Writings on the Phonetic Sciences – A Festschrift in honour of Paul Boersma

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On 13 November 2026, professor Paul Boersma formally retires his chair in Phonetic Sciences at the University of Amsterdam, an event that is traditionally celebrated with an "Afscheidsrede". We are two of the PhD candidates he advised and could think of no better way to celebrate his work to date and our experience of having worked with him, than collating a Festschrift with articles that illustrate the breadth and depth of his impact on the Phonetic Sciences so far. We have asked contributions from several of his colleagues, be they recent MA graduates or long-term sparring partners, and are proud to present this collection of 13 writings.

By means of an introduction to the collection, we would like to take the reader along some of Paul's own writings that preceded the date at which this Festschrift will formally see the light: Paul's dissertation, Paul's professorial Oratie, and Paul's website. Each of these writings reveal something about how Paul sees and practices science, the Phonetic Sciences in particular, and scientific collaboration. We will then close off with an overview of the Festschrift contributions and how they individually and collectively highlight the fruits of Paul's career so far.

1 Paul's dissertation

On 14 September 1998, at 13.00h, Paul defended his doctoral dissertation "Functional Phonology" in the Aula of the University of Amsterdam. Those who possess a physical copy, gifted to them by Paul, know that it contains some mistakes, which the author takes care to correct before handing over said copy. Despite these errors, it was awarded "cum laude", reflecting that the committee considered it to be a top-5% work. And while this 504-page book and award set an intimidating example to anyone starting a PhD trajectory, the Acknowledgments are brief and contain an important reminder for all. After thanking colleagues, and before more personal thanks, Paul writes: "Most of the

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time, however, I was engaged in imaginary discussions with the authors of various books and articles. I thank them for their writings; their names are in the Reference section of this book."

We think this is a good introduction of Paul's way of doing science. A reminder that science is done collectively, even if that often means working alone in the physical sense. It also shows something about how Paul approaches scientific ideas: as things to be discussed, questioned, and worked through. Anyone who has had the opportunity to work with Paul, at any stage of their own scientific journey, knows that the imaginary discussions described in the dissertation have many real-life counterparts. And even when the discussion is with someone who has not even started a PhD, Paul takes it just as seriously.

2 Paul's Oratie

On 18 January 2007, Paul formally took over the chair in "Phonetic Sciences". That plural is important to him, as he explained in his Oratie on said date (*Oratie* in Dutch is the inaugural speech when a full professor takes over their chair; Boersma 2007a). For one, it signals continuity with Louise Kaiser, the predecesstress of the predecessor of his predecessor[1], who organized the International Congress of Phonetic Sciences in Amsterdam in 1932. Paul frequently highlights that Kaiser was already teaching from the Physiological Laboratory in 1922, by far the first laboratory of the Faculty of Arts (the predecessor of the current Faculty of Humanities), which has evolved into the present-day Speech Lab in the Bushuis. More importantly, it signals the continuity with the 1932 congress organizers that Phoneticians and Phonologists – those who study speech sounds and those who study speech-sound systems – should conference together, as those sound-related aspects of language should be studied in conjunction, in order to account for them comprehensively.

Paul has of course taken up that baton himself and formalized the interaction of phonetic and phonological constraints in what is known in the inner circle as the BiPhon model. Paul introduced this model to the world in his 2007 paper (Boersma 2007b) with the tentative-sounding title "Some listener-oriented accounts of h-aspiré in French" and an abstract that suggests it's all quite straightforward: "a new, very simple, grammar model for *bidirectional phonology and phonetics*, which uses a single constraint set for the four processes of perception, recognition, phonological production, and phonetic implementation, and in which phonological and phonetic production are evaluated in parallel."

[1] In the Dutch original: "voorgangster van de voorganger van mijn voorganger" (page 5).

There are definitely ways in which the model is simple: It took us only a single MA-level course to become familiar with the model[2], and ever since, it has to us seemed simply the clearest possible way to think about any questions in the Phonetic Sciences. The simplicity does have its limits, though, and should not be confused with a lack of complexity. The model may be straightforward to understand in principle, but actually working out what happens in the interaction between constraints evaluating all (at least four and often a bit more) levels of representation and connections between them, that is another matter entirely. But anyone who wants to think with these four levels simultaneously doesn't need to do it alone: the BiPhon model is a framework that enables[3] anyone to approach the Phonetic Sciences in the way that Paul envisions it.

3 Paul's website

Throughout his career, Paul has meticulously maintained his website (Boersma n.d.). Those who have visited it, might have seen that it is unlike those of other professors. Alongside the distinctive colour scheme, a more subtle discrepancy is that Paul's website doesn't contain an explicit list of his former and current PhD candidates. Someone who really wants to know, like the authors of this introduction, can reconstruct that 19 of the PhD theses listed on the Archive page

[2] Note that this course was taught by Paul himself, who is an outstanding teacher and designer of courses that scaffold students from absolute beginner levels to rather advanced command of the materials. It is therefore no wonder that he was recognized as the "Docent van het Jaar" ('teacher of the year') of the Faculty of Humanities in 2018, and that multiple contributions in the present volume with more personal notes reflect on that aspect of his career (although Paul himself believed he could mean more to the world with good research; van der Hee 2018). This aside is added here, as his scaffolding might make teaching (and learning) the BiPhon model, and possibly the model itself, seem deceptively simple.

[3] Speaking of "enable", many readers of this Festschrift might wonder when we will mention Praat (Boersma et al. 2026), the open-access program for "doing phonetics by computer", which grew out of (in sequence) (a) Paul implementing matrix operations in Pascal on a VAX computer; (b) Paul and David Weenink's interest in object-oriented programming and Paul building his own object-oriented version of C because the C++ compiler available at the time was not of good enough quality; (c) experiments with graphic programming in the widget library 'Motif' that were almost encouraged by the Silicon Graphics minicomputers; (d) David Weenink joining the efforts because Paul's basis pleased him; and (e) others starting to request access to this program from the mid-90s onwards (David Weenink p.c.). Praat has undeniably transformed phonetic research, enabling anyone with an interest in acoustic and other phonetic analysis to do so, and many people might know Paul primarily or only for this 30+ year monumental service to the community of Phonetic Sciences. Yet, Paul considers himself primarily a modeller (Boersma 2007a). It is for that reason that BiPhon is highlighted more than Praat in this Introduction.

of the (former) Phonetic Science's institute website[4] were conducted with Paul as an advisor. This information is shown among all the BA and MA theses co-advised by Paul and other Phonetic Scientists, and among some links to ICPhS proceedings by all the PhD researchers from the institute. We furthermore count that 9 of these 19 people are also listed on the "people" section of said website, meaning that the 10 other people completed their dissertation not primarily as a phonetic scientist. We believe this reveals a couple of things about Paul's relationship with people in science, importantly those, but not only those, pursuing a PhD. As that is what we ourselves have experienced, the remainder of this section will provide a few reflections on that issue.

Firstly, Paul does not adhere to hierarchical relationships. Working with Paul has never been organized around an academic hierarchy, with the professor at the top and everyone else arranged beneath him. Him being listed as an "advisor" to student theses rather than the (we believe more commonly used term) "supervisor" shows exactly what Paul does: provide advice, as kind people do to anyone asking. It also shows what he doesn't do: supervise, as one might do with an "inferior" or "subordinate". A further look at Paul's website provides further evidence of this. 'His' PhD candidates are named among the other colleagues he worked with on various subjects. And indeed, even at our very first conferences, Paul would introduce us as his "colleagues" – substantially confusing the people who probably correctly guessed our non-tenured status.

This non-hierarchical approach was not only a matter of how he introduced us to others while we were working on our PhDs. It was also how we worked together. When there was a question to be solved (like modelling the emergence of phonological features, for instance, which culminated in Boersma et al. 2022), Paul would suggest that we each do the homework: same assignment, trying to solve a problem independently, and then meet again to compare what we had found. He would do his homework just as much as we did. Sometimes his solution was better, sometimes ours was (or at least he made us think it was), and sometimes neither of us had quite got there. The point was that we were working on the same problem, and both had something to learn from the process.

Secondly, the sharing of BA, MA, and PhD theses on a single webpage reveals that Paul considers any well-motivated scientific endeavour worthy of advice and of sharing with the world. PhD theses are thus not inherently "more important" than BA or MA theses, or "less important" than the work published by the researchers who have been connected to the institute for longer. We are therefore very happy that this Festschrift also includes the work of MA students Paul advised, as this reflects Paul's attention to anyone with a good scientific idea.

[4] The modifier "former" has scope over "institute", not over "website": https://www.fon.hum.uva.nl/archive/.

Thirdly, Paul has not restricted himself to advising only people who are working on "Phonetic Sciences" in the narrow sense of the word. Paul's own work has repeatedly shown that the boundaries between the different sciences of speech are much less useful than the questions that connect them. His research moves between phonetic detail and linguistic theory, between learning, comprehending, speaking, and language change, and between empirical and computational approaches. The reader who wants to count the many theoretical and methodological angles of the phonetic sciences that Paul's work has encompassed can have a look at all of Paul's writings in chronological order[5].

The same breadth is visible in the projects he has led or been part of. His Vici project brought together work on speech perception, phonology, and language acquisition, and collaborations within this and other projects extended into psychology and the ILLC. Again, the disciplinary label seems to have mattered rather less than whether a collaboration could help answer the question at hand.

4 A collection of works in Paul's spirit

On 13 November 2026, a printed copy of this Festschrift is being handed over to Paul. A Festschrift is, by definition, a collection of work written in honour of someone. But we hope this volume is also a reflection of the way Paul has approached science throughout his career. Its contributors come from different fields and stages of academic life, and their work addresses a wide range of questions from across the phonetic sciences. What brings them together is that they reflect the experience of having learned something from Paul's writings, his advice, or the way he thinks.

The contributions to this bundle also nicely illustrate why the plural in Paul's chair in Phonetic Sciences matters. The papers cover phonetics, phonology, speech perception and production, language acquisition, variation, learning, and computational modelling, and many of them cut across several of these areas rather than being strictly situated within one. Several articles deal with the relation between phonetic detail and phonological categories. The contribution by Claartje Levelt illustrates what acoustic measurements can reveal about covert contrasts in child speech production and their development. Cesko Voeten, Martijn Kingma and Anne-France Pinget go back to phonetic detail, asking where Frisian [ɪ] actually is in acoustic space and what that means for how we transcribe it and represent it. Camilla Søballe Horslund and Rasmus Puggaard-Rode, in search of Danish voiced fricatives, arrive at different answers depending on whether one is asking at the phonetic or the phonological level. Across levels of representation,

[5] https://www.fon.hum.uva.nl/paul/chrono.html

Małgorzata Cavar writes about how palatalisation in Polish and Russian can involve phonetic, phonological, and morphological mechanisms, and Titia Benders shows that accounts of English-learning children's weak syllable omissions change substantially when interacting phonetic mechanisms are considered in addition to the traditional phonological ones. From the angle of variation and learning, Tamás Biró and Eszter Heténi investigate Hungarian vowel harmony under time pressure, while Silke Hamann and Chao Zhou study when variation in second-language speech perception can, and cannot, be captured by a single stochastic grammar. Klaas Seinhorst takes yet another angle on learning, using symmetric neural networks to model the McGurk effect and category emergence from multimodal input. With a simple two-layer neural network, Kateřina Chládková shows what role prenatal category formation could play for perceptual narrowing of native-language speech sound contrasts in infancy. A final set of contributions deals with speech production, acoustic analysis, and the tools we use to study them. Xinyu Zhang investigates adaptation to articulatory perturbation in Dutch vowel production, and Rob van Son explores how vowel spaces can be manipulated in resynthesized speech to model some of the consequences of oral-cancer treatment. Ton Wempe and Mirjam Ernestus develop and test a new approach to automatic formant detection. David Weenink closes the volume by taking us under the hood of Praat.

The variety of languages, too, is broad, ranging from Czech, Danish, Dutch, English, and Frisian to Hungarian, Polish, Russian, and Spanish, as are the approaches taken in the methods, covering acoustic corpus analysis and longitudinal data, speech resynthesis, Optimality Theory, Harmonic Grammar, and learning simulations with neural networks. It would be difficult to fit all of this within one narrowly defined version of phonetics, which is exactly the point of this volume and of Paul's work, which always studied speech sound systems from all sides that were needed to understand a given problem as fully as possible.

Yet, despite all this breadth, this volume focuses on "just" Paul's scientific inspiration to collaborators, students, and colleagues. This scientific Festschrift is therefore accompanied by a volume[6] of less or more non-scientific short articles and personal notes to Paul as a collaborator, teacher, and colleague. Several people have made this Festschrift possible: Emily de Klerk helped us organize the Festschrift, especially the informal contributions, Anja Ruffieux and Rebecca Turville carefully checked the formatting, and the editorial team of LiA devoted an enormous amount of time, effort, and care to every single article, helping us make this Festschrift the best it could be – thank you, Lani Freeborn, René Genis, Roland Pfau, and Cesko Voeten!

[6] The extended volume containing both scientific and informal pieces can be found at https://www.fon.hum.uva.nl/archive/2026/2026-PaulFestschrift.pdf.

We hope that when Paul reads the contributions in this volume, he will find plenty of questions to ask, many points to disagree with, and perhaps a few new ideas to work through. We can think of no better way to celebrate Paul's work to date and our experience of having worked with him. This is one of the ways in which we thank him for his advice, his tireless work to create a model and a program that enable and advance the work of others in the field, and for his writings; his name is in the Reference section of every contribution to this Festschrift special issue.

5 References

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