

**A lexicogrammatical perspective in
encoding dictionaries
—with reference to ‘pain’ examples
in English and in Japanese**

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Abstract

This paper addresses a problem in the current *encoding* bilingual dictionary models, and argues for the necessity of having a lexicogrammatical perspective in such dictionaries, by discussing a pair of equivalents in English and in Japanese. Because existing *encoding* dictionaries base their models on *decoding* dictionaries, they force users to start from a fixed lexical item. This paper demonstrates why such a lexically bound *encoding* process is not preferable, and argues that a more lexicogrammatical approach is necessary in order to enhance the level of naturalness in target languages. First of all, the paper examines the textual grammar of ‘pain’ both in English and in Japanese. Secondly, it analyses the predicate information according to types of adjectives in Japanese with reference to corpus data. Thirdly, it establishes a lexicogrammatical unit larger than a single lexical item. These arguments will finally lead to a conclusion that an alternative model is necessary for *encoding* bilingual dictionaries.

Keywords

lexicography, lexicogrammar, phraseology, encoding dictionaries

1 Introduction

There are two types of dictionaries, the *decoding* one and the *encoding* one. *Decoding* dictionaries are those that are mainly used in order to understand meanings of a language. *Encoding* dictionaries are designed for the production purpose, in order to express one’s ideas in a foreign language etc. Since the advent of computerised corpora, the general quality of dictionaries has been undoubtedly improved, especially the series of monolingual English

learner dictionaries. Yet the improvement in *encoding* dictionaries is scarce, and often there has been a sense of frustration associated with such dictionaries that they are hardly useful in a practical sense. The following English sentence and its Japanese equivalent show a rather complex process of encoding.

- 1a I have a headache.
 1b (*Watashi-wa*) *atama-ga itai (desu)*.
 [(I-*wa*-TOP¹) head-*ga*-NOM² painful (am).]

At a glance, this process may not look too complicated, in terms of the level of vocabulary, or syntactic structures. However, a close comparison reveals that there are few similarities between the two. The subject in English *I* is obligatory, whereas the subject *watashi* in Japanese should be given a null spellout. The verb used in English is *have*, on the other hand, the Japanese translation uses the copula *desu*, which is not overtly shown either. Most importantly, the experience of ‘having a pain in one’s head’ is encoded by the single noun *headache* in English, while Japanese uses the adjective *itai* (painful) together with the noun *atama* (head), which are linked by a nominative case marker *-ga*. A question is naturally posed whether such linguistic differences can be encoded in contemporary lexicography, particularly in bilingual dictionaries for language learners. In what follows, some of the major linguistic frameworks that relate to this matter are described.

Halliday (1998) extensively discusses the grammar of pain and its related expressions in English. Based on the article, Hori (2006) analyses the same domain in Japanese, and there she notes that many of the English expressions classified by Halliday could be translated by the adjective ‘*itai* (painful)’ in Japanese³. Hori also observes the inalienability between ‘a pain’ and its speaker, and claims that “pain is described inherently from the speaker’s point of view”, and argues that the grammatical complexity of the clause increases as the inalienability between the subject and the pain decreases. However, this view is by no means new or unique. As early as in 1972, Nishio (1972) classifies Japanese adjectives into two categories, attributive and emotional, and he states that emotional adjectives (which include sensory adjectives under its subcategory) take only first person as their subject. Otherwise, emotional adjectives would require a structural change, such as the addition of *-garu* (verbal suffix) or *-souda* (modal marker) in the predicate (Fukuhara 2009, 221-222). Teramura (1983, 1993) also discusses the emotional adjectives quoting Koyama’s (1966) observation. According to Teramura, if third person subject is used with emotional adjectives, a variety of modal markers are added to change the structure. He also notes that structural changes do not occur in the past tense and in narratives even when third person subjects are used with emotional adjectives.

Although Halliday and Hori give a comprehensive view of the grammar of pain in English and in Japanese, that is not the aim of the current research. This paper tries to discuss the pair of equivalents more in depth, from the lexicographical point of view. This study focuses on the following points: Firstly, although many linguists claim that emotional and sensory adjectives take only first person subjects, their positions are often unclear whether they assume a null spellout or an overt spellout for such subjects. This has an important implication for the textual grammar of pain. This paper takes the view that sensory adjectives always take a null subject, and filling the slot by any subject (including first person) triggers structural changes. Some corpus evidence will be provided. Secondly, there has hardly been a

¹ TOP: topic marker.

² NOM: nominative case marker.

³ 21 out of 24 examples from Halliday are translated by the adjective *itai*.

consensus on what should be categorised as ‘sensory adjectives’. A clearer definition of sensory adjectives will be given in the following sections. Thirdly, based on the discussion, this paper proposes a lexicogrammatically unified unit larger than a single lexical entry. Finally, followed by these arguments, an alternative entry model is proposed for *encoding* bilingual dictionaries.

2 Methodology and data from corpus

The structure of the Japanese translation quoted in 1b will be extensively discussed by using data from a corpus. The corpus used in this research is ‘Longman Contemporary Japanese Corpus (LJC)’. It was constructed in 2005 for the creation of *Longman English-Japanese Dictionary* (2007). It has 50 million words, and its written component has 40 million words, divided into the following four categories: academic books/papers, newspapers, magazines, and fictions (each category consists of 10 million words). The spoken component has 10 million words, divided into two categories: A corpus of spontaneous Japanese developed by National Institute of Japanese Language (7 million words), and the captioned data for TV talk shows provided by NHK (Japan Broadcasting Corporation).

2.1 Textual grammar of pain

Halliday (1998) argues that having *I* as a Theme is more natural than having *my head* as a Theme.

In English (as in many other languages, though not all), there is a particular meaning associated with first position in the clause. Whatever element is put in initial position is being construed by the speaker as the theme of the message: ... Now if I say *my head aches*, or *my head's aching*, the first element in that clause is *my head*; I have constructed a message in which my head is presented as the Theme. But this is not the way the situation presents itself to me. Where I start from, what I feel to be the setting of this unpleasant experience, is not my head, it is me—my self, as a whole.

(Halliday 1998, 4)

Halliday further argues that typologically speaking, this is true in many languages. He quotes examples from French, Russian, and Chinese. For example, in Chinese, the language prefers *wǒ tóu téng*. (me+head+aches) to *wǒdi tóu téng*. (my head aches).

Halliday's view should be also reflected in Example 1b. It could be hypothesised that the translation favours *atama-ga itai* (head-ga painful) over a noun, for example *zutsuu* (headache), in order to keep the Thematic position to *I*. However, interestingly, it is more natural to have a null subject here than an overt one. There are 108 examples altogether for the pattern *atama-ga itai* (head-ga painful) in LJC, nonetheless, there are only 5 examples with the overt subjects, and only 2 of them take first person as a subject, either ‘*watashi*’ or ‘*ore*’⁴. When the Theme position is actually filled with the subjects, the grammatical structures are somehow affected. Below are the examples quoted from the corpus.

⁴ ‘*Ore*’ is first person male singular subject.

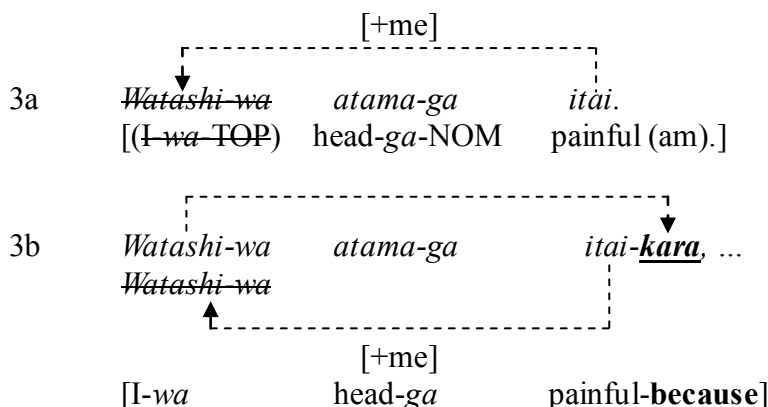
- 2a *Ore-wa atama-ga itai-kara, ...*
[I-wa head-ga painful-**because**]
2b *Watashi-wa atama-ga itaku nattekita.*
[I-wa head-ga painful-**becoming**.]
2c *...Okano wa atama-ga itaku naru.*
[...Okano-wa head-ga painful-**become**.]
2d *Kare-wa shikirini atama-ga itai to uttaeteita.*
[He-wa constantly head-ga painful **that** claimed]
2e *“imouto-wa ‘atama-ga itai’ to sagyou wo yasumitagatta.”*
[“My sister-wa ‘head-ga painful’ **that** she wanted to stop the work.”]

Example 2a is marked by the particle *-kara* which is used to give a reason, and the whole sentence was made into a subordinate clause. In 2b, *itai* is changed into a verb form with *-te kuru*, showing a gradual change of the state. In 2c, *itai* is also verbalised with *-naru* to mean ‘become painful’ without any gradual sense. The quotation particle *-to* is added in 2d and 2e, making the sentence into indirect or direct quotation.

2.2 A link to a null theme

The examples in the previous section empirically supports Teramura’s (1983, 1993) arguments. Teramura expands Koyama’s (1966) claim and demonstrates several important observations regarding emotional adjectives. First of all, he writes that emotional adjectives with third person subjects can take a variety of modal markers such as *-youda*, *-souda*, *-rashii*, *-hazuda* etc. Secondly, the structural change could happen in subordinate clauses such as giving reasons as in 2a, or reporting clauses as in 2d and 2e, besides in noun modifying clauses which was pointed out by Koyama. Thirdly, he also argues that third person subjects can take the adjective without any structural change in the past tense, because in the past tense, a speaker (or a writer) is not expressing the subject’s feeling but simply describing an event in the past. Finally, he adds that in narratives, third person subjects can occur freely with emotional adjectives because of the writing style.

It is worth noting that Teramura does mention that first person subjects tend to be given a null spellout with emotional adjectives. However, he does not anticipate any structural change with an overt first person subjects as in 2a and 2b above. What is interesting here is the fact that the subject being first or third person does not matter much, but any subject which fill the Theme position causes a structural change. A hypothetical structure for the target sentence is described as follows.



The predicate *itai* has the [+me] feature as described in 3a, which has the link to the null subject ~~*watashi-wa*~~. Because of the link, the default setting for the Theme is to be given a null spellout. When the slot is actually filled by other subjects (or even by *watashi-wa* itself), in other words, when the Theme is given an overt spellout, it will cause a further structural change in order to shift the focus of the clause. In 3d, when *watashi-wa* is given an overt spellout, another link has to be shown, in the context of ‘giving a reason’ in order to differentiate from the old link which connects the adjective and the null theme. The important point here is that the null Theme ~~*watashi-wa*~~ does exist, but it is given a null spellout. Hori (2006) gives a different interpretation as follows:

4	<i>Atama-ga</i>	<i>itai.</i>
	[Head- <i>ga</i> -NOM	painful.]
	(Carrier	Process: relational: attributive)

Here she analyses the body part as a carrier, the grammatical subject of the clause, therefore the Theme would fall onto the body part rather than *I*. This contradicts with Halliday’s view. Hori also quotes an example that has *watashi* as an overt Theme. She analyses it as a case of contrastive *-wa* and treat it as a special case (Hori 2006, 215).

The explicit appearance of the speaker with the particle *wa*, [as in the example] usually marks the start of new information about the speaker or a presentation of him/herself as a contrast to someone else.

However 2a and 2b quoted above (or even 2c to 2e) are clearly not the cases of contrastive *-wa*. Hori’s position is unclear as to accepting the existence of null Theme or not.⁵ The analysis here takes the view that the null Theme is always present. Also, it assumes the existence of lexicogrammatical link between the predicate and the Theme as depicted in 3a and 3b. The evidence for the null Theme and the lexicogrammatical link will be discussed and presented further in the following sections.⁶

3 Types of adjectives in the predicate

A link to a null Theme, with [+me] feature, is hypothesised in the previous section. This section considers the predicate information more in detail according to the type of adjectives.

3.1 Definition of sensory adjectives

Adjectives in Japanese are semantically classified into three categories, attributive⁷, emotional, and sensory. Often the latter two are grouped together as ‘emotional/sensory’ adjectives. Koyama (1966), Nishio (1972), Masuoka and Takubo (1992) all classify adjectives

⁵ Example 4 clearly contradicts with the analysis that anticipates the null Theme. Also, in Hori’s (2006, 224) conclusion, she treats ‘*X-ga itai*’ and ‘*Watashi-wa X-ga itai*’ as different structures, therefore, she does not seem to take the view with the null Theme.

⁶ Hori presents the view of inalienability between the adjective *itai* and its sensor, however, she does not explain why they are inalienable.

⁷ This is the translation of ‘属性形容詞’ (*zokusei keiyoushi*). This is irrelevant to the grammatical distinction such as ‘attributive use’ or ‘predicative use’ of adjectives.

into two, including sensory adjectives under the emotional adjectives. Below are the examples of the three types of adjectives with the English translations.

	Example
Attributive adjectives	<i>ooki</i> (big), <i>chiisai</i> (small), <i>nagai</i> (long), <i>mijikai</i> (short), <i>takai</i> (high), <i>hikui</i> (low), <i>atarshii</i> (new), <i>furui</i> (old), <i>jyouzu da</i> (good at), <i>heta da</i> (not good at), <i>chikai</i> (close), <i>tooi</i> (far)
Emotional adjectives	<i>ureshii</i> (happy), <i>kanashii</i> (sad), <i>hoshii</i> (want), <i>sukida</i> (like), <i>nikui</i> (hate), <i>sabishii</i> (lonely), <i>tanoshii</i> (fun), <i>kurushii</i> (hard), <i>kawaii</i> (cute), <i>hazukashii</i> (embarrassed), <i>shinpaina</i> (worried)
Sensory adjectives	<i>itai</i> (painful), <i>kayui</i> (itchy), <i>darui</i> (dull, tired), <i>kusuguttai</i> (tickling), <i>kusai</i> (smelly), <i>urusai</i> (noisy), <i>mabushii</i> (dazzling), <i>oishii</i> (tasty)

Table 1 : Semantic classification of Japanese adjectives

Attributive (descriptive) adjectives are used to describe things or people and there is no restriction on which subject can appear with these adjectives. On the other hand, as observed in the previous section, emotional and sensory adjectives could only take first person as their subjects. These adjectives describe one's inner state, therefore, they are subjective.

There seems to be hardly any consensus on what should be included under the category of sensory adjectives. Under Table 1, adjectives which are connected with physical senses of touch, smell, taste, hearing, and seeing are included. In the next section, these sensory adjectives are analysed by the complements they take, the preceding nouns that are marked by the nominative case marker *-ga*. Based on the analysis, a revised definition of 'sensory adjectives' will be given in 3.3 below.

3.2 Types of complements marked by *-ga* for sensory adjectives

Table 2 summarises the types of complements which the sensory adjectives take with the nominative case marker *-ga*. They are ordered according to the frequency. It is immediately visible from the table, that the adjectives *itai* (painful), *darui* (tired, dull), and *kayui* (itchy) almost exclusively take nouns which denotes a body part in their complement position. In the case of *itai* (painful), 486 instances out of 527 occurrences (92.2%) take a body part in its complement position, and the body parts have 24 distinctive types. Similarly, *darui* (tired, dull) takes 8 kinds of body parts, reaching up to 90.6% in its frequency. *Kayui* (itchy) also takes 13 kinds of body parts, exceeding 83%. These figures clearly demonstrate the strong bond between these sensory adjectives and their complements, i.e. a part of body. *Kusuguttai* (tickling) gives a slightly different view. Its overall occurrence in the corpus is 40 times, however, it doesn't take the complement with *-ga* much, unlike the adjectives quoted above. It seems that the feeling of being tickled needs not specify the location in the body.

The adjectives in the right column in Table 2 display a totally different picture. It is very difficult to categorise the words which occur in their complement positions, therefore, only the top five frequent ones are quoted in the table. *Kusai* (smelly) indeed takes a wide variety of complements. It is obvious from the fact that the most frequent one occurs only 3

times out of 41, which is only a little more than 7%. *Urusai* (noisy) and *mabushii* (dazzling) are slightly easier to categorise, *urusai* having a type of sound or voice in its complement position (25.6%), and *mabushii* having a source of light (25%). *Shinryoku-ga mabushii* is more figurative and idiomatic. It should be noted that *oishii* (tasty) takes the comparative marker *hou* most frequently (14.6%), which reveals its inherent nature of being comparative.

	Words before <i>-ga</i>	Freq.
<i>itai</i> (painful)	BODY PARTS (24 kinds)	486 (92.2%)
	<i>no</i> (nominalization marker)	11
	<i>hou</i> (comparative marker)	7
	<i>kokoro</i> (mind)	7
	<i>kimochi</i> (mind, feeling)	6
	<i>doko</i> (question word)	4
	<i>kore</i> (demonstrative)	3
	<i>koko</i> (here)	3
	TOTAL	527

	Words before <i>-ga</i> (top 5)	Freq.
<i>kusai</i> (smelly)	<i>iki</i> (breath)	3
	<i>hou</i> (comparative marker)	3
	<i>-sui</i> (-water)	2
	<i>sore</i> (demonstrative)	1
	<i>kore</i> (demonstrative)	1
	TOTAL	41

	Words before <i>-ga</i> (top 5)	Freq.
<i>darui</i> (tired, dull)	BODY PARTS (8 kinds)	29 (90.6%)
	<i>shita</i> (below)	1
	<i>zentai</i> (whole)	1
	<i>ane</i> (sister)	1
	TOTAL	32

	Words before <i>-ga</i> (top 5)	Freq.
<i>urusai</i> (noisy)	<i>oto</i> (sound)	11
	<i>koe</i> (voice)	5
	<i>nakigoe</i> (cry of animals)	4
	<i>watashi</i> (I)	2
	<i>kuchi</i> (mouth)	2
	TOTAL	78

	Words before <i>-ga</i> (top 5)	Freq.
<i>kayui</i> (itchy)	BODY PARTS (13 kinds)	20 (83.3%)
	<i>tokoro</i> (place)	1
	<i>soko</i> (there)	1
	<i>kyoku</i> (music)	1
	<i>mawari</i> (surrounding area)	1
	TOTAL	24

	Words before <i>-ga</i> (top 5)	Freq.
<i>mabushii</i> (dazzling)	<i>shinryoku</i> (fresh green)	6
	<i>hikari</i> (light)	5
	<i>taiyou</i> (sun)	3
	<i>hizashi</i> (sunlight)	3
	<i>sugata</i> (figure)	2
	TOTAL	44

	Words before <i>-ga</i> (top 5)	Freq.
<i>kusuguttai</i> (tickling)	BODY PARTS (1 kind)	1
	<i>kokoro</i> (mind)	1
	<i>no</i> (nominalization marker)	1
	TOTAL	3

	Words before <i>-ga</i> (top 5)	Freq.
<i>oishii</i> (tasty)	<i>hou</i> (comparative marker)	54
	<i>kore</i> (demonstrative)	15
	<i>kuuki</i> (air)	11
	<i>no</i> (nominalization marker)	8
	<i>shokuji</i> (meals)	6
	TOTAL	369

Table 2: Complements of sensory adjectives

3.3 Revised definition of sensory adjectives

A clear distinction should be drawn between the adjectives in the left column (*itai*, *darui*, *kayui*, *kusuguttai*) and the ones in the right column (*kusai*, *urusai*, *mabushii*, *oishii*). Although structurally, all these adjectives can take a complement marked by *-ga* in their preceding position, the types of complements are totally different. To be more precise, the adjectives on the left take almost exclusively the body part as their complements (except *kusuguttai*), whereas a wide variety of words are allowed for the adjectives in the right

column. From another perspective, the source of stimuli which cause the sensations denoted by these adjectives, is inside (or on) ones' body in the case of *itai*, *darui*, *kayui*, *kusuguttai*, while stimuli clearly come from the outside in the case of *kusai*, *urusai*, *mabushii*, *oishii*. Based on these observations, the 'sensory adjectives' should be defined as the adjectives which the source of stimuli come from one's body. This definition still leaves a room to include the adjective such as *kusuguttai* although its complement does not show any similar feature as the other three adjectives. In fact, only a limited set of adjectives is categorised as sensory adjectives in Japanese.⁸

3.4 A particularly amenable structure for 'a pain'

When the scope is narrowed to the adjective *itai*, the fact that 92.2% of complements with *-ga* take a noun which describes a body part could be the strong evidence for the [+me] feature described in 3a and 3b. Because *itai* almost always take one's own body part as its complement, it is nearly redundant to start the sentence with *watashi-wa*. There could be almost no chance for the pain to belong to somebody else. This structure, '(~~watashi-wa~~) X-ga *itai*.' is particularly amenable to encode the experience of pain, because the structure is restrictive and productive simultaneously. It is restrictive in a way that it could only encode one's own sensation. This gives no ambiguity, and also, this structural preference prevents other things (for example, a body part, or a pain itself) from taking over the thematic position. In other words, as long as taking this structure to express 'a pain', the thematic position is reserved for 'I' (*watashi-wa*). It is also very productive since the complement could take almost all kinds of body parts (24 kinds are evidenced in the corpus). This flexibility is much more useful than the noun forms *-tsuu* (-ache), because the noun that could combine with *-tsuu* is limited, as in the case of English *-ache*. Productivity is much lower.

4 *Atama-ga-itai* as one unit

The previous section concluded that sensory adjectives such as *itai*, *darui*, and *kayui* have a strong bond with their complements, which are almost exclusively a noun that describes a part of body. Based on the data, this section will take a view that *atama-ga-itai* is, in fact, one unit.

Noda (1991) analyses the structure *X-wa Y-ga Z-da*⁹ into the following patterns.

- (i) When the structure has other case markers such as *-o* (accusative case), *-ni* (dative case), *-no* (genitive case), one of the case markers could be upgraded to a Theme. For example, *Watashi-no kami-ga nagai*. (My hair is long.) could be transformed into *Watashi-wa kami-ga nagai*. (I have long hair.), upgrading the genitive case *Watashi-no* (My) into a Theme *Watashi-wa* (I).
- (ii) When two nominative cases are present, one of them could be upgraded into a Theme. The example would be '*watashi-ga kare-ga sukina (koto)*' in which the second *-ga* is requested by the emotional adjective '*suikida*' (like). As in the first case, the first nominative case marker could be upgraded to *-wa* resulting in '*watashi-wa kare-ga sukida*.' (I like him.)

⁸ The fact that '*kusai*, *urusai*, *mabushii*, *oishii*' allows topicalization taking the topic marker *-wa* clearly shows the difference between this set with the other, i.e. '*itai*, *darui*, *kayui*, *kusuguttai*'. While it is possible to make a general statement '*Taiyou wa mabushii* (Sunshine is dazzling.)', the adjectives in the latter set cannot take *-wa*. Subjectivity must be involved to disallow this topicalization.

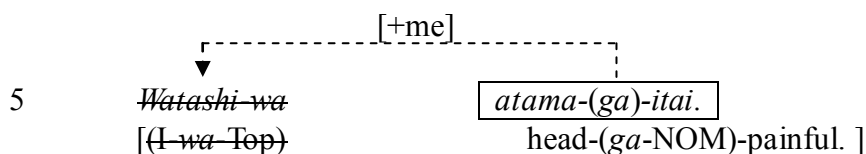
⁹ This is the structure which is the focus in this study, assuming the presence of null Theme, and Z takes an adjective.

(iii) There are cases when the adjective and the complement marked by *-ga* forms an idiomatic unit such as ‘*ashi-ga-hayai*’, meaning ‘a fast runner’. ‘*Watashi-ga ashi-ga-hayai (koto)*’, could be transformed into ‘*Watashi-wa ashi-ga hayai*’, changing the first *-ga* into a Theme.

‘*Atama-ga itai*’ should not be explained by (i) above. The underlying structure is not *Watashi-no atama-ga itai*. (My head is painful.). Since the adjective *itai* has [+me] feature, using the genitive case is certainly redundant. When the adjective is an attributive (descriptive) adjective, for example *nagai* (long) in (i) above, it is natural to assume the existence of genitive marker; because the attributive adjective does not have the inherent [+me] feature in itself. In other words, for example in *Watashi-no kami-ga nagai*. (My hair is long.), it is necessary to specify whose hair it belongs to. Also, typologically speaking, as explained by Halliday, the natural Theme of ‘having a pain’ should be ‘I’, rather than ‘a body part’, therefore, *Watashi-no atama-ga itai*. (My head is painful.) is not a preferable option.

Because of the data presented in the previous section, i.e. the strong bond between *itai* and its complements (a body part), this paper takes the view that *atama-ga-itai* is actually one unit. As described in (iii) above, it is nearly an idiomatic expression. Another empirical evidence that supports this view is that the nominative case marker *-ga* could be dropped in spoken forms, yielding *atama-itai*. *Atama-itai* is a perfectly natural expression in daily speech.

This view also conforms with the idea that the underlying form of *atama-ga itai* is not ‘*Watashi-no atama-ga itai* (My head is painful).’ with the genitive case marker. Because *atama-ga-itai* is actually one unit, it cannot be broken down into two pieces as in [*Watashi-no atama-ga*][*itai*.], as a subject and a predicate. The final output of Example 1b should look as follows:



5 Conclusion

When example 1a is presented, users of *encoding* bilingual dictionaries will be most likely to look for an equivalent of ‘headache’ in Japanese, therefore, forced to use a noun form, ‘*zutsuu*’, in their translation. This lexically bound *encoding* process is not preferable because such a process completely lacks lexicogrammatical perspective. Often a unit of lexical item could be larger than a single word, and it could have a further link, for example to a Theme, as observed in the case of Japanese adjective, *itai*. A future *encoding* bilingual dictionary should incorporate such information described in Example 5 above, as a part of the adjective headword ‘*itai*’. In order to do so, a systematic and comprehensive perception of phraseology will be necessary, which makes use of the corpus as a data source both as evidence and statistical interpretation. The current study obviously has the limitation and the application of the theory to a practical lexicography has a long way to go, however, addressing a question on the current *encoding* model for bilingual dictionaries should be regarded as a significant step. *Encoding* dictionaries should not be only a reversed version of *decoding* dictionaries. Not only the lexicogrammatical perspective, but there are also a lot of possibilities to be pursued, such as having a conceptual headword showing a network of usage beyond parts of speech, indicating polarity, probability, and so on.

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