# Functions of Japanese Postpositonal Word "wa" and "ga" from cognitive point of view

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#### 1 Preface

Japanese postpositional function word "wa" and "ga" plays an important role in Japanese. But its usages are rather complicated. It seems very difficult for a foreigner to have a good command of Japanese. For example, both;

"ame-ga fut-te-iru" and "ame-wa fut-te-iru"

can be simply translated into English;

"it is raining".

However these two expressions have different meaning and are used in different situation.

Both "wa" and "ga" can indicate "subject". "wa" also can indicate "object" or adnominal and other cases. "ga" can also indicate "object". Both "wa" and "ga" can appear simultaneously in one sentence at several places.

There have been many discussions about what "wa" and "ga" is. Susumu Kuno investigated the uses of "wa" and "ga" in his book[1]. He classified the usages of "wa" and "ga" as follows.

- (a) "wa" for the theme of a sentence: "Speaking of ..., "
  John-wa gakusei-desu.
  [Speaking of John, he is a student.]
- (b) "wa" for contrasts: "X ..., but ..."
  Ame-wa futte-imasu-ga ...
  [It is raining, but ...]

- (c) "ga" for neutral descriptions of actions or temporary states. Ame-ga futte-imasu. 'It is raining'
- (d) "ga" for exhaustive listing. "X and only X ..."John-ga gakusei-desu.[(Of all the people under discussion) John (and only John) is a student.]

All these discussions concerning "wa" and "ga" so far including Kuno's one are phenomenological ones where various uses of "wa" and "ga" are merey listed and ordered, and where exists various exceptions. There have been few discussions concerning the intrinsic functions of them which explain the mechanism that yield those linguistic uses.

In this paper, the simple principles on cognitive level on the functions of "wa" and "ga" are proposed and some requisits as a natural consequence of this principle are introduced. We can elucidate the mechanism that yields the linguistic phenomena concerning "wa" and "ga" based on these principles and requisits. Some of them are described bellow.

## 2 The intrinsic function of "wa" and "ga" on cognitive level

We assume that the intrinsic functions of "wa" and "ga" as follows.

Function of "wa":

In  $\{W\text{-wa }V\}$ , W-wa is a declaration of a current topic world by the speaker as;

"I will from now describe the world W. Please pay attention to W".

Function of "ga":

In {G-ga P}, G is a key entity in the current topic world on which the speaker focuses his eyes in order to make a description of the current topic world.

A man's memory contains a world model which is the result of all kinds of cognition including the relationships among them. A target for cognition is the actual world or the world model itself, and cognition is done with some highlighted part of it in its viewfield. Utterance is a linguistic expression of the contents of cognition. The current topic world above which corresponds to this viewfield is the target that the utterance is aiming to represent. It may be a physical scene just in front of a man or an entity in his or her world model, or it may be a highlighted area related to it in the world model.

The reason why an utterance by a person can be understood by another person is that they have a common world model and they talk while keeping a common topic world in their viewfields. The listener receives the contents of the utterance, and constructs or reconstructs the contents of the topic world in his or her world model, or responds to it by some action.

When we describe a world with language, which is a one dimensional description device, and if the description is not on the current topic world as a whole, we have no other choice but to describe the world by a repetition of focussing our eyes on one entity in the current topic world and telling about the entity. Here, "ga" indicates the entity on which we are focused our eyes in order to make a description of the current topic world.

The following propositions are requirements of our cognitive level view on "wa" and "ga" above from the very nature of things.

#### Requisit: 1

When "wa" is used, the listener must be able to direct attention to W.

#### Requisit: 2

When "wa" is used, the listener must be able to benefit from his attention to W.

#### Requisit: 3

The uses of "ga" presumes some topic world which are to be described.

#### Requisit:4

The sentence of {G-ga P} must be worthwhile as a description for the topic world.

On the surface, it seems that this characterization of the function of "wa" is equivalent to the conventional explanation for "wa" as a topic marker. But it is not simply a marker for setting off the topic or subject in a grammatical sense. It is a declaration by the speaker that directs the listener's attention to an item about which the speaker is going to reveal information. We want to stress that "wa" has a very active function in the process of cognition.

And what we want to emphasize in the characterization of the function of "ga" described above is that, in the Japanese sentence of {G-ga P}, the description is on the current topic world, and not on G. In other words, the primary matter which the speaker is trying to describe is the current topic world, and not G itself. The speaker is trying to describe the current topic world via G.

Based on these principles and requisits, we can elucidate the mechanism that yields the various linguistic phenomena concerning "wa" and "ga". Some of them are described in the following section.

# 3 Mechanism of some phenomena arround "wa" and "ga"

### 3.1 "ga" for exhaustive listing

Kuno provides the following analysis for "ga" for neutral description and for exhaustive listing[1, pp.32].

"ga" for neutral description can be allowed only when the predicate verb indicates an action, an existence or a temporary state. If the predicate verb indicates a constant state or a habitual action, it is interpreted only as an exhaustive listing.

Here we consider the mechanism of how an interpretation of "ga" as an exhaustive listing occurs.

- (1) Taro-ga gakusei-desu. [(Of all the people under discussion,) Taro (and only Taro) is a student.]
- (2) Ame-ga fut-te-i-masu. [It is raining.]

As the requisit:3 described in the previous section indicates, description (1) presumes a topic world which includes "Taro". It may very well be that this topic world is a scene in which there are several persons including "Taro". And, because of the requisit:4, the description must be worthwhile as a description of the topic world (the scene). If description (1) is interpreted simply as describing an attribute or a characteristic of "Taro", it is a description of "Taro", and not of the topic world (the scene). On the contrary, the interpretation, as an exhaustive listing, that {Only Taro in the scene is a student.} is a description of the scene, and not of "Taro". That is, a description as a constant state or a habitual action is a description of an entity itself and not a description of the scene.

Description (2) does not describe an attribute nor the characteristics of "ame [rain]", but simply describes the situation of the scene. This is an interpretation as a neutral description. Example (2) may allow the interpretation of exhaustive listing that {Not snow, but rain is falling}, but this type of interpretation associated with emphasis is generally possible with an arbitrary