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Editorial

Where we are at: Impact, special collections, open science and registered report at the *Journal of Phonetics*

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Over the past several decades, the *Journal of Phonetics* has continued to play a leading role as a scholarly venue for publishing original research in the areas of phonetics and related fields. This year, we have enjoyed seeing it ranked 9 out of 205 journals in the area of *Language & Linguistics* with an Impact Factor of 2.67. I, as Editor-in-Chief, would like to express my gratitude to authors for their contributions and to reviewers and editorial board members for their continuous support and for sparing their time and expertise needed to properly evaluate the manuscripts that have all appeared in excellent shape despite adversity amid a global pandemic. The size and diversity of these scholars is a true hallmark of the vitality of the phonetics community. I would like to use this space to formally thank them all on behalf of the entire editorial team.

I would also like to take this opportunity to thank Melissa Baese-Berk for her service as Associate Editor over the past 3 years. Melissa has handled various manuscripts on language variation, bilingualism and L2 phonetics. Her term ends at the end of the year, but she will continue to handle previously assigned manuscripts. While I wish the outgoing Associate Editor all the best back in her regular scholarly life, I am very pleased to announce that Miquel Simonet has thankfully agreed to join us as new Associate Editor starting in 2022. I also thank the remaining Associate Editors, Mariapaola D'Imperio, Jeff Mielke, Marianne Pouplier and Natasha Warner for their hard work. The Associate Editors for the journal carry a much larger load than is customary for such positions, handling a large number of manuscripts and making an independent editorial decision. With such a great editorial team, I am confident that the *Journal of Phonetics* will continue its leadership in the phonetics community by maintaining high standards of scientific quality in years to come.

1. The journal's back issues freely available from the first volume dated back in 1973

One of the recent greatest achievements of the journal is that all the articles of Vols. 1–22 dated as early as 1973 were now scanned/digitized and have been freely available since 2019. I would like to take this opportunity to officially thank Mary Beckman (former Editor-in-Chief) for her initiative and for having put sedulous effort and time into this project. I also thank Jonathan Harrington and Keith Johnson for lending Elsevier some hardcopies. My special thanks goes to Rachel Conway, the linguistics publisher at Elsevier, who understood the value of making the back issues “freely” available for the phonetics community, and actually convinced Elsevier to make the contents open access permanently. Those valuable (almost forgotten) contributions of the back issues will certainly revive and help promote phonetics research, and make a great asset to all of us and to the next generations. This project has been proven extremely successful as a number of articles published in the back issues have been massively downloaded. In particular, the seminal works entitled “Vowels of the world's languages” (Ladefoged & Maddieson, 1990) and “Vowel-length difference before voiced and voiceless consonants: an auditory explanation” (Kluender, Diehl & Wright, 1988) are listed among the most downloaded articles, which would have been otherwise impossible.

2. Special issues (article collections)

Over the past three years, we have enjoyed seeing a number of impressive and influential special issues on various themes and issues in the field of phonetics and related fields as outlined below.

- **Emerging Data Analysis in Phonetic Sciences**, edited by Timo B. Roettger, Bodo Winter, Harald Baayen (see [Roettger, Winter & Baayen, 2019](https://www.sciencedirect.com/journal/journal-of-phonetics/special-issue/10357FT5MD0)). <https://www.sciencedirect.com/journal/journal-of-phonetics/special-issue/10357FT5MD0>. This special issue includes

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a series of research and technical articles that introduce new and innovative methods for “Emergent Data Analysis in Phonetic Sciences.” As the Guest Editors indicate, a collection of multidisciplinary articles has initiatively inspired the entire field of phonetics and speech sciences. They emphasize the plurality of different analysis approaches from which our phonetics community should benefit and the importance of both confirmatory and explanatory analyses in carrying out experimental phonetic research. They also share their views on the core of values of transparent, open and reproducible research practices and propose that these research practices be adopted in phonetic research for the scientific openness and the betterment of the phonetics community (see below).

- **Marking 50 Years of Research on Voice Onset Time**, edited by Taehong Cho, Gerry Docherty, Douglas H. Whalen (see [Cho, Whalen & Docherty, 2019](#)). <https://www.sciencedirect.com/journal/journal-of-phonetics/special-issue/10QK8FNVMT7>. This special issue marks 50 years of research on VOT and the voicing contrast in the worlds’ languages. Contributing papers report original research on voicing contrast in 19 languages with the data obtained from over 270 speakers. The languages studied include ‘aspirating’ languages (English, three varieties of German); ‘true voicing’ languages (Russian, Turkish, Brazilian Portuguese, two Iranian languages Pashto and Wakhi); languages with a three-way contrast (Thai, Vietnamese, Khmer, Yerevan Armenia, three Indo-Aryan languages, Dawoodi, Punjabi and Shina, and Burushaki); and Indo-Aryan languages with a more than three-way contrast (Jangli and Urdu, Sindhi and Siraiki). While the Guest Editors acknowledge VOT as a useful first estimate of laryngeal contrast in voicing across languages, they also reiterate the importance of multi-dimensional approaches in understanding “universals and variation” in the nature of voicing contrast.
- **Plasticity of Native Phonetic and Phonological Domains in the Context of Bilingualism**, edited by Esther de Leeuw and Chiara Celata (see [de Leeuw & Celata, 2019](#)). <https://www.sciencedirect.com/journal/journal-of-phonetics/special-issue/10X5ZMPFB4J>. This special issue includes research articles that focus on the impact of the bilingual contexts on the speakers’ native speech, rather than the traditionally studied impact of the native language on the non-native speech. Given the ever-growing evidence for malleability of phonetic and phonological domains in adult native speech, the Guest Editors suggest that the immutability of the native language is likely rejected and that phonetic research should take into account the influence of bilingual contexts as many participants in phonetic studies may be bilinguals to a degree.
- **Integrating Phonetics and Phonology in the Study of Linguistic Prominence**, edited by Stefan Baumann and Francesco Cangemi (see [Cangemi & Baumann, 2020](#)). <https://www.sciencedirect.com/journal/journal-of-phonetics/special-issue/109HPRXKZB3>. This special issue includes experimental studies on prominence relations at different levels, ranging from the domain of syllable through the domain of word to the domain of the utterance. Based on the converging evidence from a wide range of contributing articles, the Guest Editors suggest a bare-boned notion of prominence, so that “a unit is prominent when it stands out from its environment.” Prominence defined as such highlights, as the quest editors discuss, its relational property which can be applied at different levels of linguistic analyses.
- **Vocal Accommodation in Speech Communication**, edited by Jennifer Pardo, Elisa Pellegrino, Volker Dellwo, and Bernd Möbius. <https://www.sciencedirect.com/journal/journal-of-phonetics/special-issue/10QQ0PG7696>. This special issue tackles a timely appropriate topic on speech accommodation in line with themes related to long versus short term phonetic convergence and phonetic imitation on which the *Journal of Phonetics* has been a venue for a lively debate. This collection newly brings together contributions from scholars who are informed in multidisciplinary ways, embracing a

wide spectrum of fields in phonetics, speech science, sociology, psychology and computer science. The collection of articles has just been completed, awaiting the editors’ commentary, which all together substantiates our knowledge on vocal accommodation in terms of both theoretical and methodological perspectives.

- **Theoretical Achievements of Phonetics in the 21st Century (in progress)**, edited by Taehong Cho and Natasha Warner. We are currently commissioning a rather ambitious special collection under the rubric of *Theoretical Advancements of Phonetics in the 21st Century*. This explores what the field of phonetics and the related areas have accomplished primarily from the theoretical perspective over the past 20 some years since the inception of the 21st century. This collection is rather unusual for the journal as it will be a special collection of mostly critical review articles on current theoretical and empirical issues tentatively in *Sound Change* (Pam Beddor), *Language Universals and Phonetic Grammar* (Taehong Cho), *Phonetics of Voice Quality* (Marc Garellek), *Articulatory Phonology* (Marianne Pouplier and Khalil Iskarous), *Intonational Phonology* (Mariapaola D’Imperio), *Phonetics of Infants and Toddlers* (Elizabeth Johnson and Katherine White), *Phonetic Cues and Representations in Speech Production and Perception* (Stefanie Shattuck-Hufnagel and others); *Usage-based Approaches and Lexicon in Connected Speech* (Matthew Goldrick and Jennifer Cole); Spoken Word Recognition in Phonetic Research (Natasha Warner), *Socio-phonetics* (Tyler Kendall, Jane Stuart-Smith, Nicolai Phrao, and Charlotte Vaughn), and *L2 phonetics* (Michael tyler and Catherine Best). We expect a contributing article to be comprehensive and self-explanatory, pitched to the general readership of *Journal of Phonetics*.

Call for Proposals of Special Issues: We welcome proposals of Special Issues on any themes that deal with phonetic aspects of language and linguistic communication processes and are of interest to the general readership within the field of phonetics (and related areas). Special Issue articles should fulfil all the requirements of any individual *Journal of Phonetics* articles. Authors and Guest Editors should note that the same criteria of quality, originality, and significance that should *inform linguistic principles* of some sort apply to articles in Special Issues as to articles published in regular issues. Articles to be published in a Special Issue should be, in principle, of an experimental nature based on original experimental data, and should not consist of mere overviews of the authors’ previously published work (e.g., peer-reviewed articles, book chapters, official reports etc.), except for the introductory article. The author guidelines for preparing and handling of Special Issues are found at: <https://www.elsevier.com/journals/journal-of-phonetics/0095-4470/guide-for-authors>

3. New editorial policies toward open science: sharing data with the phonetics community

Recent years have witnessed a meaningful move in many academic disciplines in a direction toward *openness* and *transparency* of scientific practices. I appreciate the profound and timely suggestion on this issue made by [Roettger, Winder and Baayen \(2019\)](#) who commissioned the special issue on *Emerging Data Analysis in Phonetic Sciences*. I am also grateful to and impressed by Garellek, Gordon, Kirby, Lee, Michaud, Mooshammer, Niebuhr, Recasens, Roettger, Simpson, and Yu (2020) for their proposal *Toward open data policies in phonetics: What we can gain and how we can avoid pitfalls*, which is

pitched specifically to phoneticians. It goes without saying that, as [Garellek et al \(2020\)](#) put it:

“Open Science is just science done right. . . Clearly a collective turn towards Open Science in phonetics would have massive benefits for science.”

As Editor-in-Chief of the *Journal of Phonetics*, I fully resonate with this compelling vibe, which is in principle of vital importance for the betterment of science within the field of phonetics and across related fields. No one would probably refute that we all envision a future phonetics community with its scholarly mission to promote openness, integrity and reproducibility of research. (I would like to direct readers, prospective authors and reviewers to [Garellek et al \(2020\)](#) and references therein for insightful and comprehensive discussion on benefits that the field would receive from doing science openly and transparently.)

I believe that readers, authors and reviewers of the journal would readily recognize the leadership of the *Journal of Phonetics* for publishing robust experimental findings in the field of phonetics and speech sciences. I also believe that we all feel that it is therefore more than high time for the journal to move toward Open Science in spirit of Roetter et al's early initiative proposal and Garellek et al's call for “a collective turn towards Open Science.” I am indeed very pleased to announce new policies and processes to openness and transparency of research in the journal.

These new policies are particularly focused on ensuring reproducibility of research outcome by requesting prospective authors to share their primary research data and materials with the research community of phonetics and speech sciences. It is perhaps worth noting here that reproducibility should be distinguished from replicability. Ensuring reproducibility, on the one hand, refers to making the primary phonetic data and other methodological details (e.g., R codes used for statistical modellings) fully available to the research community, in such a way that the same results are to be obtained when the data analyses are carried out by independent researchers. As discussed in [Garellek et al. \(2020\)](#), this practice will enhance transparency of research, strengthen the potential impact of the research, and allow independent researchers to re-use the data and carry out further analyses of the same data, which sparks new questions to be resolved and embark on further studies. (A number of recent articles in linguistics and other fields have also laid out the benefits that accrue when the research data and materials are made available to the scientific community ([Lindsay 2017](#); [Berez-Kroeker et al., 2018](#); [Martone et al., 2018](#); [Mellor et al., 2018](#); [Marsden, 2019](#); [Coretta, 2020](#); [Strickland and De Cruz, 2021](#) among many others)). Replicability, on the other hand, refers to the ability of independent researchers to obtain the same results when new data are collected with the same experimental protocols as in the original study. The crucial component of replicability is to make all the methodological detail openly available to other researchers, so that the original study can be replicated exactly in the same way. Given that ensuring reproducibility of research is accompanied by the methodological detail, replicability of the research will likely come as a consequence of ensuring reproducibility.

As a matter of editorial practicability for the journal, reviewers have increasingly voiced their concerns about the lack of clarity with respect to statistical analysis carried out by authors of manuscripts under review. This has been especially true for statistical analysis with linear mixed effects modelling (e.g., [Kirby & Sonderegger, 2018](#)) and other sophisticated statistical analysis techniques such as Bayesian analysis (e.g., [Vasishth, et al., 2018](#)) and generalized additive mixed modeling (GAMM, e.g., [Wieling, 2018](#)), which are all often carried out by using R ([R Core Team, 2019](#)). (I should make it clear here that this is not to officially endorse linear mixed effects modelling and other listed statistical analyses as standard analysis techniques that should be used for phonetic research. *Journal of Phonetics* will continue to consider manuscripts that report results of statistical analyses based on more traditional methods such as Repeated Measures ANOVAS.) Reviewers also often question the quality of speech data analyzed, especially with respect to how the entire speech materials may sound when only some sample speech materials are included in the submission. Making the primary phonetic data available will help reviewers to evaluate the nature of the phonetic data in a fair way, which will in turn help avoid any misleading conceptualization and interpretation of the results. It is often the case that authors may have only limited knowledge on certain aspects of the speech materials (e.g., prosodic structural aspects) while reviewers may have expertise on them. The authors will clearly benefit from these practices, which will eventually strengthen their studies to be better received in the field with greater impact.

Beginning on January 1, 2022, editors will be asking authors to make various aspects of the research process available to the research community. As a first step, at the point of submission authors will be expected to make their de-identified raw and processed data used for statistical analysis openly available along with scripts/codes used for statistical analysis and producing figures (or another other computational models whenever relevant) should their manuscript be accepted for publications. Such data should include trial-level data or each measured value of phonetic parameters in each condition for each participant.

As for sharing the primary phonetic data (other than sharing data used for statistical analysis), it won't be made obligatory during the first year (in 2022), but authors will be strongly encouraged to make their primary phonetic data (again de-identified) openly available, provided that sharing such data are not deemed unethical and the speakers have consented on sharing their de-identified data with the research community. The primary phonetic data refers to the entire data set collected in phonetic experiments. This includes not only recorded speech (acoustic, aerodynamic and articulatory) files used in a production study and audio-visual stimuli used in a perception study, but also the whole range of data obtained during the data processing and analysis. I envision that sharing the primary phonetic data will be required on the following year, beginning January 1 of 2023.

Nevertheless, I also expect a case where authors have compelling reasons why it would be unethical or impractical for the research data to be shared with the research community. Authors will have the opportunity to explain why their data is unavailable to access or unsuitable to share during the sub-

mission process. Editors of the journal will review the statement and may waive the data sharing requirement. But in many cases, as Garellek et al. (2020) also noted, the type of data obtained for phonetic studies does not usually contain sensitive personal or restrictive data that may cause obvious ethical issues, although even such data do require the participants' agreement to share their data with the research community.

There are several options available to authors for sharing their data with the community. Elsevier provides *Mendeley Data* which enables authors to deposit any research data (including raw and processed data, video, code, software, algorithms, protocols, and methods) associated with a manuscript in a free-to-use, open access repository. During the submission process, authors will have the opportunity to upload relevant datasets directly to *Mendeley Data*. The datasets will be listed and directly accessible to readers next to a published article online. (See Cole et al. 2019a, 2019b, for using *Mendeley Data* to share their dataset.) Another option is to make authors' research data available in a data repository and to link the article directly to the dataset. The shared data must be hosted in a reliable institutional archive that provides long-term data depository. *Open Science Framework* (<https://osf.io>) and *Zenodo* (<https://zenodo.org/>) are examples of such archives. In any case, at the point of acceptance, authors must offer assurance that the sites for data depository will remain active and accessible for a long term. Yet another option is that authors may submit the information as *Supplementary Material* associated with the submission to be hosted on the journal website.

Obviously we are at an embryonic stage to implement open scientific practices, so I expect that various issues and concerns will arise as we move on. We will refine editorial policies over the next few years by taking into account suggestions from reviewers and authors and from the general readership of the journal. Moreover, standards for data sharing in the research community are expected to evolve rapidly as we gain more experience with practices of open science. Editors of the journal will accommodate any need in the future to modify related editorial policies as we see fit.

As mentioned above, we as members of the research community as a whole have already witnessed this rising tide of open science that prevails across many fields. This will reverberate in our culture of publishing a research article. The impetus of this drive is that we should prioritize getting it right over getting it published, and should give credit to ourselves for scholarly contributions beyond the research article such as generating and sharing useful data or codes that can be reused by other members in our community.

4. Another move toward open science: registered reports

I am very pleased to announce that in line with the spirit of Open Science discussed above, *Journal of Phonetics* will launch a new submission type as of January 1 2022: *Registered Report*. As illustrated in Fig. 1 below, this format will be a two-stage peer-reviewed article that reports results of the completed research whose plan with detailed experimental protocols has been previously approved at the first stage of review. At Stage 1, authors are generally expected to revise their research plan as suggested by reviewers. Following satisfactory revision, the resulting highest quality of research protocols leads to "In-Principle Acceptance" (IPA). The journal will be committed to publishing the final report on the condition that the planned research has been undertaken to a high standard in adherence to the original protocols and that the conclusions are substantiated by the obtained research outcome.

As such, this publishing format emphasizes the importance of research questions and issues to be addressed, hypotheses to be tested, and the methodological protocols to be used, which are validated by conducting Stage 1 peer review prior to data collection. Scientific merits of this publishing format are well described on the webpage of COS (Center for Open Science) at <https://www.cos.io/initiatives/registered-reports>. Given that the detailed research protocols must be provided to reviewers to be endorsed through initial peer review, this publishing format will allow independent researchers to reproduce or replicate the study without getting frustrated by the lack of the detail and clarity of experimental protocols which researchers often encounter with many existing published arti-



Fig. 1. Workflow of two-stage peer review process for Registered Report.

cles. Equally importantly, this format is taken to minimize the publication bias against negative or null results by focusing only on the scientific value of the planned research at the time of review. Moreover, because the research protocols are expected to remain unchanged while the research is undertaken, and because they are likely to be re-reviewed by the same reviewers, the format is immune to selective reporting of some sort by authors to increase the likelihood of publishing the research outcome.

This format is basically suitable for a hypothesis-driven research that adheres to the hypothetico-deductive model of the scientific method, so that scientific research inquiry proceeds by formulating a hypothesis that can be either corroborated or falsified by the research outcome that is not yet known. Prospective authors who consider submitting this format must be advised that it is not suitable for pure exploratory research. The authors will be prompted with two options: “Registered Reports Stage 1 – Proposal” and “Registered Reports Stage 2 – Full Paper.” Detailed author guidelines for submitting manuscripts to be considered as Registered Reports will be available later this year before the EM (Editorial Management) system is open for receiving this format. For now, it may suffice to indicate a cursory glance at what would be expected from the first submission at Stage 1 as below:

- In the proposal, authors must provide a full-fledged plan of a hypothesis-driven research including conceptualization of the study, theoretical motivations, research questions, hypotheses, and broader implications of the research outcome along with elaborated research protocols. The proposal must be explicated in a nuanced way to the level of detail that allows other researchers to carry out the same research without any lack of clarity.
- The submission must be accompanied by a cover letter signed by all authors, indicating that (1) authors formally agree in advance that they will undertake the planned research upon “in-principle acceptance” in strict adherence to the research protocols approved during the review process at Stage 1; (2) authors agree to share their primary research data and other materials such as digital study materials and analysis code as appropriate; (3) authors agree that other researchers may re-use the available data to reproduce or replicate their study or to carry out additional analyses; and (4) authors agree to submit a final registered report in due course. The cover letter must also include an anticipated timeline for undertaking the proposed research plan.
- Upon in-principle acceptable, authors must register their research protocols and the entire dataset in a data repository which can be made accessible immediately or under private embargo until a full report is submitted at Stage 2. Authors are encouraged to use a recognized institutional repository such as *Open Science Framework* (<https://osf.io>) and *Zenodo* (<https://zenodo.org/>).

5. Closing remarks

Adoption of open scientific practices for *Journal of Phonetics* indicates that we reinforce our confidence in the highest quality of the work that the journal publishes in the field of phonetics and speech sciences, and that we endeavor to crystal-

ize core values of sharing data with the community. It is my hope that all the members in the *Journal of Phonetics* community will join me and editors on this journey to form a catalyst together for change in our publication culture and to foster our intellectual scholarly exchanges through transparency openness, rigor and reproducibility of what we phoneticians do. This will buttress the *Journal of Phonetics* to continue its leadership of advancing the high quality research on phonetic aspects of language and linguistic principles that underlie human speech communication processes.

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