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# Tomoaki IHARA

Showa Women's University, Japan iharato@swu.ac.jp

We need summary and sequential scanning - a case study in Japanese -

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We need summary and sequential scanning --- a case study in Japanese ---

IHARA Tomoaki @ Showa Women's University, Japan

In this paper I demonstrate the psychological plausibility of **summary** and **sequential scanning**, two modes of cognitive processing postulated by Langacker. Some academic articles have claimed a lack of independent evidence, but I would support the theory by showing some of linguistic evidence in English and Japanese, although there is more to be improved than Langacker would expect.

### [Why do we need it? Motivation of Both Scanning]

The two modes of scanning is fully motivated. Human beings has the following two basic modes when perceiving/construing objects or situation; **Comprehensive** and **Analytical/Synthetical construal**.

The former can also be called **Gestalt perception/ construal**. The whole is other than the sum of the parts. We, through this scanning mode, see objects or situation as perceived within environment according to all of the elements taken together as a whole construct. For instance, when you look at an entire tree, you are not conscious of the parts such as trunk, branches, leaves, blossoms and fruits, you are aware of the overall object – the tree. Parts are of secondary importance even though they can be clearly seen. When something is in motion, we can see it as a whole gestalt, although Langacker has never expected; Phi phenomenon is a good example. In the linguistic field, we use Gestalt construal when we see an idiomatic expression; "pull the plug" means "stop", and the meaning is not the sum of constituent elements. So, this is similar to the construal of picture.

The latter can be related to **Reductionism**. It is a theoretical position which holds that a complex system is nothing but the sum of its parts, and that an account of it can be reduced to accounts of individual constituents. This can be said of objects, phenomena, and meanings. When we interpret the phrase "pull the plug" not idiomatically, we really do mean it as the sum total of the constituent words. So, this is similar to the construal of motion picture.

Langacker thinks summary scanning is mainly related to nouns (atemporality) whereas sequential scanning is to verbs (temporality), but I believe the difference is not the matter of whether it is a noun or a verb. Even nouns can be sequentially scanned, that I will explain below.

### [Illustration]

The examples begin with noun of multitude. In the following sentences, (a) is scanned summarily and (b) sequentially.

- (1a) The crew consists of 20 persons.
- (1b) The crew were all saved.
- (2a) A large crowd was assembled.
- (2b) The crowd were deeply moved.
- (3a) The audience is very quiet.
- (3b) The audience are requested to take their seats before the performance begins.

As is clear from the examples above, the subject of the (a) sentences is singular, and those of (b) is plural.

The second example is the opposition of event noun versus entity noun. In the following pairs, (a) is an entity noun scanned summarily, and (b) is an event noun scanned sequentially.

- (4a) a roll = a piece of flat material that has been rolled into a tube.
- (4b) a roll = an act of rolling; a rolling movement, over and over or from side to side.
- (5a) a discovery = a thing that has been discovered.
- (5b) discovery = the event of discovering.

- (6a) a translation = something that has been translated.
- (6b) translation = the act of translating.

we can also scan them summarily. However, when we count the noun of (b) sentences, we scan them sequentially.

The third example is about quantifier float. If quantifier modifies a noun, we scan it summarily. If it functions as adverb, we scan it sequentially.

- (7a) All the students left.
- (7b) The students all left.
- (8a) Kare ha jussatsu no hon wo yonda. (He read ten books.)
- (8b) Kareha hon wo jussatsu yonda. (He read books for ten.)
- (9a) He made a ten-minute run (for two miles).
- (9b) He ran (two miles) in ten minutes.

The ordinal number relates with sequential scanning.

- (10a) Zwei Kaffee. (Two coffees.)
- (10b) Zweimal Kaffee. (Coffee two times.)
- (11a) He had three colds this winter.
- (11b) He had cold three times this winter.

In Japanese, different particles (postpositions) matches to either scanning. "Ni" of locative, which co-exists with entity noun as subject, is scanned summarily, whereas "de", which coexists with even noun as subject, is scanned sequentially.

- (12a) Hondana ni chikyugi ga aru. (There is a terrestrial globe on the bookshelf.)
- (12b) Koudou de sotsugyoshiki ga aru. (We hold a commencement at the hall.)

Also, "ni", which renders the locative noun as static, is scanned summarily whereas "wo", which gets the same locative noun as dynamic, is scanned sequentially.

- (13a) Mono arau mae ni hotaru no hutatsu mitsu. (A couple of fireflies can be seen when I have a wash.)
- (13b) Mono arau mae wo hotaru no hutatsu mitsu. (A couple of fireflies can be seen flying when I wash things.)

We scan "mo" summarily and "de mo" sequentially. Both "mo" and "de mo" are coexistent with interrogatives such as "itsu" (when), "doko" (where), or "dare" (who).

- (14a) Kono mise no gohan ha itsu mo oishii. (Food of this restaurant is always good.)
- (14b) Kono mise no gohan ha itsu de mo oishii. (Food of this restaurant is good on every occasion.)

The last example is about a lexical difference. "Hashiru (run)" and "Hitoppashiri (a run)" function roughly the same. However, the former is a verb and invokes sequential scanning, whereas the latter is used as single gestalt which invokes summary scanning.

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