Proceedings of Warsaw Symposium on Japanese Studies, Warsaw University, Academic Publications DIALOG - 1999.

Warsaw Symposium on Japanese Studies *23-26 November 1994*

Uniwersytet Warszawski

Predicative and Set-theoretical Relations in Standard Japanese - *wa* and *ga*

André WLODARCZYK
UNIVERSITE STENDHAL - GRENOBLE 3
Département d'Études Orientales
BP 25, 38040 GRENOBLE CEDEX 9
E-mail: Andre.Wlodarczyk@u-grenoble3.fr

Summary

For modern Linguists, *wa* and *ga* particles constitute one of the most interesting and arduous problems of the Japanese Grammar. There are two kinds of logical relations that *wa* particle can mark in different sentence positions (not only in post-nominal positions). These relations are of set-theoretical and predicative types. However, we do not take for granted that logical relations have their equivalents or one-to-one mappings in languages. We only intend to suggest that, in order to explain both series of particles, we need to recognise their functioning as markers of some logical relations.

On the other hand, our approach accepts that *wa* and *ga* particles present historically motivated ambiguities and that these ambiguities can be explained as the result of a *boomerang* relation between the mentioned classes of morphemes. This kind of opposition is unknown in Structural Linguistics, nevertheless there is much evidence on the material of Japanese grammar that such opposition (defined possibly as a *double privative relation)* should be added to the realm of oppositions that proved to be so useful in language studies.

The ambiguity problem of particles *wa* and *ga* leads to another problem that is also related to the logical concept pair of Universal and Existential quantifiers. (In passing, suffice it to notice the fact that the logical Quantification is often mentioned to explain the usage of articles in languages that have them.) In order to explain the intuition (that many Japanese linguists have had) of the relation between the logical quantification and the particles *wa* and *ga***,** we need to reinterpret this relation as New/Old information. Viewed as such, logical Quantification appears as a discrete simplification of the continuum of values contained between two poles (Generic and Specific) with a common (null) point of both these antinomies. The latter corresponds to the ambiguity of *wa* and *ga* particles.

0. Introduction

For modern Linguists, *wa* and *ga* particles constitute one of the most interesting and arduous problems of Japanese grammar. We argue that these particles cannot be explained properly without taking into account the other particles that belong to the same classes of morphemes that *ga* and *wa* represent; i.e., case particles (kaku-joshi) and "concordance" particles (kakari-joshi), we shall rename first as *argument* particles and the latter as *element* particles within the framework of our theory.

Since there is no morphological agreement between Subject and Verb in Japanese, the subject is not obligatory and the verb is the only obligatory constituent of the sentence. Of course, it is always possible to supply mentally for the subject of the sentence but the fact that two different postponed morphemes may follow the subject causes many interpretation problems. We argue that the interpretation proposed by the advocates of Generative Enterprise in general linguistics - who consider *wa* as a marker of the topic and *ga* as a marker of the subject - is not satisfactory because it makes use of a deletion rule concerning *ga* particle when the subject is to be topicalised by *wa*. Furthermore, we assume that this interpretation is not proper for explaining all possible meanings of the Japanese wa and *ga* particles.

In the structure of the Japanese language some grammatical morphemes refer to contiguity (such is the function of argument particles) whereas others refer to similarity (morphemes called traditionally in Japanese *kakari-joshi*, i.e.; concordance particles). Therefore, the grammatical theory of the Japanese language should take into account not only syntagmatic (actual, *in praesentia*) relations but also paradigmatic (virtual, *in absentia*) relations. In this paper, we argue that, in Japanese, at least in a simple predicative sentences, Topic seems to be the result of the mapping of a paradigmatic relation into the syntagmatic organisation.

First, in order to make explicit the differences between *wa* and *ga* particles, we should keep in mind the following facts:

1. European grammars are based upon a predicative sentence structure (with obligatory subject).
2. The Japanese sentence is - in this respect - somehow different from that of European languages because, as we have already emphasised, the Subject constituent is optional and the only obligatory phrase contains a Predicate followed by one or more auxiliary verbs.

As a consequence of the above differences, one cannot expect that whenever a constituent with *wa* or *ga* particles appears, it must necessarily be recognised either as a syntactic Subject (with ga) or as a topicalised Subject (with *wa*). Indeed, *ga* particle can refer to many other syntactic functions (such as the Object or the Location) and *wa* particle, when attached to a subject constituent, is not always a topicalisation marker. As a matter of fact, we can observe the same opposition between *wa* and *ga* when they follow subject or object phrases and when they affect other phrases. As we shall see also, their meaning is closely related to their position in the sentence.

In our approach, we accept that *wa* and *ga* particles present historically motivated ambiguities and that these ambiguities can be explained as the result of a *boomerang* relation of the mentioned classes of morphemes. This kind of relation is unknown in Structural Linguistics, nevertheless there is much evidence that in Japanese Grammar such relation (defined possibly as a *double privative relation)* should be added to the realm of "oppositions" that proved to be so useful in language studies.

Before we proceed, we would like to recall an evident truth concerning grammatical units of a language; namely that meanings conveyed by these units are selected obligatorily during the speech act. We shall see that the linguistic units expressing set-theoretical and predicative relations may occur independently in different sentences or altogether in the same sentence.

1. Set-theoretical and Predicative Identity

We claim that in order to explain all these different uses of particles *wa* and *ga* we have to take into account that the latter classes of particles can mark two kinds of logical relations in different sentence positions (not only in post-nominal positions). These relations are of set-theoretical and predicative types. However, we do not take for granted that logical relations have their equivalents or one-to-one mappings in any Human Language. We only intend to suggest that, in order to explain both series of particles, we need to recognise them as markers of some logical relations.

Let us consider the two kinds of identity :

1) a is b. **p(a)**, (predicative identity of a with respect to b), where p = "is b",
2) a belongs to A. **(a ∈ A)** ; i.e.: set-theoretical identity of a.

If we want to formulate both at the same time, we must consider that there are two different orders in sentences : actual (explicit) and virtual (implicit). These orders are called, in classical structural linguistics (F. de Saussure), syntagmatic and paradigmatic axis.

An attempt to formulate the two orders at once would look as follows :

p(a ∈ A; b ∈ B) where p = the copula "to be" is a predicative relator (is_a).

The meaning of such a formula would be something like this: *"a taken as an element of a virtual set A is to be recognised as b taken as an element of a virtual set B"*.

Such kind of "two-fold" logical relations are characteristic of Japanese utterances. Let us consider the traditional concepts of Subject and Topic again : Subject and Topic are special cases of each of the above identities: predicative identity of an argument for Subject and set-theoretical identity of an element for Topic. Furthermore, Subject and Topic are often associated in speech processes as it is the case in Japanese. Let us mention that precisely for that reason it is extremely difficult to analyse the properties of *wa* and *ga* particles.

The identity problem in any language is closely related to the copula *to be*. A recent work (Desclés 1987) concerning the copula in different languages shows that we should distinguish at least three types of meanings:

(1) identification
  (a) equality : *a is b*.
  (b) identity : *The Morning Star is Venus*.
(2) attribution relation
  (a) as a relation of belonging : *Socrates is a man*.
  (b) as the subset relationship : *Whales are mammals*.
(3) location relation
  (a) location : *John is in London*.
  (b) existence : *God exists*.
  (c) possession : *John has a car*.
  (d) ingredience[1] : *The hand has fingers*.

---

[1]) Desclés notes that the concept of ingredience is borrowed from Stanislaw Lesniewski.

These three different types of relations have different properties as concerns reflexivity, transitivity and symmetry. For instance the relation of belonging is not transitive whereas the subset relationship is. This difference is not clearly made in natural languages where the same copula may be used for one and the other relations and this is the cause of many traditional paradoxes in syllogistic reasoning. For our purpose, the most important distinction to be made between different functions of the copula concerns the *identification* ("pure" predicative assertion about arguments) and the *classification* (predicative assertion about sets and their elements or their subsets of elements).

In order to catch the specificity of predicative structure in Japanese, let us compare the Japanese sentence *"A wa B da"* (which is the reading of the logical formula: A is B) with its English equivalent *"A is B"* . We can consider this problem in a contrastive manner from two different points of view; i.e.: (1) from Japanese to English and (2) from English to Japanese.

(1) First let us analyse the Japanese sentence *"A wa B da"*. We said its English equivalent was *A is B*. But as the matter of fact, if we take into account all its nuances, it is possible to translate the above sentence in four different ways :

1. A exists as B.
2. A exists as being B.
3. As for A, it exists as B.
4. As for A, it exists as being B.

Versions 1 and 3 are felt as more usual ("natural") than versions 2 and 4. The unusual character of the latter versions can be explained by the fact that the copula *da* is still today replaced in written language by **de aru** (*de* "being" and *aru* "(to) exist"). Let us recall especially that **de** must not be followed only by **aru** but also by different particles such as *wa, mo, koso, sae, dake* etc.

O-tôsan ga go-byôki ***de*** *wa, iro-iro to shimpai na koto deshô.*

(Your father being ill, you must be very much worried.)

On the other hand, if we compare both versions 1 and 2 to versions 3 and 4, some Japanese native speakers might prefer the former couple. The reason is that one would rather use such sentences in speech.

(2) In order to understand the specificity of the Japanese predicative structure, let us consider the virtual equivalents of the English reading of the same logical formula *A is B*.

1. A wa B da.
2. A wa B de aru.
3. A ga B da.
4. A ga B de aru.

Two particles *wa* and *ga* occur alternatively in the four above sentences and it is necessary to distinguish their different values to explain the Japanese predicative structure "A wa B da" sentence. Before we do this, we must add that sentences 1 and 2 differ from 3 and 4 in this that the former are considered "natural" whereas the latter may be used only in a specific context (emphasis or exhaustive enumeration).

Let us first concentrate on the nominal phrase containing A. At first sight, nothing allows us to compare *wa* and *ga* with English articles *the* and *a* since we do not use "the A" or "an A" in the English reading of the formula. But we have to point out at a few

similarities between some features of Japanese particles and those of articles in European languages. Both nominal and verbal phrases may be "old" (supposed/intended to be known to the addressee) or both may be "new" (supposed/intended to be unknown to the addressee). In the first case, Japanese speakers use version 1 and in the second case, version 2.

On the other hand, the nominal phrase containing A may be considered as denoting some old information (A wa) or new information (A ga) while the verbal phrase is supposed to contrast with the above denoting the opposite kind of information (respectively new and old). Because of this contrast, the Japanese versions correspond in English to a topicalised utterance (As for A, it is B) or to an emphasised one (It's A that is B).

2. Element Particles (wa, mo, koso, sae)

In order to extend the scope of this research, first of all we must describe the set of element particles to which at least one of the two particles (wa) belongs. Generally speaking, the element particles are markers of *absolute and relative identity* in the set-theoretical sense. The figure below shows how some of these particles can be classified according to the criterion of belonging of a chosen element to a virtual set.

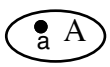
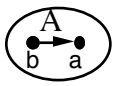
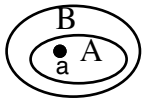
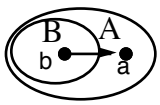
	absolute identity	**relative identity**
simple belonging	**a** wa  *indication*	**b** mo  *comparison*
complex belonging	**a** koso  *insistence*	**b** sae  *concession*

Fig.1 Particles marking identity of an element belonging to a set or to a subset

1) **wa** is the marker of belonging of the element a to the set A; i.e.: aRa, (a ∈ A)
2) **mo** is the marker of belonging of the element b to the set A, this belonging being established with respect to a which is another element belonging to the same set A; i.e.: bRa, (b ∈ A) & (a ∈ A)
3) **koso** is the marker of belonging of the element a to the set A, the latter set A being a subset of B; i.e.: aRa, (a ∈ A) & (A ⊆ B)
4) **sae** is the marker of belonging of the element b to the set B, the set B being a subset of A and the identity of b is established by contrast with a; i.e.: bRa, (b ∈ B) & (a ∈ A) & (B ⊆ A)

NB: In addition, **wa** and **koso** particles are markers of reflexive relations.

We have used here what has been called "attributive relations" (cf. [Desclés 1987]); i.e.: (a) as a relation of belonging and (b) as the subset relationship. As the matter of fact, the attributive relations can be seen as the result of a kind of *predicative projection* between elements of a virtual (paradigmatic) axis such as a Subject and those of the actual (syntagmatic) axis such as the attribute part of the Predicate. Consider the sentence where element particles may occur alternatively:

Tori wa naku. (*wa* has no equivalent in English) /Birds sing./- "Birds belong to the set of beings that can execute the action of singing"

Tori mo naku. (*mo* corresponds to "also", "even" etc.) /Birds also are sing./ - "Birds belong to the set of beings that can execute the action of singing, this belonging is established with respect to another beings that have the same property"

Tori koso naku. (*koso* corresponds to "exactly," "just" etc.) /This is birds that sing./ "Birds belong to the set of beings that can execute the action of singing, this set is seen as a subset of another set."

Tori sae naku. (*sae* corresponds to "even", "also" etc.) /Even birds sing./ "Birds belong to the set of beings that can execute the action of singing, this set is a superset of another set and the identity of birds is established by contrast with that of beings belonging to the subset.

Here are a few examples where element particles occur in different kinds of sentences:

wa as a marker of identity

Watakushi wa gakusei desu.
(I am a student.)

mo as a marker of comparison

Kyô mo mata ame desu.
(Today also, it is raining)

koso as a marker of insistence

Ano tatemono koso daihyôteki-na Nihon-kaoku desu.
(It is just this building that is representative for the Japanese houses.)
Kyônen wa namakete shimaimashita ga, kotoshi koso wa gambaritai to omoimasu.
Last year, I did nothing, but *this* year (especially) I will try my best.

sae as a marker of comparison

Gakusha de sae shirarenai koto o kare wa shitte iru.
He knows things that scholars do not know.
Kore sae areba, hoka ni wa nani-mo irimasen.
If only I had this, I would need nothing else.

3. Sentence as a Unit of Meaning

Logicians often say that logic refers to Reality. For some linguists, linguistic meaning is somewhere in language constructs. The latter claim however that being a form (not a substance) language is not an entity in itself. Whatever we say has some reference whether it be speech acts or our understanding of the World. Language is a formal device; its main function is to represent our perception of both: the Discourse (situation) and the World.

3.1. Reference to the World

Referring to the World can be seen as the *descriptive* function of the language and which is perhaps its most important role, because human beings communicate their beliefs about the Nature they perceive. In our view, referring to the World is however a very complex problem because there is no direct link between language and the Reality. What we want to suggest is that when speaking we communicate our representations of the World rather then point to the 'existing objects'. In this respect, the Japanese *wa* and *ga* particles play the roles which are closely related to those of definite and indefinite articles of some European languages in that the latter participate in marking (definite/indefinite) meanings of 'quantification' .

1) When both Subject and Predicate are old, *wa* particle attached to the Subject displays the feature *+definite*.

Sakura no hana wa taihen utsukushii desu.

Cherry blossoms are very nice.

2) When both Subject and Predicate are new, *ga* particle attached to the Subject displays the feature *-definite*.

O-niwa no sakura no hana ga kirei desu ne.

Cherry blossoms in your garden are beautiful, aren't they ?

The difference between the definiteness of European languages and that of Japanese lies in the mark. While in European languages both definite (the, le/la/les, der/die/das) and indefinite (a, un/une/des, ein/eine) articles are marked (+), in Japanese only wa is marked (+definite), ga being unmarked (-definite). This difference is important, because sometimes the unmarkedness of ga particle causes ambiguity.

Tarô ga kita. (1) Taro came. (2) It's Taro who came.

It is precisely because the particles wa/ga can be used in opposition to each other with the meaning of definiteness that Japanese logicians sometimes mention them when talking about the logical concepts of Universal and Existential quantifiers. (Notice in passing that logical Quantification is often mentioned by European and American linguists when explaining the usage of articles in languages that have them.).

3.2. Reference to the Discourse

As we have said, in speech situation, the speakers always need to refer to what they are saying; i.e.: to their messages or to what is also called information. For the sake of our theory, we will call old information the content of such messages which in the sender's mind are supposed to be known either to the receiver of the message or to whomever it be. Some linguists prefer to say "given" rather than "old", but generally speaking they oppose this concept to "new" within the limits of the same utterance. We have adopted the terminology "old/new information", because it fits better our view of information as displaying, besides its well-known quantitative particularities, also a few qualitative aspects. Let us only mention here that such other qualities the information may have are true/false, sufficient/insufficient etc. It is obvious that such qualities like true/false are applicable more adequately to that part of the messages which concern the description of the World, nevertheless there are cases where the information may be voluntarily hidden (ex. a lie) or distorted. In these cases, we must admit that the distinction true/false points

to the quality of the information concerning the Discourse. Let us consider first that the meaning of the message may be either totally old (given) or totally new. In Japanese, wa particle as opposed to its counterpart which in this respect is ga particle for the noun phrase and the verbal auxiliary form -ru as opposed to -te iru for the verb phrase, can be used as markers of old and new respectively for each pair of *Noun & Verb* phrases. For instance:

Subject (OLD information) + Predicate (OLD information)

Ame *wa* fu*ru*. (lit. Rain falls = Rain is an atmospheric phenomenon)

Subject (NEW information) + Predicate (NEW information)

Ame *ga* fut*te iru*. (It is raining [now].)

However, we must emphasise that neither the main function of the particle *wa* is to denote "old information" nor is the particle *ga* to denote "new information". As a matter of fact, the primary function of the particle *wa* is related to the functions that are played by the above mentioned element particles such as: *mo, koso, sae, dake, bakari* etc. We argue that the proper categorial meaning of these particles today has nothing to do with their traditional description as element relation (kakari-musubi). These particles can follow argument particles such as (*wo, ni, de, kara, yori, made* etc.). The only exception[2] here is the particle *ga*. As we have already shown, element particles' main function consists on marking set-theoretical relation on the paradigmatic (virtual) axis.

According to the traditional ontology, the distinction Generic/Specific points out to the belonging not only of objects to classes but also to the properties viewed as classes. In our view, it is preferable to see the above distinction as a discrete simplification of the continuum of values contained between two poles (Generic and Specific) with a common point of antinomies. The latter corresponds to the ambiguity of *wa* and *ga* particles. As we have said, when referring to the Discourse, the role of these particles is to mark a series of values concerning the quality of information. The values in question can be ordered in a scale of opposite values that correspond to the degree to which the information conveyed by a linguistic message is intended to be *new* or *old*.

"given" information	+5 +4 +3 +2 +1	Generic General Habitual Potential Plausible
(ambiguity zone)	0	no antinomy
"new" information	-1 -2 -3 -4 -5	Implausible Actual Occasional Particular Specific

Notice that the quality's value increases/decreases according to a well-defined order. This kind of reference is indirect in the case of the Japanese wa/ga particles. In general, such is also the case of some other morphemes (tenses, aspects etc.), but in Japanese there

[2]) This problem is discussed in our papers published between 1978-1995 (see the bibliography).

are many morphemes which are specialised in referring to the Discourse (ex. sentence final particles: *yo, ne, zo, kanaa* etc.)

According to the statistical information[3] about the usage of wa and ga particles; namely that, in Japanese press, *wa* particle occurs often in texts concerning politics, while *ga* particle occurs often in texts concerning society. From our point of view, this observation seems to suggest that political subjects are aimed at bringing mostly *given* information (i.e.: supposed to be obvious to everybody) and that social texts indicate first of all *new* events (i.e.: instances that were not foreseen).

3.3. Topicalisation

There are a few different points of view on topicalisation: Let us summarise those which appear most frequently:

(1) the topic is given and the comment is new (V. Mathesius)
(2) the topic a is psychological subject and the comment is a psychological predicate (M.A.K. Halliday)
(3) the topic is a call and the comment is an answer (A. Mikami)
(4) the topic is the element of a sentence which is farthest on the left and the comment is all that is not topic (N. Chomsky)

The topic has been first defined as "psychological subject". As such, it occurs whenever the speaker needs to establish the point of departure for the information he is going to transmit. It is natural to consider information as new (otherwise there would be no need to speak) or given (upon which one could rely). We claim that the starting point (i.e.: the topic) when building a unit of meaning is closely related to belonging (superset and subset) relations, because topic which is either new (it is X that...) or given (there is an X that...) can be easily conceptualised in its virtual relations - absent from the sentence - to classes and elements. It appears that topicalisation is the result of combining set-theoretical functions with predicative arguments. It may happen that the topic corresponds to the subject. In this case the topicalised subject is simply viewed as an element or a subset of a set. But it happens often that there is no such correspondence.

Ryûgakusei wa Ajiya ya Yoroppa bakari de naku, Afurika kara mo kite imasu.
As for foreign students, they are coming not only from Asia and Europe but also from Africa.

In Japanese, the topicalised part of the sentence must not be a verb. For this reason, we must first nominalise (or pronominalise) the phrase we want to topicalise (using one of the so-called "formal nouns" : *no, koto, mono, tokoro* etc.). The reason is that there is no infinitive verb form in Japanese. Humans talk not only about objects belonging to the world but also about their properties, aspects, relations between them etc. During the speech act, the speaker may point out to sets of properties, aspects and relations.

Sora wa aoi. (In general, the sky is blue.) where the predicative relation concerns the generic properties of the sky

Sora wa, aoi.

[3]) Cf. HAYASHI Ooki et al., 1982)

As for the sky, it is blue. (here the sky is taken with reference to something else belonging to the same set and having a similar property, it is pointed out as the one having the property "blue")

The topicalised sentences are always intentionally marked. That means that the particles wa/ga are pronounced with a slight stress and a short pause follows the topic part of the sentence.

Sora ga aoi.

The sky is blue. (It is the sky which is blue [now or in general]).

We claim that the Topic-Comment relation is the result of a contrast between the old and the new character of information. Thus,

1) when the Subject is old and the Predicate is new, the particle *wa* is used and displays the *endocentric*. feature (there is a X that does something)

Old(wa) + New

Ame wa futte iru. (Speaking about rain, it's falling now)

2) when the Subject is new and the Predicate is old *ga* particle is used and displays the feature *exocentric*. (it is X that does something)

New(ga) + Old

Ame ga furu. (It's rain that is falling.) as an answer to the question "nani ga furu ka ?" (What is falling ?)

The following sentence contains two different topics and two different comments :

Shûkyô wa *jû de atte, dôtoku* ga *shu de aru.*

As for religion, it is your companion, it is morals that are your masters.

Needless to say that in Japanese the topicalisation of constituents other than nominal is also possible. In the following example:

Otôsan ga go-byôki-de wa iro-iro-to shimpai-na koto deshô.

(Your father being ill, you certainely worry very much.)

"otôsan ga go-byôki-de wa" is a topicalised clause where "go-byôki-de" is of course a participial form of "go-byôki-da" (to be ill).

4. Related Questions

4.1. Contrast and Negation

It is rather logical that the particle *wa* can be used with a contrastive meaning, too. The reason for this is that two elements of the same set may differ by a part of their characteristics.

Shin'ichirô wa *hidari-gawa ni, gakusei* wa *migi-gawa ni seki o shimeta.*

Shin'ichirô took the seat on the left side and the students on the right side.

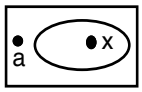
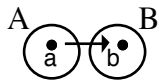
There is also a pseudo-contrastive meaning in sentences with negation. Let the sentence be of the **A wa C de wa nai** type. The interpretation we can give implies the existence of three entities : A, B and C.

A does not exist as C (but it does exist as B).

As a matter of fact, we consider that the morpheme *wa* in the phrase **C de wa nai** refers to a paradigmatic (virtual) relation. Its value is therefore "identity of an item C not belonging to the set A; i.e.: being in complementary relation as to A". In order to understand this, we have to go through the following logical reasoning:

[A is not C] implies [A is B]

N.B.: In those cases where we would like to say "A is not B", we can simply say **A wa B de nai.** (without the particle **wa** in the second phrase).

	identity
not belonging	wa_2  *negative identity*
belonging to different sets	wa_3  *contrastive identity*

Here again, we notice that since the particle wa has been classified as element particle, there are other morphemes that can be used instead of wa in the "attributive" part of identity sentences. The sentence **A wa D de mo nai** means that A does not even exist as D (but that it may exist as B and C). For instance:

*Ichi-nen Nihongo o benkyô-shita no ni, mada hiragana **mo** yoku yomemasen.*

(Although I was learning the Japanese language for one year, I cannot even read well hiragana yet.)

In the above example, hiragana syllabary is related to katakana and to kanji. It seems therefore possible to recover the following logical reasoning:

A is B. ---> A is neither C nor D.

4.2. Word order

The wa/ga distinction in the following sentences seem to be based on the +/-closeness of the Subject towards the Predicate.

Shigoto wa kinô de owatta.

As for my work, it was finished yesterday.

Kinô de shigoto ga owatta.

My work wa finished yesterday.

Nyûgaku-shiken wa san-gatsu no hajime ni okonawareru.

As for entrance examination, it takes place at the beginning of March.

San-gatsu no hajime ni nyûgaku-shiken ga okonawareru.

Entrance examination takes place at the beginning of March.

Word order in Japanese can be described by three different positions of the Subject : distant, intermediate or close. One can suppose that, from the diachronic point of view, the opposition between morphemes *wa* and *ga* appeared in the intermediate position :

0 <1wa< ... <Nwa/ga> ...>1ga > 0 (see Figure *Ascending and descending orders*)

distant position < wa <	intermediate position ...N ...	close position > ga >	reference point
Topic wa	Topic wa Subject ga	Subject ga	Predicate

Fig. Ascending and descending orders

It is most probable that, in the actual stage of the standard Japanese language, it is not possible to decide which one of the three following structures is primary : Subject + Predicate, Topic + Comment or Topicalised Subject + Predicative Comment. This fact is related to the "boomerang opposition" which characterises the particles *wa* and *ga*.

4.3. Sentences with "two subjects"

A special case where both particles *wa* and *ga* occur together in the same sentence is frequently explained by (a) the particle *wa* is playing the role of the marker of Topic and (b) the particle *ga* is referring to the Subject. Unfortunately, these interpretations of *wa* and *ga* particles leave aside a number of different meanings of such a sentence, on the one hand, and they say nothing about sentences where the particle *ga* is clearly not a marker of a Subject - on the other hand. The classical example of this is:

Zô wa hana ga nagai.

(Elephant *wa* trunk *ga* is-long)

NP_1*wa* NP_2*ga* B da.

If we pay attention to intonation, in the light of our theory, the above sentence may have two different interpretations depending on whether the **NP_1***wa* phrase is taken as a Subject or as a Topic. When pronounced with a short pause, it is clear that the sentence *Zô wa hana ga nagai* has a Topic-Comment structure (even if it is not easy to determine the syntactic role played by the phrase *zô wa*).

(1) **As for NP_1, its NP_2 is B.** (As for the elephant, its trunk is long.)

Topic+ Subject + Predicate

(utterance with a topic)

Pronounced without pause, the same sentence should be understood as a generic assertion where **NP_2*ga* B da** can be seen as a relation which is close to the classifier "ISA".

(2) **NP_1 + NP_2 is B.** (≈Elephants have long trunks.)

Subject1 + Subject2 + Predicate

(generic assertion)

Although the latter meaning (2) is rarely mentioned, we should stress that there is no other natural way of expressing the same in Japanese. In the better case, one might perhaps say also: *Zô wa nagai hana ga aru*. or maybe *Zô wa nagai hana o motsu*. This kind of rewording would be felt however in the Japanese stylistic tradition as "translation-like" way of speaking. We can quote a lot of sentences where **NP_1 wa NP_2 ga P** should not be interpreted as topic NP and subject NP but rather as two subjects :

Fuyu wa koi ga umai.

Carps are good in winter. [the first subject (NP wa) is circumstantial]

Ano ko wa neko ga kowai.

This child fears cats.

Yama wa ki ga ôi.

There are a lot of trees in the mountains. [the first subject (NPwa) is circumstantial]

Kare wa shôkyû ga hayai.

He frequently gets rises.

Kare wa uta ga umai.

He is good at singing.

We argue that the interpretation of Japanese nominal phrases depends heavily on the word order (see also § 4.2). Both sequences [Subject1-wa Subject2-ga Predicate] and [Subject2-wa Subject1-ga Predicate] are acceptable. However, neither *[Subject1-ga Subject2 wa Predicate] nor [Subject2 ga Subject1 wa Predicate] are possible. Here are examples that might lead to a kind of interpretation using the concept of "deep" structure.

*Yama wa ki ga ôi.*The mountains, there are many trees.
*Yama ni wa ki ga ôi.*In the mountains, there are many trees.

Nevertheless, it is impossible to carry out the following transformation:

Zô wa hana ga nagai.
**Zô ni wa hana ga nagai.*
The elephant's trunk is long .
(lit. by the elephant, there is a long trunk)

Therefore using ellipsis in order to explain the syntactic structure of this kind of sentences may lead to erroneous results. There is really little evidence of the fact that all phrases with no argument particle should be interpreted as elliptical. In most such phrases, it is fairly probable that no omission operation has taken place but simply that the structure of the whole sentence is different.

Hereafter, we classified difgferent kinds of **N1-wa N2 ga PRED** construction:

1) N1-wa N2-ga Adj

Zô wa hana ga nagai.

The elephant has a long trunk.

2) N1-wa N2-ga Q-da

Kare wa kata me ga môkoku da.

He is blind in one eye.

Kare wa yubi-saki ga kiyô da.

He is dexterous with his fingers.

Nihon wa mawari ga umi da kara, mukashi kara suisangyô ga sakan da.

As Japan is surrounded by sea, fishing industry is prosperous.

3) N1-wa N2-ga N3-da

Shikashi, Eguchi-rôjin wa konna onna ga hajimete no keiken de aru. (Kawabata Yasunari

For old Eguchi however, it was his first experience with this kind of woman.

4) N1-wa N2-ga V

Tôkyô wa mada yuki ga furanai no ?

Isn't it yet snowing in Tokyo ?

Tarô wa Eigo ga wakaru.

Taro understands English.

John wa Nihongo ga dekiru.

John can (speak) Japanese.

5) N1-wa Pro-ga Part-da

Anata, Nihon ni kuru no wa kore ga hajimete desu ka ?

Is it the first time you have come to Japan ?

6) N-wa N-ga V-no-da

Tarô wa chichi ga shinda no da.

Taro's father is dead.

7) N-wa N-ga V-yô-da

Soto wa ame ga futte iru yô da.

It seems it is raining outside.

8) N-wa N-no-hô-ga Adj

Kare wa ringo no hô ga suki da.

He prefers apples.

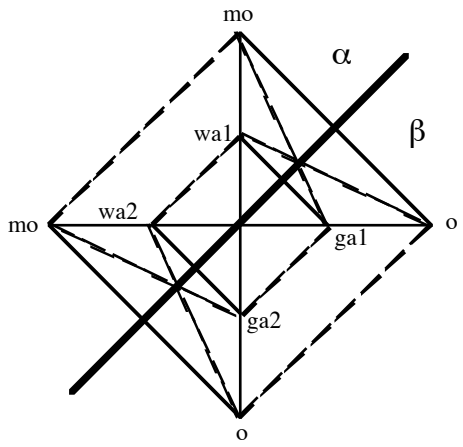
5. Evidence and Future Research

The following table shows the syntagmatic relations between Japanese argument particles and element particles.*) Note: *o-ba* is no more used in contemporary Japanese.

Table:

Case name	**arg. particle**	**arg. particle + wa**	**arg. particle + mo**
nominative	ga	--	--
accusative	o	o-ba*)	o mo
dative	ni	ni wa	ni mo
allative	e	e wa	e mo
instrumental	de	de wa	de mo
comitative	to	to wa	to mo
ablative	kara	kara wa	kara mo
terminative	made	made wa	made mo

It is very important for our purpose to notice that neither *ga+wa nor *ga+mo are grammatically correct[4]). This fact leads us to the following conclusions. Although as such wa and ga particles belong to different classes (*wa* is representative for set-theoretical relations - Element's identity or image - on the one hand and *ga* is representative for predicative relations - Argument - on the other), but their usage is such that they interact in the way that the system which combines *argument* particles with *element* particles seems to be changing in contemporary Japanese. If we represent predicative relations by the horizontal axis, ga_1 as a nominative (though sometimes ambiguous) case marker goes not only together with *o* as an accusative case marker, but also with the particles wa_2 and mo_2. Analogously, if we represent set-theoretical relations by the vertical axis, wa_1 as an exocentrically oriented (reflexive) identity marker goes not only together with ga_2 as an endocentrically oriented (reflexive) identity marker, but also with the particles o_2 and mo_1. Thus, we observe that the "boomerang opposition" described above is the result of interactions between "cases" and "images" in the dynamic diachrony[5] of the standard Japanese syntax .



The interaction between some case particles and some element particles

In the figure, we did not distinguish clearly neither between mo_1 and mo_2 nor betwenn o_1 and o_2 because, as the matter of fact, there is still not as much difference between them

[4]) The dialects of Kyushu where the combination of ga and wa is possible cannot be taken as any proof of the contrary because dialects often develop their own structures in many areas of the particular language.

[5]) Cf. Jakobson R., 1963.

as between wa_1 and wa_2, on the one hand, and between ga_1 and ga_2, on the other hand, in contemporary Japanese.

The evidence of the Japanese language allows us to consider that there is a certain point where two apparently different logics should meet, namely the predicate and the set-theoretical calculi. Usually, logicians seem to consider that these two logics are interchangeable, because they say it is always possible to reinterpret one logic in terms of the other. As a linguist, I claim that both these calculi should be integrated into one generalised Logic bringing the actual (in praesentia) and the virtual (in absentia) relations together. We can do this under the condition that no confusion is made between the concept of Argument and that of Element.

BIBLIOGRAPHICAL REFERENCES

CHOMSKY N. (1968) : Deep Structure, Surface Structure and Semantic Interpretation, in Semantics. An Interdisciplinary Reader in Philosophy, Linguistics and Psychology

DESCLÉS J.-P. (1987) "Réseaux sémantiques", Langage N° 87, Éditions Larousse, Paris

HAGUENAUER Ch. (1960) : WA et GA, in "Mélanges de l'Institut des Hautes Études Chinoises", t. 2, Paris

HALLIDAY M.A.K. (1970) : Language structure and language function, in New horizons in linguistics, Londres

MATHESIUS V. (1928) : On linguistic characterology with illustrations from modern English, in Actes du premier congrès international des linguistes à la Haye, repris dans : A Prague school reader in linguistics, Indiana University Press, 1964, Bloomington

MIKAMI Akira (1960) : "Zô wa hana ga nagai" (The elephants have long trunks), Kuroshio ed.

MIKAMI Akira (1963) : "Nihongo no kôbun" (Japanese Syntax), Kuroshio ed.

MIKAMI Akira (1963) : "Nihongo no ronri" (Logic of the Japanese Language), Kuroshio ed.

WLODARCZYK A. (1977) : Le fonctionnement syntaxique du syntagme nominal japonais, in "Travaux de linguistique japonaise", Université de Paris 7, Vol. N° 4, Paris

WLODARCZYK A. (1979) "La linguistique et ses applications aux études japonaises en France", in "Actes du colloque scientifique franco-japonais", Paris (reprinted in "Le Japon vu depuis la France", p. 195-208, Maison Franco-Japonaise, Tokyo - 1981)

WLODARCZYK A. (1980) "Shudai kara shugo e, soshite shugo kara shudai e - wa to ga", dans GENGO (revue mensuelle), vol. 9, N° 8, Taishûkan Publishing House, Tokyo

WLODARCZYK A. (1982) "Entre le thème et le sujet - wa et ga", in "Travaux de linguistique japonaise", Vol. VI, Université de Paris VII, Paris