Introduction

A few years ago the linguistic works of Prof. C. Ebeling came to my notice, and I immediately became very interested in his views and his way of describing a language. His semiotactic theory provided me with a new insight into the structure of languages, focussing on the meaning, whereas other sources that I studied seemed to be mostly preoccupied with the form. Also Ebeling’s methodology of capturing the syntax and semantics of sentences in mathematical descriptions offered a clear and concise method for describing languages. By looking at these formulae, the syntactic and semantic structures of a sentence can immediately be observed from the placing of the words and from the relation symbols connecting them. The position of a word inside the description shows its function and the symbols linking them denote the relations between the meanings of the words in a sentence. Ideally, composing such mathematical descriptions should be possible for all languages alike, because they are focused on the meaning of the words and how these are interrelated, independent of specific structural differences between languages. Ebeling himself described his theory for various European languages, notably for English and Dutch. Although there are various structural differences between the latter two languages, they are similar in many ways, most importantly in the fact that they are both commonly classified as SVO (subject, verb, object) -structured languages. When I started my investigation, the question was to find out if Ebeling’s theory could be applied to a language with a completely different grammatical structure, such as Japanese, which is an agglutinating language with a different word order than the European languages, namely, SOV.

The aim of this research therefore was to try to apply Ebeling's theory and descriptive methodology to Modern Japanese and give mathematical semiotactic descriptions of Japanese sentences. Already at the beginning of this project it became clear that, although there were a number of differences between Japanese and the European languages that made my work easier, such as the fact that Japanese has no articles and no declensions for gender or number, there were also differences that forced me to venture on new ground due to categories that do exist in Japanese but are not found in the languages analyzed by Ebeling. The first problem I wanted to solve was how to deal with the particles, due to the fact that most Japanese sentences (apart from exclamations or elliptical sentences) contain at least one particle, and usually more than one. Since such particles are absent in the languages described by Ebeling, the question was how these particles should be analyzed, and how they should be linked to the meanings of other words in a sentence. That is the reason why the first and greater part of this project was devoted to finding a way to describe the particles and to discover how they should be noted down inside the mathematical descriptions. Based on their individual functions and meanings gradually different descriptions were construed for the various groups of particles. When all the particles had been described, other words, phrases and grammatical constructions of Japanese were analyzed.

In the first chapter of this work a brief summary will be given of the aspects of Ebeling’s theory and methodology that are relevant for this work, followed in chapter 2 by a summary of the basic characteristics of the Japanese language, including a list of tenses. In the next chapter various issues that came up when applying this theory to Japanese will be discussed and the Japanese adjectives and adverbs will be analyzed. The following seven chapters are devoted to analyzing and describing the particles; for this a division was made between different groups of particles, classifying them by their functions.
Firstly, in chapter 4 the core case particles *ga* and *wo* in their function of denoting, respectively, the subject and the direct object of a predicate, and the genitive particle *no* are analyzed. The particle *ga* occurs in another function as well, namely in a conjunctural function, which will be discussed later. The second group of case particles to be discussed are: dative/locative *ni*, instrumental/locative *de*, directive *he*, ablative *kara* and allative *made*. In chapter 6 the coordinative particles *to*, *ya*, and *ka* are dealt with, followed by the topical particles *wa*, *mo*, *sae* and *made* in chapter 7. In the ensuing chapters the restrictive particles, the clause conjunctural particles and the sentence final particles will be analyzed. In the last three chapters various constructions will be discussed, starting with the passive, causative and potential verb constructions; the passive construction in particular is an important issue, since it is widely used in Japanese and doesn’t always have a pure passive meaning as is the case in Dutch and English. In the chapters 12 and 13 other verbal and nominal constructions will be described. Finally, after a great number of individual example sentences from various sources had been analyzed, I decided to put the method further to the test by making semiotactic descriptions for all the sentences from one complete literary text; for this the short story *Daisanya* from the story collection *Yume juuya* by Natsume Sōseki was chosen.

For the classification of tenses in this study, the book ‘Bernard Bloch on Japanese’, by Roy Andrew Miller has been taken as a reference. This book, edited and published by Miller (1970), contains five articles on Japanese written by Bloch between 1942-1950. Bloch’s work contains a good and concise outline of the Japanese syntax and morphology, which turned out to be very useful here, in spite of the fact that it was written more than 50 years ago. One of the arguments put forward by Bloch is that assigning specific names is not what is essential in analyzing a language. Miller (1970:xxx-xxxi) writes: “To Bloch the analysis of the entire system and the identification of all the morphemes, whether overtly distinct or homophonous, that have a function in that system was the work of the linguist. From this analysis and identification the categorization implied in assigning grammatical names and terms followed naturally. But since this naming was completely secondary to the analysis and identification, the names themselves were always arbitrary, and considerations of “correctness” in assigning these names were totally irrelevant, even though there was no point in selecting willfully perverse or misleading designations.” This view that analysis and grammatical explanation consist in observing and ordering the forms of the language and their occurrences, and not in just assigning them their “correct names”, is whole-heartedly supported here. The mathematical descriptions provide a good tool for describing a language while avoiding this naming.

Another of Bloch’s arguments that is consistent with the view taken in this present study is that the form is important to the meaning and the form as it stands is what should be analyzed. This standpoint is clearly expressed in one of Bloch’s letters (1970:xxxiii). Bloch replied to someone who had criticized a point in Bloch’s analysis, by reference to something in the structure that he claimed had been “left out”. Bloch reacted to this attempt to “explain” a grammatical structure not by what is in the text but by what the analyst wishes were there, by stating: “I have no right to say that a quotative particle *to* has been left out: *to* is simply not there, just as dozens of other words that might have been used in such a sentence are also not there. I consider it incumbent upon me to analyze the sentences I hear on the basis of the words that they actually contain, without reference to other words that might have been used instead of or beside these.” And Miller aptly points out: “This is not only very sound advice, but a more salutary caution than ever today, when “embedded transforms”, “deep structures”, and a whole new repertory of superficially sophisticated labels has been generated in an attempt to transform the same old technique, still scientifically untenable, of trying to
describe one thing in terms of something else that, in Bloch’s words, “is simply not there”.”
This is the line that has been followed in this work, too, the sentences will be analyzed as they are, without taking into account “what is simply not there”, i.e. “omitted” sentence parts or underlying structures are not taken into consideration, and the principle ‘one form, one meaning’ is taken as a guideline.