

## How I remember Evert Beth

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Perhaps I should make clear at the outset that I am not a logician by trade. Until the age of twenty-four, I knew nothing about modern logic and only a little about traditional syllogistic. During the 1950s I had been a student at Amsterdam University, reading linguistics, classical languages and ancient history, and it was only after I took my Master's degree, in February 1958, that I undertook a moderately serious study of logic, the theory of algebras and set theory, only, really, because a good friend of mine, Rudolf de Rijk, more or less made me do so. Rudolf was a student of both linguistics and mathematical logic and his professor in the latter subject was Evert Beth. I had found out about a strange but intriguing little book called *Syntactic Structures*, written by an unknown author, one Noam Chomsky, and I very much wanted to know more about it. Rudolf convinced me that in order to understand it properly I had to learn some formal logic and some basic mathematics. That is why I did so. I soon formed a small circle of like-minded linguists and, as far as I know, we became the first to introduce generative grammar into Europe.

I came into contact with Beth because Rudolf told me that his professor, Beth, was likewise interested in *Syntactic Structures* and in particular in its intellectual background. Beth, himself an active participant in the mathematical and logical foundations debate of the postwar years, quickly saw that the notion of a generative grammar was, in fact, a direct application of Emil Post's notion of algorithm used not for mathematical or logical calculi or proof theory but for the definition of the concept 'wellformedness' in a language. In June 1963 Beth presented this insight in his Academy address 'Constanten van het wiskundige denken' ('Constants of mathematical thought'), an eye-opener to many young Dutch linguists at the time.

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Meanwhile, the new and somehow revolutionary development of generative grammar was rapidly spreading in linguistics and beyond. For Beth this was gratifying news. In his heart of hearts he still sympathized with the unrealistic ideals of the by then moribund Dutch cultural movement of ‘Significs’, started in the early 1900s by a group of artists and intellectuals, among whom the mathematicians Gerrit Mannoury and Luitzen Brouwer. This movement, like quite a few similar movements across Europe, believed in the therapeutic effect of modern logic and mathematics: if only, on a worldwide scale, people could be made to think and speak more precisely, there would be no more wars, politicians would have no choice but to be just and honest, and equal rights and opportunities would be guaranteed for all. Nowadays we are a little sadder and, hopefully, a little wiser, but Beth was born early enough to at least understand the fascination of the idea. Accordingly, he was always on the lookout for signs of a ‘mathematical turn’, which he was always eager to foster, perhaps not immediately in people’s mundane thinking or speaking but certainly in academic thought. The ideal of a *rapprochement* between the exact sciences and the humanities was always in the back of his mind. Inevitably, therefore, the new paradigm of generative grammar in the discipline of linguistics, which was traditionally firmly rooted in the humanities camp, sparked his enthusiasm.

It so happened that in 1960 Beth was invited to take charge of one leg of what I believe was the first European Community research project ever, the Euratom Project, which was to develop, or at least study the feasibility of, a variety of computer programs meant to extend the range of practical applications of mathematics, logic, and also of linguistics. The European Community had installed a large computer in Ispra, on the Lago Maggiore, but this mastodontic machine had to be fed and kept busy, preferably for the common good. Prominent among the goals of the Euratom Project was the development of programs for machine translation, still, naively, believed to be within arm’s reach. Given his deeply engrained *penchant* for a bestowal of the blessings of formal thinking on the humanities, this was grist to Beth’s mill.

It was in this context that I first met Evert Beth. Some time late in 1962 my friend Rudolf, who was already engaged in the project, told me that Beth was looking for a suitable young linguist to take part in the project for 1 day a week. I went to see Beth and he immediately gave me the job. I was a teacher of Latin, Greek and ancient history at a ‘gymnasium’ (a secondary school with Latin and Greek) in Amsterdam, but I was allowed the Wednesdays off to work with the Euratom group. Later, from July 1963 till the end of that year, I was engaged full-time. Meanwhile it had been decided that the project should be axed, which finally happened in March 1965. The reason was, I was told, that the French President Charles de Gaulle didn’t think the French were adequately represented in it. Anyway, in April 1964, Beth’s asthma got the better of him and he died, at the age of 55.

So my acquaintance with Beth actually lasted just over 1 year, but this year proved to be crucial to my future intellectual development, so much so that I dedicated my PhD-thesis, of January 1969, to his memory. Although he never was formally my teacher, I still consider him to be the person I learned most from, not so much because of our weekly seminars at the Institute in the Roetersstraat as because of what I am going to tell now.

When I started taking part in (or, rather, listening in to) the weekly seminars at the Institute, I found that Beth was in the habit of inviting the participants to his office across the corridor after the meetings. I joined them as a matter of course and then noticed that he would ring his wife, whom he endearingly called “little darling”, to ask her to come and collect him in their car to take him home. He himself did not drive, but his wife did (dangerously, as I was told later). They had a small DAF, a Dutch-made and somewhat rickety vehicle that would hardly carry the decidedly bulky figure of Mrs. Beth or allow her to get in and out gracefully. Since I had my Fiat 1100 parked at the Institute’s entrance (a luxury no longer affordable these days), it occurred to me that it was quite unnecessary for Mrs. Beth to be called upon to make the journey. So after the next seminar I suggested to Beth that I could perfectly well drive him home so that Mrs. Beth need not be bothered. He gladly accepted the offer and rang his “little darling” to tell her that Mr. Seuren was kind enough to drive him.

And that is where it started. I was, I may say, a distinctly able driver and traffic was only a fraction of what it is nowadays. Moreover, I knew Amsterdam like the back of my hand. Being young and, I confess, insufficiently considerate of the dignity and the frailness of my passenger (other than his wife, Beth was a small, rotund man), I drove in my usual fashion, that is, fast and without any indecision, but never dangerously. This made Beth remark that my style of driving was rather different from his wife’s, whereupon I apologised and asked if I should drive more slowly. To my surprise he immediately replied “No, no, this is fine.” Holding on with both hands to whatever support he could find so as to keep himself from rolling over on the front seat (there were no safety belts in those days and no separate seats for driver and passenger, just one bench the width of the car), he looked round with the glittering eyes of a child in a merry-go-round, as I tore through the streets of Amsterdam. He simply loved it. (I must add that on subsequent occasions I did moderate my driving a little.)

Then we arrived at his front door, 23 Bernard Zweerskade, where he and Mrs. Beth, and their lady housekeeper, occupied an apartment above the ground floor. The first time this occurred, Beth showed no signs of wishing to alight. Instead, he stayed in the car for about, I think, 15 minutes, talking about philosophy, logic and what not. The second time, he stayed for well over half an hour, always talking and giving me the chance to ask questions. The third time, he decided that this was silly and invited me in, which then became a regular habit till almost the end of my association with the project. It would then be around four o’clock in the afternoon and I would stay till the lady housekeeper, or Mrs. Beth herself, announced that dinner was about to be served. In the meantime, Beth and I were provided with tea and biscuits.

During these sessions, whose weekly succession was interrupted only by the academic vacations, we sat in his study, in not altogether comfortable armchairs, and we talked. That is, Beth invited me to ask questions, any questions, to do with philosophy, logic, linguistics or their history, to express my doubts and also to present my opinions, if I had any. And rather than instructing me and giving me his own views, he would always reply in a way that triggered my thought. This, I think in hindsight, was probably why those hours turned out to have such an impact on my thinking for the rest of my life.

I found out that Beth was well-versed in history, but from a different angle than I was used to. He knew a great deal about authors I had never studied but who were

important in the history of mathematics and linguistics. He knew a little Greek and kept the relevant Greek texts on his bookshelves. So we got them out and read, for example, Sextus Empiricus together, while I provided the linguistic, he the academic input. Meanwhile he instructed me about the principles, the value and the relativity of formalization in science, about the dangers and pitfalls of academic sociology, about Aristotle and traditional predicate calculus, about Platonism in the philosophy of mathematics, and many other such topics. But we never engaged in strictly technical talk, probably, I think, because he felt that I should work out the technicalities for myself.

(Here I must put in an aside about the furniture in Beth's study, which obviously became very familiar to me. Not too long ago, round the year 2000, I visited my colleague Henk Barendregt, professor of mathematics at the Radboud University Nijmegen, in his departmental office to discuss certain matters to do with nonorthodox logics. While I was sitting there, I began to feel slightly uncomfortable as an uncanny sense of *déjà-vu* crept over me, until I knew what it was. It was the furniture. It slowly dawned on me that that desk and those armchairs came from Beth's study! When I made a suggestion to that effect, Barendregt told me that after Beth's death his widow had asked him to take care of the furniture.)

But then, as the weeks and months passed by, a certain awkwardness began to arise, never pronounced but clearly felt by Beth as much as by me. The reason was that after so many weekly late-afternoon visits, always ending with dinner being announced, and with Mrs. Beth gradually accepting me as a house guest (I had advised them on the purchase of a new car, larger than their DAF but not too extravagant), it seemed natural that I should be invited to stay for dinner. But, and I was perfectly aware of that, such an invitation was socially impossible, because if I were to be invited to stay for dinner, they could hardly send me away straight after dinner, which meant that they would be saddled with this young man for the rest of the evening. And that would definitely not do! So I simply waited to see what would happen. And yes, after some time, it must have been in the summer of 1963, Beth suddenly came forward with an invitation. He had obviously discussed the matter with Mrs. Beth and they had settled on a compromise: I was invited to stay for the soup, on the understanding that between the soup and the main course I should leave. And so it happened. At the table, I sat to the right of Mrs. Beth and across from Beth himself. When the soup had been eaten, Beth gave me a slight nod and I stood up, politely taking my leave. I can't remember if it was Beth himself or the housekeeper who saw me out.

In the late autumn of 1963, Beth's asthma rapidly worsened, so much so that he had to stay at home almost continually. Soon he was taken to hospital, a place he would not come back from. Although the seminars went ahead without him, my weekly visits to Beth's home came to an end. On the 12th of April of that year Beth died. His funeral was grandiose. For quite a few years after Beth's demise, Mrs. Beth would call me every few months, inviting me to afternoon tea in her living room, where we would sit next to the grand piano, being served tea and biscuits by the lady housekeeper. I would then listen to her stories and share her grief, as she pledged tears on her husband's altar.