

The contribution of the Dutch to the development of linguistics

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1. Introduction. The art of delivering a general paper is to restrict oneself properly, but I am afraid that I shall have to make some preliminary remarks first in order to get the right perspective on the subject matter. I presume that a not unreasonable interpretation of the noun phrase *the Dutch* in the title of this paper is the set of Dutch linguists contributing to the field. However, in my view, its denotation must also include logicians, mathematicians, philosophers of language, engineers, physicists, psychologists, and others who have taken an interest in the study of natural language. Their influence on and their interaction with linguistics proper has become an increasingly important and, it seems to me, the most dominant feature of the Dutch contribution to linguistics.

The term *linguistics* should be taken in the broad sense too. All over the world linguistic work is being done in psycholinguistic environments, in computational settings, in AI research institutes, in departments of philosophy of language, and so on, though the mainstream of linguistics is still embedded in the departments of general linguistics and in the departments of languages and their literatures. Linguistic departments mostly have psycholinguistic, sociolinguistic, computational, and other sections, thus supporting the idea of theoretical linguistics as being central to a lot of other disciplines but also the idea of a lot of other disciplines as being necessary for a successful approach to language and its use.

In this way I am able to include the contribution of Dutch scholars to the development of semantic theory. It is quite clear from the list of participants today either that semantics has been forgotten or that it is being considered as something outside linguistics proper. However, among the most prominent contributions of the Dutch to linguistics is their contribution to the development of semantic theory, so I am glad that I can sneak in semantics under the cloak of my general commission.

It is time now to make some restrictions. Of course, the first to be made is temporal: *linguistics* is taken as 'current linguistics' and *current* is what the eldest among us remember from their own experience as linguists. So *linguistics* will mean here 'postwar linguistics', where *war* refers to the Second World War, of course. The second restriction is that my view on the development of linguistics is biased by my being a theoretical linguist, which means that I shall discuss the subject matter from the point of view that a high

level of theoretical linguistics is considered a precondition for the level at which interdisciplinary activities such as psycholinguistics, sociolinguistics, computational linguistics, applied linguistics, and so on, can be executed. I am sure that this bias, which might overstress the developments in syntax and semantics, will be balanced by the information presented by the other speakers.

Given these limitations, I am very much honored by the fact that the group of Dutch scholars speaking today have entrusted me with a bird's eye view of things that have happened. Dutch scholars have worked very hard in the seventies and eighties to create the proper institutional environment for linguistic research in spite of the really astonishingly determined efforts of the Ministry of Education to eliminate all proper conditions for fundamental research in the universities.¹ Thanks to the fact that the Netherlands Organization for Scientific Research (formerly ZWO, now NWO) supported very effectively the efforts of linguists to combine forces, the so-called Stichting Taalwetenschap (Linguistics Foundation) became an institution bringing university scholars together in a national network in terms of which the success of the Dutch contribution to linguistics can be measured.²

The first core of the Linguistics Foundation consisted of phoneticians and theoretical syntacticians, phonologists and morphologists. Later on sociolinguists, dialectologists, descriptivists, computational linguists, applied linguists, and other groups joined the Foundation. The Netherlands is a very small country, so the social effect of this way of organizing research in the humanities was tremendous in the sense that the Linguistics Foundation has become a model for the organization of linguistic research in most of the universities, effecting the transition from individual research to research embedded in research programs. It has become the spring-board for important international work for graduate students of linguistics who wrote their dissertations in the seventies and eighties supported by the grants of this Foundation.³

It is in the setting of work done in this Foundation, and also in its spirit of collaboration and coordination, that I want to give you a short sketch of language research in the Netherlands and the contribution of the Dutch to linguistics. As said, most current linguistic research in the Netherlands is relatively well organized on the model of the Linguistics Foundation and this way of organizing things differs drastically from the way it was organized in the fifties and early sixties, when linguistics was done on a small scale in small institutes with one professor and less than a handful of assistants, and above all with some hesitation to publish in English.⁴ The story I am going to tell is a story of an astonishing success. In my view, this is very much due to the change of style that took place in what we call the first funding stream (the university), which resulted in the organizational model of the second funding stream (ZWO/NWO). It is a change from individual work to research programs. If the midfifties are called the period of aloofness, then it is remarkable that less than twenty years later, linguistic life has become really swinging in the Netherlands.

The crucial factor in this development is certainly the rise of generative grammar and its enormous impact. But it must be stressed that other factors have been decisive in some way because there are countries in which

generative grammar came, saw and lost, as in France, Spain, and some other European countries. My main thesis is that generative grammar has been successful in the Netherlands due to a conjunction of three factors: (a) there was an internationally recognized strong philosophical-logical tradition which helped it through its first stage; (b) the linguistic establishment of the fifties and sixties was rather weak and quite incoherently organized into local 'schools';⁵ (c) at the peak of the generative success the universities needed a lot of people so that a lot of places could be filled by young generativists.

The important thing to stress at this point is that I do not restrict myself here to the contribution of generative Dutch linguists to generative linguistics. Phonetic research contributed to international research independently of generativists, psycholinguistic research has been very prominent without going generative, the contributions to the study of Creole languages are impressive, but not necessarily generative, there is a well-known descriptive tradition which is not generative, applied linguistics is theoretically 'neutral', discourse analysis is not generative, and so on.⁶ But I think that most Dutch linguists in the broad sense will agree with the claim that the impact of generative grammar on linguistics in the Netherlands has resulted in such a high standard of theory formation that all linguists have profited from it, even if the only profit were the challenge to compete. This sets the main theme, which is that the Dutch have been contributing significantly to a high level of theoretical work both generative and nongenerative, with more and more people involved and with more people needed who have a mathematical-formal background or inclination. This level of theory formation is also a requirement for doing phonetics, psycholinguistics, and some parts of sociolinguistics. A second theme, partly hidden in the notes, is that there is sufficient tolerance for different opinions, so that fierce partisanship is not really accepted as part of Dutch linguistic life, much to its benefit.

In the following three sections some of the themes touched on in these introductory remarks will be elaborated. Section 2 describes the emergence of generative grammar in the context of research on the foundations of mathematics and language debouching into a description of the contribution of two generations of generativists to linguistics. In section 3, the rise of current semantic research from the same source is described. This work is predominantly nongenerative in the narrow Government-Binding sense of that word, but generative in its broad sense in which the study of categorial grammar and its relation to typological systems is generative. In section 4, contributions to linguistics from the functional perspective are discussed. Section 5 contains some concluding remarks.

2. The emergence of generative grammar. A proper picture of generative grammar cannot be given if we ignore Chomsky's position in a long interdisciplinary tradition, which can be called the Frege-Russell tradition. This tradition is tied up with these two names if we adopt the perspective of research into the foundations of mathematics, logic, and language. In the study of formal languages as it takes place in logic and mathematics, other names like R. Carnap, A. Tarski, W. V. O. Quine, E. Post, P. C. Rosenbloom, S. Kripke, R. Montague can be used as icons. In general, there is a tradition in which formal methods and insights are used to deal with language in the

most general sense of that word and one can say that it is from this perspective that mathematical logicians started to take an interest in the study of natural language.

Chomsky's teacher Zellig Harris was familiar with the mathematical techniques of the study of formal (logical) syntax and he advised Chomsky to get acquainted with these formal tools too: 'at Harris's suggestion, I began to study logic, philosophy and foundations of mathematics more seriously as a graduate student at the University of Pennsylvania, and later at Harvard'.⁷ Chomsky mentions the philosophers Nelson Goodman and W.V.O. Quine as relevant to his insight in theory construction. He also stresses a point that was not properly appreciated by the leading Dutch linguists of the fifties. He says: 'Mathematical logic, in particular recursive function theory and metamathematics, were becoming more generally accessible, and developments in these areas seemed to provide tools for a more precise study of natural language as well' (p. 39). On the other hand, the behavioristic philosophical and psychological framework in which these tools were being employed was, for Chomsky, 'a dead end, if not an intellectual scandal' (p.40).

One advantage of being equipped with formal tools is that one can express oneself quite clearly and that one can make oneself vulnerable in this way. Chomsky showed that one can be mentalistic even though one employs formal tools as part of theory formation. The leading Dutch structuralists, however, reacted as if Chomsky were a wolf in sheep's clothing. From the technical point of view, Chomsky's way of doing linguistics differed greatly from the nonmathematical, nontechnical, nonformal, not to say wordy way in which his Dutch contemporaries learned structuralist linguistics from Anton Reichling (1898-1986), the leading Dutch linguist of the forties, fifties, and early sixties, who worked in the University of Amsterdam. Ironically, Reichling's way of doing linguistics, due to the influence of German Gestalt psychologists like Karl Bühler, was much more related to Chomsky's philosophical points of view than he was able to see. But he did not welcome Chomsky as an ally. The same applies to E.M. Uhlenbeck, of the University of Leyden, who joined Reichling in his fierce opposition against Chomsky in the Netherlands. His important descriptive work on Javanese linguistics seemed to lose his interest. Instead he became a severe critic of transformational-generative grammar.⁸ The third leading structuralist of the time, A.W. de Groot (1892-1963), made the same point: the Chomskyan enterprise was a backsliding into the use of nonlinguistic disciplines for the description of language. In fact, this turned out to be one of the main battle cries of the structuralists against the generativists: after so many centuries linguistics had finally become an independent discipline at the beginning of the twentieth century, with its own tools and its own goals, and now insights from other disciplines again threatened to take away this newly found purity.⁹

The fundamental Chomskyan concept of language creativity was, of course, inspired by the concept of recursive definition as developed in mathematics.¹⁰ The only place in the Netherlands where Chomsky's contribution could be properly evaluated was the Institute for Research into the Foundations of Science in Amsterdam, led by the mathematical and philosophical logician Evert Beth (1908-1964). This institute has had a tremendous influence on the rise of generative grammar in the Netherlands

and more generally on the standard for preciseness and articulation in theory formation. One of the most attractive features of this institute was that it was so internationally oriented. Beth knew the leading logicians of the world personally, which was not a characteristic feature of the literary faculties in the forties and fifties. There were international exchanges between this institute and others. The Dutch contribution to modeltheoretical semantics can also be traced back directly to this institute, as I will show below.

It is of importance to realize that the dominant philosophical climate in the Netherlands was not at all behavioristic. In particular, the philosophical setting in which Beth's institute operated was compatible with Chomsky's own philosophical and epistemological position as far as this position could become clear in those days. Actually, Chomsky's crusade against behaviorist psychology and empiricist philosophy had a sort of mirrored parallel in the sixties when one of Beth's pupils, J.F. Staal, attacked phenomenologist philosophy in 1967, expressing much sympathy for the Chomskyan enterprise and thus relating Beth's way of mathematical thinking with Chomsky's philosophical points of view.

The fact that the leading generative international journal of the sixties and early seventies was called *Foundations of Language*, is indicative of the spirit in which generative grammar really took off in the Netherlands. Frits Staal, who got a chair of philosophy of language in 1962 in the context of the Foundations Institute, became one of the editors of this journal and its Supplementary Series of monographs. He was also the leader of a workgroup of scholars (the Werkgroep-Staal) who met every fortnight from about 1963 till Staal's departure for the United States in 1967. This interdisciplinary workgroup was the first platform for generativists in the Netherlands. In this context, it should also be noted that in 1965-1966 Staal and Richard Montague jointly led a workgroup in which the Chomskyan Aspects model was being compared with Montague's own proposals about a proper treatment of natural language.¹¹

Why was this Foundations Institute so influential? And why did it have such an influence on the development of linguistics in the Netherlands? It should be said that Beth's influence on the development of linguistics in the Netherlands was somewhat indirect in the sense that it was his judgment about things that counted rather than the fact that linguists followed his courses. The Amsterdam students who were interested in the study of language did not get any proper tools from Reichling or other professors of language that could help them in the actual description of language and the proper concept formation as part of a theory of language. Some of these students got into contact with Beth or with mathematicians studying with Beth who were interested in natural language. Some small groups of students were formed who tried to do what Chomsky had done about ten years before: to get acquainted with the methods of deductive reasoning and with the proper tools from the study of formal language systems.

When Chomsky's *Syntactic Structures* appeared, this book was immediately recognized as congenial. It was studied by students outside the regular courses in the university without the help of linguistics professors, but with the help of Beth's mathematically trained students, like Rudolf de Rijk. Reichling attacked Chomsky in 1960 in a rather hostile lecture in Dutch. In 1963, Beth

answered with a very influential paper, 'Constants of Mathematical Thinking', which meant the end of the Reichling era, though not particularly in terms of university politics. An article by Frits Staal about insignificant and significant philosophy in one of the leading cultural magazines in 1967 was the final blow.¹² It served to convince the Dutch intellectuals of the significance of the Chomskyan enterprise, which was embedded in the Frege-Russell tradition. Add to this the fact that the 'cultural revolution' in the Netherlands in the late sixties concurred with sympathy for Chomsky's political position in the Vietnam war and it is easy to understand that generative grammar had become a culturally very prestigious enterprise by the early seventies.

The enormous impact of *Aspects of the Theory of Syntax* in the Netherlands can only be understood in this interdisciplinary context, which was broadened by the fact that prominent young psychologists like Willem Levelt took an interest in the formal properties of grammars in order to see whether there is an isomorphism between the rules of grammar and psychological operations. Most readers of *Aspects* thought indeed that Chomsky proposed a processing model, which Chomsky later said he did not.¹³ Anyhow, rather suddenly young linguists, without being trained by their own professors, found themselves in a previously unknown setting, compared with the mostly philological or nonformal ways of looking at language, and prominent people in other disciplines became interested in the way linguistics was being done.

The sixties in the Netherlands are the period at the end of which the huge postwar bulge reached the universities. For the departments of language and literature this meant a lot of new staff members at the peak of the generative prestige. The first generativists had a rather difficult time in terms of faculty politics, though. Shortsightedness of the Amsterdam literary faculty blocked the chair in the Dutch language department for a leading generativist, Albert Kraak. This caused a lot of tension, which manifested itself in fierce opposition against the nomination of Simon Dik for the general linguistics chair Reichling had held so long, not because of the qualities of the nominee but simply because of frustration. However, the generative forces had become too powerful: the general linguist H. Schultink, who had written a dissertation in the Reichling-Uhlenbeck tradition in 1962 and who got the Utrecht chair from A.W. de Groot in 1962, joined the generativists in 1966 while reviewing Kraak's dissertation on negative sentences.¹⁴ Thus Schultink became the only generative professor having the *ius promovendi*, so virtually all members of the first generation of the Dutch generativists had Schultink as their supervisor.¹⁵ It was in the seventies that it became inevitable to allow generativists to occupy chairs, though they did not form a majority. As to the assistant and associate professors, even though the chair holders were antigenerative or too old to be interested in making a stand, many departments hired young generativists or at least people who knew about generative grammar. So in the seventies generative grammar was gradually accepted from the bottom to the top, mostly in the departments of general linguistics and in the Dutch language departments, and also, though somewhat less, in the foreign language departments.

As far as generative grammar is concerned, I would like to distinguish two generations. The first generation, which has introduced generative linguistics in the Netherlands, is predominantly from Amsterdam: Albert

Kraak, Rudolf de Rijk, Pieter Seuren, WUS van Lessen Kloeke, the late Ab van Katwijk, Wim Klooster, and myself. The mathematician and linguist Hugo Brandt Corstius also belongs to this generation.¹⁶ There are some reasons to add Jan Kooij to this generation too, retrospectively.¹⁷

Given the context of the workgroup-Staal, it can be easily understood that the grammatical model proposed in *Aspects* was interpreted against the background of research into the foundations of formal and natural languages. This interpretation was corroborated by the fact that during the Third International Congress for Logic, Methodology and Philosophy of Science on August 26, 1967 in Amsterdam, an intersectional symposium was held on the role of formal logic in the evaluation of argumentation in natural language, chaired by the philosopher Yehoshua Bar-Hillel. The questions raised by Bar-Hillel concerned the necessity of having a logical form as an intermediate level between sentences of natural language and truth values. Thus it was shown that generative grammar participated in discussions in which philosophers of language like Oxford's Peter Geach and mathematical logicians like Richard Montague were involved. This confirmed the interdisciplinary setting of generative grammar at the time.

Therefore, it is not unreasonable to dub the first generation of Dutch generativists 'the Foundations of Language generation'. Indeed, virtually all of them wrote articles accepted by *Foundations of Language*. Some of them wrote books and articles for the *Foundations of Language Supplementary Series (FLSS)*.¹⁸ Under Staal's supervision Kraak wrote a dissertation on negation in 1966, having the bad luck that Klima had independently developed similar ideas so that he could only apply Klima's ideas to Dutch data rather than contribute to the development of generative theory. In this respect, Seuren's dissertation¹⁹ of 1968 had the same problem as Kraak: he developed independently a number of ideas which were also being developed at MIT by George Lakoff and John Robert Ross. Thus, it became obvious in the Netherlands that it was not so easy to get a message through from a distance. Perhaps this is one of the reasons why this generation, who were in their thirties and forties in the seventies, did not continue to follow Chomsky in the later versions of his theory. They all liked the *Aspects* model very much and produced work in which this model was put to the test, but most of them followed their own way in or outside linguistics.²⁰ It should be added that for them the 'autonomous 'pure' syntax' period (roughly between 1970 and the Pisa lectures in 1979) was very difficult to swallow, but that later developments resulting in the Government and Binding framework did much to restore more or less the original faith in the generative enterprise as a serious contribution to the study of semantic phenomena to which this generation is committed.²¹ The contribution of the first generation to linguistics can be characterized by mentioning theoretical issues which played an important role at the time, such as the treatment of negation, quantification, measuring phrases, the role of operators, lexical decomposition, argument structure, thematic relations, and to a lesser degree, aspectual phenomena. It was the first generation of linguists trying to evaluate theoretical insights with the help of descriptive problems.

The second generation of generativists is also predominantly Amsterdam bred. They are directly or indirectly pupils of the first generation.

They participated as students in the enthusiastic atmosphere of the *Aspects* period and the pre-'Conditions on Transformations' period. This generation includes: Henk van Riemsdijk, Jan Koster, Hans den Besten, Hans Bennis, Pieter Muysken, and also Frans Zwarts. The first four turned into hardcore syntacticians and did what most members of the first generation did not do: they went to MIT as part of their training. Frans Zwarts went to MIT too, but soon after his return to the Netherlands he became a modeltheoretical semanticist in Groningen. For the second generation, the way of doing linguistics became American rather than Dutch: they were far more active than the first generation in constructing networks and platforms for the flow of information, in starting up and organizing conferences such as the well-known GLOW; the atmosphere became far more competitive, and sometimes parochial. This generation associated with 'old timer' generativists Arnold Evers and Riny Huybregts from Utrecht (Utrecht profited very much from the presence of the American linguist Mike Brame in 1974), and Eric Reuland from Groningen, with Wim Zonneveld, Ger de Haan, Anneke Neijt, Johan Kerstens, Mieke Trommelen, Martin Everaert, and Peter Coopmans from Utrecht, Teun Hoekstra from Leyden, among others. A rather independent position is taken by Geert Booij, who started his career as a syntactician in the rear of the first generation but who changed into a second-generation morphologist. Of the second generation Van Riemsdijk, Koster, Booij, and Muysken obtained chairs in the eighties. The older members of the second generation were generative semanticists for a while but they were young or autonomous enough to turn into EST syntacticians, morphologists, or phonologists in the early and midseventies.²²

The second generation contributed and is contributing to international linguistic journals like *Linguistic Inquiry*, *Linguistic Analysis*, *Natural Language and Linguistic Theory*, and *The Linguistic Review*, among other journals or series. I shall not go into the question of how they have contributed to the development of the Chomskyan framework, but I think it is fair to say that they are playing a marked role in what is going on at the moment. Specific areas of syntactic investigation in which the knowledge of their own language has played a role concern the nature of prepositional phrases (Van Riemsdijk), Dutch as SOV (Koster) and VerbSecond (Den Besten), the status of auxiliaries (Evers, Reuland), impersonal passives (Hoekstra), dummy subjects in Dutch like *er* and *het* (Bennis), reflexives (Koster, Everaert), causatives (Coopmans), etc. The phonologists among them contributed to theoretical issues such as the nonlinearity of phonology, prosodic structure, and so on.²³ In all these areas the purpose seems to be to contribute to the development of the theory or to major theoretical alternatives, rather than to adequately describe fragments of Dutch.

It became quite clear, however, that not all new staff members could be interested, let alone be involved in the latest MIT change. Moreover, most of the students simply were not interested at all in the Specified Subject condition, and later Move Alpha, and in Binding or Bounding. So, psycholinguistics became an attractive branch e.g. in Amsterdam, where Bernard Tervoort, Trude Schermer, and others did important work on sign language for deaf persons, and in Nijmegen, due to Willem Levelt's work at his Psychological Institute and later at the Max Planck Institute. Text

grammar started to draw attention, e.g. Teun van Dijk's work in Amsterdam. Sociolinguistics became more 'concrete' in the sense that the Netherlands received many immigrants in the seventies and eighties so that minority problems motivated students to get involved. And the study of communication in all sorts of language use began to be a topic in which students became very much interested. In most of these cases generative grammar could not offer the tools that were felt to be necessary. But even though most of the language students do not choose theoretical linguistics as their major study, its presence in the programs is still considered to be necessary and part of the program is at least such that students get acquainted with generative grammar. There is a tendency to complement current theoretical programs with insights from modeltheoretical semantics.

It is instructive to compare the two generations in terms of research management. I have said that, though the contributions of its members were and are accepted in international journals and series, the infrastructural activities of the first generation have been mainly national. Some of its members are editors or consulting editors of international journals. Seuren founded the *Journal of Semantics*, published by Foris Publications in Dordrecht and Providence. However, the organizational activities of the second generation are quite extraordinary. Van Riemsdijk and Koster founded the prestigious series *Studies in Generative Grammar*, in which more than thirty prominent theoretical monographs have now appeared, including Chomsky's classic *Lectures on Government and Binding*.²⁴ Together with Huybregts, Van Riemsdijk and Koster founded *The Linguistic Review*. De Haan and Zonneveld founded the *Publications in Language Sciences*, and T. Hoekstra, H. van der Hulst, and M. Moortgat are the editors of the series *Linguistic Models*. These journals and series are published by Foris.

3. The rise of semantics. As stated, the Foundations Institute can be related to another main stream of research into the foundations of language. One of Beth's pupils was Hans Kamp, who, after Beth died in 1964, went to the United States for his graduate program under the supervision of Richard Montague, and wrote his dissertation *Tense logic and the Theory of Linear Order* in 1968. His influence on semantics is profound, not only in the realm of tense logic and related topics, but also because he developed one of the most important streams of current semantic research, the so-called Discourse Representation Theory (DRT). This theory is an extension of sentential grammar in the sense that it became clear that a proper treatment of anaphoric relations cannot be achieved within the bounds of sentence grammar.²⁵

In Amsterdam, Beth's chair was taken by the logician H.B. Curry, and later by M.H. Löb, whereas Staal's chair of philosophy of language was held vacant until 1975. Johan van Benthem became an assistant professor in philosophical logic in 1972. He was more or less forced to lecture on Montague's 'The Proper Treatment of Quantification' (PTQ) by eager students of philosophy of language: Jeroen Groenendijk, Martin Stokhof, and Alice ter Meulen. The well-known 1973 Conference on Formal Semantics of Natural Language, organized by Ed Keenan, brought together philosophers, logical semanticists, and generativists. It also had an enormous impact on

Dutch linguists in terms of a choice between ignoring Montague grammar or not. Some of them started to learn intensional logic and categorial grammar. When, in 1975, Renate Bartsch got the chair of Philosophy of Language, the first Montague workshop was organized for whoever was impressed by David Lewis' famous article 'General Semantics',²⁶ in which the dubious status of the notion of semantic interpretation in generative grammar was shown. Bartsch, Dick de Jongh, Van Benthem, Groenendijk, Stokhof, and Ter Meulen taught Montague's PTQ to whoever wanted more than to speak generative Markerese. Theo Janssen had an important role to play with respect to the mathematical purity of Montagovian formalization of fragments of natural language, especially with regard to the so-called principle of compositionality of meaning.²⁷ It took just a small step for the Amsterdam semanticists to organize the now world-famous Amsterdam Montague Colloquia. The first was held in 1976, the sixth in 1987. This became one of the most important international platforms in the world for philosophers, linguists, logicians and mathematicians interested in the formal tools necessary for the study of natural language. Prominent American philosophers and linguists like Emmon Bach, Jon Barwise, Robin Cooper, David Dowty, Ed. Keenan, David Kaplan, Lauri Karttunen, David Lewis, Barbara Partee, and John Perry, among others, have contributed to these conferences.

In 1975 the American linguist Frank Heny came to Groningen as a general linguist. He organized two international conferences in which semantics played a very important role: one on the semantics of natural language in 1976, the other on auxiliaries and on the semantics of temporal elements in 1980. American linguists invited by Heny made acquaintance with Dutch linguists in this way. Johan van Benthem went to Groningen University in 1977. There he organized, together with Frans Zwarts, an interdisciplinary group of linguists whose members put Groningen on the semantic map in the first half of the eighties. Alice ter Meulen was appointed head of the 'task-group Formal Semantics' and organized international workshops. She and Eric Reuland also organized the important 1984 conference on (In)definiteness, where large groups of generativists interacted with large groups of modeltheoretical semanticists. The ties between Amsterdam and Groningen were made concrete by the GRASS series on Formal Semantics, edited by Alice ter Meulen and Martin Stokhof, where GRASS stands for Groningen Amsterdam Studies in Semantics.²⁸ Important innovative theoretical work has been done by Johan van Benthem on modal logic, the logic of time, and more recently, generalized quantification, i.e. the study of determiners. The same applies to Frans Zwarts, whose major studies are written in Dutch, unfortunately. Ter Meulen contributed to the study of aspect and generalized quantification. Van Benthem and Zwarts inspired new talents who contributed significantly to the treatment of determiners, plurality, tense, aspect, ellipsis, and so on, in the framework of the theory of generalized quantification, discourse representation theory, or categorial grammar: Jan van Eijck, Jack Hoeksema, Elias Thijsse, among others.²⁹

Johan van Benthem returned to Amsterdam in 1986, occupying himself with typological properties of categorial grammar, among other things. The Amsterdam group is now one of the important international strongholds for modeltheoretical semantic work, guarding the Montagovian heritage against

centrifugal tendencies such as Discourse Representation Theory and Situation Semantics, though major theoretical innovations are being developed. There has been a lot of work done by Groenendijk and Stokhof on questions and answers, more in general, the relation between pragmatics and semantics; by Frank Veltman and Fred Landman on data semantics and the status of partial objects; by Renate Bartsch on the structure of word meaning and aspectual properties of nominalizations; by Van Benthem and H. Zeevat on type shifting in categorial grammars; by Herman Hendriks on type shifting, and so on.³⁰ This production is clearly a result of a profitable interaction between mathematicians, logicians, and linguists. At the moment very interesting work by Groenendijk and Stokhof is being done on dynamic predicate logic, which tries to relate Kamp's Discourse Representation Theory to the 'more orthodox' compositional Montagovian framework, also taking into account developments in situation semantics. The Amsterdam group is transforming itself into the so-called ITLI, that is the Institute for Language, Logic and Information, which is an interdisciplinary research group harboring semanticists from other universities as well, including Michael Moortgat from Leyden, who is doing important work on morphology and categorial grammar, Frans Zwarts from Groningen, and myself from Utrecht.

There has been another more or less separate development in formal semantics, which has to do with AI research, in particular the study of the structure of data bases and their interface with natural language. From this side important contributions to linguistics have been made. In 1970 the Philips electronic firm started to hire engineers and physicists to do AI work. From 1972 till the early eighties they worked on the so-called PHLIQA1 Question Answering Program developed at Philips Research Laboratories in Eindhoven. The Chomskyan way of doing syntax was, in the post-Aspects period, rather unattractive from the point of view of semantics, because Chomsky's central rule scheme Move α only dealt with language structure, not with the interaction of this structure with the world. The natural course of events for the PHLIQA1 people was to translate sentences of natural language into predicate logical representations, interpreting them modeltheoretically in order to get access to the data base. This move made PHLIQA1 congenial to the Amsterdam-Groningen sort of PTQ semantics that was being developed. The PHLIQA1 logic did not come from Montague, but directly from the sources for Montague's own work. It includes a lambda-calculus (inspired on A. Church) and logical types. Thus Scha's important paper 'Collective, distributive and Cumulative Quantification', presented at the Third Amsterdam Colloquium in 1981, was considered to be Montagovian in spirit though not phrased in the by then standard PTQ dialect of intensional logic. Harry Bunt, also from the PHLIQA1 project, wrote about mass terms, trying to extend the Zermelo-Fraenkel set theory by his ensemble theory. Still working at Philips Research Laboratories, Jan Landsbergen started the Rosetta translation project, which is Montagovian in spirit.³¹

As to the organizational activities of the semanticists in the Netherlands, I have mentioned the conferences and the GRASS series published by Foris. But there are also ties between semanticists and the Reidel Publishing Company in Dordrecht. The prestigious semantic journal *Linguistics and Philosophy* is published by Reidel. Actually, it is one of the two successors to

Foundations of Language. Due to a conflict between the publisher and the board of editors, *Foundations of Language* ceased in 1976. The 'Foundation of Language' Foundation continued its activities with *Studies in Language*, published by another Dutch linguistic publisher John Benjamins, from Amsterdam.³² Reidel continued to publish *Linguistics and Philosophy*. Virtually all Dutch semanticists mentioned here have contributed to this journal, whose editors are American. Reidel also publishes the very important series *Studies in Linguistics and Philosophy* (SLAP). So here again one can discern the stimulating role of Dutch publishers in the international exchange of linguistic information.

Semantics in Nijmegen, through the presence of the influential Max Planck Institute for Psycholinguistics, has a more cognitive flavor than anywhere else in the Netherlands. Pieter Seuren has organized some international conferences on semantics and pragmatics in Kleve near Nijmegen.³³

4. The functional perspective. In this section I would like to pay some attention to what could be called 'Reichling's heritage'. Reichling was interested in the pragmatic function of language, that is, in the semantics of language in use. But in his functional view of language, Reichling opposed De Saussure's formal treatment of 'langue', just as he opposed Chomsky's formal treatment of competence.³⁴ For Reichling, language has always been predominantly a social phenomenon: 'the most fundamental determinant from which the structure of language results [is] the co-operative instrumental sign-function with the help of speech sounds'.³⁵ This view on language has been adopted by Reichling's successor Simon Dik.

From a certain point of view, Dik's contribution to linguistics can be characterized as the most comprehensive of the contributions described above: he created his own framework, whereas the generative and modeltheoretical semantics scholars, however prominent they are, are all working within an existing framework. Of course, evaluation of the conceptual merits of Dik's theory should take place in comparison with the conceptual merits of the Chomskyan, Montagovian and other theories, but the fact is that Dik has created his own framework and that he has followers all over the world.³⁶ As said, history will judge later, but I think it is fair to mention this aspect.

Dik often uses the word *eclectic* to characterize his own position in the field. From Reichling, Dik inherited the view that language is instrumental. Following the Prague School, Dik puts more emphasis on the function of language in the sense that properties of syntactic forms are at least partially determined by the way language functions in human interaction. From predicate logic, Dik inherited the notion of predication as central to the organization of sentential structure. In this sense, Dik does not evade the formalization of linguistic theory that became such a dominant feature of linguistics in the Netherlands and that is the reason why some consider him a generative grammarian (in the broad sense of the word in which Joan Bresnan, David Perlmutter, and Paul Postal are generativists). From psychology, Dik adopted the idea of devising a grammar as both a production model and a comprehension model so that the distinction between competence and performance can be reduced to a minimum.

Papers and books on functional grammar are published by Foris in the Functional Grammar series.

5. Some final remarks. In this paper I have tried to show that the contribution of the Dutch to linguistics can be described under the common denominator of formalization as a result of the increasing interest of mathematicians and logicians in the fundamental study of natural language. It is important to see that the field has an appeal to literary students who have had some mathematical training or who at least sympathize with the formal approach to natural language. This fusion of formal thinking and passion for the intricacies of natural language seems, at least in my view, to have paid off in the recent past.

I think it is important to stress that the presence of at least two major frameworks that challenge each other, is very fruitful. I have mentioned several conferences at which scholars working in these two frameworks, were present to discuss issues with each other. From an internal point of view this sort of relationship can be predicted: the generative framework and the modeltheoretical framework are complementary in many respects, the former focusing on coreferential and anaphoric properties of language structure, the latter on its referential properties, though recently anaphoricity has been taken into account in a very thorough way. This feature of competitive complementarity and partial overlap strengthens the feeling of a common enterprise that one enters from different angles. My own feeling about psycholinguistics is that it is unfortunate that there are hardly any institutional ties between research on language acquisition, and on speech recognition and production on the one hand, and theoretical linguistics on the other.³⁷ This situation is very hard to change because the institutional setting of most language and linguistics departments is such that it is very difficult to make programs with other faculties, let alone with research institutes.

The problem we are facing in the Netherlands at the moment is whether linguistics can maintain its position in the face of the continuing reorganization of the universities at the cost of fundamental research and in favor of so-called 'relevant' research. Till now the situation has been such that linguistics has been part of larger programs so that a relatively small number of talented students could be picked out and given a formal training.³⁸ But these programs have been cancelled recently and students of literature and the study of verbal communication are free now to bypass higher level theoretical linguistics. Thus formal linguistics might become a 'fremdkörper' in the literary faculty if no measures are taken. Given the formalization of linguistics, one could consider the possibility of putting linguistics outside the literary faculty in an interdisciplinary sort of faculty. This might be of help, but I am deeply convinced of the necessity for students of language to have a literary background in the sense that they love natural language and that they are trained to look at language, because an exclusively mathematical and logical mind tends to focus on domain structure rather than on language itself.

I have also indicated that the role of the Dutch publishers has been very important. Their activities are to be considered as a striking external aspect of the contribution of the Dutch to linguistics, which enables Dutch linguists to get acquainted with linguists from other countries.³⁹ Related to this feature

of Dutch linguistic life is the fact that a considerable number of Dutch graduate students have gone to the United States and that most of the prominent American linguists have visited the Netherlands, some of them regularly. The workshops and conferences (GLOW, Round Table, Amsterdam Colloquia, Kleve), nearly all organized with the help of NWO, have had an extremely positive effect on efforts to make linguistics an international affair. The presence of the Max Planck Institute in Nijmegen is also an important factor in the construction of social networks.

Finally, it is good to realize that the term *international* is in danger of being understood as 'accessible to the American eye', which could entail that a lot of work done in other languages does not count as important. I am fully aware of the cultural commitment that is implied by the use of the word *international* in a description of the role of the Dutch in international linguistics. Without offending our hosts, I may say that not all aspects of the American way of doing linguistics are valuable in the European or Dutch context (and conversely) and it should not be so, because there are a lot of local tasks for linguistics that are still very valuable, even though they are primarily concerned with the mother tongue. That I did not speak about these aspects of linguistics does not mean that they are not valuable.

On the other hand, using English as the *lingua franca* is the only realistic way for linguists to communicate with each other nowadays and this situation will remain, I think, at least till that time-index in the twenty-first century that is associated with a possible world in which another Dutch linguist will talk here about the contribution of the Dutch to international linguistics for an audience whose predecessors fortunately showed interest in what was going on out there, in the Old World in the second half of the twentieth century. My hope is that he or she can report that linguistics in the Netherlands will have maintained its international orientation, which it obtained in the period that was covered in this contribution.

Notes

* On 4 June 1982 the Institute A.W. de Groot for General Linguistics at the University of Utrecht celebrated its 25th anniversary. Three speakers were invited: E.M. Uhlenbeck, S.C. Dik, and W. Zonneveld. Their papers were published in *Forum der Letteren* 23,3. Zonneveld's interpretation of recent history suggested, in my view, that Utrecht was more or less the center from which generative grammar spread all over the Netherlands. In the discussion this suggestion seemed to be supported by some other generative scholars from Utrecht. Though I have been working in Utrecht since 1976, this view deviated so much from my experience of the development of current Dutch linguistics in the sixties and the seventies, that I felt obliged to write my own version. At the conference it turned out that Jan Koster felt the same need to bend history a little back to Amsterdam. So we decided to map out the things that have happened. Part of this project is oral history: we interviewed the protagonists of the drama that took place during the rise of generative grammar in the Netherlands. We had interviews of about two hours or longer with: A. Kraak, J.F. Staal, E.M. Uhlenbeck, W.G. Klooster, H. Schultink, P.A.M. Seuren, J.G. Kooij, and Hans Smits. We also had an

interview with Barbara Partee and Emmon Bach, because they were in the Netherlands at the time. Most of these interviews date from 1984, but in 1988 we took up the thread by interviewing Seuren. Others will follow. Unfortunately, it was not possible for us to interview one of the principal players in the drama: A.J.B.N. Reichling.

In 1987 Rob Doeve (Free University) wrote his Master's thesis *De ontvangst van de TGG in Nederland* 'The reception of transformational generative grammar in the Netherlands' partly on the basis of the taped interviews. The transcripts will be made available in due time, Koster and I intend to continue the project and to report on our findings. The tapes will be donated to the Modern Museum of Generative Grammar.

1. In some universities (e.g. Utrecht) the negative effect of this policy for linguistics is strengthened by the fact that money supplied by the Ministry is taken away from the literary faculty in favor of the science faculties.

2. The role of phoneticians, notably Antony Cohen and Sieb Nootboom, working in the Institute for Perception Research (IPO) in Maastricht, was decisive. They participated in one of the sections of the so-called Psychonomics Foundation and started the Linguistics Foundation together with the theoretical linguists, predominantly generative syntacticians, but also functional grammarians. This happened in 1974. The foundations for this spirit of collaboration were laid ten years earlier when the Linguistic Society of the Netherlands (the Algemene Vereniging voor Taalwetenschap) was revived by Henk Schultink, who was appointed to the chair of general linguistics in Utrecht in 1962. On January 16, 1964 Schultink was asked by Prof. C.F.P. Stutterheim of Leyden to form a new Board of this Society, which led a rather sleepy life at the time. Schultink selected four members of the board, among whom was A. Cohen. The revived Linguistic Society organized lectures for its members. Thus the newest linguistic and related developments could be discussed at a national level. This was e.g. the way linguists became aware of the psycholinguistic research conducted by W.J.M. Levelt. Several prominent American generative linguists were invited for lectures when they were in the Netherlands, e.g. James McCawley. In 1968 in the midst of a fierce battle between generativists and nongenerativists about the succession of the chair of general linguistics in Amsterdam (about which I will report below), Schultink managed to get the two main protagonists of the two camps, Albert Kraak and Simon Dik, on the Board. This turned out to be a clever move, because it proved that it was possible to work together in spite of divergent views. Simon Dik proposed to have the now annual conferences of the Linguistic Society and organized the first one in 1970, thus creating an annual national meeting place for linguists like the LSA conferences in the United States, one of the differences being that the 'TIN conferences' last just one day. Dik became chairman of the Linguistic Society in 1970; his successor was Albert Kraak. Cohen, Schultink, Kraak, and Dik were all involved in the construction of the Linguistics Foundation in 1974.

3. The Foundation started its activities in 1974 by adopting individual projects that were carried out at the time and by starting new projects. It was recognized as a Foundation in 1976, with three so-called Work Groups (Phonetics, History of Linguistics, and Syntax) with 14 projects in 1977. In 1987 there were 10 Work Groups covering virtually the whole field, with 69

projects. A WG has a chosen board of linguists. At least once a year there are plenary sessions. Though there are differences in the ways WGs are organized, their boards are responsible for selecting an annual Review Council for the selection of projects. Though the price of the democratic procedures is not always not bureaucracy, the returns are considered quite profitable, also in terms of competitive collaboration smoothing away potential frictions between different frameworks. Thus the Foundation has an important network function.

4. It should be noted that general linguistics was a minor study in the Netherlands till the early fifties. For example, the Amsterdam chair of general linguistics was established in 1951, which meant that from then on students could study general linguistics as a major subject. Till 1951 general linguistics was a 'secondary' specialty taught by a so-called 'extra-ordinarius'. An additional explanation for the rather modest contribution to linguistics in the fifties and sixties is that it took some time to recover from the damage of the German occupation. One can certainly observe that this is the period during which Dutch intellectuals were turning their backs on Germany, the intellectual and cultural center of the scientific world until the outbreak of the Second World War. The problem for prominent Dutch linguists in the fifties was that they were in their forties or fifties, which meant that most of them could not speak and write English properly because in their prewar education English played a less important role than German and French. Their philological and historical linguistic background had forced them into the active use of German and French rather than of English, though they could use it passively.

On the other hand, it should be observed that the leading general linguists in the Netherlands had founded *Lingua* directly after the Second World War, thus launching an international journal with the intention of participating in the international developments of linguistics. However, the contributors were primarily European structuralists and only a relatively small part of the Dutch linguists contributed. This observation is made to stress two things: (a) Dutch linguists were rather internationally oriented, as they had been before the war when Dutch linguists like the Slavist N. van Wijk were prominent in the Structuralist movement; (b) *international* meant 'European'. Thus the clash between generativists and nongenerativists should at least be described in terms of a cultural clash between people rooted in European (German, French) ways of thinking and people favoring Anglo-Saxon attitudes. This would explain many of the difficulties described below.

5. Dutch linguistic life of the fifties had several 'schools', at places where a professor turned out to have a strong personality. In Utrecht the A.W. de Groot 'school' did important descriptive work on Dutch, the Groningen 'school' headed by G.A. van Es, located at the Dutch department, combined traditional grammar with new developments in stylistics. The Leyden 'school' was headed by C.F.P. Stutterheim. There were hardly any connections nor principled discussions between these 'schools' and their heads did not form a cohesive group.

6. Dutch phoneticians have made important contributions to the study of intonation (A. Cohen, S. Nooteboom, J. 't Hart, R. Collier, C. Gussenhoven, among others), to the study of errors of speech (A. Cohen, S.

Nooteboom), to coarticulation (L.C.W. Pols, M.E.H. Schouten), to automatic speech recognition (L.C.W. Pols). Phoneticians and psycholinguists have rather close ties in the Netherlands. Psycholinguistic research on errors of speech, on line speech recognition, on parsing, on referring in conversation is being done at the Max Planck Institute in Nijmegen (e.g. W.J.M. Levelt). Max Planck is also an important center for research on first and second language acquisition (e.g. M. Bowerman), together with a Tilburg group whose members come from Nijmegen (e.g. G. Extra and W. Klein). Five European countries are involved in a European project on second language acquisition by people from Mediterranean countries. The study of Creole languages was initiated in the fifties by J. Voorhoeve and after his untimely death it has been carried on by P.C. Muysken, H. den Besten, P.A.M. Seuren, among others. Important descriptive work has been done by E.M. Uhlenbeck (Javanese), A.H. Kulpers (Caucasian, Indian) and some of his pupils (H.J. Smeets, A.J.M. Starreveld, W.J.M. Lucassen), by W.F.H. Adelaar (Quechua), J.C. Rath (Haitian), F.H.H. Kortlandt (Slavonic), A.J. Drewes (Ethiopian), among others. There is also F.Th. Visser's monumental *An Historical Syntax of the English Language*, Leiden 1963-73: Brill. Though the majority of these on applied linguistics were written in Dutch, there is an increasing tendency to publish in a foreign language. Two important comprehensive studies have appeared on the learning and teaching of foreign languages: J.A. van Ek and L. Alexander. *The Threshold Level in a European Unit/Credit System for Modern Language Learning by Adults*. Pergamon Press: Oxford 1980, and J.M. van Els et al. *Applied Linguistics and the Learning and Teaching of Foreign Languages*. Edward Arnold: London 1984. Internationally acknowledged contributions to discourse analysis are by Teun van Dijk, e.g. *Law and Context. Explorations in the Semantics and Pragmatics of Discourse*. Longman: London/New York 1977, and *Strategies of Discourse Comprehension* (together with W. Kintsch). Academic Press: New York 1983.

7. Noam Chomsky, *The Logical Structure of Linguistic Theory*. Plenum Press: New York/London 1975. Introduction 1973, p. 33.

8. Uhlenbeck is internationally well known for his work on Javanese morphology, e.g. 'The study of Word Classes in Javanese', in: *Lingua* 3, 322-54. His studies are collected in *Studies in Javanese Morphology*. Martinus Nijhoff: The Hague 1978. See also his lecture *Javanese Linguistics; A Retrospect and Some Prospects*. Foris: Dordrecht and Providence 1983. As to his role of critic, Uhlenbeck wrote several articles both in Dutch and English, e.g. 'An appraisal of transformation theory', in *Lingua* 12(1963), 1-18; and 'Some further remarks on transformational grammar', in *Lingua* 17(1967), 1-22, which are also included in his *Critical Comments on Transformational-Generative Grammar*. Smits: The Hague 1973.

9. I have always been amazed about this claim because it was never made clear by structuralists how the concept of structure can possibly escape from formal disciplines like mathematics. After all, the notion of structure itself originated in science and mathematics at the end of the nineteenth century and attained its place in linguistics after some time, as pointed out by L.A. Amirova et al. *Abriss der Geschichte der Linguistik*. Leipzig 1980. So what is so 'pure' about linguistics that it can escape from mathematical and formal description? Like Reichling, De Groot made the mistake of accusing

Chomsky of behaviorism because of the concept of transformation, in his *Inleiding tot de Algemene Taalwetenschap*. 2nd edition. Wolters: Groningen 1964.

10. Chomsky says in the Introduction to LSLT that he could solve severe shortcomings of the Harrisian inductive method by applying the concept of recursive definition. It is exactly this property of recursivity that turned out to be so fascinating for the mathematically untrained Dutch linguists in the sixties, whose only acquaintance with recursivity consisted in the so-called Droste-box containing chocolate (it showed a nurse carrying a Droste-box showing a nurse carrying a Droste-box, etc.). That languages could have this property was virtually inconceivable at the time. It took about one generation to adopt simple notions like recursivity, algorithm, derivation, phrase structure, tree, and so on into ordinary linguistic language.

11. Montague was involved in writing 'English as a Formal Language' at the time. This appeared in 1970. The main task of the Foundations Institute was to do research in the field of mathematical logic and the philosophy of language. Montague was in Amsterdam, and temporarily occupied Beth's chair of mathematical logic.

12. Reichling's article, written in Dutch, was translated as 'Principles and Methods of Syntax: Cryptanalytical Formalism'. It was published in *Lingua* 10 (1961), 1-17. Beth's answer 'Constanten van het wiskundige denken' is included in: E.W. Beth, *Moderne Logica*. Assen 1967, 146-171. Staal's article 'Zinloze en zinvolle filosofie' appeared in *De Gids* 130 1/2, 49-75 and is also included in his *Over zin en onzin in de filosofie, religie en wetenschap*. Meulenhoff: Amsterdam 1986.

13. Levelt lost interest in the generative enterprise in writing *Formal Grammars in Linguistics and Psycholinguistics*. Mouton: The Hague 1974 (3 vols.). He came to the conclusion that generative grammar had not much to offer to psycholinguistic research. From the point of view of Dutch generative grammar this move was rather unfortunate. In spite of the psychological claims of generative syntax, there is hardly any psycholinguistic environment in the Netherlands in which these claims are properly evaluated as part of an interdisciplinary research program.

14. Schultink's dissertation was written in Dutch: *De morfologische valentie van het ongelede adjectief in modern Nederlands*. Utrecht 1980². His review of Kraak's dissertation 'Transformationeel-generatieve taalbeschrijving' appeared in *De Nieuwe Taalgids* 60, 238-57. In 1957 Schultink had reviewed *Syntactic Structures* quite positively, but as morphology was 'defined away' by Chomsky, he remained neutral for quite a long time.

15. In the Netherlands chair-holders have the so-called *ius promovendi*, which means that they are personally responsible for the dissertation that is written under their supervision. Sometimes the 'promotor' is assisted by a cosupervisor. Since the early eighties, a 'manuscript committee' can say yes or no to a manuscript, but has no right to demand changes. Schultink served as a refuge for generativists outside Utrecht such as Seuren (1968), Klooster (1971), Verkuyl (1971), and AI (1976).

16. As a mathematician he has had an enormous influence on linguists by his explanatory work on mathematical and algebraic linguistics in the seventies. He was one of those explaining (very lucidly) mathematical concepts to the

formally untrained linguists of the first generation. In his very popular columns in weekly and monthly magazines, he convinced the Dutch intellectuals of the importance of the Chomskyan enterprise by writing very lucidly about it.

17. Together with Simon Dik, Jan Kooij was Reichling's assistant in the mid-sixties. He belonged to 'the other camp' during the conflict about Reichling's succession. He remained in the Reichling-Uhlenbeck camp until after his dissertation *Ambiguity in Natural Language* in 1971 and after his appointment to the Dutch language chair in Leyden in 1973 as the successor of C.F.P. Stutterheim. There he gradually developed into a generativist. Both Simon Dik and Jan Kooij were members of the Workgroup Staal.

18. J.F. Staal, 'Context-Sensitive Rules in Panini' (FoL1, 63-72), 'Generative Syntax and Semantics' (FoL1, 133-54), 'Analyticity' (FoL2, 67-93), 'Some relations between Sentoids' (FoL3, 66-88), with P. Kiparsky, 'Syntactic and Semantic Relations in Panini' (FoL5, 83-117), P. Seuren, 'Autonomous versus Semantic Syntax' (FoL8, 237-65), 'Zero-Output Rules' (FoL10, 317-28), A. van Katwijk, 'A Grammar of Dutch Number Names' (FoL1, 51-58), H. Brandt Corstius, 'Automatic Translation of Numbers into Dutch' (FoL1, 59-62), W.G. Klooster and H.J. Verkuyl, 'Measuring Duration in Dutch' (FoL8, 62-96), H.J. Verkuyl, 'Interpretive Rules and the Description of the Aspects' (FoL14, 311-303). As far as FLSS is concerned: J.F. Staal, *Word Order in Sanskrit and Universal Grammar*, FLSS 5, H. Brandt Corstius (ed.), *Grammars for Number Names*, FLSS 7, W.G. Klooster, *The Structure Underlying Measure Phrases*, FLSS 16, H.J. Verkuyl, *On the Compositional Nature of the Aspects*, FLSS 17. Seuren, Klooster, and Verkuyl contributed to N. Ruwet and F. Kiefer (eds.), *Generative Grammar in Europe*, FLSS 13.

19. *Operators and Nucleus; A Contribution to the Theory of Grammar*. Cambridge University Press 1969.

20. Staal left the Netherlands in 1967 in order to teach Indian philosophy at Berkeley in the United States; Kraak did not continue his theoretical work after returning from MIT in 1968; Van Katwijk became a phonetician. Seuren did not work in the Netherlands from 1967 till 1975 and in that period he had developed ideas which led him gradually in the direction of a theory of Discourse Semantics. Rudolf de Rijk is working on the Basque language rather than as a generativist.

21. In my own work on aspectual phenomena I was very much impeded by the fact that it was simply impossible to articulate a sufficiently precise generative theory on aspect, so I was (like David Dowty) more or less forced into modeltheoretical semantics, where I finally could find what I needed to account for a typical generative problem: how is it possible for a child to know without having learned it that *The car hit the wall for an hour* expresses repetition if it expresses anything? In generative circles, this question seemed legitimate in 1965, illegitimate in 1975 and legitimate again in 1985, which seems to trigger the question: how does a linguist know without having learned it?

22. I will give the titles of dissertations (including supervisors within brackets) or articles. H. van Riemsdijk, *A Case Study in Syntactic Markedness; The Binding Nature of Propositional Phrases*. The Peter de Ridder Press: Lisse 1978 (S.C. Dik). J. Koster, *Locality Principles in Syntax*. Foris: Dordrecht and

Providence 1978 (W.G. Klooster and H.J. Verkuyl). H. den Besten, 'On the Interaction of Root Transformations and Lexical Deletive Rules'. In: W. Abraham (ed.), *On The Formal Syntax of Westgermania*. John Benjamins Publishing Company: Amsterdam/Philadelphia, 1983. *Linguistik Aktuell* 3, 47-131; 'The Ergative Hypothesis and Free Word Order in Dutch and German'. In: Jindrich Toman (ed.), *Studies in German Grammar*. Foris Publications: Dordrecht and Providence, 1985. SIGG 21, 23-64. H. Bennis, *Gaps and Dummies*. Foris: Dordrecht and Providence 1986 (H.C. van Riemsdijk). P.C. Muysken, *Syntactic Developments in the Verb Phrase of Ecuadorian Quechua*. Foris: Dordrecht and Providence 1977 (S.C. Dik). A. Evers, *The Transformational Cycle in Dutch and German*. Utrecht 1975 (H. Schultink). R. Huybregts, 'On bound anaphora and the theory of government-binding'. Paper presented at NELS X, Ottawa. E. Reuland, *Principles of Subordination and Construal in the Grammar of Dutch*. Groningen 1979 (F. Heny and A. Evers). W. Zonneveld, *A Formal Theory of Exceptions in Generative Phonology*. Foris: Dordrecht and Providence 1978 (H. Schultink). G.J. de Haan, *Conditions on Rules; The Proper Balance between Syntax and Semantics*. Foris: Dordrecht and Providence 1979 (H. Schultink, I. Bordelois, H.J. Verkuyl). A. Neijt, *Gapping*. Foris: Dordrecht and Providence 1979 (H. Schultink and A. Evers). J.G. Kerstens, *Deep Structure and Surface Structure Interpretation*. Utrecht 1983 (H.J. Verkuyl and D. Lightfoot). M. Trommelen, *The Syllable in Dutch*. Foris: Dordrecht and Providence 1983 (H. Schultink and W. Zonneveld). M. Everaert, *The Syntax of Reflexivization*. Foris Publications, Dordrecht and Providence 1986 (H. Schultink and A. Evers). P. Coopmans, *Language Types: Continua or Parameters?* Utrecht 1985 (D. Lightfoot). T. Hoekstra, *Transitivity. Grammatical Relations in Government-Binding Theory*. Foris Publications: Dordrecht and Providence 1984, (J.G. Kooij). G.E. Booij, *Dutch Morphology*. Foris: Dordrecht and Providence 1978 (W.G. Klooster and H. Schultink).

23. Cf. W. Zonneveld, F. van Coetsem, and D.W. Robinson (eds.), *Studies in Dutch Phonology*. Nijhoff: The Hague 1980, and H. van der Hulst and N. Smith (eds.), *The Structure of Phonological Representations*. Foris: Dordrecht and Providence 1982, and H. van der Hulst and N. Smith (eds.), *Advances in Non-linear Phonology*. Foris: Dordrecht 1985.

24. Chomsky's first classic *Syntactic Structures* was also published by a Dutch publishing company, Mouton, who had a once famous series *Janua Linguarum*, edited by C.H. van Schooneveld (Stanford). Mouton has been incorporated into the German Walter de Gruyter Verlag.

25. It is fair to raise the question whether Kamp's work should be regarded as 'a Dutch contribution' to linguistics, because most of his work has been done in a non-Dutch context. But it would be quite strange if I did not mention him in this survey. Kamp proposed his DRT in 'A Theory of Truth and Semantic Representation'. In: J.A.G. Groenendijk, T.M.V. Janssen, M.J.B. Stokhof (eds.), *Formal Methods in the Study of Language*. Amsterdam 1981, 277-322. This article triggered an enormous flow of research into the formal treatment of building representations that change due to new information. It must be observed that DRT is not related to the internationally acclaimed work on discourse by Teun van Dijk of the

University of Amsterdam. It will be interesting to see whether any connection can be made.

26. In: D. Davidson and G. Harman (eds.), *Semantics of Natural Language*. Reidel: Dordrecht 1970, 169-218.

27. His dissertation *Foundations and Applications of Montague grammar*. Mathematical Centre: Amsterdam 1983 is a major contribution to the foundations of Montague grammar.

28. There is a second acronym involving Groningen and Amsterdam: I. T.F. Gamut, *Logica, Taal en Betekenis*. Utrecht/Antwerpen 1982, Two Volumes. Gamut is a collective of five authors: J.F.A.K. van Benthem (Groningen at the time, now he is back in Amsterdam again), J.A.G. Groenendijk, D. de Jongh, M.J.B. Stokhof (Amsterdam) and H.J. Verkuyl (Utrecht). At the moment the book is being translated under the title *Logic, Language and Meaning* and will be published by the Chicago University Press.

29. *Modal Logic and Classical Logic*. Napoli 1985 (Indices 4); *The Logic of Time. A Model-Theoretic Investigation into the Varieties of Temporal Ontology and Temporal Discourse*. Reidel Publishing Company: Dordrecht, etc. 1983; *Essays in Logical Semantics*. Reidel Publishing Company: Dordrecht, etc. 1986. Zwarts contributed in English: 'Determiners: a Relational Perspective'. In: GRASS 1. Ter Meulen's *Substances, Quantities and Individuals* was submitted at Stanford University in 1980. Van Eijck's *Aspects of Quantification in Natural Language*. Groningen 1985 was supervised by J. F.A.K. van Benthem and H.J. Verkuyl. Hoeksema's *Categorial Morphology*, Groningen 1984 was supervised by A. Sassen and J.F.A.K. van Benthem.

30. J. Groenendijk and M. Stokhof: *Studies on the Semantics of Questions and the Pragmatics of Answers*. Amsterdam 1984 (R. Bartsch and J.F.A.K. van Benthem); F. Veltman, *Logics for Conditionals*. Amsterdam 1985 (J.F.A.K. van Benthem and H. Kamp); F. Landman, *Towards a Theory of Information*. Amsterdam 1986. (R. Bartsch and F. Veltman).

31. R. Scha, *Logical Foundations for Question Answering*. Groningen 1983 (Joyce Friedman and Frank Heny). H.C. Bunt, *The Formal Semantics of Mass Terms*. Amsterdam 1981 (H. Brandt Corstius and S.C. Dik). L. Appelo and J. Landsbergen, *The Machine Translation Project Rosetta*. Philips Research Eindhoven. 1986. M.S. 13.801. First International Conference on the State of the Art in Machine Translation.

32. Benjamins publishes important series such as *Studies in the History of the Language Sciences* (K. Koerner), *Creole Language Library* (P.C. Muysken), *Foundations of Semiotics* (Achim Eschbach), *Classics in Psycholinguistics* (K. Koerner), *Current Issues in Linguistic Theory* (K. Koerner), *Typological Studies in Language* (T. Givon), *Amsterdam Classics in Linguistics* (K. Koerner), *Pragmatics and Beyond* (H. Parret, J. Verschueren and J. Mey), *Studies in Language Companion Series* (J. Verhaar and W. Abraham).

33. The Nijmegen semanticists, including also R. van de Sandt and P. Bosch, have focussed on the representation of discourse in terms of mental domains of interpretation. P.A.M. Seuren, *Discourse Semantics*. De Gruyter: Berlin 1985; P. Bosch, *Agreement and Anaphora*. Academic Press: London 1983 (Seuren). There are close connections with psycholinguistic research done by I. Noordman and W. Vonk. cf. L. Noordman, *Inferring from*

Language. Groningen 1977 (Levelt and J.A. Michon); W. Vonk, *Retrieval from Semantic Memory*. Groningen 1977 (Levelt and Michon). Both are working on language comprehension related to the lexicon.

34. Cf. R. Salverda, *Leading Conceptions in Linguistic Theory*. Foris Publications; Dordrecht and Providence 1985.

35. *Verzamelde Studies over hedendaagse problemen der taalwetenschap* (Selected Studies on Current Problems of Linguistic Theory). Zwolle 1966, 49.

36. Among the most prominent Dutch functionalists are the Classicists Machtelt Bolkestein and Harm Pinkster from Amsterdam and the Romanist Co Vet from Groningen. See: *Functional Grammar Publications 1978-1988*, compiled by Casper de Groot. Internal Publication, Institute for General Linguistics, University of Amsterdam, The Netherlands.

37. Another way of saying this is that it is unfortunate that there are hardly any institutional ties between generative grammar or logical semantics on the one hand, and psycholinguistic research on the other.

38. The majority of students who decided to study linguistics as their main subject in the seventies and eighties, chose mathematics as part of their high school education, which made it easier for them to get acquainted with the formal methods of theoretical linguistics. In this respect they differ quite drastically from their predecessors in the past, who were typically 'alpha' students brought up in a more philological tradition.

39. It should be stressed here that it is not only theoretical work that is being published by Dutch publishers. There are also series and journals of African Languages, Creole Languages, Chinese Language and Literature, Pragmatics and Discourse Analysis, and so on.