CONTEXT-DEPENDENT LEXICAL INNOVATION
IN ENGLISH AND JAPANESE

JUNYA MORITA
(Kinjo Gakuin University)

ABSTRACT: *The present study examines online nominal coinage in English and Japanese (e.g. nib-making, pen-saki-zukuri), whose outputs have distinctive features that are clearly marked off from those of the listed words. Focusing on hapax legomena in a large corpus, a reliable barometer of online coinage, all the English nominal hapaxes are extracted from the British National Corpus. Japanese innovative nominals are also compiled from actual writings and child spontaneous speech. These nominals are analyzed in morphological, syntactic, and discoursive perspectives. Based on this analysis, it is proposed that in both languages (i) nonce nominal formation is generally made depending on context, motivated by communicative functions, (ii) it is carried out in syntax by the combination of surrounding syntactic materials, and (iii) the communicative functions may take precedence over a morphological constraint, producing novel nominals inconsistent with it and thereby triggering the lasting relaxation of the constraint.*

KEYWORDS: *innovations, context-dependency, hapax legomena, functions, constraint*

1. Introduction

It has been observed that the words which are formed on the spur of the moment are firmly distinguished from those stored in the lexicon and they are mainly created depending on the context in which they appear. This is well illustrated in passage (1), where the compound *nib-making* is coined context-dependently:

(1) Since *the nib* is what distinguishes a fine pen from a prosaic one, penmakers take *nib-making* seriously.   (*Newsweek*, July 3, 1989, p. 63)

Such lexical innovation has been discussed from the viewpoints of adult speech (Quirk *et al*., 1985; Rice & Prideaux, 1991) and child speech (Clark & Clark, 1979; Clark, 1993), and its functions and influence on the morphological mechanism have been pointed out. The aim of the present study is to elucidate some syntactic and morphological properties of context-dependent online nominalization by analyzing the English and Japanese contextual nominals extracted from a large scale corpus, contemporary writings, and child spontaneous speech. This study is organized as follows: after defining contextual innovations in §2, we focus on contextual nominals and inspect their pragmatic functions in §3. Section 4 investigates the syntactic aspects of contextuals—their creativity and syntactic dependency on prior sentences. Section 5 concentrates on the morphological facets of them and explores how contextual formation may affect conditions on a word formation rule (WFR) and a general morphological constraint.

2. Contextuals and their identification

We can produce and understand lexical expressions which we have never heard before. In example (2a), we can easily understand the odd use of the verb *teapot*, given the proper context: Max has a queer habit of rubbing the back of the leg with a teapot. Additionally, the novel compound *apple--juice seat* in (2b) is used instead of an existing word or a sentential paraphrase as non-generic and deictic device.

(2) a. Max tried to *teapot* a policeman.   (Clark & Clark 1979: 786)
     b. *apple-juice seat*   (Downing, 1977: 823)

Words like *to teapot* and *apple-juice seat* are called (lexical) innovations, which are temporarily created for the purpose of expressing concisely what is usually conveyed by phrases.

As Clark & Clark (1979) suggest, lexical innovations are generally created depending on the context in which they appear. In example (3), the nominal compound *rock throwing* is transiently generated to rephrase, succinctly, the act mentioned in the immediately preceding sentence.

(3) Soon gangs of unemployed youths *are throwing rocks* at stores … As the *rock throwing* gave way to looting …   (*Time*, May 7, 1984, p. 25)

Context-sensitive lexical innovations such as *rock throwing* are here called contextuals. In this article, we will concentrate on nominal contextuals (like *rock throwing*) which denote a process or activity.

In order to determine whether a word in a given context is not lexically listed, that is, a lexical innovation, we need to consider word frequency. Highly frequent complex words are typically recovered from the mental

lexicon faster and more accurately than low frequency ones. This contrast in access speed and accuracy has been confirmed by a number of experimental evidence, as summarized by Hay (2003: 77-81). The researchers involved then have correctly concluded that while highly frequent forms are stored and easily accessible, infrequent ones are generally composed by some rule and accordingly their extraction without error would require more time.

As a criterion of low frequency word, hapax legomena in a large corpus play a most useful role. A hapax legomenon is a word which occurs only once in a corpus and is hence coined once for a particular occasion by a single speaker (Baayen & Renouf, 1996). For the purpose of collecting a set of English nominal hapaxes, we use the British National Corpus (BNC), a 100--million-word corpus[1]. From the above discussion, the hapaxes detected in the large corpus can be judged to be words that do not have an entry in the lexicon, that is, lexical innovations.

3. Discoursive aspects of contextuals

3.1. Classification

Contextuals can be divided into three groups according to the types of context: (a) anaphoric contextuals, (b) cataphoric contextuals, and (c) contextuals requiring the speaker's and hearer's mutual knowledge[2]. We briefly describe this classification using contextual nominals. The first type of nominal is the one which has direct connection with what is uttered in its preceding clauses. In example (4), the anaphoric contextual *this "discreditation" of the object* is directly derived from the preceding VP structure.

(4)   But unconsciously, *the object, as an indispensable element of a painting was also discredited*; it is *this "discreditation" of the object* which has dominated art for the last half century—it all goes back to Monet!

(BNC E9W: 25)

It is noteworthy that the contextual nominal in (4) contains a referring item or anaphoric determiner, which requires the referent or antecedent of the anaphor (Schmid, 2000: 27-28), and that the noun appears in quotation marks. These entail that the expression is a temporarily created true contextual.

It is possible that the label is presented before its explication. This way may bring forth cataphoric contextuals as in (5a). Cataphoric contextuals are

---

[1] By making use of the "wild card" function of a research engine (http://view.byu.edu/ reg3.asp?c=aybfiyfml), the frequency of complex words ending with nominal suffixes has been checked to find nominals of token frequency 1.

[2] I am indebted to Clark & Clark (1979: 792-795) for this classification.

also used in headline language where the explanation follows, as (5b) illustrates.

(5) a. These ideas have, anyway, suffered a *gallicization*, which places the French at the centre of the cosmos.   (BNC FAJ: 2170)
      b. *Repavement*: All pavements/sidewalls in Los Angeles are in dire need of resurfacing.   (BNC CAL: 970)

An addresser can express with a nominal the event which he/she assumes is known to the addressee. Example (6) is a case in point, where the use of the possessive *your* demonstrates the addressee's sure knowledge of the event on the time of its utterance.

(6) It's taking the form of inquiries about *your US naturalization*
                                                                    (BNC FYV: 1872)

3.2. Functional properties

The last section classifies contextuals into three groups, among which an anaphoric contextual is the central one. This section will deal with the communicative functions of process-denoting nominal contextuals, which mostly have to do with the preceding discourse.

Three functions are particularly notable: cohesion, focus, and brevity. The first function is a role of achieving discourse cohesion. A basic internal link of discourse is thematic link in which what is first introduced as "rheme" becomes the "theme" in the subsequent discourse, with the theme typically becoming a pro-form (cf. Quirk *et al*. (1985: 1430-1431)). The thematic link by nominalization is exemplified in (7). Here, the rhematic expression "(it) becomes the subject of innumerable short stories …" is elegantly designated in what follows by the thematic substitute *this glamourization*. A contextual nominal thus serves as thematic substitute to contribute to discourse cohesion.

(7) *It becomes the subject of innumerable short stories and songs, of films that reduce their audiences to tears. And this glamourization obliterates the social reality.*   (BNC HH3: 2652)

Attention should be drawn to the differences in information structure between nominals with and without direct object. To illustrate the differences, consider the two nominal patterns found in (8).

(8) a. *A child's name should only be removed from the register* when it is agreed unanimously at the review that an inter-agency protection plan is no longer necessary to protect the child. The possibility of *de-registration* should be considered at each review.   (BNC J76: 388)

b. Fourthly, no central guidance has emerged on *how to coordinate* at the local level, *care management, the care programme approach, and hospital discharge procedures*, thus inviting *triplication of planning effort*.

(BNC FT4: 1177)

In (8a), the clause *a child's name should only be removed from the register* is subsequently replaced with the single derived noun *de-registration*, with its direct object *a child's name* unexpressed. This type of nominalization therefore serves to emphasize the activity which the noun denotes and de-emphasize the object of the designated activity. In contrast, when the object of nominal is the focus of attention, nominal with direct object is chosen in accordance with the principle of end-focus. The nominal *triplication of planning effort* in (8b) illustrates such a case.

And finally, contextual nominals can serve as a device of brevity; by choosing a single derived noun or a compound, with its arguments syntactically unexpressed, we can construct a concise and sensible nominal. In other words, a special conception can be produced by compressing a propositional content into a word. In (9), the activity which can be inferred from the previous text is expressed concisely by the transiently constituted form *co--disposal*, followed by its annotation. Thus a "brevity" effect or impact is obtained from this nominalization, which is not gained from the annotating paraphrase.

(9)   No one agrees, for example, on what is *"hazardous" waste*. By their respective standards, Britain generates only 4m tons of it, America 250m. Nor is there agreement on *how to handle it*. Britain uses *"co-disposal,"* the *burial of solid and hazardous wastes together*.   (BNC HSF: 445)

Corresponding Japanese examples are given in (10)-(12)[3]:

(10)   *Hoteru-ya hikooki-gaisha-ga teiin-ijoo-no   yoyaku-o   toru-koto-wa*
hotel-or airline company-Nom quota-over-Gen reservation-Acc accept-that-Top
sekaiteki   shookankoo   dearu.
international custom of trade be
'It is an international custom of trade that a hotel or airline accepts reservations over the quota.'
Kono *kajoo-yoyaku-ga*   shibashiba toraburu-no   gen-in tonaru
This   over-booking-Nom   often   trouble-Gen   cause   become
'This overbooking often becomes a cause of trouble.'

(*The Asashi Shimbun*, June 13, 1990)

---

[3] All the Japanese contextuals cited in this article, which are compiled from contemporary writings and child spontaneous speech, are either unattested or hapax legomena in Balanced Corpus of Contemporary Written Japanese (BCCWJ), a 100-million-word corpus.

(11) Sonotame *aratamete   genba-o   kansatsu-suru* hitsuyoo-ga   atta.
     therefore   again   scene-Acc observe   necessary-Nom was
     'It was therefore necessary to observe the scene again.'
     Daga   *sai-kansatsu*-o   shitemita-ga …
     although   re-observation-Acc   tried
     'Although (I) tried re-observation …'

                                      (Seichi Morimura, *Ijoo-no taiyoo*, p. 124)

(12) "Kyuujitsu-ni   *tebentoo-de*   *yuku*   igaini naina."
     holiday-on   own-lunchbox-with go   cannot-help-but
     '(I) cannot help but go out on holiday with my own lunchbox.'
     Nichiyoobi   keikan-wa   *tebentoo-soosa*-ni   dekaketa.
     Sunday   policeman-Top   own-lunchbox-search   went
     'On Sunday the policeman went for own-lunchbox-search [i.e. the search (for
     the criminal) with his own lunchbox].'

                                      (Seiichi Morimura, *Seishun-no shoomei*, p. 37)

Discourse cohesion is illustrated in (10), where a detailed description of
the situation *hoteru-ya hikooki-gaisha-ga teiin-ijoo-no yoyaku-o toru-koto*
'that a hotel or airline accepts reservations over the quota' is rephrased in
what follows with the thematic substitute *kajoo-yoyaku* 'over-booking.' Ex-
ample (11) illustrates the function of focus: in the second sentence the de-
rived noun *sai-kansatsu* 're-observation' is formed, with the backgrounded
verbal object *genba-o* 'scene-Acc' is deleted, so that the act of observing
again is highlighted. And finally, a striking example of "brevity" is found in
(12): corresponding to the preceding phrase *tebentoo-de yuku* 'go out with
my own lunchbox,' the novel compound *tebentoo-soosa* 'own-lunchbox-
-search' is succinctly generated, with its connotation of working without
pay.

In concluding this section, a major factor influencing the choice of a
nominal form notably has to do with the communicative functions; an opti-
mal nominal form is created in order to package the information in the most
appropriate way.

4. Syntactic properties of contextuals

In the last section, attention was drawn to the classification of contextu-
als and their communicative roles. This section will argue that on the basis
of these roles contextuals are formed in the syntactic component, but not in
the lexicon.

4.1. Creativity

The organization of the lexicon advocated in the Standard and GB theo-
ries of generative grammar is well illustrated in Allen, 1978: 197. The key

point is that regular complex words can be removed from the lexicon, which may be formed online on demand by word formation devices. It is probably not the case, for instance, that the derived noun *de-registration* and the compound noun *joke-production*, together with simple words, are registered in the lexicon to be inserted into the N-position of a syntactic structure. These complex nouns are dynamically made on the basis of relevant contexts by general rules such as "V + suffix → $[V_{suf}]_N$" and "N + $[V_{suf}]_N$ → $[N\ V_{suf}]_N$." Thus, the list of words which a speaker has at his command at a given moment is not closed and the speaker always has the capacity to make up new words, in particular novel complex nominals (cf. Aronoff, 1976:19).

According to Jackendoff (1997: 131-133), creative type of word construction relates to working memory while the type of complex words stored in the lexicon relates to long-term memory. The latter case is characterized by relational process in long-term memory, where listed items are related to one another by lexical redundancy rules. The former case, on the other hand, is typically characterized by combinatory process in working memory, where items are composed on the spot by free combinatory rules[4]. Although the Standard and GB theories appear to place all WFRs in the lexicon, creative kinds of word construction should, as Jackendoff suggests, take place in the syntactic component, but not in the lexicon, which is typically defined as a set of listed items.

4.2. Dependency on preceding syntactic elements

That contextuals are created at the syntactic level can also be seen in their connection to prior syntactic materials. A relevant English example and its Japanese counterpart are given in (13) and (14), respectively:

(13) A further charge is that, being introduced in an era of expenditure restraint, performance measurement has focused largely on measuring, and *minimizing*, *inputs* (*costs* and manpower) … The emphasis is upon *input cost minimization* …   (BNC G19: 205)

(14) *Bushu-daitooryoo-ga*   shuunin-go   hajimete   *Mosukuwa-o*
Bush-President-Nom   inauguration-after   first   Moscow-Acc
hoomon- shite …
visit-do
'President Bush visits Moscow for the first time after inauguration …'
Sakino   *Bushu-hoo-so-niwa …*
Last   Bush-visit-Soviet-in
'In the last Bush-visit-Soviet [i.e. the last visit to Soviet by Bush] …'
                                                    (*The Asahi Shimbun*, August 20, 1991)

---

4 Jackendoff (2002: 155-158) points out *-ly* and *pre-* derivatives as unstocked kinds of forms.

In (13), the compound *input cost minimization* expresses a momentarily nameworthy category on the basis of the prior utterance; the syntactic internal arguments *inputs* and *costs* are incorporated as part of the compound, with their plural *-s* suppressed. Similarly in (14), the italicized Japanese sentence *Bushu-daitooryoo-ga Mosukuwa-o hoomon-shite* 'President Bush visits Moscow' is packed tightly into the italicized noun compound *Bushu-hoo--so* 'Bush-visit-Soviet.' The first and last positions of the compound have the antecedents in prior discourse (*Bushu* and *Mosukuwa*) which are equivalent to the external and internal arguments respectively, whereby bringing about a cohesive relationship between the two sentences. Thus, both in English and Japanese we see that contextual formation takes place in the syntactic component.

5. The effects of contextuals on morphological restrictions

5.1 Conditions on a WFR

Contextuals are words in essence, so they are subject to morphological restrictions. Let us here consider the conditions on a WFR which concerns Japanese noun pluralization. In general, the plurality of Japanese nouns is not morphologically marked. Some types of nouns, though, can express plurality by means of *joogo*-type pluralization, which makes a plural form by reduplication of a root noun. An example is *yama-yama* 'mountains' composed of *yama* 'mountain' plus *yama* 'mountain.' Among the conditions on the rule are (i) the *wago* status of a root noun, (ii) the "individuality" plural, and (iii) unspecified plurality (Kunihiro, 1980: 13). *Joogo* plural is limited to *wago* (native word) root, so that the Sino-Japanese reduplication **juu-juu* 'guns' is precluded. The second condition states that what is implied by a *joogo* is a collection of things which are of the same kind but different in size or color. Thus, *yama-yama* entails a collection of mountains of different size. The final condition prevents *joogo* from combining with a specific numeral, as in **sangen-no ie-ie* 'three houses.'

Children younger than 3 readily use this pluralization pattern to produce forms like *o-me-me* (Y: 2;3) 'honorific prefix – eye – eye' and *te-te* (J: 3;7) 'hand – hand.' A closer examination of child's pluralization, however, shows that the above conditions are not always satisfied. Consider in this regard the examples in (15), production data from two- or three-year old:

(15) innovated *joogo*-type plurals
　　(a) wago
　　ha-ha (J: 3;7) 'tooth – tooth'
　　(b) kango
　　ji-ji (J: 3;4) 'letter – letter' *hon-hon* (J: 3;7) 'book – book'

As evidenced in (15a), the *joogos* (reduplicated plurals) do not imply a collection of things different in size and color, like *ha-ha* 'teeth.' And in (15b), *kango* (Shino-Japanese) is used in *joogo*-type pluralization against condition (i).

The use of the *joogo* pattern is motivated by the emphasis of plurality. We normally use a reduplicated word to indicate a large amount or number of what is referred to by the root. The example of noun-noun compound is *yo-na-yo-na* 'night-night, i.e. every night.' Hence, the pluralization by the repetition of a noun constitutes a part of the general process of reduplication. The *joogos* produced spontaneously by young children show well the general property of reduplication, as exemplified in (16); the large quantity of the referents is emphasized in each example. Consequently, children as young as three years of age may create contextually-motivated *joogo* plurals like *ha-ha* and *ji-ji*, giving precedence to relevant pragmatic functions rather than morphological conditions.

(16) a. Kore   *ha-ha*   migaiteiru-ne.
         this(-Nom)   tooth-tooth(-Acc)   is brushing particle
         'This is brushing its teeth.'
     b. *Ji-ji*   kaiteru.
         letter-letter(-Acc)   am writing
     'I am writing letters.'

5.2. A morphological constraint and its relaxation

5.2.1. No phrase constraint

It is generally acknowledged that morphological process is in principle to construct a word (X^0) by the combination of words or morphemes (elements below the level of X^0). It follows from this morphological property that there is no phrasal category within a word; in (17) the noun phrase *every animal* cannot occur in the compound adjective, nor is the noun phrase *large bank* incorporated into the agentive noun.

(17) a. *[[every animal] eating]$_A$ (dinosaur)
     b. *[[large bank] er]$_N$

This phenomenon takes place in Japanese as well as in English. In example (18), the phrase- incorporating word *[[seiyoo-shi-no kenkyuu]$_{NP}$ - -suru]$_V$* 'do a study on Western history' is likewise ruled out.

(18) *[[seiyoo-shi-no kenkyuu]$_{NP}$ -suru]$_V$
     Western-history-Gen study do

Kageyama (1982: 248) calls this restriction the "No phrase constraint," which bans a phrase from a word-internal position.

5.2.2. Easing of the No phrase constraint

Words against the No phrase constraint, though, can be coined provisionally in a discourse, so that phrases find their way into words, as in (19) and (20).

(19) Even soil with a "fairly high clay content" *became acidified at depth*. Dry deposition of sulphur dioxide may, says a DoE review, also "cause rapid *surface soil acidification* (over months rather than years)".

(BNC AM4: 1392)

(20) Because it contains material about the Ardakkeans that might *stimulate your sense of humour*. … Even an advanced Intelloid can not be properly programmed with an inclusive appreciation of *human laughter-stimulation* …

(BNC G3G: 702)

The violation of the constraint is induced by communicative functions. In (19), to achieve the function of discourse cohesion, a nominal compound (*soil acidification*), but not nominal phrase or clause, should be employed as an anaphoric linker of two sentences. Further, to have the discourse informative, the contrast between the present process (*to be acidified at the surface*) and the previously mentioned process (*to be acidified at depth*) has to be brought out, leading to more specific description of the first element of the compound (*surface soil*). The same applies to (20). To achieve the function of discourse cohesion, a nominal compound (*laughter-stimulation*), but not nominal phrase or clause, should be employed as an anaphoric linker of two sentences. Moreover, to have the discourse informative, *human* 'characteristic of man' should be specified in the compound *laughter-stimulation*. Note that *your sense of humour* in the previous statement includes a lot more than laughing and joke-telling, since someone with good sense of humor is not always a good joke-teller.

A similar phenomenon is seen in Japanese, as exemplified in (21) and (22):

(21) *Nettai-mokuzai-no shiyoo-o herasu*-tame …
    tropical wood-Gen use-Acc reduce-to
    'The [[use of tropical wood] reduction]$_N$ …'
    Nettai-mokuzai-no shiyoo sakugen-wa …
    tropical wood-Gen use reduction-Top
    'In order to reduce the use of tropical wood …'

(*Playboy*, May 7, 1991, p. 63)

(22) Y: Kyuushoku-gakari.   *Kyuushoku-no   kami   haru-no*.
school meal-person in charge school meal-Gen paper(-Acc) put up-particle
'(I am) school-meal person.' '(I) put up the paper for school meals (on the wall).'
J: *Kyuushoku-no-kami-hari*-gakari   ja-nai-no?   (J: 9;7)
school meal-Gen-paper-putting up-person in charge be-not-Interrogative
 'You should say "school-meal-paper-fitting person".'

Adult speakers can produce phrase-incorporating compounds like *net-tai-mokuzai-no shiyoo sakugen* in (21), facilitated by the communicative functions concerned. Furthermore, our children yielded nonce words containing a phrase as in (22). When the last sentence is uttered in discourse (22), certain information should be manifested while the essential properties of lexicalization are preserved. This is done by specifying the constituent noun with the modifier which is mentioned in the immediately preceding sentences. As a result of that, phrase-incorporating complex words such as *kyuushoku- no-kami-hari* (*-gakar*i) 'school-meal-paper-fitting (person)' may be produced, with the constraint minimally violated.

In sum, the manifestation of an attribute of word-internal noun against the morphological constraint is motivated by the functions of discourse cohesion and informativeness of a discourse.

5.2.3. The difference in the relaxation between English and Japanese

As demonstrated in the contrast of the Japanese and English compounds in (23), a certain type of specifier (*higaisha-no* 'victim's') can co-occur with the nonhead term of compound (*miyori* 'relative') in Japanese, but not in English.

(23) [higaisha-no   miyori   sagashi]$_N$ vs. *[victim's relative search]$_N$
     victim-Gen   relative search   'search of victim's relative'

We can see then that in Japanese the No phrase constraint is relaxed in a certain limited way and it is not imposed so tightly as in English.

To consider the reason for this contrast, let us look at diagram (24):

(24)

	English	Japanese
syntactic word order	head-initial (head-complement) *they hunt treasure*	head-last (complement-head) *karera-wa takara-o sagasu* they-Top treasure-Acc hunt
morphological word order	head-last (complement-head) *[treasure hunt]$_N$*	head-last (complement-head) *[takara sagashi]$_N$* treasure hunt

It is generally recognized that although "head-last" rule applies to both English and Japanese morphology, English is a head-initial language while Japanese is a head-last language. In English, therefore, syntactic word order is contrary to morphological word order; the head-complement order is kept within a sentence while the complement-head order is maintained inside a word.

In comparison, Japanese observes the complement-head order both in a word and in a sentence. Compare the verb phrase *takara-o sagasu* 'treasure--Acc hunt' with the related compound noun *takara sagashi* 'treasure hunt.' We immediately notice the Obj-head order in each composition. We also notice that no affix is added to the intra-compound verb. In Japanese, the infinitive form of verb ends in *-u* (*shuushi-kei*) and most of the deverbal process nouns are formed by the vowel change of verb ending: *-u → -i* (*ren-yoo-kei*). This method of determining a nominal form is easier than nominalization by affixation, as in English, which often necessitates choice among relevant suffixes. These distinctive properties of Japanese lead us to expect that phrasal compounds are more easily coined in Japanese than in English, since as shown in example (25), what is needed in Japanese nominalization is a simple vowel change at verb ending.

(25) (cf. (23))   [[higaisha-no   miyori-o]$_{NP}$ sagas$\underline{u}$]$_{VP}$
                   victim-Gen   relative-Acc   search
                   [[higaisha-no   miyori]$_{NP}$ sagash$\underline{i}$]$_N$

Even in Japanese, phrase-incorporation is not free, though. A certain kind of determiner is possible as intra-word element, but not a deictic one, as in **[[sono nihonjin] sagashi]$_N$*, meaning '[the Japanese] research.'

5.3. Theoretical implications of child's lexical innovation

Finally, we will briefly discuss how child's lexical innovation may affect the morphological mechanism. We have observed that children at an earlier development stage have no mastery of the conditions on the *joogo* pluralization and overgenerate *joogo* plurals (§5.1) and that they also seem to have little knowledge of the No phrase constraint on word construction in general (§5.2). Regarding the former observation, children later comprehend the conditions to produce error-free *joogo* plurals. The conditions on the WFR will not be lifted after that even when the lifting is contextually motivated. As for the No phrase constraint, children also acquire the general morphological constraint at a later stage of language development, but it may be thereafter partially lifted under contextual pressure. Further, in some cases phrase-incorporation becomes possible with no aid of contextual force. Why is this general restriction partially relaxed?

There is a claim that a certain aspect of language acquisition is mirrored in the adult grammar. Clark & Clark (1979: 806-807) suggest that some

types of child's innovations may remain and be conventionalized in the adult grammar, triggering innovation of the adult grammar or language change. The nub of their discussion is as follows: children may interpret an innovative denominal verb very differently from adults, as in the interpretation of *to chopstick*, which is 'to have Chinese food' rather than 'to use chopsticks.' If innovative verbs like *to chopstick* become accepted as canonical words, it would lead to extension of a word's meaning or introduction of new words in English. Children's "errors" may therefore play a considerable role of promoting language change.

Likewise, innovated words containing a relatively small phrase may survive into the adult grammar to become canonical words, which in turn can serve as the basis for generation of new hybrids. In other words, on the model of these institutionalized words, "intermixtures" of this sort may be constructed by adult speakers without reference to the surrounding text. What emerges from this observation is that phrase-incorporation is in the process of being integrated in the word formation mechanism, leaving the constraint concerned minimally violable[5].

6. Conclusion

Based on close inspection of English and Japanese online nominal coinages, we have shown that nonce nominal coinage is context-dependently facilitated by the pragmatic functions of cohesion, focus, and brevity, and that it is creatively made at the level of syntax by referring to syntactic elements in discourse. It is also shown that the pragmatic functions may override a morphological constraint (No phrase constraint), bringing forth phrase-incorporating words and thereby providing a foothold for the lasting relaxation of the constraint.

References

Allen, Margaret R. (1978). *Morphological investigations*. Doctoral dissertation, University of Connecticut.

Aronoff, Mark (1976). *Word formation in generative grammar*. Cambridge, MA: MIT Press.

Baayen, R. Harald & Antoinette Renouf (1996). Chronicling *The Times*: productive lexical innovations in an English newspaper. *Language* 72, pp. 69-96.

Clark, Eve V. (1993). *The lexicon in acquisition*. Cambridge: Cambridge University Press.

---

[5] We will need to examine why the conditions on the *joogo* pluralization are not lifted in the adult grammar. We leave this for future research, though, merely noting that it may relate to the productivity of the WFR; the *joogo* pluralization is not productive enough for the outputs to have any chance of conventionalization.

Clark, Eve & Herbert Clark (1979). When nouns surface as verbs. *Language* 55, pp. 767-811.

Downing, Pamela (1977). On the creation and use of English compound nouns. *Language* 53, pp. 810-842.

Hay, Jennifer (2003). *Causes and consequences of word structure*. New York: Routledge.

Jackendoff, Ray (1997). *The architecture of the language faculty*. Cambridge, MA: MIT Press.

Jackendoff, Ray (2002). *Foundations of language*. Oxford: Oxford University Press.

Kageyama, Taro (1982). Word formation in Japanese. *Lingua* 57, pp. 215-258.

Kunihiro, Tetsuya (1980). Soosetsu (General remarks). In Tetsuya Kunihiro (ed.) *Nichieigo hikaku kooza 2: bumpoo* (Lectures on Japanese and English 2: grammar). Tokyo: Taishukan, pp. 1-22.

Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech & Jan Svartvik (1985). *A comprehensive grammar of the English language*. London: Longman.

Rice, Sally & Gary Prideaux (1991). Event-packing: the case of object incorporation in English. *BLS* 17, pp. 283-298.

Schmid, Hans-Jörg (2000). *English abstract nouns as conceptual shells*. Berlin: Mouton de Gruyter.