Tektonika: The Community-Led Diamond Open-Access Journal for Tectonics and Structural Geology

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Abstract Knowledge (b)locking impedes scientific breakthroughs and hinders societal development. Historically, the privileged and paid access to scholarly work has held captive the advancement of numerous brilliant minds and their ideas. The Tektonika initiative was born to remedy the unfairness of the current publishing scene by offering the community a platform where tectonics and structural geology research are freely and openly accessible to everyone. As part of a growing movement within academia, Tektonika provides an alternative to conventional publishing models that restrict access to scholarly work through costly paywalls and subscriptions. In this editorial, we explain why and how Tektonika exists, the structure of the journal, and how it is run a year after its launch. We also detail our peer-review process from manuscript submission to publication, and report on some of the challenges faced. We close by presenting our plan and ideas to sustain a community-led inclusive and equitable publishing landscape that secures a free-to-all access to Earth Science research over the long term.

Technical Editor:
Mohamed Gouiza

Reviewers:
Stephen Hicks
Fabian Wadsworth

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1 Introduction

The publishing cycle is primarily sustained by scientists not employed by the commercial publishing houses that exploit scholarly knowledge. Scientists create and disseminate research and validate it through peer review and their time is funded by governments, university and industry subscriptions, or provided for free on a voluntary basis. Publishing houses incur personnel costs to cover technical needs of the publishing cycle, like editing and typesetting, and infrastructure expenses, such as long-term hosting and archiving. However, these real costs are minor relative to the Article Processing Charges (APC) these publishing houses charge scientists to publish and access scholarly work. Different reasons are used to justify the hefty APC prices (*Van Noorden*, 2013; *Grossmann and Brembs*, 2021), but many publishing houses have large profit margins. For example, Elsevier, the world's largest scientific publisher, has yearly profits in the billions of Euros (e.g. €2.8 billion before tax in 2022), which equates to profit margins in the order of 38%, i.e. larger than those of Google, Apple, and Coca-Cola (e.g., *Hagve*, 2020). Other publishing houses, such as learned societies, are run as charities or are not-for profit, and re-invest publishing income into activities that support science, including outreach and education. Sustaining this pay-to-access system fosters two problematic outcomes; it consumes research funds that should ideally be used for research, and furthers inequalities, as access is dictated by financial capacity. Paid access to scholarly knowledge supports an uneven academic environment that restricts opportunities and hinders the contribution and professional development of researchers without funds.

Publishers collect payments subordinating the accessibility to both new and old research through paywalls, economic barriers that impede the dissemination of scholarly knowledge. Scientists produce the research but must pay to surpass the barrier. They can either pay to make their scholarly work available to others or pass the paywall fee to colleagues interested in the research. Different modes of Open Access exist (*Suber*, 2012) depending on who distributes the published work, who owns it once it is published, and who takes care of the paywall (Figure 1). Gold Open Access allows scientists to make their work openly accessible to read by paying a fee or APC, which in for-profit publishing houses range

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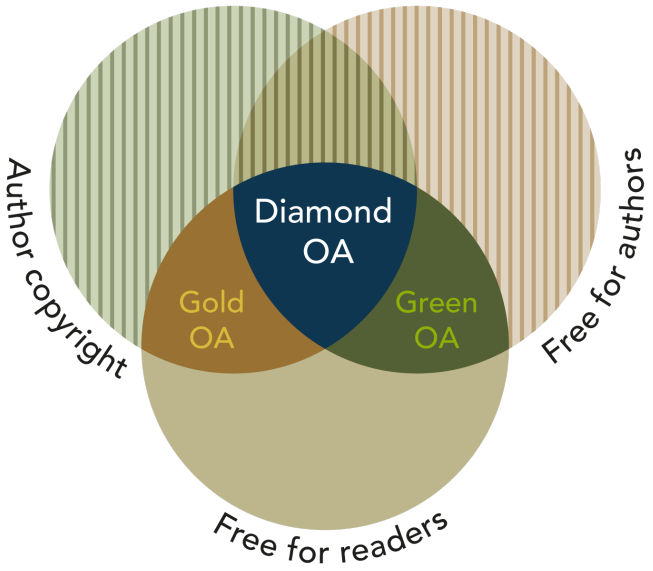

Figure 1 – The main Open Access models.

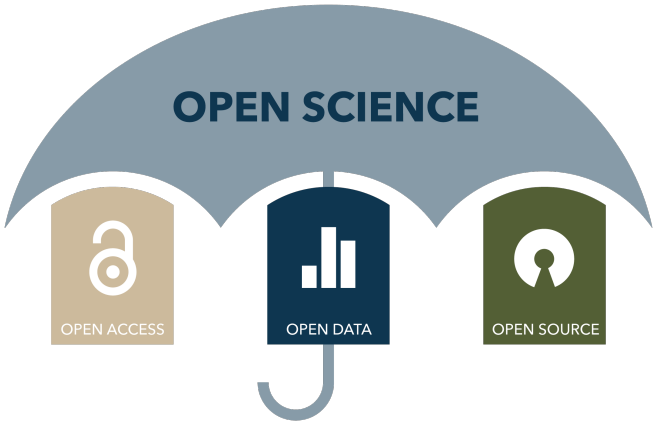

Figure 2 – Open Science, a global movement towards an open scientific ecosystem.

from several hundred to thousands of Euros (*Morrison*, 2018; *Pourret et al.*, 2021). Green Open Access is an alternative to Gold Open Access that commonly relies on authors making publications freely available by uploading preprint versions to open access repositories. Publishers may demand an embargo period, during which access is restricted, and the author's copyright status is unclear.

Diamond Open Access (DOA) provides an alternative Open Access model with no restrictive paywalls in which authors retain copyright over their research. Unlike conventional scholarly publishing, the DOA model prioritizes accessibility and affordability for both readers and authors. The DOA model is used by Diamond Open Access Journals (DOAJs), which are often a reaction to the rising costs imposed by commercial publishing corporations and the discriminatory restrictions they impose. Journals adhering to the DOA model are commonly run by volunteers on a non-profit basis and ensure that research can be disseminated freely while maintaining the quality and rigor generally associated with profit-driven publishing. We like to call this true open access publishing. To understand how the DOA model is possible, and its sustainability and scalability challenges, we refer readers to the editorial of the first DOAJ for volcanology, Volcanica *Farquharson and Wadsworth* (2018).

In this editorial, we are excited to introduce Tektonika, a community-led initiative aiming to level-up the tectonics and structural geology research landscape. The Tektonika initiative was born from the collective passion and dedication of researchers who believe in making scientific knowledge accessible to everyone, everywhere. The initiative works towards a more open, inclusive, and equitable research landscape by challenging existing publishing norms, empowering researchers, and creating opportunities for individuals and communities who have historically been under-represented in scientific publishing.
A fundamental step towards this aim is the Tektonika Journal, set to provide free access to tectonics and structural geology publications worldwide. The Tektonika journal provides an alternative publishing platform that ultimately strives to offset the economic exploitation by large, for-profit publishing houses through rising journal subscriptions and APCs, and the inequalities this promotes.

2 Motivation and Ethos

Commendable international initiatives, such as Science Europe and Plan-S, may eventually provide financially restrained institutions and colleagues with free scholarly access through Gold Open Access supported by wealthy countries and projects. However, these initiatives do not address critical issues currently associated with academic publishing. For example, inequalities that restrict entry based on financial capacity are reinforced and an unbalanced two-tier academic environment is sustained; where research conducted in wealthy spheres can be published in "reputed" journals and thereby gain international exposure, and researchers in financially restrained spheres have limited capacity to publish in similar venues and gain less exposure. This impedes the advancement of their research and professional growth, as well as the broader advancement of science. These initiatives prolong the prevailing publishing structure, and thus do not solve current concerns over how the escalating costs of article processing charges (APCs) divert substantial research funds that could find better use in research support and researcher compensations. DOA grassroots initiatives like Tektonika aim to resolve the disparities by promoting a paradigm shift from the conventional pay-to-play models to a publishing system where scientists reclaim control and ownership of the publishing cycle, their intellectual property, and make scientific knowledge freely accessible to everyone. On this basis, we believe in Tektonika that providing free access to scientific knowledge through DOA initiatives is an essential and pressing need.

The Tektonika initiative is inspired by a global movement in academia that aspires to free all aspects and components of science and scientific research (Figure 2). Data and software repositories such as Zenodo or Pangea complement platforms that provide access to Earth Science manuscripts before (preprints) or after (postprints) peer-review at no cost, such as EarthArXiv (*Narock et al.*, 2019) and ESSOAr (https://essopenarchive.org/). Together, these repositories and archives cover the entire publishing cycle, providing Digital Object Identifiers (DOI) for all research outputs produced. DOAJs further enhance the accessibility and impact of research in the Earth Sciences by including editorial handling, peer-review processes, and formal typesetting/formatting. Among these, there are well-established international DOAJs like Palaeontologia Electronica (1998), The Sedimentary Record (2003), and Volcanica (2017: *Farquharson and Wadsworth*, 2018), as well as new journals such as Seismica (2022: *Rowe et al.*, 2022), Sedimentologika (2022), and Geomorphica (2023). When publishing in these DOAJs, authors retain the full copyright of their research and make their work available to the community and the general public for free.

Tektonika aims to shape the future of tectonics and structural geology publishing through our core values: commitment to DOA, inclusion, professionalism, and community building. The Tektonika DOAJ is run from the ground up by dozens of colleagues from around the world and publishes peer-reviewed scholarly work with an open, fair, and unbiased evaluation of research. We are committed to a DOA model and strive to eliminate barriers and biases in the dissemination of tectonics and structural geology research. By removing financial barriers, Tektonika ensures that forefront knowledge in tectonics and structural geology reaches a broader audience, including individuals and communities from underprivileged backgrounds and institutions with limited resources. We envision this inclusive approach will foster greater knowledge exchange and advancements in the field.

In addition to providing true open access to research, Tektonika is committed to creating an inclusive, equal, and diverse scientific environment. We strongly believe that scientific progress thrives in a setting where all voices are heard and valued. We actively promote diversity in our authorship, editorial board, and peer-review process, ensuring representation from diverse geographic locations, institutions, genders, and under-represented groups. For example, during the selection of members, Tektonika's gender-balanced, ethnically diverse, 5-person steering committee deliberately encompassed groups that were relatively under-represented in the initial pool of applicants, i.e. women and colleagues from the southern hemisphere, in the journal editorial teams through a second editorial call, using the original selection criteria (Section 3.4). By embracing diverse perspectives, we enrich scientific discussions and

Figure 3 – Tektonika Journal's logo evolution

foster innovative approaches to tectonics and structural geology.

As an independent and community-driven journal, Tektonika ensures high publication quality and attempt to set new standards. To ensure high publication quality, we follow a transparent and committed peer review system that is grounded on the deep involvement and work of editors, reviewers, and technical team members with authors throughout the publishing cycle. During this process, we uphold high standards of professionalism as outlined in our Code of Conduct. We promote respectful and courteous engagement and do not tolerate any form of abuse, discrimination, or intimidation from members of the scientific community or Tektonika volunteers. With this, we create a supportive environment in which researchers can freely exchange ideas, collaborate, and grow professionally. Examples of our efforts to set new standards are a detailed review form, designed to streamline the review process by guiding unambiguous, unbiased comments by reviewers, and the introduction of Shadowing Editors within the editorial team, to train, through mentorship, academically younger and less experienced researchers as journal editors.

Tektonika places great importance on community involvement. Active participation from the community is essential for the success of our journal. We thus value open and transparent decision-making processes, where the community has a voice. Some examples of these were early discussions about the visual identity of the journal, like the logo (Figure 3) and the website, and the definition of the journal scope (see Section 3.2). These topics helped set an open discussion arena through which participating members can influence decisions on aspects of the journal. Our commitment to community involvement also reflects our dedication to promoting intersectionality and equity, diversity, and inclusion (EDI) principles. We introduced how Tektonika contributes to

equitable access and academic diversity at international conferences (*Gouiza et al.*, 2021a,b), and organized and chaired a talk, by Janine Kavanagh (Tektonika Executive Editor), to raise awareness of discrimination and diversity deficit in publications, committees, and awards.

3 From Inception to Launch: Key Milestones

Eighteen months was the time needed to make Tektonika a reality, thanks to a few dedicated scientists and to the support of the wider community of tectonics and structural geology. Here, we present some of the key milestones that marked the evolution of this exciting initiative from its inception to the official journal launch.

3.1 The Twitter Spark

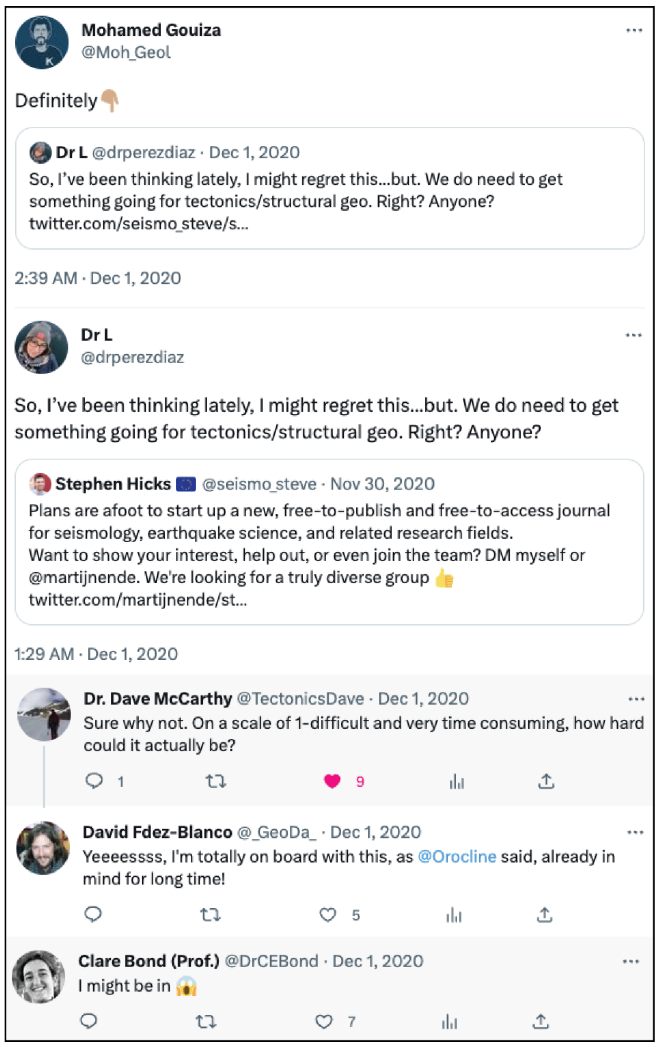

Figure 4 – Some of the reactions on Twitter, by some of the founding members which are now the journal steering committee, about the creation of a DOAJ for Tectonics and Structural Geology.

Tektonika followed in the footsteps of Volcanica (*Farquharson and Wadsworth*, 2018), a journal dedicated to Volcanic research that led many recent efforts in community-driven DOA publishing in Earth Sciences. Inspired by the Volcanica model, a group of researchers came together on Twitter (Figure 4), on the 1st of December 2020, to create a comparable community-driven DOA specifically for the tectonics and structural geology community. Members that participated in this discussion are now the journal's steering committee. The initiative quickly gained support, attracting numerous enthusiastic researchers, and a Slack channel was created on the 12th of February 2021 to facilitate effective communication. Led by the steering committee, this wider community of volunteers has been involved in many aspects that shaped the journal. These discussions included defining the journal's ethos, determining its scope and publishing practices, designing the peer review process, establishing the editorial management structure, and organizing outreach and mentoring activities related to the journal, as well as the journal's visual identity, its branding, and the creation of its webpage to handle manuscript submissions. The latter includes implementing the Open Journal System (OJS) (*Willinsky*, 2005) as our publishing management system for day-to-day manuscript handling, as well as assigning DOIs and ensuring long-term archival. For the publishing aspect of our work, we have gained support from the Aberdeen University Press. In parallel, the steering committee and members of the Tektonika community worked to establish the overall structure of the journal and identified key editorial, managerial, and technical roles to ensure efficient article handling and to uphold rigorous quality standards. Presently, the Tektonika community on Slack boasts over 170 members who discuss relevant matters or actively contribute to action on those matters.

3.2 Journal Structure, Organization, and Identity

The Tektonika community operates with a simple three-layered structure that we informally call the Core, Mantle, and Crust:

- **The Core** acts as a provisional steering committee.
- **The Mantle** is made of researchers who actively engage in discussions within our Slack workspace.
- **The Crust** is formed by researchers interested in the Tektonika initiative, who contribute occasionally by participating in open discussions, responding to questionnaires, and spreading awareness about Tektonika among peers and colleagues.

Although members of the Core assume various responsibilities, tasks were distributed among them for organizational purposes. Four themes were put in place:

1. ***Vision & Strategy***, covering the journal's identity, commitments, values, and objectives.

2. ***Infrastructure & Logistics***, covering the journal's finance, platform for submission and editorial/peer-review process, hosting, archival, indexing, and legal matters.
3. ***Teams, Tasks, & Times***, comprising decision-making strategies, coordination of tasks, and the definition and organization of DOA activities.
4. ***Communication & Connectivity***, dealing with journal communication (intra-journal, inter-journal with sibling DOA initiatives and extramural for community engagement), and the design of policy documents.

The first theme (Vision & Strategy) was a fundamental component of Tektonika from the early stages. It covered, among many things, the journal scope, which was designed to be concise (i.e. a paragraph-long) but broad enough to capture the wide range of expertise within the community. Drafted initially by the Core, it was then shared with the Mantle and went through several rounds of improvement and refinement. A long version of the journal scope was agreed upon and incorporated into the Journal website by January 2021, and states the following: "Tektonika is a community-led diamond open access (DOA) journal publishing research in structural geology and tectonics. Tektonika welcomes research covering a range of subdisciplines and themes, including (but not limited to) the following:

"Tektonika is a community-led diamond open access (DOA) journal publishing research in structural geology and tectonics. Tektonika welcomes research covering a range of subdisciplines and themes, including (but not limited to) the following:

- *Plate tectonics, large-scale tectonic structures, geodynamics*
- *Tectonic settings (extensional, convergent, and strike-slip)*
- *Deformation mechanisms, microtectonics and rheology*
- *Regional geology and paleogeography*
- *Modelling of tectonic processes*
- *Time scales, rates and age determinations of tectonic processes*
- *Fault kinematics and mechanics*
- *Active tectonics and linked surface processes*
- *Earthquake geology, seismicity, tectonic geodesy*
- *Planetary geology- Deformation unrelated to regional displacements (salt tectonics, impact geology, magma emplacement)"*

3.3 Journal Standards and Policies

Other key elements of the Journal's Vision and Strategy are the journal standards and the different guidelines for editors, authors, and reviewers. Given the central role of reviewers in the (current) publishing cycle, the Core team surveyed the Mantle, using a Google form shared in Slack, to evaluate community opinions regarding peer-review options to be implemented by the Journal. The survey was a list of 10 statements that people could agree, be neutral, or disagree with. They could also opt to add comments on each statement to justify their opinion, express a nuanced view, or suggest a related idea. The initial 10 statements were based on a compilation of extensive Slack discussions about the peer-review mode that the journal should opt for.

The survey highlighted aspects that had consensus within the community (Figure 5). For instance, the necessity to publish the review report (74% agreed, 19% were neutral, and only 7% disagreed), allowing authors to choose double-blind review mode (56% agreed, 33% were neutral, and only 11% disagreed), or the desire for a structured review form in addition to the usual free-form report submitted by reviewers (59% agreed, 26% were neutral, and only 15% disagreed). However, the survey also showed disagreement within the community on other matters (Figure 5). For example, allowing reviewer anonymity (52% agreed, 30% disagreed, and 19% were neutral) or making pre-printing manuscripts mandatory before submission to Tektonika (48% disagreed, 30% agreed, and 22% were neutral).

Drafts of the journal policies, including journal ethos, guidelines, and code of conduct for Editors, Reviewers, and Authors, were finalized by July 2021. The Core team involved the newly-appointed executive editorial team in the design and final approval of the journal policies.

3.4 Editorial Board

A call for applications for Executive Editor (EE) and Associate Editor (AE) roles were announced widely across subject mailing lists and on social media. It was clear that Editor values should align with the Diamond Open Access ethos of Tektonika, and they should be committed to ensuring best open-science practices are followed. Executive Editors were expected to be willing to act as mentors and provide guidance to Associate Editors, as needed. The key recruitment criteria were:

- PhD degree in tectonics, structural geology or adjacent fields (or relevant experience).
- Prior editorial experience (highly desirable for EEs, but not required for AEs).
- Commitment to the roles' term (3 years for EEs and 2 years for AEs).
- Willingness to act as a mentor to less experienced members of the editorial team.
- Enthusiasm towards diamond open access publishing, and commitment to the success of Tektonika and advancement of open science.

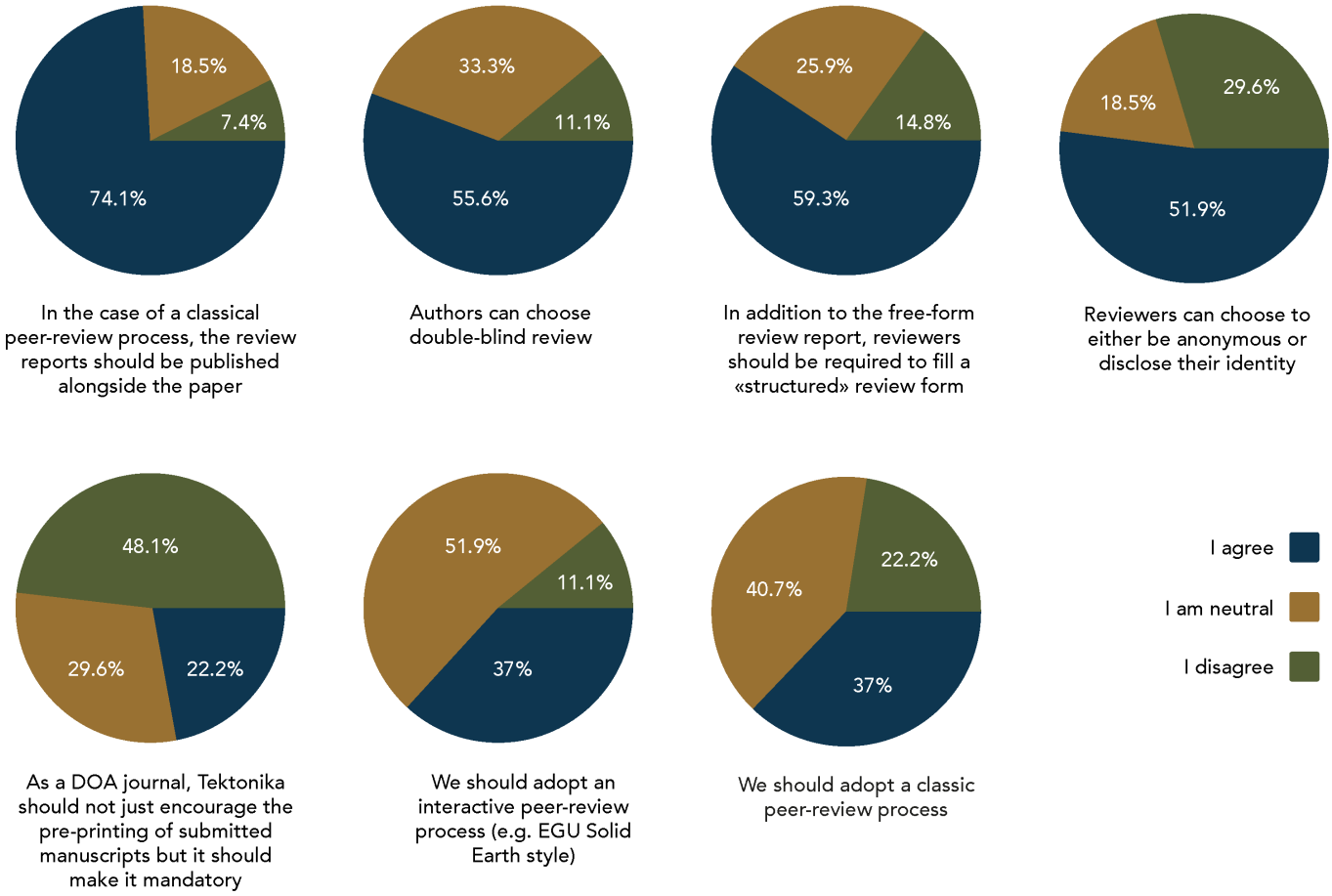

Figure 5 – Results from the Peer-Review survey

Although forty-one researchers answered the initial call for application, the Core team noticed the applicant pool lacked gender and geographic diversity. In order to ensure a greater balance, a second call for recruitment targeting scientists from underrepresented groups that met the 5-point criteria outlined above was opened, and potential candidates were approached directly and encouraged to apply.

The Core team conducted the selection process throughout November 2021 by means of informal Zoom discussions with each of the candidates. Two colleagues, Christie Rowe from Seismica, and Judith Hubbard, as independent member, acted as external observers. By December 2021, a gender-balanced team of 6 Executive Editors was chosen, and by January 2022, a team of 18 Associate Editors was selected (33% females and 67% males), through a merit-driven process in line with the initial selection criteria. The first editorial board meeting was held virtually on Zoom on 18 February 2022. It was facilitated by the Core team and attended by EEs and AEs.

The first task of the Editorial Board was to review and amend, if needed, the drafts of the various policy documents framing the different components of the journal (i.e., journal ethos, structure, code of conduct, and guidelines). These were approved and implemented by March 2022, ahead of the official launch of the journal.

3.5 Launch

Tektonika Journal opened its portal for submission on May 24, 2022, which marked the official launch of the journal. The announcement was made at the EGU General Assembly Conference by the Core team, during an oral contribution titled "Tektonika, the new Diamond Open Access journal for structural geology and tectonics" (*Fernández-Blanco et al.*, 2022). The presentation was part of a session (EOS4) aimed to promote the evolving open-science landscape in geosciences, in terms of open data, software, publications, and community initiatives.

4 From Submission to Publication

4.1 Editorial Workflow

Our peer-review survey (Figure 5) showed that the community was leaning towards a fully open and interactive editorial system (Figure 6) where manuscripts are pre-printed in a public repository at the submission stage. This allows the scientific community and the authors to interactively discuss the work while the referees selected by the editors are reviewing the manuscript. However, due to the technical challenges to implement this model in OJS, it was decided to use the standard editorial model (Figure 7). Nonetheless, the Core and Executive Editorial teams agreed to work toward implementing the

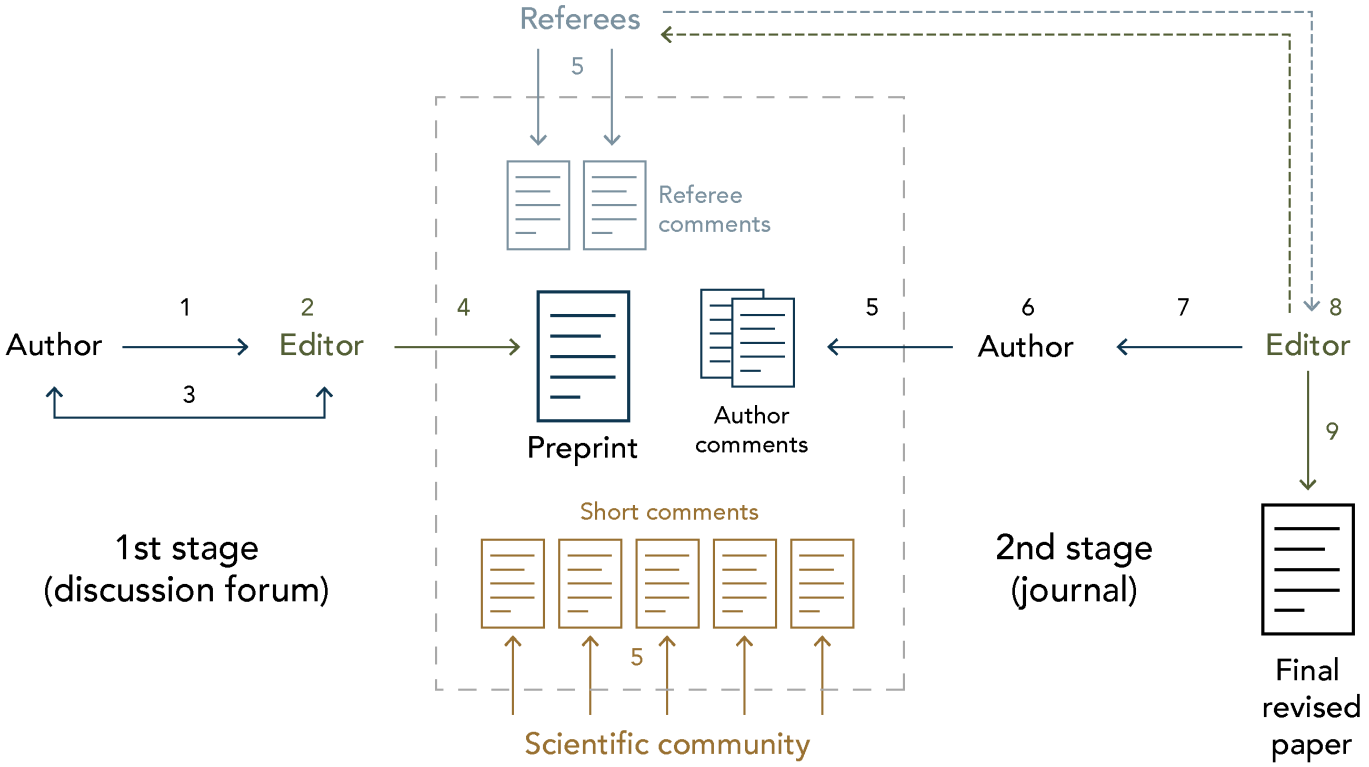

Figure 6 – Chart of the Interactive Public Peer ReviewTM. 1: Submission; 2: Access review; 3: Technical corrections; 4: Preprint posted on EGUsphere; 5: Comments; 6: Revision; 7: Revised submission; 8: Peer-review completion; 9: Final revised publication. Source: EGU Solid Earth Journal.

interactive model that allows the authors to choose the way they want their manuscript being handled.

The editorial workflow in Tektonika is summarised in Figure 7. When a manuscript is submitted, an initial quality check is carried out to ensure that submission guidelines were followed. Once the manuscript passes an evaluation for plagiarism, an available Executive Editor with closest affinity to the topic of the submitted manuscript becomes responsible for the submission and assigns it to a suitable Associate Editor. The editors agree on reviewers to be invited to review the manuscript, and the review cycle starts once the reviewers accept the invitation to review. Reviewers have four weeks to carry out a review and return their review reports, after which the editors discuss the reviewers' feedback and recommendations, and make a decision on the manuscript, which is then communicated to the author. This closes a review round.

If the decision is that the manuscript is not ready for publication, the authors are informed and provided with the reviewers' and Editors' assessments, and the editorial workflow ends. If the decision is to revise the manuscript, the authors are sent the reviewers' and Editors' assessments and asked to resubmit a revised manuscript for another review round. If the decision is to accept the manuscript, the appropriate documents are forwarded to the production stage. The latter is managed by the technical team that handles the copy-editing, typesetting, and publication of the manuscript.

Our experience with the 20 first manuscripts reviewed is that, in some cases, manuscripts underwent undue delays. This revealed the need for a more formalized timeline for the editorial workflow. Best procedures are now detailed in a guideline document for the editors. This guideline document also explains the issues likely to be faced and our target timelines for the different stages, from submission to eventual publication (Figure 7).

Our current objective is to have an AE assigned in less than 7 days, and potential reviewers solicited within 15 days from submission. The reviewers have one week to accept or decline the review invitation, and one month after acceptance to provide their evaluation. We recognize, however, that the work of editors and reviewers is entirely voluntary and should not interfere with their day-to-day work nor their personal life. This means that our deadlines are not strictly mandatory and may be reasonably extended on request. The same applies to the due date given to the authors to upload a revised manuscript after an editorial decision to revise.

In the case of commercial publishing houses, the production (i.e., copy-editing, typesetting, and publication) tasks are performed by paid professionals. For Tektonika, as for our sibling DOAJs, these tasks are carried out by volunteers from the community that are part of the journal technical team. We believe that these tasks should not interfere with their professional and personal life, despite this potentially delaying final publication by several weeks after its acceptance. In the future, this delay may be reduced

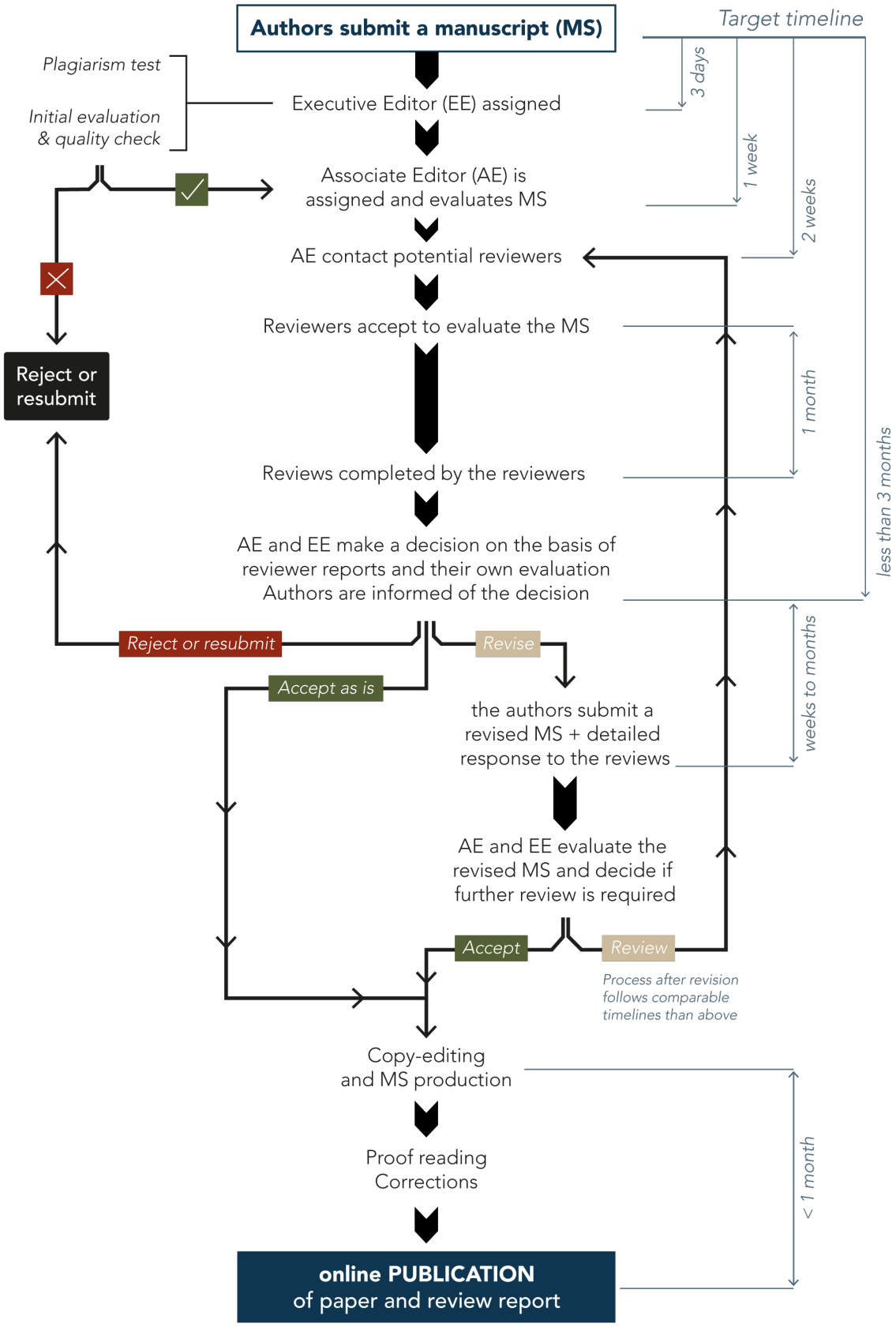

Figure 7 – Tektonika manuscript's submission to publication flowchart.

by involving a larger team in the technical staff, or by sharing the workload with other DOAJs in the interest of long-term sustainability (see below). Additionally, authors can reduce this workload and any delays by ensuring they follow the submission guidelines. For example, delays have occurred regarding figures that have not been created in a way which is inclusive of those who have colour vision deficiency, and correcting errors in the reference list provided by authors, which can be particularly time-consuming during typesetting.

4.2 Tektonika Peer-Review Mode

Although formalized and generalized only since the mid-20th century (*Baldwin*, 2017), and despite many criticisms, peer review of manuscripts has become a common practice norm at the heart of the scientific publishing system (*Tennant et al.*, 2017). Peer review was initially not used to improve the quality of papers but to select those to be printed in the limited space of paper journals, a meaningless limitation with online publications. Yet peer review has gradually become the means to vet the quality of scientific work. Despite acceptance by the scientific community and society, peer review is often criticized as being an opaque, time-consuming, inconsistent, and sometimes biased and unfair process (*Lee et al.*, 2013; *Smith*, 2006). For about two decades, several alternative ways to improve the evaluation and verification of manuscripts have thus been experimented with (*Tennant et al.*, 2017). Among these, "Open peer review" (OPR) is often presented as a more transparent, constructive, and trackable option, although OPR is a generic term and can be implemented in many various ways (*Ross-Hellauer*, 2017; *Schmidt et al.*, 2018). Below we summarize the OPR process we are presently using for Tektonika.

At Tektonika we aim to reduce biases in the review process while making all aspects of science open. We consider that the main purpose of the review process is to verify the scientific soundness of submitted manuscripts while helping improve their quality in an interactive process involving authors, reviewers, and editors. With this in mind, we use a manuscript evaluation form that aims to streamline the peer-review process, providing a framework for constructive feedback to authors. The form is meant to guide unambiguous comments by reviewers, facilitate revision and response by the authors, and allow swift and fair decisions by the editors. The review form is designed to dissociate scientific content from manuscript structure and includes a section for an overall evaluation, general comments and summary. It also includes a series of subsections (title, abstract, introduction, datasets and methods, results, discussion and conclusions, and figures, tables, and citations) for assessing the manuscript's form, evaluating its scientific merit and relevance, and facilitating authors' responses to reviewers' comments. Finally, it has sections for comments and feedback on the review process that are being implemented into a new review form to improve the review process at Tektonika.

To promote a fair, transparent, and open evaluation process for submitted manuscripts, we strongly favour a "visible" review process, whereby the authors' and reviewers' identities are disclosed. Alternatively, the authors have the option to opt for a double-blind review process, whereby the authors and reviewers are anonymous during the peer review process. In any case, a full review report, compiling the reviews, the authors' responses to reviews, as well as the editors' decision letters, is published alongside the final version of the manuscript. Examples of such reports may be found online for the published papers in this issue.

Note that we do not presently implement a fully open review process such as the one used, for example, by EGU journals, in which the reviews and authors' answers are made immediately public. In the review model used by Tektonika, the process remains confidential –shared only between the authors, reviewers, and editors– until the manuscript is accepted, and the full review report is published. We pay particular attention to possible conflicts of interest between the authors and the reviewers or editors. Our code of conduct states "A conflict of interest is defined as a situation in which the relationship between the reviewer and the author(s) could bias the evaluation of the manuscript [in a positive way, ...]". Another type of conflict of interest may arise when the reviewer and the authors are engaged in an active scientific controversy, which may induce negative evaluation biases". In general, when an undeniable conflict of interest is notified by the authors and/or identified by the editors, editors exclude the reviewer in question from reviewing the manuscript. Also, if a reviewer is wary of possible reprisals from the authors, they can request Tektonika editors to grant them anonymity.

4.3 Lessons from the First 22 Submitted Manuscripts

Tektonika opened for manuscript submission on 24 May 2022. Between then and December 2022, we received 22 manuscripts. Two of these submissions did not meet the initial quality check made by the editorial team, and the remaining 20 manuscripts have been handled by one executive editor, who has assigned it to an associate editor that led the review process. By the end of May 2023, one year after opening for submission, seven of these manuscripts had been published and one was declined for publication at this time and encouraged to resubmit. Another manuscript has been withdrawn by the authors after the first round of reviews and the remaining 11 submissions are at the revision stage. Note that, in addition to the seven published papers initially submitted in 2022, this volume 1 of Tektonika includes an eighth article that was submitted in January 2023 and published in June 2023.

Our statistics show that the associate editors solicited between two and 10 reviewers to get the minimum number of two reviewers (Figure 8). Each manuscript has been evaluated by two, and in a few cases three, reviewers. A careful reading and evaluation by the associate and executive editors complement these evaluations in all cases.

For the first 20 manuscripts that were sent to review, the time frame to secure review acceptance by at least two reviewers has been highly variable and ranges between 4 days to more than 100 days

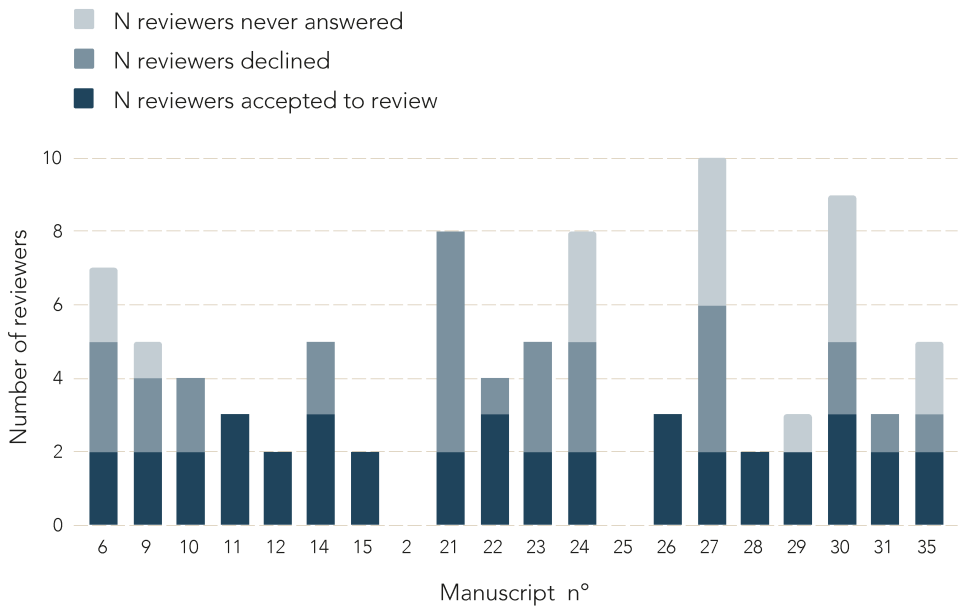

Figure 8 – Statistics on reviewers for the 20 manuscripts submitted between June and December 2022 and sent to review. Accurate data are lacking for manuscripts 2 and 25.

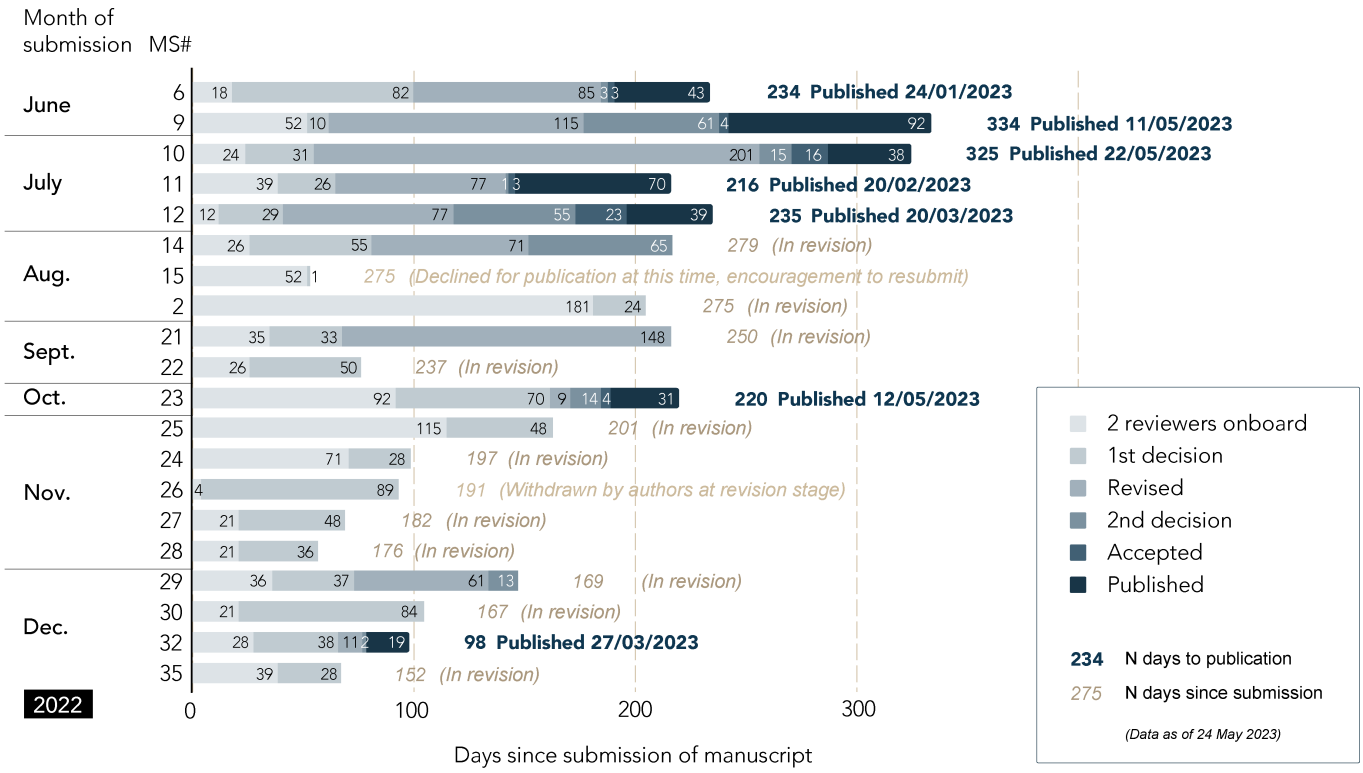

Figure 9 – Timeline for the 20 manuscripts submitted between June and December 2022 and sent to review. Days between submission and publication are indicated in bold for already published articles. For the articles in revision, days since submission, as of 24 May 2023, are indicated in italic and grey. Numbers within bars indicate days taken at each stage of the manuscripts' evaluation process.

(Figure 9). Despite these unwanted delays, we have been able to reach a first editorial decision within less than 100 days for 85% of the submitted manuscripts (Figure 9).

A confidential survey among our editors allowed us to evaluate the quality and soundness of the reviews (survey based on the review quality instrument of van Rooyen et al., 1999). All editors agreed that 100% of the received reviews "provided sufficient evidence to reach an editorial decision". The editors gave average ratings of 3.9, 4.1, 4.0 (on a scale from 1, disagreed, to 5, agreed) when asked whether the reviews "discussed the soundness of the research

question", "identified the strengths and weaknesses of the method and of the results", and "commented on the author's interpretation of the results", respectively. This underlines the good quality of the reviews, which moreover appear to have been "constructive" (average rating 4.5) and "written with courteous tone" (average rating 4.8). These results suggest that using open review with disclosed reviewers name has no negative effect on the quality and soundness of the reviews, as already suggested by several studies (*van Rooyen et al.*, 1999).

The seven papers initially submitted in 2022 and now accepted have been published between 3.3 and 11 months after submission (Figure 7). This includes the time for getting final text and figure files from the authors, for copy-editing and typesetting the manuscript to produce and publish the final PDF. These tasks are all taken care of by Tektonika volunteer technical staff and may last for a few weeks after the final acceptance of the manuscript.

5 Insights and Future Opportunities

5.1 Current Issues and Short-Term Improvements

Resource constraints. Due to the unexpectedly high number of manuscript submissions during the first year of its launch, Tektonika faces constraints in its operational capacity and short-term growth in relation to workforce and infrastructure. Thus, it was necessary to increase our volunteer personnel to maintain a healthy and sustainable workload. We recently created a Technical Team, which consists of seven members led by a member of the Core Team. The Technical Team role is to support the production of accepted manuscripts (i.e., copy-editing and typesetting) and ensure their publication in a timely manner. In addition, we will soon enlarge our editorial board. We aim to increase both the number of editors and the expertise of our current editorial teams. This process will be achieved by an open call for executive and associate editorial positions, and importantly, by including shadowing editors into the associate editorial team and welcoming new editors to mentor. Following this, we envision renewing the current steering committee and executive editorial team. To ensure continuity, this will be phased in time by renewing only 30 to 50% of each team at every renewal.

Technical and infrastructure challenges. We rely on OJS in managing manuscripts from submission to publication. It is an open-source platform that has limitations and issues. One of the main issues that we are currently facing is related to the OJS communication system, which is crucial to ensure efficient manuscript handling, including ensuring that the right parties receive correspondence at the right time. Additionally, we are facing issues related to DOI activation and Google Scholar discoverability of our published articles. We are also exploring ways of facilitating and promoting post-publication discussions on published articles. We are working on resolving these issues, which may involve migrating to another manuscript management system. Resolving these challenges will ensure the sustainability and scalability of the journal in the short term.

Further integration and interoperability with other repositories should follow in order to enable indexation in bibliographic databases, such as SCI (Science Citation Index) of the Web of Science and Scopus, which should increase the discoverability of Tektonika articles and their citations. Tektonika aims to continuously improve and adapt its systems with the goal of enhancing the experience of both authors and readers within its open access vision.

Outreach, training, and diversification. We believe in capacity-building initiatives aiming to empower tectonic and structural geology researchers, particularly those from underrepresented groups and those in institutions from the global south, in embracing the DOA publishing model of Tektonika. Training workshops, mentoring and skill development programs are our short-term objectives to foster inclusivity and participation. Awareness and outreach efforts are needed to attract more authors and readers to the journal, as well as reviewers and other volunteers. We strive to achieve a larger impact through targeted marketing, collaborations, and leveraging social media and academic networks. Furthermore, Tektonika would like to diversify its publication portfolio. Field guides, for instance, are an essential resource in the field of tectonics and structural geology. By putting in place clear guidelines and templates for the publication of field-trip guides, we hope to encourage their publication as a resource for the benefit of our community. Dissemination and promotion of published work is also an aspect that Tektonika would like to improve in the short term. Graphical abstracts, posters, and short videos highlighting research methods and findings are an efficient way to advertise articles published in the journal. Another valuable initiative, to facilitate knowledge dissemination amongst the broader community, is the organization of an online seminar series. We are planning for a seminar series, after the release of each issue, providing authors with a platform to present and discuss their published articles.

5.2 Long-Term Aspirations

The geoscience diversity crisis. The geosciences are at the forefront of the Global North academia diversity crisis as the least diverse discipline at all academic levels (*Bernard and Cooperdock*, 2018). The discipline is disproportionally white due to an institutional culture that has not yet escaped its history of colonialism (*Dowey et al.*, 2021). Gender inequities are reported where data is available (*Handley et al.*, 2020; *Hori*, 2020; *Kamm et al.*, 2020; *Kavanagh et al.*, 2022), and the ethnic and racial imbalance is alarming, and shows no sign of improvement over time

(*Bernard and Cooperdock*, 2018; *Dowey et al.*, 2021). The minimal diversity gain over time exposes that current solutions to remove barriers and biases are unsuccessful.

At Tektonika, we are firmly convinced that diversity strengthens science. Solutions originated by blending diverse cross-cultural backgrounds, experiences and outlooks are innovative in ways that could not be matched by the specific talents and world view of a single culture. A true open access to scholarly work is a relevant step towards solving the geoscience diversity crisis. In the Earth Sciences, Tektonika and other grass-root international initiatives offer free access to scientific literature and its publication for geographically underrepresented groups and those at institutions without journal subscriptions. Increasing diversity in our field will improve our understanding of the Earth and its subsystems, and thus, our society at large. This outlook supports our commitment to solving access to scholarly publications.

Sustainability in time. An action plan for Diamond Open Access has been developed jointly by Science Europe, cOAlition S (OPERAS) and the French National Research Agency (ANR) to secure the DOA sustainable, community-driven scholarly communication (*Ancion et al.*, 2022). The plan outlines priority actions to develop a sustainable and community-driven DOA ecosystem that brings together journals and platforms on the basis of shared principles and quality standards. Fostering collaboration among DOA actions, the plan aims at addressing the main challenges faced by DOAJs, which are recognized as technical capacity, management, visibility, and sustainability.

Within this context, Tektonika, in collaboration with other DOAJ, is aiming to set up an overarching committee across Earth Science DOA initiatives to solve the challenge of scalability (and free labour) that these journals face or will soon face as the number of scientific submissions increases. Funding is essential to create a fair and inclusive platform for access to Earth Science research without barriers that is sustainable in time. We propose that this committee should explore and gain funding opportunities by lobbying on the importance of diamond open-access publishing. We envisage this to be best done through actions that demonstrate the value and impact of our journals to attract support from stakeholders (e.g., public research funding agencies) who are committed to promoting open access and improving the publishing system. The main target is to repurpose (a small part of) the savings from funds allocated to commercial publishing houses to support the sustainability and scalability of DOAJ.

Funding should support education about DOA and sustainability for DOAJ, with the ultimate goal of establishing a healthy, fair and inclusive system that is owned by the community. On the educational side, funding should be used to offer courses, tools, and other resources, particularly targeting individuals from underrepresented groups and those based in institutions in the Global South. It should also be used to implement communication and dissemination initiatives and establish a mentoring program to promote inclusivity and participation in DOAJs. Regarding sustainability, our focus should be on developing web and physical infrastructure and hiring personnel to ensure the system's long-term viability. This ought to include compensating editors, reviewers, copy editors, and typesetters for their work. We are eager to collaborate with other Earth Science DOAJ to create a roadmap that addresses the future sustainability, scalability, and financial health of the DOA ecosystem.

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