

The Amsterdam Three and their Part in a Glorious History*

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Prologue

Richard Montague would almost certainly not be pleased to learn that his legacy is much stronger in the semantics of natural language than in logic and philosophy. I'm glad that my friends in Amsterdam have been brought up in a tradition that values formal work on natural language, and won't be unhappy to have their work in that area celebrated. I want to put my comments on our three retirees, Jeroen Groenendijk, Martin Stokhof, and Frank Veltman, into the context of the history of formal semantics, a history in which they have played major roles. And I can't talk about their contributions without mentioning others of their Amsterdam colleagues, because it's the interactions among so much remarkable and diverse talent which have made this community so special. And this won't be just linguistic comments, or just about Amsterdam, since the history here is inextricably interdisciplinary and international.

Part I: The Setting of the Stage: Before Renate and Johan came to Amsterdam (1947–1973/74)

We can start the story with Evert Beth, who held the chair of Logic and Philosophy of Science in Amsterdam (located in different faculties in different times) from 1947 until his death in 1964. Beth resisted psychologism in logic, became interested in the relation between formalized and natural languages, defended Tarski's semantics against Oxford philosophers, and took an interest in formal approaches to linguistics by Harris, Hjelmslev, and Chomsky. He was apparently one of the forces pushing for the creation of the Centrale Interfaculteit, in part to create a place for the philosophy of the exact sciences and logic that would facilitate interdisciplinary research.

Dick de Jongh, Hans Kamp, and Anne Troelstra all came to Amsterdam to do their MA's with Beth (Dick and Hans both from physics) in the early 60's. When Dick was still an MA student, Chomsky's work was becoming famous, but was vehemently resisted by Anton Reichling; some linguists who were sympathetic to Chomsky's work, including Peter Seuren, came to Beth for support; that may be an early sign of the ILLC-like interconnections between logicians and linguists in Amsterdam.

Montague first came to Amsterdam in Fall 1962 while Beth was there; that was where Hans Kamp first got to know him. (Hans says: at that time Montague was very much interested in Gödel-Theory, Set Theory and Higher Order Logic and in the paradoxes.) As a result of that

*I am grateful to a number of people for interviews, conversations, and correspondence which has provided me with a great deal of the information included here. I particularly want to thank Jeroen Groenendijk, Dick de Jongh, Theo Janssen, and Johan van Benthem for interviews, and to thank Theo Janssen, Martin Stokhof, Hans Kamp, and Henk Verkuyl for correspondence that has helped to answer many of my questions. There are undoubtedly errors here, for which I alone am responsible. I finished too close to deadline to give anyone a chance to read a prefinal draft to look for errors, unfortunately.

acquaintance, Kamp subsequently went to UCLA and got his Ph.D. under Montague in 1968, and Montague's EFL and UG papers (Montague, 1970a, 1970b) give much credit to Kamp.

After Beth's death, there was a gap time from 1964-71 before a permanent successor was found. Frits Staal was Professor of General and Comparative Philosophy in Amsterdam 1962-67. Dick de Jongh says that after Beth's death in 1964, Staal helped keep things going with a series of temporary fillers for that position—including Montague (spring 1966), Dana Scott, Haskell Curry—until Martin Löb, Johan van Benthems Doktorvater, filled the chair from 1971 to 1985. Löb helped to create an interdisciplinary "vakgroep" in between philosophy and mathematics as a successor to Beth's 'Instituut voor Grondslagenonderzoek', and predecessor of today's ILLC. Löb and Heyting's student Anne Troelstra held the two central chairs here, while an active group developed around them of junior professors, visitors, and students. (But I've been told that Löb was not terribly effective, not in comparison to the real founding and explosive growth of ILLC after Johan van Benthem came to occupy that chair in 1986.)

While Montague was teaching in spring 1966 as a temporary Beth replacement, Staal was leading a workgroup on formal grammar, and Verkuyl was part of a group reading Chomsky's mathematical work on formal grammars. At a joint group meeting, Staal and Montague compared Chomsky's (1965) way and Montague's way of dealing with certain sentences. Verkuyl remembers an interesting contrast:

What Frits did was to take a quite long sentence with adverbials. Frits took care of the Aspects way of dealing with this sentence.

Montague then presented his own alternative. He did so by climbing on a chair and writing formula after formula on the blackboard. Without too much of an explanation – and so he was generally considered as a somewhat strange sort of person, however kind he seemed to be.

It was reportedly not clear that either understood the other very well.

And what were our heroes doing before 1973/74?

Martin and Jeroen, who had known each other in high school, arrived at UvA to study philosophy in about 1969.¹ There was no philosopher of language then, but they found their way into it starting from logic, and some sympathetic faculty members helped them devise courses for themselves. For their MA work, Simon Dik, then a young professor of General Linguistics, supervised their philosophy of language. And because they didn't believe that philosophy was a profession, they studied Dutch linguistics in the Dutch department so that they could earn a living as teachers. In fact they studied a lot of linguistics; they completed all the MA program in General Linguistics except for a thesis, but by then they already had PhD jobs in Philosophy, so they decided it wasn't really worth it to do an MA thesis in Linguistics. But it was in the General Linguistics Department that they had a reading group where they studied Cresswell's *Logics and Languages* (Cresswell, 1973). (They didn't know Frank at the beginning; I believe he was in Utrecht.)

Johan van Benthem arrived as an assistant professor in 1972, and Martin and Jeroen took a modal logic course with him right away.

Dik was a good mentor to them and other students, always getting them acquainted with interesting new work whether he agreed with it or not. When there was finally victory in the

¹This paragraph draws on my interview with Jeroen Groenendijk in June 2011 and correspondence with Martin Stokhof.

battle to get a new philosopher of language, something that had been promised when Staal left, a hiring committee was formed, including Dik, and including Martin and Jeroen as student members. They all went to Ed Keenan's conference in Cambridge in April 1973, along with additional students, in part so the committee could interview Renate Bartsch, who had applied for that position, and in part because Dik was a good mentor who wanted his students to know about all sorts of interesting work.

The Keenan conference in 1973 (Keenan, 1975) was the first international conference on formal semantics, and it had a good and diverse set of speakers, including an American contingent, a British contingent, several Germans including Renate Bartsch and Helmut Schnelle, and a few others, including Hans Kamp. Martin and Jeroen were very much impressed by many of the talks, especially Renate Bartsch's (Bartsch, 1975) and Helmut Schnelle's (not published in the volume), and resolved to learn more about Montague grammar, which had inspired those and several others of the talks. By 1974 Renate had been persuaded to come take the chair in Philosophy of Language in Amsterdam. With Johan van Benthem there in logic (in his first, Assistant Professor, position, 1973-77) and Renate in philosophy of language, and Jeroen and Martin agitating for more courses and reading groups in Montague grammar, things really began to take off.

Part II: Early Flowering in Amsterdam, and the Emergence of our Heroes: From 1973/74 to the Three PhDs in 1985/1986

After the 1973 Keenan conference, Groenendijk and Stokhof asked van Benthem to put Montague's work on the agenda, and I have the announcement of a Study-Group on Montague Grammar for the first semester of 1973-74, led by Simon Dik & Jaap Hoepelman. Readings to be covered: Montague (1968, 1970a, 1970b, 1970c, 1973); Schnelle's translation of Montague's Universal Grammar and his commentary; Bartsch 1972 Relative adjectives and comparison in a Montague grammar in (Bartsch and Vennemann, 1972); (Partee, 1973) Comments on Montague's paper; (Suppes, 1973) Comments on Montague's paper. Martin, Jeroen and Zeno Swijntink participated, and perhaps Theo Janssen.

And around the same time, Simon Dik formed a group to study PTQ, where Theo Janssen got his first introduction to Montague's work. Theo wrote a computer program that implemented PTQ (Montague 1973) for his examination in computation.

After Renate Bartsch took up her chair in 1974, Montague grammar gained a regular place in the curriculum in philosophy at the University of Amsterdam, and Martin, Jeroen, and Theo were regularly involved. And soon plans were underway to start the Amsterdam Colloquium in January 1976, with Bartsch the leading force, and the younger ones doing a lot of the work and the editing of the published volume. Before the first Amsterdam Colloquium in January 1976, there was an intensive short course in December 1975 to help more people be ready for it. Organized by Martin and Jeroen, it lasted three days, with two 2-hour blocks each day. There were lectures by various people in addition to Martin and Jeroen, including van Benthem, de Jongh, ter Meulen, Bartsch, and Kwee Tjoe Liong from the Mathematics Department.

The First Amsterdam Colloquium was largely Dutch and German in scope. There were 7 Dutch participants, 7 Germans, and two others (Ryszard Zuber from Paris and Peter Lutzer² from Oxford.) Renate gave the opening remarks, and there were talks by Theo Janssen, Alice ter Meulen, Jeroen and Martin, Renate, and Jaap Hoepelman, all from Amsterdam, and by Frank

²Even in 1973, individuating people by their nationality and by the country of their university didn't always give the same results; I ignore that distinction here and list Lutzer as from Oxford rather than among the Germans. In 2013 it would be quite impossible to gloss over the distinction.

Veltman, coming from Rotterdam where he had an Assistant Professor position at the time. Montague grammar blossomed and thrived, and the Montague Grammar colloquia continued, with a European scope.

When Johan left for Groningen in 1977, Dick de Jongh took over his courses in philosophical logic at first, and then managed to bring Frank Veltman to Amsterdam. The vakgroep in logic that Dick helped establish and run was a place where philosophers and mathematicians cooperated, and the Montague colloquium became a central focal point for it.

Jeroen, Martin, and Frank all had PhD positions—“jobs”—at that time. Jeroen and Martin shared one NWO position (which Dik had encouraged them to apply for), and after a couple of years they also shared a position as Assistant Professor in Philosophy of Language under Renate. Martin and Jeroen were working on developing a theory of formal pragmatics (formalizing Grice) to supplement Montague’s semantics. Thinking about the Maxim of Relation led them to the idea that the topic of an assertion is a question, and relevance means helping to at least partially answer that question. That led them into working on questions, and that eventually led to their 1984 joint dissertation (Groenendijk and Stokhof, 1984) and the articles that make it up, and beyond. Frank, in the meantime, was developing ideas about modal logic, inspired in part by Martin and Jeroen’s MA thesis on modality and conversational information, and he turned that into a logical program. Frank went in the direction of thinking of modality in terms of information states. Martin and Jeroen eventually went more and more into dynamic semantics, and they eventually joined forces, later, on papers like “This Might be It” (Groenendijk et al., 1996), where Frank was the modality man and Martin and Jeroen did the dynamics.

In 1980 the Amsterdam Colloquium became fully international—that was the first time I attended, and for a decade, that was where I always presented my main new work in formal semantics, because that was where there was the best audience: they could handle formal semantics and they wanted new results and new ideas. And the Dutch original of the Gamut textbook came out in 1982 (Gamut, 1982); that in itself was a very special achievement. Only in this environment could one find a textbook that combined logic and formal semantics so thoroughly and beautifully. There was nothing like it in English, and I kept lobbying for an English translation until finally one was published in 1991 (Gamut, 1991). Martin and Jeroen were major contributors to that, along with Dick de Jongh and Henk Verkuyl, and Johan van Benthem contributed advice and wisdom.

Martin and Jeroen completed their joint dissertation on *The Semantics of Questions and the Pragmatics of Answers* (Groenendijk and Stokhof, 1984) and got their degree in 1984, with Renate and Johan as their advisors. Frank Veltman completed his dissertation *Logics for Conditionals* (Veltman, 1985) and got his degree in 1985; his advisors were Hans Kamp and Johan.

Part III: The Mature years: Our Heroes Fulfill their Promise and Ensure their Legacy: 1985/86–Now

I have had so much fun digging up the past history that I haven’t left time for the modern era, which in my mind begins in the mid-1980s, after Martin, Jeroen, and Frank had their PhDs. Johan went to Groningen from 1977 to 1986; when he came back into Beth’s chair, it wasn’t long until ILLC (first as ITLI) was founded, along with JoLLI and FoLLI and ESSLLI. From my perspective, the Amsterdam Colloquia started becoming more logic-heavy, and at the same time the founding of the international SALT conference series in the US was clearly meant to provide a more linguistics-centered venue. I was actually worried that the starting of JoLLI in 1992 and of Irene Heim and Angelika Kratzer’s journal *Natural Language Semantics* in 1993

signaled a rift between a more logic and computation-oriented approach to formal semantics in Amsterdam and a more syntax-semantics-interface-oriented approach in the U.S. There is indeed a difference in emphasis in those venues, but fortunately it hasn't been a rift; it's rather a matter of which journal or conference you choose to submit which paper to, with plenty of people contributing to both. The work of Martin and Jeroen and Frank and their students and colleagues is of continuing interest on both sides of the Atlantic (and the Pacific; there is formal semantics all around the globe now).

These later years have seen the rise of dynamic semantics, partially in response to Kamp's Discourse Representation Theory, along with interesting debates about compositionality and the need or lack of need of an intermediate level of representation. And we've seen non-joint publications from Martin and Jeroen: some serious philosophical critiques of the formal semantics program by Martin, and the development of Inquisitive Semantics by Jeroen, together with Floris Roelofsen and Ivano Ciardelli. And Frank has been pushing the frontiers of update semantics and exploring new frontiers in logic and cognition.

The legacy of these three is too rich to sum up in a few words. It will live on in the Amsterdam Colloquia that they did so much to create, maintain, and inspire (not to mention the number of volumes they edited), and the generations of students and young colleagues they taught and advised. I think one of the most important things about the work of all three of them is their ability to find topics that are descriptively fascinating and challenging, like the analysis of questions or of conditionals, and that are simultaneously of serious foundational importance, pushing the limits of what existing theories can handle comfortably, and forcing one to think hard about, say, the relation between semantics and pragmatics, or the relation between truth conditions and information states. I suppose that more generally they've each shown by example what a good idea it is to combine philosophical, logical, and linguistic know-how and interests in one person.

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