**A. ON NP wa NP ga PREDICATE CONSTRUCTIONS IN JAPANESE**

1. Basic Sentence Structure

1. \( S \rightarrow (PS) \text{ NP } + \text{ ga } \rightarrow \text{ Predicate (Tag)} \)
2. \( PS \rightarrow \text{ Introd } \rightarrow \text{ DP} \)
3. \( \text{ NP } \rightarrow (\text{ Det}) \text{ N } (\text{ Def}) \)
4. \( \text{ Predicate } \rightarrow (\text{ DP}) \text{ MV } \rightarrow \text{ Aux} \)
5. \( \text{ MV } \rightarrow \{ \text{ VP } \}, \text{ AP} \)
6. \( \text{ VP } \rightarrow \left( \left\{ \text{ NP } + \left( \text{ Comp } \right) \right\} \right) \rightarrow \text{ V} \)
7. \( \text{ AP } \rightarrow \text{ Pred } \rightarrow \text{ ar} \)
8. \( \text{ Pred } \rightarrow \left\{ \text{ NP } - \left\{ \text{ de } \right\} \right\} \)
9. \( \text{ V } \rightarrow \left\{ \begin{array}{l} \text{ Vt } \text{ in env/NP o } \rightarrow \text{ Vn } \text{ in env/Comp } \rightarrow \text{ Vi } \text{ in env/otherwise } \end{array} \right\} \)
10. \( \text{ Vt } \rightarrow \left( \text{ Comp } \right) \text{ Vt}_{1} \)
11. \( \text{ Vt}_{1} \rightarrow \left\{ \begin{array}{l} \text{ Vt}_{1c} \text{/Comp } \rightarrow \text{ Vt}_{1x} \text{/otherwise } \end{array} \right\} \)
12. \( \text{ Comp } \rightarrow \left\{ \begin{array}{l} \text{ NP } - \left\{ \text{ ni } \right\} \right\} \right\} \)
13. \( \text{ Aux } \rightarrow \left\{ \begin{array}{l} \text{ perfect } \right\} \right\} \right\} \)

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14. \[ \text{DP} \rightarrow \left\{ \begin{array}{c} \text{NP (Post)} \\ \text{A - ku} \\ \text{D} \end{array} \right\} \]

15. \[ \text{Post} \rightarrow \text{ni, to, e, de, kara, yori, made.} \]

16. \[ \text{Tag} \rightarrow \text{Modal + Emotive} \]

17. \[ \text{Modal} \rightarrow \left\{ \begin{array}{c} \text{rasii} \\ \text{yar} \end{array} \right\} \]

18. \[ \text{Emotive} \rightarrow \left\{ \begin{array}{c} \text{sa, ka} \\ \text{yo, ze} \\ \text{to, tomo} \end{array} \right\} \]

2. **Wa-Attachment and Thematization**

a. **Wa-Attachment**

R(1) **Wa-attachment rule: (optional)**

\[ X - \text{Preverb phrase} - Y - \text{Verb} \]

\[ \rightarrow 1 - 2 + \text{wa} - 3 - 4 \]

where Preverb phrase means \[ \left\{ \begin{array}{c} \text{NP} \text{ (Post, ga or o)} \\ \text{VP + te} \\ \text{A + ku} \end{array} \right\} \]

and Verb means \[ \left\{ \begin{array}{c} \text{V} \text{ar} \end{array} \right\} + \text{Aux} \]

Conditions:

1. \( X \) and \( Y \) can be zero.

2. Preverb phrase must not be part of other phrase, but a complete phrase.

**Phonemic rule:**

R(2) \[ \left\{ \begin{array}{c} \text{/ga/} \\ \text{/o/} \end{array} \right\} \rightarrow \phi \quad \text{in env/NP} \rightarrow \text{wa} \]

R(3) \[ \left\{ \begin{array}{c} \text{/ni/} \\ \text{/e/} \\ \text{/de/} \\ \text{/to/} \end{array} \right\} \rightarrow \phi \quad \text{in env/NP} \rightarrow \text{wa} \]

We generate sentences (1b), (2b), and (3b) from their sources (1a), (2a), and (3a).

1. (a) \text{Watasi ga Kyushuu ni ikimasita.}

   (b) \text{Watasi wa Kyushuu (ni) wa ikimasita.}

   ("I went to Kyushu.")

2. (a) \text{Ani ga hon o kuremasita.}

   (b) \text{Ani wa hon wa kuremasita.}

   ("Brother gave me a book.")
b. Thematization

In Japanese syntax the notion "theme" (i.e., the main topic of the sentence) is distinct from the notion "topic" (i.e., the subtopic): they are generated by different rules. Wa-attachment produces "topic," but not necessarily "theme." Thematization produces theme, and its operation is restricted to some classes of preverbs.

R(4) Thematization: (optional)

\[
X - \text{Preverb'} - Y - \text{Verb}
\]

\[
\Rightarrow 1 - 2 + \text{wa} - 3 - 4 \quad \text{(Rule R(1))}
\]

\[
\Rightarrow 2 + \text{wa} - 1 - 3 - 4 \quad \text{(Permutation)}
\]

Condition: Preverb' = \[
\begin{cases}
\text{NP} \\
\text{NP} - \text{Post} \\
\text{NP} - \text{ga, Q}
\end{cases}
\]

Notice that the thematization rule does not operate on A + ku or on VP + te; thus, the sentences *(4) and *(5) are ungrammatical.

*(4) Utukusiku wa kono kabin wa arimasen.

*(5) Ik te wa anata wa gakkoo ni ikemasen.

ILLUSTRATION: In each set of the following sentences, (b) is transformed from (a) by thematization.

(6) (a) Ima kara sensei ga Oosaka ni ikare masu.
    (b) Sensei wa ima kara Oosaka ni ikare masu.

(7) (a) Haha ga fukeikai ni ikimasita.
    (b) Fukeikai ni wa haha ga ikimasita.

(8) (a) Titi ga sono hon o kawte kuremasita.
    (b) Sono hon wa titi ga kawte kuremasita.

Notice that the theme dominates the rest of the sentence: wa attached to the theme marks the boundary between the theme part and the comment part, and in the comment part more than one sentence can be embedded. Thus

(9) Waga kuni no uma wa (theme)/se mo hikuku, taikaku mo otorte ita ga, kinnen gaikoku kara taneuma o yunyuu sita no de, ooi ni kairyoo sare te iru. (Comment: 4 sentences.)
3. NP wa NP ga Pred Constructions

Observe the following sentences.

(10) Kare wa atama ga yoi.
("he     head      good")

(11) Boku wa hara ga tatta.
("I became angry.") (Literally: "I stomach stood up")

(12) Heya wa kagi ga kake te aru.
("room   key      locked    is")

(13) Watasi wa eiga ga mitai.
("I       movie     want-to-see")

(14) Watasi wa hebi ga kowai.
("I       snake     afraid")

(15) Keioo wa yakyuu ga tuyoi.
("Keioo   baseball  strong")

(16) Soozi wa watasi ga simasita.
("clean-up I    did")

(17) Raishuu wa siken ga aru.
("next week  exam    is")

(18) Kare wa sakana-turi ga shumi da.
("he          fishing   hobby")

They have the same surface structure: NP wa NP ga Predicate. The only difference perceivable by superficial observation is in the predicate: some have "adjective" and others have "verb."

By a little more reflection we could reveal two types of relationships between NP1 and NP2 or NP3.

(i) "Bound" type of relationship: in the sentences (10) and (11) NP2 is bound by NP1 in the sense that any variable for NP2 must belong to the variable for NP1. The "bound" relationship holds between NP1 and NP3 in the sentence (18).

(ii) "Free" type of relationship: in the rest of the sentences no such relation exists: NP2 can be chosen freely.

Deeper analysis would reveal underlying structures of these sentences: five different types of sentences are discovered in these apparently same constructions.
These classes of sentences are generated by five different transformations, as discussed below.

4. Analysis

a. Kare wa atama ga yoi

\[ T(1) \] (Generalized transformation)
\[
\text{(Matrix S)} \quad \text{NP}_1 + \text{ni} - \text{NP}_2 + \text{ga} - \text{ar} + \text{Aux}\]
\[
\text{(Const. S)} \quad \text{NP}_2 + \text{ga} - \text{Predicate}
\]
\[\begin{array}{c}
1 \\
2 \\
3 \\
4 \\
5 \\
\end{array}\]
\[
\Rightarrow 1 - 4 - 5
\]
\[
\text{(Replace 2-3 by 4-5 in matrix S)}
\]
\[
\Rightarrow 1 + \text{wa} - 4 - 5
\]
\[
\text{(Thematize 1)}
\]

We generate the following sentences by this rule:

(19) Zoo wa hana ga nagai.
("elephant nose long")

(20) Kare wa kuti ga warui.
("he mouth bad" – "he has evil tongue.")

(21) Kare wa mimi ga warui.
("he ear bad")

(22) Taroo wa haha ga sin-ta.
("Taroo mother died")

(23) Kare wa ki ga tigaw-ta.
("he spirit erred")

(24) Ano mise wa to ga simar-te iru.
("that store door closed is")

Etc.

b. Watasi wa mizu ga nomitai

\[ T(2) \] (Adjectivalization)
\[
\text{NP}_1 + \text{ga} - \text{NP}_2 + \text{o} - \text{Vt} + \text{Aux} \Rightarrow \text{NP}_1 + \text{wa} - \text{NP}_2 + \text{ga} - \text{AP} + \text{Aux}\]
There are three subclasses in this class.

(i) Watasi wa mizu ga nomitai.
(ii) Watasi wa sigoto ga turai.
(iii) Watasi wa sakanaturi ga shumi desu.

\[ T(2a) \ NP1 + \underline{ga} - NP + o - Vt + Aux \implies NP1 + wa - NP2 + \underline{ga} - Vt + \text{itaku} + ar + Aux - (Tag) \]

Condition: if NP1 is other than first P. sg., tag is added.

ILLUSTRATION:

(25) Watasi ga eiga o miru. \implies Watasi wa eiga ga mitai.
("I movie see-wish")

(26) Kare ga sake o nomu. \implies Kare wa sake ga nomitai no da.
("he wine drink-wish surely")

\[ T(2b) \ NP1 + \underline{ga} - NP2 + o - A + \underline{gar} - Aux \implies NP1 + wa - NP2 + ga - A + ku + ar + Aux - (Tag) \]

Condition: same as (2a)

ILLUSTRATION:

(27) Watasi ga hebi o kowa-gar-u. \implies Watasi wa hebi ga kowa-i.

(28) Kare ga sigoto o tura-gar-u. \implies Kare wa sigoto ga tura-i yoo da.
("he work hard seems")

\[ T(2c) \ NP1 + \underline{ga} - NP2 + o - NP3 + to-su + Aux \implies NP1 + wa - NP2 + ga - NP3 + de + ar + Aux \]

(29) Kare ga ongaku o shumi to suru. \implies Kare wa ongaku ga shumi de aru.
("he music taste")

(30) Tanaka ga kane o meate to suru. \implies Tanaka wa kane ga meate de aru.
("Tanaka money aim is")

c. Keioo wa yakyuu ga tuyoi

\[ T(3) \ NP1 + \underline{ga} - NP2 + ni - AP + Aux \implies NP1 + wa - NP2 + \underline{ga} - AP + Aux \]

(31) Keioo ga yakyuu ni tuyoi. \implies Keioo wa yakyuu ga tuyoi.

(32) Higai ga yoru ni ooi. \implies Higai wa yoru ga ooi.
("damage night many")

(33) Ryokoo ga kaeri ni turai. \implies Ryokoo wa kaeri ga turai.
("travel return hard")
d. Soozi wa watasi ga simasita

\[ T(4) \quad NP1 + ga - NP2 + \left\{ \begin{array}{l} \text{Post} \\ \text{AP} \end{array} \right\} + \text{Aux} \]

Apply \( R(4) \) (Thematization) to 2 \( \Rightarrow 2 + wa - 1 - 3 \)

(34) Watasi ga soozi o sita. \( \Rightarrow \) Soozi wa watasi ga sita.

(35) Watasi ga Oosaka e ikimasyoo. \( \Rightarrow \) Oosaka (e) wa watasi ga ikimasyoo.

(36) Titi ga shachoo to aimasita. \( \Rightarrow \) Shachoo (to) wa titi ga aimasita.

("president (with) father met")

(37) Suri ga Asakusa ni ooi. \( \Rightarrow \) Asakusa (ni) wa suri ga ooi.

("Asakusa (at) pick-pocket many")

ea. Raishuu wa siken ga aru

\[ T(5) \quad \text{(PS Thematization)} \]

\[ NP1 + (Post) - NP2 + ga - \text{Predicate} \]

Apply \( R(4) \) to 1 \( \Rightarrow 1 + wa - 2 - 3 \)

(38) Kinoo ame ga furta. \( \Rightarrow \) Kinoo wa ame ga furta.

("Yesterday rain fell.")

(39) Raishuu siken ga aru. \( \Rightarrow \) Raishuu wa siken ga aru.

(40) Kyoo kyaku ga kita. \( \Rightarrow \) Kyoo wa kyaku ga kita.

("Today guest came.")

(41) Saikin kazi ga ooi. \( \Rightarrow \) Saikin wa kazi ga ooi.

("recently fire many")

(42) Tookyoo ni hito ga oosugiru. \( \Rightarrow \) Tookyoo (ni) wa hito ga oosugiru.

("Tokyo (in) population too many")

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