by many respondents about language, which 30 years ago was an essential aspect both in the creation and consumption of original publications. The absolute dominance of Latvian textbooks among all original publications in Earth sciences published in the 1990s is a clear reflection of the situation in the study environment of UL FGES for the same time period. However, others believe that even nowadays the situation has not improved much, because the availability of information, not only from the aspect of language, is just as important as its novelty.

*"There was a lack of learning materials in Latvian. In Russian, let's say, about Latvia's geology, minerals, so what is there in Russian (?). That's why we felt the need to write and publish in Latvian." (Karušs, 2022)*

*"In the field of Earth sciences, especially those related to geology, there are very few books in Latvian. Most of the books were written in Russian during the Soviet era. [...]this new generation of students does not read in Russian. But there are no new books. [...] If for example the lecturers themselves learned from these ancient books and continue to present the information contained in them, it can be said that they are lying to the students and they should definitely familiarize themselves with the most current scientific literature, including books." (Lamsters, 2022)*

*"Here I have to be careful and separate two things. The factual material contained in these older publications is of high quality and usable and will continue to be so in the*

*future. Another thing is that this point of view in many areas 25-30 years ago was based on the theories and knowledge of its time." (Zelčs, 2022)*

Geography textbooks are essential teaching resources that influence disciplinary traditions and pedagogy, providing a structured framework for organizing knowledge and concepts. They promote learning, serve as useful resources for educators, researchers, and practitioners, and contribute to the dissemination and preservation of knowledge. Textbooks being seen as scientific monographs emphasizes their enduring nature, supporting academia's interest in producing monographs. They serve as both instructional materials and scholarly works, advancing the field of geography, promoting critical thinking, and underscoring the ongoing relevance of monographs in academia (Sidaway, 2017).

### **Aspects of digital accessibility**

The current demand for new book publications is naturally lower as academic priorities shift and older works are still considered valid by authors. Respondents acknowledge the impact of the digital environment on the significance of physical printing, highlighting the availability of textbooks and student usage trends as relevant factors.

*"Another interesting question that is being discussed is whether monographs are needed only in digital format or in a paper version as well? [...] it can be said, but that this paper version is necessary for such a monograph, because it allows the monograph to be picked up anywhere and flipped through, and to find what is needed. [...] many people are very sceptical about it, reading such approach, reading a large volume of works on the computer. [...] A very good example is that there are a lot of these e-books, electronic textbooks. Librarians complain that students do not use e-books, but they do use this paper version." (Nikodemus, 2022)*

It is not clear whether this already signals a complete decline in scientific book publishing, but other experts recommend adapting to reality as soon as possible, not only with the availability of the monographs digital copy but perhaps making it available only electronically or online.

*"You have to switch to the digital environment. The same monograph " Latvija. Zeme, daba, tauta, valsts" could be digitally published and restored over time, just like the National Encyclopedia of Latvia. Students now work in the digital environment. Will they read that book then? In the computer you can enlarging the text, images, searching for keywords. It is much more effective." (Zelčs, 2022)*

*"I am also happy about the Latvian National Encyclopedia, where I myself write articles. "Enciklopedija.lv", it is of course an electronic resource. It seems to me that this is a good option where scientists can express themselves and preserve the correct terminology of the Latvian language." (Lamsters, 2022)*

Academia worldwide has already accepted and acknowledged this trend, therefore endorsing ways to promote the existing publication capacity with more digitally based solutions such as open access digital publication and similar ways to promote creation and accessibility of monographs in the digital era (Elliott, 2015).

### **Conclusion**

The motivation for writing and publishing books in Earth sciences today includes personal interest, collegial cooperation, appreciation for colleagues' abilities, achievements, and concerns about national identity and culture. Monographs have lost prestige in modern science evaluation systems due to increased competition with scientific journal publications. The need for new books has decreased with the rapid pace of science in the digital era, but textbooks remain a reliable source of original publications in Earth sciences. While the transition to digital environments is inevitable, physical printing of scientific works remains important for accessibility and convenience. Scientists generally recognize both their own and other authors' original scientific books as valid sources of factual material.

### **Kopsavilkums**

Rakstā pēfīta zinātnisko izdevumu mainīgā loma Zemes zinātnēs pēdējo 30 gadu laikā, raugoties no nozares ekspertu viedokļa. Raksta pamatā ir intervijas ar astoņiem ekspertiem no Latvijas Universitātes Ģeogrāfijas un Zemes zinātņu fakultātes. Rezultāti parāda, ka motivācija rakstīt monogrāfijas ir samazinājusies, jo ir palielinājusies grāmatu konkurence ar zinātniskiem rakstiem, kā arī mainījušies zinātniskā novērtējuma kritēriji. Turklāt monogrāfiju izdošanai ir augstas izmaksas un straujš informācijas atjaunošanas temps, kas rada izaicinājumus to gatavošanai. Neskatoties uz šiem izaicinājumiem, daži eksperti joprojām uzskata monogrāfijas par vērtīgu zināšanu krātuvi un, ka tās sniedz ieguldījuma Zemes zinātņu jomā. Atrast pragmatiskus iemeslus zinātnisku grāmatu tapšanai Zemes zinātnēs mūsdienās kļūst arvien grūtāk, sevišķi pašu zinātnieku un pētnieku skatījumā, kas vienlaikus konfliktē ar grāmatu kā kultūras elementu. Kopumā pētījums liecina, ka zinātnisko grāmatu loma Zemes zinātnēs ir mainīga, un to nākotne var būt atkarīga no izdevumu un to autoru spējas pielāgoties mainīgajām digitālā laikmeta prasībām.

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