

## Gabriel Altmann (1931–2020)

It is with great sadness that we announce that on 2 March 2020 in Lüdenscheid, Germany, peacefully passed Gabriel Altmann, world-renowned linguist and mathematician.

Over the previous year Gabriel had been seriously ill, but his friends and colleagues, though understanding the seriousness of the situation, still continued to hope that he would recover. The news of his death came as a shock and the thought that he is no longer with us is hard to accept.

Gabriel was born on 24 May 1931 in the Slovak village of Poltár, where his father worked as a general practitioner. After basic school, he visited the grammar school in Lučenec and passed his final examinations in 1951. In the times of ‘real socialism’ it was, in particular for people coming from an academic family, not always easy to realize one’s professional wishes and desires, but Gabriel got the opportunity to study Indonesian linguistics and Japanese philology at the Charles University in Prague from 1953 to 1958. Here he came into contact with Vladimír Skalička, a well-known general linguist and typologist, who certainly influenced the way of linguistic thinking of Gabriel. After his PhD, in 1964 he received the state doctorate at the Czechoslovakian Academy of Sciences with his habilitation *Kvantitatívne štúdie indonezistiky* (Quantitative Studies in Indonesian Philology). A look at the list of publications he wrote in the 1960s reveals his primary scientific interests, namely the quantitative analysis of languages and text, in particular phonetic/phonological issues (partly with a typological perspective in cooperation with his younger colleague Viktor Krupa) and some quantitative studies of poetry and rhyme structures. In the years from 1960 until 1968 he worked at the Institute of Oriental Studies of the Slovakian Academy of Sciences (Ústav orientalistiky SAV) in Bratislava (former Czechoslovakia, now Slovakia).

A grant from the Alexander von Humboldt Foundation enabled him to visit the Institute of Phonetics at the University of Cologne from 1968 to 1969. This coincided with the Prague Spring, which ended with the invasion of troops of the Soviet Union and other Warsaw Pact members, radically interrupting all processes of political liberalization in Czechoslovakia. Gabriel decided (along with his family) to start a new life in the Western world and already<sup>5</sup> in 1970 he accepted the position of a researcher in the project Automatic Syntax Analysis of German at the Institut für Deutsche Sprache in Mannheim. Then, again supported by the Alexander von Humboldt Foundation, he was appointed visiting professor for quantitative linguistics at the Department of Linguistics (Ruhr University Bochum). In 1971, he received his German *venia legendi*, this time with his *Habilitationsschrift* entitled *Introduction to Quantitative Phonology*. After that time, he worked as a full professor for mathematical linguistics at this institute until he retired in 1996.

Answering to the demand to overcome the purely descriptive phase in philology, Gabriel introduced exact mathematical methods into linguistic analysis, thus becoming one of the founders of the new stage of quantitative linguistics. This laid the basis for explication of fundamental scientific terms such as ‘theory’, ‘law’, ‘hypothesis’ or ‘explanation’ within a linguistic framework, where these concepts have become blurred and misused over the decades. The construction of a linguistic theory – in the strict sense of the philosophy of science – was for Gabriel the ultimate aim of the study of text and language.

Due to his profound mathematical and statistical background, which is reflected by his publications in mathematical journals, he carried out a number of projects whose results are highly important for both the theoretical development and practical needs of linguistics. Among

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<sup>5</sup> The next paragraphs are taken from the bibliographical sketch, written by Peter Grzybek and Reinhard Köhler, which was published in the Festschrift dedicated to Gabriel Altmann on the occasion of his 75<sup>th</sup> birthday, to which over 60 colleagues from all over the world contributed (Grzybek/Köhler 2005). Where necessary the original sketch is modified stylistically and in the last third of the obituary some more information about Gabriel’s scientific engagements is given. Gabriel’s first Festschrift was published in 1991 on the occasion of his 60<sup>th</sup> birthday (cf. Grotjahn 1991 et al.) under the title *Viribus Unitis*.

his major achievements is the comprehensive *Thesaurus of Univariate Discrete Probability Distributions*, which he published together with Gejza Wimmer and which contains the mathematical description of some 750 discrete distributions and families (cf. Wimmer/Altmann 1999). It also includes quite a number of distributions which were derived and created by Gabriel.

Directly related to this deep engagement with probability distributions is the development of the Altmann-Fitter. This unique software package is used for the iterative fitting of approximately 200 discrete probability distributions to empirical data, including parameter estimation and goodness-of-fit tests. The program is in use by many researchers from various countries in different disciplines. It allows users to quickly and effectively find proper statistical models for (linguistic) frequency data, and brought about a modelling boom in quantitative studies in general.

Gabriel was against a blind transfer of ‘standard methods’ of mathematical statistics (many of them based on the ‘law of large numbers’ and the ‘normal distribution’) because he was perfectly aware of the specific characteristics of linguistic data, where such methods cannot be properly applied. He formulated this highly important conclusion in his most prominent programmatic papers (Altmann 1972, Altmann 1973, Altmann 1978, Altmann 1985a, 1985b, 1987, 1990, 1993, 1996, 1997, 2006, Köhler/Altmann 1996, Köhler/Altmann 2005a). Gabriel devoted most of his life to developing new statistical methods for linguistic investigations specifically.

Gabriel combined the talent of an outstanding scientist with a very wide range of scientific interests and the gift of a brilliant organizer. He launched numerous national and international research projects, either managed by himself or at least with his ongoing support. Gabriel personally made contacts and helped in establishing contacts with research groups from all over the world, for example in the late seventies with the group *Statistika reči* in the former Soviet Union (led by R.G. Piotrovskij), and with many other groups in Europe, Japan, China and Canada. One can in fact conclude that Gabriel Altmann is not only the founder of quantitative linguistics in Germany, but also the nestor of modern quantitative linguistics in general. In 2005 the handbook *Quantitative Linguistics* was published by de Gruyter in Berlin, edited by Reinhard Köhler, R.G. Piotrovskij and Gabriel Altmann himself. This handbook gives a comprehensive overview of quantitative linguistics and related linguistic and philological disciplines.

In 1978, Gabriel founded, after years of preparation, the book series *Quantitative Linguistics*, with the two sub-series *Glottometrika* and *Musikometrika* (Gabriel was not only an ingenious linguist and mathematician, but also a gifted musician). Within the first ten years, under his supervision thirty volumes by authors from all five continents were published in this series, which prevailed until volume 60 in an almost unchanged form. In 1993, the *Journal of Quantitative Linguistics* was founded with Gabriel as an associate editor. Then, in 1994 the International Quantitative Linguistics Association was founded, where he was since 2005 the Honorary President. In 1995, the comprehensive *Bibliography of Quantitative Linguistics* was published (cf. Köhler 1995), which would not have been possible without Gabriel’s help. In 2001, finally, he started another journal on quantitative linguistics, *Glottometrics*, which he continued to edit until his passing away. He was also the founding editor of the book series *Studies in Quantitative Linguistics*, published by RAM-Verlag, of which 30 issues have been published since 2008. In 2008 he helped to establish the journal *Glottology* (founding editor was Gabriel Altmann’s Slovak colleague Emíla Nemcová), which primarily was meant as an interdisciplinary forum of quantitative and qualitative approaches in linguistics and text analysis (first it was published by the University of Saints Cyril and Methodius in Trnava; it then moved to Akademie-Verlag and finally to de Gruyter in Berlin).

His role in integrating the efforts of the quantitative linguistics community cannot be overestimated. By inviting researchers coming from different academic backgrounds and

cultures to share their knowledge, he made a number of excellent translations, as can be seen, for example, by his translation from Russian into German of the book *Problems of Quantitative-Systemic Lexicology* by Juhan Tuldava (cf. Tuldava 1996), which he published in 1998 as volume 59 of the series *Quantitative Linguistics*.

It is barely possible to name one specific focus of Gabriel's wide scientific horizon. Without any doubt it is a tremendous field of scientific interests and philosophical concerns: from phonetics and phonology to grammar and semantics, including typology, geo-linguistics, dialectology, text analysis, lexicology etc. Gabriel himself classified his collected (for the time being unpublished) works in four volumes (1961–1999) as follows: vol. 1 (General: symmetry, systems, synergetics), vol. 2 (phonology, grammar, structure of units), vol. 3 (semantics, lexicon, dialectology, historical linguistic, areal Linguistics) and vol. 4 (typology, text analysis, probability distributions).

Gabriel was open-minded, always ready to share his ideas and projects, without any academic vanity. He paid a great deal of attention to younger colleagues by giving his advice and by motivating them to follow their own path. Here one has to refer to selected volumes of the book series *Studies in Quantitative Linguistics*, where Gabriel and his colleagues published six books named *Problems of Quantitative Linguistics* (cf. Strauß/Fengxiang/Altmann 2008, Köhler/Altmann 2009, Čech/Altmann 2011, Köhler/Altmann 2014, Altmann 2015, Kelih/Altmann 2018). In this volume selected problems of quantitative linguistics are given in the form of a research hypothesis. By providing the broader background and related references for the interested researcher the 'ingredients' for an empirical analysis are given. The 'problems' can be understood in some respects as the manifold desiderata of quantitative linguistics in general.

To his closer friends, Gabriel was known not only as a scientific genius, but also as the author of a huge collection of humorous short stories (most of them still unpublished), which display his coruscating sense of humour.

We could continue with this description of further examples of Gabriel's eminent competencies, but we should not forget to mention his outstanding personal characteristics. Everyone who knew Gabriel from personal contact, either directly or via online cooperation, has experienced his exceptional, unselfish helpfulness.

Together with an increasing number of his colleagues, Gabriel and his scholars formed an international and interdisciplinary scientific network. The discipline of quantitative linguistics became more and more established. The number of publications in quantitative linguistics and the participants of the conferences devoted to different issues of quantitative studies is growing and growing: Gabriel's scientific life's work has been a great success.

This is now the moment to thank him most cordially, also in the name of an indeterminable number of students, colleagues and friends, whom he supported by giving advice and practical help, with unbelievable patience and good humour, with encouragement and direct engagement.

In May 2020 his ashes were scattered in the Danube, his most beloved river.

May he rest in peace.

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