FROM SYNTAX TO SEMANTICS
A Pronominal Approach to Valency in Japanese

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1. Introduction

In this paper I want to present a recently developed method for language description, the Pronominal Approach (PA), and its application to the syntax of Japanese, i.e. the description of valency templates of Japanese verbs.

The Pronominal Approach was conceived by Professor K. van den Eynde (1969) expounded in K. van den Eynde & C.Blanche–Benveniste (1978) and developed in C.Blanche–Benveniste et al. (1984).

Research for the compilation of valency dictionaries for French and Dutch with the PA as method, started at the University of Leuven (Belgium) with the Proton project in (1986) under the direction of Prof. Dr. K. van den Eynde.

The ultimate aim of the Proton project is to link parallel descriptions of different languages in an automated translation program. Valency dictionaries based on the PA for Dutch and French are already in use in the Siemens Metal Automatic Translation system.

Pronominal Approach provides a specific research method for the study of basic syntactic structures in any natural language. This approach wants to impose a system on linguistic material and it does so by making use of the pronouns. Pronouns do no stand for nouns. It is quite the opposite. Pronouns are methodologically anterior in that they are the basic deictic elements of a language (Quine 1964).

This approach offers a linguistic description that is essentially based on a lexicon of construction bearing elements (i.e. verbs and adjectives) and their combinatorics. It has the advantage that one can work with elements provided by the language itself, i.e. the pronouns. The use of pronouns allows a limited field of observation on the basis of which the linguistic information is obtained by induction. This method allows for a syntactic analysis free from specific lexicalization problems while lexicalization by simple matching of paradigmatic features is anticipated.
Contrary to existing dictionaries, valency dictionaries compiled with the PA as method allow an almost exhaustive description of the construction possibilities for each lemma. PA allows also to link in a coherent way syntax, semantics and the lexicon.

2. Pronominal Approach (PA)

2.1. Methodology and scope of the present study.

The predicative, verb or adjective, is considered to be the nucleus of an utterance. For Japanese the present valency study is based on single verbal predicative constructions. For each predicative we will investigate all the verb-specific arguments or valents (optional as well as obligatory). Valency is thus the description of the specific construction possibilities determined by the predicative. Each predicative has a specific syntactic value in that it establishes a particular relationship between the arguments it can take. Valents can be pronominal (1), nominal (2), or sentential (3).

1) kare wa sore o kiita
   he heard that (it)

2) sawadasan ga nyuusu o kiita¹
   Mr. Sawada-ga / news-o / heard
   Mr. Sawada heard the news
   RF:P0[kare]ga p1[kore]o kiita

3) kare wa ashita tomodachi ga kuru to kiita
   he- wa / tomorrow friend-ga / come-to / heard
   he heard that tomorrow a friend is coming
   RF:kare wa ashita p1 sore o kiita
   RF:kare wa ashita p manera[soo]kiita

This study will however merely concentrate on nominal valents. Also discourse effects on the realisation of a valency scheme are not taken into account for the construction capacity of the verb. Since in Japanese, the predicative is the minimal utterance, verbs no matter how many valents they may take can appear without any valent and yet form a grammatically correct utterance. Unlike in Indo-European

¹ For the meanings of the Japanese pronouns see p. 19.
languages the combination subject-predicate is not obligatory in Japanese for a normal linguistic utterance. The greater majority of Japanese sentences appear without a subject. This is, of course, when the omitted argument can be inferred from the context. The construction capacity of a given verb will be examined in free context and all the omissions of arguments, that frequently occur in spoken language, will not be taken into account.

2.1.1 Pronominal Paradigms

The PA takes advantage of the "algebraic" elements provided by language itself, namely the pronouns, based on the principle that syntactic structures in which a verbal nucleus is completed with merely pronominal elements, function as classifiers for the structures with lexical realisations. By analysing the pronominal sentence structures, abstracted from lexical variations, we can uncover the essential combinatorial properties of the language involved. The syntactic features obtained from observation of pronominal sentences fully characterise the basic features obtained from observation of lexicalized sentences. In working with pronominal constructions only, one has the advantage of a limited field of observation on the basis of which the basic linguistic information can be obtained by induction. Linguistic material will be converted onto a level at which only valency bearing elements such as verbs and adjectives, and pronouns will be retained. The predicate, whether verb or adjective is thus the only lexical element of the sentence.

4) kare wa ringo o taberu <----- kare wa kore o taberu
he- wa / apple - o / eat
he eats an apple

kare wa
-----
watashi

kore o
sore

taberu
nanika
he eats this

Sets of pronouns, in which each pronoun is in a relation of proportionality with the corresponding interrogative pronoun and has its specific features, are called pronominal paradigms. Since they are the basic media for reference they provide the standard for comparing lexical syntags.\(^2\)

The first practical problem to deal with, then, is the compilation of a list of pronouns and the semantic features, each of the pronouns stands for. A thorough feature analysis will learn us that not all existing pronouns need to be taken into

\(^2\)W. V. O. Quine [1964] called the pronouns "basic media of reference"
consideration for valency description, since the applicability of number of referentials can be easily predicted from others whose features they share.

According to the practice for valency study in Dutch, French, Portuguese, Danish, Russian, Japanese and Chinese, not only pronouns in the traditional sense are used but also all other elements for which a relation of proportionality exists with the lexicalized arguments and that have proportional equations between them.

For Japanese, some pronouns used in this study have to a large extent the composition of noun phrases, but they can be used because they are minimal referents. Examples are *sono toki* (that time) or *dono yoo ni* (in which way) or *nan N4* (how many nA). Henceforth pronouns will be referred to as referentials.*

<table>
<thead>
<tr>
<th>dare</th>
<th>dore</th>
<th>doko</th>
<th>itsu</th>
</tr>
</thead>
<tbody>
<tr>
<td>watashi</td>
<td>kore</td>
<td>koko</td>
<td>sono toki</td>
</tr>
<tr>
<td>anata</td>
<td>sore</td>
<td>soko</td>
<td>itsumono</td>
</tr>
<tr>
<td>kare</td>
<td>are</td>
<td>asoko</td>
<td>itsudemono</td>
</tr>
<tr>
<td>daredemo</td>
<td>doredemo</td>
<td>dokodemo</td>
<td></td>
</tr>
</tbody>
</table>

The interrogative referential asks for the syntagm indicated by a referential. When no interrogative referential is possible one can decide that there is no normal syntagm.

5) a) kare wa binboo o [ki ni shinai]

he- *wat* / binboo- *o* [don't care]

he is indifferent to his poverty

RF: p0[kare]wa p1[kore]o [ki ni shinai]

In (5a) the NP "ki ni" is not related to any referential and is thus no syntagm.

2.1.2. Relation of proportionality

The notion of proportionality existing between the referential paradigm (RP)

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*These studies have been done or are under way within the frame of the Proton Project.

*Whether the words termed as pronouns in Japanese differ syntactically from nouns is not relevant for this study. There is a set of words that might be labelled as pronouns since it has come to have a well established pronominal use. Since Japanese has not such an obviously distinct category of pronouns and since the PA does not use only pronouns in the traditional sense, the word referential, used by Hiz [1980] seems to be more appropriate to designate the pronouns. Since they indicate the minimal explicit reference they can be called (minimal) referentials.