Relational adjectives used predicatively (but not qualitatively)

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Relational adjectives used predicatively (but not qualitatively): A comparative-structural approach*

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Abstract

Relational adjectives are representative attributive-only adjectives, but ascripitive copular sentences such as *His razor is electric*, where *electric* has the same relational reading as in *electric razor*, have been observed. In the literature, such problematic sentences have been approached from semantic and pragmatic perspectives, which correctly draw attention to the relational adjective's basic function of classification. In this paper, we first present an in-depth cross-linguistic inquiry into the phenomenon and reveal commonalities and differences between English and Japanese. Then, we endeavor to show that the observed facts can be explained by extending Adger's (2013) analysis of relational nominals to relational adjectives.

Keywords: ascriptive copular sentence, common name, nominal predicate, relational nominal, deletion within DP.

Résumé

Les adjectifs relationnels sont fondamentalement des adjectifs épithètes. Cependant, leur emploi a été observé dans des phrases copulatives, comme par exemple *son rasoir est électrique*, où *électrique* a la même interprétation relationnelle que dans *rasoir électrique*. Dans la littérature, cet emploi problématique des adjectifs relationnels a été abordé d'un point de vue sémantique et pragmatique, ce qui focalise correctement l'attention sur la fonction fondamentalement classificatoire de l'adjectif relationnel. Dans cet article, nous commençons par présenter une enquête comparative approfondie sur le phénomène et nous mettons en évidence les points communs et les différences entre l'anglais et le japonais. Puis, nous essayons de montrer que les faits observés peuvent être expliqués en étendant aux adjectifs relationnels l'analyse proposée par Adger (2013) pour les nominaux relationnels.

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Mots-clefs : phrase copulative ascriptive, nom commun, prédicat nominal, nominal relationnel, suppression dans DP.

1. Introduction

It is widely acknowledged that relational adjectives (RAdjs) (Bally, 1944; Beard, 1995; Fradin, 2008a, 2008b; Rainer, 2013; Fábregas, 2014, among many others), called *associative adjectives* (Pullum & Huddleston, 2002; Giegerich, 2015) or *nominal nonpredicating adjectives* (Levi, 1978), are attributive only, as suggested by Levi's term, and that their independent occurrence in the predicate position requires some explanation. Such noncanonical expressions come in two types. In the first type, the predicative use is superficial, and the predicate consists of a RAdj that modifies a formally null noun phrase (NP) or noun. In the second type, the predicative use is genuine, and the predicate is a qualitative adjective that is converted (or coerced) from a RAdj. The following sentences that have *nuclear* in the predicate position exemplify each of these two types, (1a) the superficial use; and (1b) the genuine use (Bauer, Lieber & Plag, 2013, p. 318):

(1) a. *Newsweek 1997*: France is second—75 percent of French electricity is **nuclear**, which has reduced French air pollution fivefold—followed by Russia and Japan.
b. *USA Today 2005*: The outspoken Texas conservative, who displays the Ten Commandments in his office but admits he has a hard time loving his enemies, declined to run for House speaker in 1998 because he considered himself "too **nuclear**".

From the interpretations of these examples, *nuclear* in (1b) clearly has a qualitative reading and expresses a gradable property, whereas that in (1a) does not. Rather, the latter instance retains the basic classificatory function of RAdjs, so the sentence in (1a) means that 75 percent of French electricity is the nuclear type.

Levi (1978: ch. 7) argues that RAdjs in the predicate position, such as (1a), and qualitative adjectives derived from relational counterparts, such as (1b), should be separate (see also Babby, 2010). Levi (1978, p. 255) advances a deletion analysis for the first type. In her view, the adjective remains relational but occurs on its own because its modified NP can be deleted under identity with a noun in the subject position of a copular sentence. For example, the copular sentence in (1a) is based on a process depicted below, in which the second occurrence of *electricity* of the underlying structure is deleted, stranding the RAdj in a predicate position.

(2) 75% of French electricity BELONG TO nuclear ~~electricity~~.
→ 75% of French electricity is nuclear. (= 1a)

Based on Levi's analysis, we refer to the resulting construction as a stranded RAdj copular sentence. Her own examples are provided below (Levi, 1978, p. 254).

(3) a. The process by which compounds are formed is transformational.

b. Her infection turned out to be bacterial, not viral.
c. His razor is electric.
d. Question formation in Finnish is morphemic.
e. The therapy David does is primarily musical.
f. That interpretation is presidential, not judicial.

The purpose of this paper is to shed new light on RAdj stranding in English from a comparative-structural perspective. A major question about Levi's analysis is the licensing condition for the process. Under what conditions can NPs involving a RAdj undergo the deletion process, as depicted in (2)? In other words, when can RAdjs be used predicatively in the superficial sense? In our view, these questions call for an analysis based on abstract phrase structure to enable cross-linguistic similarities and differences to be captured as simply as possible. Sections 2 and 3 concern English and Japanese data, respectively, and section 4 offers an analysis along the above lines. Below, we introduce basic facts and concepts to provide a foundation for the upcoming sections.

Levi (1978, pp. 256-262) makes three observations about the licensing of RAdj stranding. First, the combination of a RAdj and the modified noun should be established as instances of what she calls complex nominals. Consider the following data taken from Levi (1978, p. 256):

(4) a. {Our engineers/*Those agents/*My relatives} are all chemical.
b. {Those agents/*Our engineers/*My relatives} are all theatrical.

The sentence in (4a) shows that RAdj stranding is possible with *our engineers* and *chemical*, but it is not possible with *those agents* or *my relatives* and *chemical*. The same observation applies to (4b). (Note that qualitative readings of *chemical* and *theatrical* are irrelevant here.) According to Levi, the acceptability differs because *chemical engineers* and *theatrical agents* are "good" complex nominals, whereas *chemical agents*, *chemical relatives*, *theatrical engineers*, and *theatrical relatives* are not. If the combination is not established as a complex nominal, it is impossible for it to undergo the deletion process.

Second, Levi (1978, p. 258) observes that stranded adjectives are unacceptable in a relative clause with an indefinite subject:

(5) a. I wish I had some {musical talent/*talent which was musical}.
b. Rita wants to edit a {linguistic journal/*journal which is linguistic}.

Third, stranded adjectives "[…] are consistently and markedly more acceptable when used in an explicit or implicit comparison than when they are used alone" (Levi, 1978, p. 260). Thus, Levi (1978, p. 260) observes that the (a) sentences in (6) and (7) are more acceptable than the (b) sentences, which lack a contrasting adjective:

(6) Her infection turns out to be
   a. viral, not bacterial.
   b. viral.

(7) Our firm's engineers are all
   a. mechanical, not chemical.
   b. mechanical.

Additionally, stranded RAdjs become more acceptable when they are preceded by adverbs such as *primarily*, *mainly*, *mostly*, or *largely* (Levi, 1978, p. 260):

(8) a. The therapy he does is {primarily musical/?musical}.
   b. The novelists we studied were {mostly regional/?regional}.
   c. The equipment they sell is {mainly culinary/?culinary}.

In the acceptable cases, the adverb establishes an implied contrast between the class named by the adjective and other alternatives not overtly expressed. Below, we call these types of adverbs MODIFIERS OF EXTENSION, which indicate "whether the relation expressed by the adjective is the only one that the modified noun establishes with an entity, or whether there are other relations that are pertinent in that context" (Fábregas, 2014, p. 284).

Returning to (1a), these conditions are also met in this stranding sentence. First, *nuclear electricity* is established as a complex nominal. In addition, the subject is quantified by a modifier of extension (*75%*), so there is a clear sense of contrast between nuclear electricity and other types of electricity that should account for the remaining 25%. Levi's observations are accurate, but how can they be explained? In a recent attempt, Nagano (2018a) argued that Levi's conditions can be explained by viewing stranded RAdj sentences as answers to implicitly or explicitly posed D(iscourse)-linked *wh*-questions for classification, such as *Which type of infection was her infection?* and *Which type of razor does he favor?* Each of these questions can be answered by uttering, "*It is viral*" and "*His razor is electric*", for example. This analysis captures the involvement of contrast between subtypes as a natural consequence of the pragmatic context of the utterance.

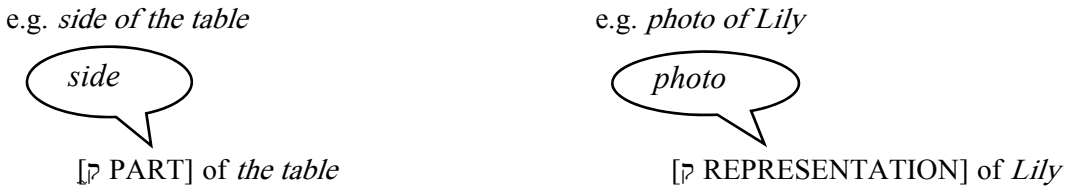
In our view, however, the issue under discussion requires a structure-based approach because Levi's and Nagano's points are not a prerequisite, at least directly, for the licensing of a comparative construction in Japanese. Anticipating the discussion in section 3, the acceptability of a Japanese sentence that corresponds to the English sentence in (1a), shown as (9a) below, depends on the presence of a classifier such as *-gata* 'type' or *yurai* 'derived from'.

(9) a. Furansu no denki wa genshiryoku-{**gata/yurai**} da.
   France GEN electricity TOP nuclear power-classifier COP.NONPST
   'French electricity is of the nuclear type.'

b. ??Furansu no denki wa genshiryoku da.
France GEN electricity TOP nuclear power COP.NONPST
(Intended) 'French electricity is of the nuclear type.'

The two copular sentences in (9a) and (9b) differ only in the morphological complexity of the predicate. Here, not modifiers of extension but classifiers are determinative. In short, English and Japanese differ in the licensing of a similar copular sentence; English imposes semantico-syntactic conditions, while Japanese imposes a morphological condition. Optimally, an analysis of the licensing of RAdj stranding should be able to solve this cross-linguistic puzzle.

In section 4, the puzzle is addressed by adopting Adger's (2013) structural analysis of relational nominals, such as *side of the table* and *photo of Lily*. Contrary to the traditional view, Adger claims that it is not correct to state that *side* takes *the table* as its argument. Rather, the two are related to each other by a relation-denoting functional head ק [1]. ק is responsible for the argument structure that encodes relationality, such as PART, POSSESSION, and REPRESENTATION. In the present case, PART, a subtype of ק, takes *the table* as its argument while it receives concrete content from *side*. The following representations are intended to provide a basic idea of this entirely new analysis of relational nominals:



The bubbles represent the process of PREDICATE MODIFICATION. Similar semantic embellishment processes have been widely recognized in the literature under the name of "further specification" (Levin & Rappaport-Hovav, 1995; Baker, 2003, p. 222). The point is that traditional relational nouns per se do not take internal arguments. An independent argument-taking relational head is involved, and *side* in *side of the table* and *photo* in *photo of Lily* simply further specify it.

Adger's DP theory provides an approach to RAdj stranding in much more general terms than Levi (1978) or Nagano (2018a) used, namely deletion within DP. A careful examination reveals that complex nominal inputs to the deletion process in (2) are the names of (sub)kinds that are structurally similar to relational noun phrases; for instance, *nuclear electricity* can be read as *nuclear KIND OF electricity*. In this analysis, *nuclear* is the specifier of the phonetically null head KIND, a type of ק, while *electricity* is its complement. As constituents of a kind name, *nuclear* and *electricity* are in the same structural relationship as is assumed between *edge* and *the table* in Adger's theory. Further,

[1] The Hebrew letter resembles a P but sounds like a K. Adger used it to capture the prepositional and case marking properties of the head.

nuclear is stranded when the complement is deleted within this structure. The same situation applies to Japanese kind-name counterparts. The two languages differ in how they recover the deleted complement. Crucially, Japanese classifiers, such as *-gata* and *yurai* in (9a), are morphological manifestations of the ק head, so their presence alone can identify the deleted material. In contrast, English does not have overt ק elements, so the recoverability depends on the pre-establishment of a kind name itself and the presence of contrast-making phrases, as shown in (5-7). In short, we claim that what we call stranded RAdjs are stranded specifiers of ק-headed DPs, and their occurrence is licensed by the recoverability of the deleted complement.

2. Data from English

In section 1, we introduced Levi's observations about RAdj stranding in English. This section aims to refine the conditions by adding another observation concerning the types of RAdj + noun combinations.

2.1. Relational adjectives in complex nominals

RAdjs have a multifaceted nature both functionally and formally (Beard, 1991, 1995; Fradin, 2008b; Marchis Moreno, 2018; Nagano, 2018a, 2018b), and it is NOT that any RAdj + noun combination presents an appropriate input to the stranding process. This issue is independent of the semantico-syntactic conditions introduced in section 1; some combinations are inherently excluded from the stranding process. To pin down the appropriate input type, we start with Levi's (1978) classification. In Levi's definition, the term COMPLEX NOMINAL refers to a nominal construction in which a head noun is preceded by a modifying element that is either a noun or a RAdj. She divides English complex nominals into the following three sets (the labels are also Levi's (1978, (1-2), bold added)):

(10) nominal compounds

apple cake	deficiency disease
time bomb	autumn rains
doghouse	nicotine fit
windmill	color television
daisy chain	surface tension

(11) nominalizations

Markovian solution	film producer
American attack	city planner
presidential refusal	dream analysis
musical criticism	quantifier lowering
constitutional amendment	metal detection

(12) NPs with non-predicating adjectives

electric clock	**musical** clock
electric shock	**musical** criticism
electrical engineering	**musical** interlude
electrical conductor	**musical** comedy
electrical outlet	**musical** talent

Exactly half of these complex nominals contain RAdjs (bolded). In Levi's transformational analysis and as a widely accepted view, RAdjs are nouns in adjectival form[2]. Our concern here is how to correctly characterize the "NPs with non-predicating adjectives" group. As we saw in section 1, Levi believes that instances of this group can undergo the deletion under identity and yield stranded RAdjs.

First, Nagano (2018a, 2018b) shows that RAdjs in the "nominalization" group cannot be stranded because they function as complements of their head deverbal nominalizations. For example, *American attack* is ambiguous between the Subject (America) + Verb (attack) interpretation and the Verb (attack) + Object (America) interpretation. Most likely, the *Malkovian solution* is based on the Subject + Verb relationship, while the remaining three complex nominals are based on the Verb + Object relationship[3]. The view that RAdjs function as complements (rather than modifiers) can be confirmed by a *one*-substitution test. It is well known that in a NP, the pro-form *one* can substitute for the head noun excluding its modifier, but the exclusion of its complement leads to ungrammaticality, as in (Harley, 2009, p. 134):

(13) a. ?*That student of chemistry and this one of physics sit together.
b. That student with short hair and this one with long hair sit together.

Based on this contrast, consider the following data taken from Giegerich (2015, p. 36)[4].

(14) a. ?Do you mean the presidential murder or the papal one?
?Do you mean the parliamentary election or the presidential one?
?Is this a subject review or an institutional one?
b. Is this the bovine strain of the disease or the feline one?
Do you have a medical appointment or a dental one?
Is he a rural policeman or an urban one?
Is this a cold-water fish or a tropical one?

[2] Thus, in studies of derivational morphology, they are derived from nouns by transposition, a process that changes the base noun's syntactic category but causes no semantic change (Beard, 1995).

[3] Levi's transformational analysis uses such syntactic relationships as underlying structures, but Beard (1991) claims that the argument-structure relationship between RAdjs and head nouns can be adequately explained by the semantic decomposition of deverbal nominalizations.

[4] There is a third type of data in Giegerich's (2015, p. 36) informant checking, where the copular sentences are judged as *. We do not touch on this type because of certain complexities discussed in Giegerich (2015, pp. 37-38).

The anaphoric substitution in (14a) is less acceptable than that in (14b) because the RAdjs in (14a) function as complements to the head deverbal nouns. Following Payne & Huddleston (2002, pp. 439-451), we call the RAdjs in (11) PRE-HEAD COMPLEMENTS.

Moving on to the "NPs with non-predicating adjectives" group, a difficulty with this group is that being a PRE-HEAD MODIFIER does not indicate that the adjective can be stranded. A discussion by McNally & Boleda (2004) strongly suggests that stranding is most compatible with PRE-HEAD MODIFIER RAdjs within complex nominals that function as COMMON NAMES. We delve into this subclass in the next section. In our view, complex nominals as common names undergo the RAdj stranding process because they have a ק-headed structure like relational nominals.

Finally, a remark about the "nominal compounds" group is necessary because RAdjs in English can be zero-derived. A complication arises when the member's compound status is uncertain in terms of established word/phrase criteria, such as stress, semantics, separability and coordination (Liberman & Sproat, 1992; Bauer, 1998, 2017; Klinge, 2009; Shimamura, 2014; Giegerich, 2015). There are noun + noun combinations that should be seen as phrases, and such instances are very similar to RAdj + noun combinations except that the first element lacks an adjectival suffix. Given that most relational adjectivalizing suffixes in English are Latinate (Bauer et al., 2013, p. 314), there is a very slim chance that non-Latinate nouns (e.g. *cashmere* in *cashmere scarf*, *origami* in *origami birds*), acronyms (e.g. *PC* in *PC desk*), and nouns of greater length (e.g. *social security* in *[[social security] number]*) will be affixed with one of these suffixes. Below, we focus on denominal adjectives with overt suffixes, but it is important to distinguish nominal compounds from noun + noun combinations which could be classified into the same group as (12) from a functional point of view. Unlike nominal compounds, the latter type of combination can undergo the same deletion process as RAdj + noun combinations and yield similar copular sentences. For example, *cashmere scarf* yields the following instance (Shimada, 2017, cited from *Oxford Advanced Learner's Dictionary*):

(15) The scarf is 70% **cashmere**.

2.2. Relational adjectives in complex common names

Advancing the view that RAdjs are intersective just like prototypical adjectives, McNally & Boleda (2004) study Catalan and English counterexamples to Bally's (1944) generalization that RAdjs are attributive only. They observe that RAdjs occur in the predicate position when "the property denoted by the adjective is used to classify individual instances of a kind that could typically be described using the adjective" (McNally & Boleda, 2004, p. 191). Witness their English example (ibid.):

(16) Infection with tuberculosis spreads in two ways, by the respiratory route directly from another infected person or by the gastrointestinal route by drinking milk infected with the tubercle bacillus… In infections with *M. tuberculosis*, the tubercle bacilli commonly affect the lungs, in which case the disease is known as pulmonary tuberculosis. By contrast, infections with *M. bovis* often affect the bones and joints. **About 90 percent of all clinically recognized tuberculosis in humans is pulmonary**. (Taken from the *Britannica Guide to the Nobel Prizes*)

The long citation is necessary to show that "strandable" adjectives are used to name a kind (*pulmonary tuberculosis*), and "stranded" sentences are produced when individual instances (*about 90 percent of all clinically recognized tuberculosis*) are classified based on this kind name. (We add the double quotations because McNally & Boleda do not share Levi's deletion analysis.) The authors also compare *international conference* with *international bakery* and indicate, based on a Google search, that the former complex nominal can engender corresponding copular sentences (e.g. *This conference is international*), while the latter scarcely can. The difference lies in the plausibility of the two complex nominals as the names of kinds.

As a consequence of the above characterization, McNally & Boleda (2003, p. 192) correctly note that "the use of relational adjectives predicatively to subclassify ordinary individuals is most frequent in specialized discourses, where the adjectives used for subclassification of a given kind of entity are well known and the interest in such subclassification is obvious". Thus, the linguistics literature is fertile ground for stranded RAdjs. Below, we cite a small portion of the vast instances we have collected from our academic field:

(17) Review of Adger (2013) by Donati (2014) in *Journal of Linguistics, 50*. (p. 495)

In the introduction to this book, its author, David Adger, explains that it arose from two separate papers in progress. This is still visible in the structure of the book, which is made up of two different parts. **The first part (ch. 2-3) is completely theoretical,** and concerns central issues such as labels, lexicon, and cartography. It is followed by an analytical part (ch. 4-6), which is entirely empirically oriented and devoted to an in-depth analysis of the syntax of DP constructions in a number of languages, notably (Scottish) Gaelic.

(18) Review of Adger (2013) by Cecchetto (2015) in *Language, 91*(2). (p. 484)

I have mixed feelings about the title. It is a reference to a quotation from Aristotle and alludes to the claim that **no noun is really relational**, relationality being imposed on the noun from the structure it is inserted into. Therefore, all nouns would denote undifferentiated substance, not relations. The title is certainly eye-catching. It might incorrectly suggest, however, that the book is about the count/mass noun distinction, a topic that is not covered here.

(19) Kastovsky (2009) in Diachronic perspectives. *The Oxford Handbook of Compounding* (p. 332, footnote.16). Oxford: Oxford University Press.

[…] The copulative type *girlfriend*, *oaktree*, on the other hand, sometimes wrongly subsumed under the *dvandva* class, is determinative, i.e. endocentric, and therefore belongs to the *karmadhāraya* type.

(20) Giegerich (2012) in The morphology of *-ly* and the categorial status of 'adverbs' in English. *English Language and Linguistics, 16*(3). (p. 342).

[…] I will therefore argue, in addition to subscribing to the single-category claim, that adjectival and adverbial *-ly* are in terms of the morphological system of English radically different suffixes: the former is a derivational suffix while **the latter is inflectional**. **In *deadly*, the suffix is derivational but non-category-changing** (like, for example, *-ish* in *greenish*); but *nicely* is an inflected form of the adjective *nice*.

(21) Traugott (1989) in On the rise of epistemic meanings in English: An example of subjectification in semantic change. *Language, 65*(1). (p. 34)

The semantic theory must also allow one to tell when a polysemy has come into being. Geis and Zwicky (1971) discuss the criteria with reference to the development of **causal *since***, which actually was *siþþan* in OE. *Siþþan* indicated the temporal relationship 'after(ward)', 'from that time on', as in *Since I left home my mother has been mad at me*, but invited the inference of a causal relation. So long as *since* had to have a temporal interpretation, it is inappropriate to speak of a temporal-causal polysemy. However, a polysemy arose in ME when what was formerly only an inference had to be construed as the actual meaning of the form, as in *Since I am leaving home, my mother is mad at me*. At that stage *since* had become polysemous: **in one of its meanings it was temporal and could have an invited inference of causality; in the other, it was causal**.

The passage in (21) attests to McNally & Boleda's point in a compact yet very clear way. First are kind names named by RAdjs (*causal* '*since*', *temporal* '*since*'), and then follow classificational copular sentences using the same RAdjs.

Moreover, the examples cited above confirm Levi's observation that a context of comparison or contrast facilitates RAdj stranding. In (17) and (18), we have *completely* and *no* as modifiers of extension. In (19)-(21), different individual instances and their types are enumerated and compared.

The use of RAdjs in kind names is discussed by Gunkel & Zifonun (2009) under the term COMPLEX COMMON NAME. Common names are "neither singular terms nor general descriptions but establish a distinct type of general term that is used to refer to 'kinds'" (Gunkel & Zifonun, 2009, p. 205). Common names are names of kinds, morphologically simplex or complex. Complex common names including CLASSIFYING MODIFIERS are names of subkinds. Crucially, RAdjs are a major type

of classifying modifier. Compare the instances of common names in (22a) with those of general descriptions in (22b) (Gunkel & Zifonun, 2009, p. 206):

(22) a. tiger, hammer, lawn mower, **domestic** animal, **Indian** elephant
b. students from abroad, elephants living in Africa

As diagnostics for the name/description division, common names can be used with kind-selecting predicates such as *be extinct* and *die out* (e.g. *The Indian elephant will soon die out*), and they pass the *so-called* test (Carlson, 1977, p. 442) (e.g. *Indian elephants are so called because their largest population is found in India*). Additionally, common names are natural with modification by *so-called* (e.g. *so-called Indian elephant*). In Japanese, common names are often used in the NP frame [N *to iu mono*], lit. 'N QUOT say thing', 'what is known as N'; e.g. *Indozō to iu mono* 'what is known as Indian elephant'.

From a formal point of view, the constituents of complex common names are connected together more tightly than those of a general description, as suggested by comparing (22a) with (22b) (see also Gunkel & Zifonun, 2009, pp. 212-214). The tightness of the connection is clearly illustrated by the following list of complex common names, which are taken from Gunkel & Zifonun (2009, pp. 208-209):

(23) derivations and exocentric compounds
FRE pommier 'apple tree' (< pomme 'apple'),
ouvre-bouteille 'bottle opener'

(24) endocentric compounds
ENG apple tree
FRE mode-homme 'men's fashion'
POL zegarmistrz 'watchmaker'

(25) N + N syntagmas
a ENG Bush administration
LAT (scientific) canis lupus 'wolf'
b. ENG women's magazine, bird's nest

(26) N + NP/PP syntagmas
a. POL kierowca samochodu (driver car.GEN) 'car driver'
colow włosów (color hair.GEN.PL) 'hair color'
b. ENG weapons of mass destruction, bird of prey
FRE chemise de nuit 'night gown', homme de la rue 'man in the street'
POL krople do nasa (drop.PL for nose.GEN.SG) 'nose drops'

(27) A + N syntagmas
ENG **urban** transit, **cellular** division, **musical** critic

FRE taches **solaires** 'sunspots', chat **domestique** 'domestic cat'
intervention **militaire** 'military intervention'
POL hala **dworcowa** 'station concourse', sok **jobłkowy** 'apple juice'
białe wino 'white wine'

The term "syntagmas" in (26) and (27) refers to phrases, so the formal tightness of complex common names does not indicate that the combination should be a word. Small phrases such as those discussed by Sadler & Arnold (1994) can be common names. At the same time, as Gunkel & Zifonun correctly points out, formal tightness is NOT a sufficient condition for name status. Although the following combinations are formally similar to those in (22a) and (27), they cannot be seen as common names:

(28) A + N syntagmas
Indian government, **Sub-Saharan** Africa, **trans-global** expedition;
nocturnal visit, **post-lexical** component;

"Patrick Schwarzenegger, son of the world-famous Terminator, is posting pictures of his **Japanese** vacation: posing with a sumo wrestler; visiting the Meiji shrine; eating lots of sushi". (Taken from a story by *CNN*)

Generally speaking, relational adjectives expressing Place and Time, including those reported above, tend to be used to form general descriptions[5].

In our view, being a classifying modifier of a complex common name is definitive for a RAdj to be stranded. Levi's classification in (12) does not take into account the name/description distinction, so the term "NPs with non-predicating adjectives" is not quite accurate in capturing the licensing condition of the phenomenon.

3. Data from Japanese

This section aims to perform a contrastive examination of the English RAdj stranding phenomenon. To the best of our knowledge, previous contrastive studies have been limited to data from European languages and have compared RAdjs per se from different European languages, as in Gunkel & Zifonun (2008) and Marchis Moreno (2018). In contrast, we compare a European language and an Asian language and demonstrate that RAdjs can be fruitfully contrasted with formally different, yet functionally similar, constructions from a distant language family.

[5] Consider also:
i. The UN group of **governmental** experts on transparency and confidence-building measures in outer space activities
= 'experts {from/belonging to} a government'
ii. Five cats … to receive their **quotidian** morning's meal. (*OED Online*)
= 'breakfast they eat everyday'

3.1. Nominal predicates

Japanese copular sentences connect two noun phrases by the copula *da*, typically taking the form: NP_1 *{wa/ga}* NP_2 *da* (lit. NP_1 {TOP/NOM} NP_2 COP). As in English (cf. Huddleston, 2002, pp. 266-272), they have ascriptive and specifying uses. Compare the following sentences (the labels and data are both from Kishimoto, 2012, p. 41)[6]:

(29) a. Predicational sentence
Kare no onīsan wa (kanari no) **keppeki-shō** da
He GEN brother TOP (a good bit GEN) cleanliness-classifier COP.NONPST
'His brother is obsessively concerned with cleanliness.'

b. Specificational sentence
Konkai no kaji no genin wa tabako no fushimatsu da
the latest GEN fire GEN cause TOP cigarette GEN mishandling COP.NONPST
'The cause of the latest fire is a cigarette that wasn't put out properly.'

In the sentence in (29a), the copular verb *da*, which inflects as *datta* in the past form, is used ascriptively; the sentence ascribes to the subject the property of being obsessed with cleanliness. In contrast, (29b) illustrates the specifying use of *da*, which defines a variable and specifies its value. Our discussion is concerned with word-level predicates used in the ascriptive type, such as *keppeki-shō* 'obsession with cleanliness'. Traditionally, they are called NOMINAL PREDICATES because they are categorially nouns.

Shimada (2004: ch. 5) observes that nominal predicates have a distinct morpho-syntactic character of endocentricity; such nouns are headed by various classifiers. Wei (2007) submits a similar view for Mandarin Chinese. Thus, *keppeki-shō* 'obsession with cleanliness' is headed by *-shō*. This bound classifier is used to name types of diseases or personal tendencies, attaching to nouns that are strongly associated with the named disease (30) or tendency (31):

(30) Diseases
a. arukōru-izon-shō
alcohol-dependency-classifier
'alcoholism'
b. kafun-shō
pollen-classifier
'pollinosis, pollen allergy'
c. kenbō-shō
forgetfulness-classifier
'forgetfulness; amnesia'

[6] In addition to the two types cited below, Kishimoto (2012) discusses two other types of copular sentences, namely: (iii) the identificational sentence; and (iv) the identity sentence.

(31) Tendencies
a. aki-shō
boredness-classifier
'a tendency to become bored easily'
b. are-shō
dryness-classifier
'a predisposition to having dry skin'
c. kori-shō
enthusiasm-classifier
'a tendency to become totally immersed in something'

Each of these *-shō* words can replace *keppeki-shō* in (29a) and does not affect the naturalness of the construction at all.

Endocentricity can be observed with other instances of nominal predicates, as discussed in Shimada (2004, pp. 153-157). Anticipating the upcoming discussion, both (a) modificational and (b) predicational forms are illustrated for each nominal predicate. The former further divides into two types based on the element that connects two NPs: *no* (the genitive marker) or *dearu* (an attributive form of the copula *da* 'be'). The parentheses indicate the meaning of the classifier; if it is preceded by a hyphen, it is morphologically bound.

(32) a. **haregi-sugata** {no/dearu} wakamono (*-sugata* 'dress, guise')
gala dress-classifier {GEN/COP} young man
'a young man dressed in his best clothes'
b. Wakamono wa **haregi-sugata** da
Young man TOP gala dress-classifier COP.NONPST
'The young man is dressed in his best clothes.'

(33) a. **nihon-sei** {no/dearu} tokei (*-sei* 'made')
Japan-classifier {GEN/COP} watch
'a Japanese watch'
b. Sono tokei wa **nihon-sei** da
That watch TOP Japan-classifier COP.NONPST
'That watch was made in Japan.'

(34) a. **dekaruto-ha** {no/dearu} gakusha (*-ha* 'sect, faction, school')
Descartes-classifier {GEN/COP} scholar
'a Cartesian scholar'
b. Sono gakusha wa **dekaruto-ha** datta
That scholar TOP Descartes-classifier COP.PST
'That scholar was Cartesian.'

(35) a. **hakuai-shugi** {no/dearu} shōbōshi-tachi (*shugi* '-ism, belief')
altruism-classifier {GEN/COP} fireman-pl
'altruistic firemen'

b. Shōbōshi-tachi wa **hakuai-shugi** da
fireman-pl TOP altruism-classifier COP.NONPST
'Firemen are altruistic.'

(36) a. **gakusei** {no/dearu} shachō
Student {GEN/COP} president
'A president who is a student'
b. Wagasha no shachō wa **gakusei** desu
Our company gen president TOP student COP.NONPST.POLITE
'The president of our company is a student.'

The bold-faced expressions are all headed by a classifier, except the one in (36). Semantically, all of them, including the one in (36), refer to kinds. Given the discussion in section 2, it is safe to conclude that they are common names. Their category (N), tight-knit form, and class-denoting semantics, as well as the *be extinct* and *so-called* tests, attest to this conclusion. We have no account of the exceptional morphological character of the example in (36), but it might be interesting to note that *kyōshi* 'teacher', another common name denoting a profession or social status, is also non-headed yet predicative (Baker, 2003, p. 163, footnote 40 for profession names).

Let us consider the examples in (32-36) (a). When a nominal predicate constitutes a nominal modification structure, it is linked to the head noun either by *no*, the genitive marker, or by *dearu*, a form of the copula. This relationship is also true of the example in (29a): *keppeki-shō {no/dearu} onīsan* (lit. cleanliness-classifier {GEN/COP} brother) 'my brother who is germophobic'. While a common view regards the genitive/copula distinction as a mere morphological alternation of the same construction, the discussion in section 2.2 casts doubt on such a view. For example, take the *so-called* test. The *no*-linked forms are very natural with *iwayuru* 'so-called', but the *dearu*-linked forms are not; e.g. (33a) > *iwayuru* ***nihonsei no*** *tokei* (lit. so-called Japan-classifier GEN watch) vs. **iwayuru* ***nihonsei dearu*** *tokei* (lit. so-called Japan-classifier COP watch). The compatibility with a *be extinct* type predicate also reveals the same contrast, in which only the *no*-linked form is acceptable without any difficulty; e.g. (29a) > ***keppeki-shō no*** *dansei wa moo mirarenai* (lit. cleanliness-classifier GEN men TOP now cannot_be_seen) 'Germophobic men are extinct'. The two forms are also morpho-syntactically distinct. Obviously, the *dearu*-form is larger than the *no*-form because *dearu* is a tensed verb form, while *no* is not. Thus, only the former can inflect, as in N *dearu* N (non-past form) ~ N *deatta* N (past form). Given these clear differences, it is safe to conclude that the *no*-linked N-N combination is a common name, while the *dearu*-linked N-N combination is a general description. Since nominal predicates are common names themselves, as discussed above, the larger combinations at issue constitute names of subkinds when linked by *no*[7].

[7] See Saito (2012) for syntactic arguments against the view of this type of *no* as a form of the copula.

There is another construction that should be distinguished from the *no*-linked N-N combination. In a noun modificational construction, when a predicate is not classifying, it is linked to the head noun not by *no* but by *na*, as in the following:

(37) a. totemo {**yūfuku/ritchi**} na shachō
very rich president
'a very rich president'

b. Wagasha no shachō wa totemo {**yūfuku/ritchi**} desu
Our company GEN president TOP very rich COP.NONPST.POLITE
'Our president is very rich.'

Shimada's analysis neatly distinguishes these examples from the types in (29a) and (32-36) because *yūfuku* 'rich' (a borrowing from Chinese) and *ritchi* 'rich' (a borrowing from English) are not endocentric words. Semantically, what they denote are not kinds but gradable qualities. Categorially, the predicates in (37) are adjectives, so they are nominalized by the productive A-to-N nominalizing suffix *-sa* (Shimamura, 1990), as in (38a) below. In contrast because nominal predicates are nouns, they cannot be nominalized, as pointed out by Nagano (2016, p. 58) with the example in (38b).

(38) a. shachō no {yūfuku-sa/ritchi-sa}
president GEN rich-ness
'the richness of the president'

b. *kono kabin no chūgoku-sei-sa
this vase GEN China-made-ness
'(Intended) the fact that the vase is made in China'

In summary, this section has revealed that nominal predicates are common names that denote kinds, and noun modificational constructions in which they are linked to the modified noun by *no* are the names of subkinds[8]. Nominal predicate + *no* + noun combinations and nominal predicate + *dearu* + noun combinations should be distinguished with respect to the name/description status.

3.2. Nominal predicates as equivalents of stranded adjectives

Most readers have probably noticed the striking convergence between Japanese nominal predicates and English RAdjs; for example, compare the Japanese sentence and its English translation in (29a), (33), (34), and (35). Certainly, Japanese nominal predicates do not always correspond to English RAdjs, as suggested by (32) and (36). However, crucially, Nagano (2016) shows that English RAdjs,

[8] This should be taken as a general statement. Depending on the choice of the modified noun, the *no*-linked form can be a general description as well. For example, the *no*-liked modificational form of the two NPs in (29a) is a general description. However, it seems correct to say that the *dearu*-linked form is basically limited to the general description use.

particularly those occurring in stranded RAdj copular sentences, almost always correspond to Japanese nominal predicates[9].

Nagano (2016) observes that RAdjs that are not pre-head complements are translated into Japanese in two ways, using either a simplex form or a complex form[10]. Let us consider the following italicized common names that express relations of Material, Shape, Style, Type, Genealogy, and Possession, respectively. N1 stands for the base noun of the adjective and N2 the modified noun. For each English expression, there is a shorter translation (a) and a longer one (b) (Nagano, 2016, pp. 52-55):

(39) N2 made of N1
wheaten bread
a. komugi no pan
wheat GEN bread
b. komugi-sei no pan (-*sei* 'made')
wheat-classifier GEN bread

(40) N2 in the shape of N1
triangular room
a. sankaku no heya
triangle GEN room
b. sankaku-kei no heya (-*kei* 'form')
triangle-classifier GEN room

(41) N2 in the style or pattern of N1
striped jacket
a. shima no uwagi
stripe GEN jacket
b. shima-gara no uwagi (*gara* 'pattern')
stripe-classifier GEN jacket

(42) N2 of the type of N1
European economy
a. yōroppa no keizai
Europe GEN economy
b. yōroppa-{gata/ryū} no keizai (-*gata, -ryū* 'type, kind')
Europe-classifier GEN economy

[9] There are a few exceptions where English relational adjectives are translated not by a classifier but by the adjectival suffix *-teki* (Nagano, 2016, pp. 46-52).

[10] Strictly speaking, Nagano (2016) does not distinguish among complex nominals involving relational adjectives in terms of their common name status. The data below are those we selected from her data that we believe to be instances of common names.

(43) N2 in the line or family of N1
Slavic language
a. surabu no gengo
Slav GEN language
b. surabu-kei no gengo (*-kei* 'line, belonging to')
Slav-classifier GEN language

(44) N2 with N1[11]
four-legged creature
a. yotsuashi no ikimono
four-leg GEN creature
tripodded camera
b. sankyaku-tsuki no kamera (*-tsuki* 'with')
three-leg classifier GEN camera

Nagano (2016) considered the semantic differences between the (a) and (b) forms, but we are most interested in the longer modifiers in (b) that can be used in ascriptive copular sentences of the type identified in (29a). This usage occurs naturally because the forms in (b) but not those in (a), are internally headed and hence are nominal predicates. Thus, compare the following sentences corresponding to the two forms in (39):

(45) a. ??Kono pan wa **komugi** da.
This bread TOP wheat COP.NONPAST
(Intended) 'This bread is made of wheat.'
b. Kono pan wa **komugi-sei** da.
This bread TOP wheat-classifier COP.NONPAST
'This bread is made of wheat.'

The sentence in (45a) is acceptable as a specifying sentence but not as an ascriptive sentence. In contrast, (45b) shows that the presence of a classifier drastically changes the acceptability as an ascriptive. The same observation applies to the cases in (40-44).

Moreover, Nagano (2016, pp. 58-60) observes that the genitive marker of the longer modifiers in (39-44) (b) can be preserved in the predicate position. Compare the sentence in (45b) with the following one (cited from Nagano, 2016, p. 59 with a slight modification):

(46) Kono pan wa **komugi-sei-no** da.
This bread TOP wheat-classifier-GEN COP.NONPAST
'This bread is made of wheat.'

This fact is important for our deletion analysis. If (45b) and (46) involve a deletion within the DP similar to that depicted in (2), it is expected that the genitive marker can be preserved.

[11] According to Nagano (2016, pp. 54-55), inalienable possession is limited to the attributive genitive form, while alienable possession is marked by the classifier form.

In brief, Japanese nominal predicates are the equivalents of English stranded RAdjs.

Returning to the research question of this paper, we have revealed that, both in English and in Japanese, complex common names produce the construction in which we are interested. However, the two languages differ strikingly in certain ways. Specifically, a general analysis of RAdj stranding should address the following cross-linguistic puzzles:

Cross-linguistic puzzle 1:

Classifying modifiers in complex common names are adjectives in English but nouns in Japanese.

ENG *nuclear electricity* (from (1a))
JP *genshiryoku-gata no denki* (from (9a))

Cross-linguistic puzzle 2:

Copular sentences are greatly facilitated by the semantico-syntactic context of contrast in English, but there is no such condition for Japanese counterparts.

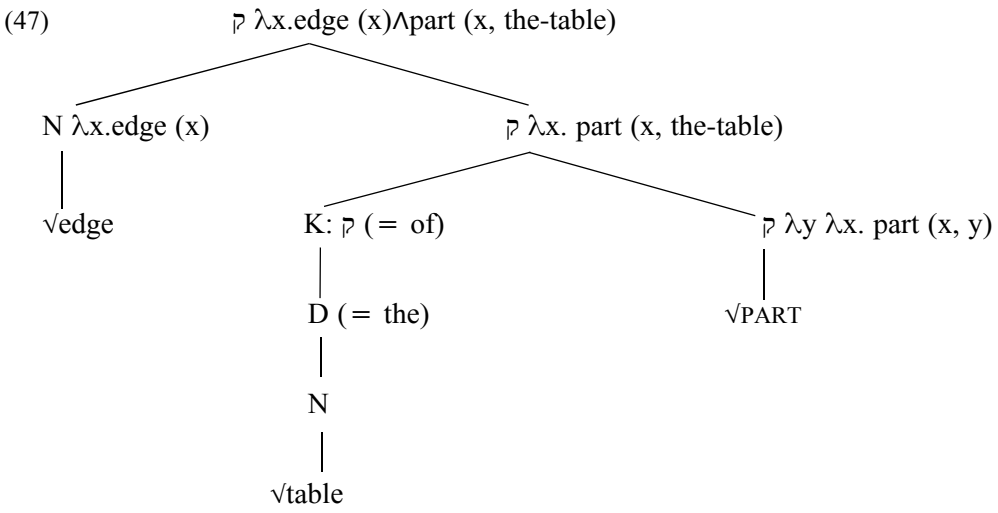
ENG *75% of French electricity is nuclear.* (from (1a))
JP *Furansu no denki (no 75%) wa genshiryoku-gata da.* (from (9a))

First, the two languages are clearly different in the category of the classifying modifier. Second, Japanese is free from Levi's third licensing condition, as is evident if we compare the data in (6), (7), and (16-21) with those in (29a), (32-36) (b), (45b), and (46). The following section will address these puzzles using Adger's (2013) theory.

4. Analysis

4.1. A new syntax of relational nominals

One of the essential themes of Adger (2013) is the traditional recognition in generative linguistics regarding the structural parallelism between verbs and nouns (Chomsky, 1970). It is widely believed that relational nominals, such as *edge* and *friend,* take complements as transitive verbs do. Complex event nominals (Grimshaw, 1990) are also discussed in the same context. However, Adger challenges this long-accepted tenet and denies that nouns can take complements as verbs do. In his view, a noun and its apparent complement are not in a sisterhood configuration, but rather, their relationship is negotiated by a third element, which is a real head of the DP structure building. Thus, he derives *edge of the table* as follows (Adger, 2013, p. 78) using the relation-denoting functional head קּ (see section 1):



Compare this structure with the usual one in which *edge* and *of the table* are in a strictly local configuration [N PP]. In the new structure, the PP phrase is some distance from the relational nominal and is rather selected by ק, a category that is dedicated to the function-argument structure that encodes relationality. This head is rooted by a light root, such as PART, POSS(ESSION), or REP(RESENTATION), which does not enter into pronunciation; that is, PART, POSS, REP and others are purely abstract functions. The noncapitalized roots are called heavy roots, and they correspond to lexical items in the traditional term. In this analysis, *edge* is a specifier and a predicate modifier of the relational head, as in: λx.edge (x) ∧ part (x, the-table). This specifier semantically embellishes the content of the light root.

Adger's analysis might strike one as unnecessarily complicating the structure of relational nominals. However, there is solid empirical motivation for the change. Transitive verbs and relational nominals are crucially different in the optionality of their complement. Consider the following examples (Adger, 2016, pp. 57-63):

(48) a. an edge (of the table)
b. Lilly killed *(the mouse)

The author investigates relational nominals cross-linguistically and arrives at the following generalization:

(49) Across languages, relational nominals systematically take their apparent arguments optionally, in contrast to verbs, which vary idiosyncratically in whether any particular argument is optional. (Adger, 2013, p. 61)

Adger argues that the systematic optionality of the alleged complement observed only in the nominal domain remains unclear under the traditional NP/VP parallelism. His new analysis, however, can capture the relevant optionality as reflecting two different structures hosting √edge. That is, *edge* in

an edge of the table is the specifier of the ק head, as shown in (47), while *an edge* is based on a separate syntactic derivation that does not involve ק.

4.2. Application to our data

Adger (2013) does not mention the phenomenon we are concerned with in this paper. However, given the widely accepted view that RAdjs are nouns in disguise and the empirical fact that Japanese nominal predicates are nouns, it is not far-fetched to suggest that his DP theory could be applied to our data. Moreover, let us recall that there are many noun + noun combinations that are equivalent to RAdj + noun combinations (section 2.1 and (25, 26)). Concretely, we argue that some complex common names possess the same structures as relational nominals and that the phenomenon that we have been calling RAdj stranding can be seen as the deletion of the element in the complement position of the ק head. Below, we introduce our idea using the same schema that we used to introduce Adger's analysis in section 1.

As before, the bubbles represent the process of predicate modification; thus, *nuclear* in *nuclear electricity* and *genshiryoku* in *genshiryoku-gata no denki* are specifiers of the ק head, which is rooted as KIND or TYPE. The classifier *-gata* is a morphological realization of the head, while such an element is missing in the case of English, just as the ק head in (47) remains silent in this language. On the other hand, *electricity* and *denki* 'electricity' are each selected by the ק head as its complement, producing a constituent that denotes 'kind of electricity'. A drastic change from the common analyses of these expressions is that in our analysis, *nuclear* is NOT a modifier with respect to *electricity*. Rather, it is a modifier of KIND, which then connects it to *electricity*. This view is entirely plausible considering that a RAdj + noun combination can be rephrased as RAdj + *type/kind* + *of* + noun when it functions as a common name (e.g. *nuclear electricity* = *nuclear type of electricity*).

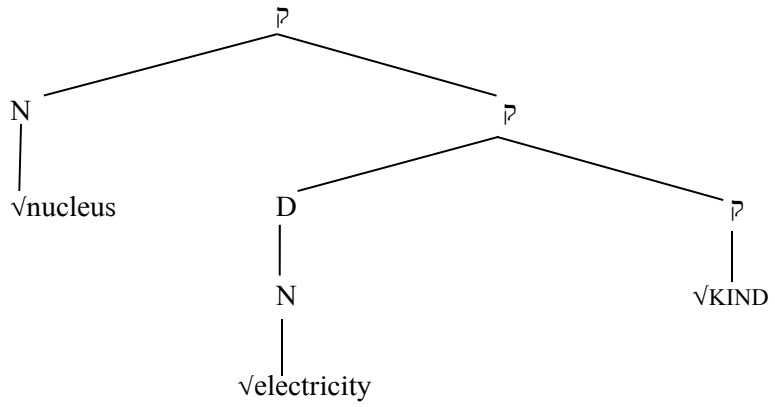
With respect to the Japanese case, we depart from the traditional view that *genshiryoku-gata* modifies *denki,* and we consider instead that *genshiryoku* 'nuclear power' modifies *-gata* 'type', which takes *denki* 'electricity' as its complement. The view that the classifier is in the ק head is supported not only by its very general semantics but also by its heavy counterpart *kata* 'type' behaving differently. Compare the following two DPs involving *-gata* (50a) and *kata* (50b), respectively:

(50) a. genshiryoku-gata no denki
nuclear power-classifier GEN electricity
'nuclear electricity'

b. denki no kata
electricity GEN type
'type of electricity'

The phrase in (50b) is a typical relational nominal phrase, with *kata* 'type' taking its (apparent) complement *denki* 'electricity'. Just like √edge in *an edge of the table*, √kata occupies the specifier position of the KIND head and surfaces as such in the final realization. In contrast, the classifier -*gata* is always augmented by other specifying material, such as *genshiryoku* 'nuclear power', when it takes a complement, as in (50a). Therefore, **gata no denki* (lit. classifier GEN electricity) or **denki no gata* (lit. electricity GEN classifier) '(intended) type of electricity' is illicit. To explain the difference between (50a) and (50b), the classifier should be seen as a light root and the free-standing form as its heavy root counterpart[12]. In summary, we extend Adger's analysis of relational nominal to our data in the following manner:

(51) ENG *nuclear electricity*



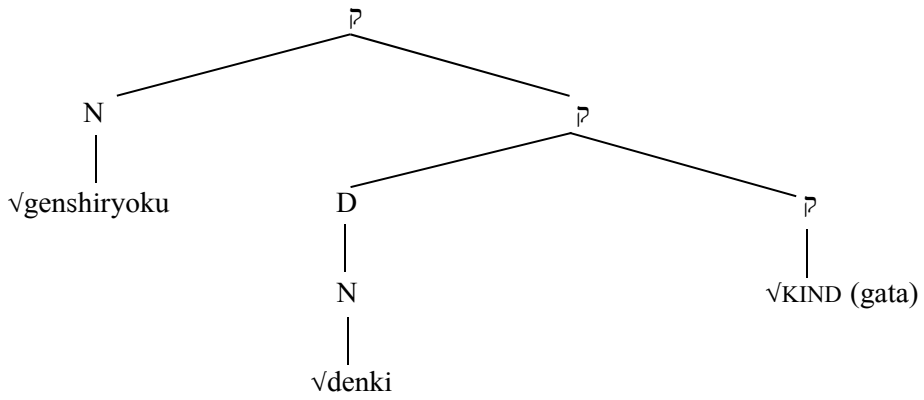
[12] It is interesting to compare the sentence in (9a), repeated as (ia) below, with the sentence in (ib).

(i) a. Furansu no denki wa genshiryoku-**gata** da. (=9a)
France GEN electricity TOP nuclear power-classifier COP.NONPST
'French electricity is of the nuclear type.'

b. Furansu no denki no **kata** wa genshiryoku da.
France GEN electricity GEN type TOP nuclear power COP.NONPST
'French electricity is nuclear in type.'

In the second sentence, the subject is the DP in (50b), and *genshiryoku* 'nuclear power' is bare, i.e., classifierless. As predicted from our analysis, this sentence is not ascriptive but is a specifying copular sentence.

(52) JP *genshiryoku-gata no denki*



We are now in a position to address our research question and the two related puzzles. In our view, RAdj stranding is licensed by the involvement of the √-headed structure. When *nuclear electricity* has the structure of 'nuclear KIND OF electricity', *nuclear*, the specifier, can be stranded as a consequence of the deletion of the complement. The same applies to the Japanese counterpart *genshiryoku-gata no denki*. Under this analysis, stranded adjectives are still attributive only, pace McNally & Boleda (2003), because they modify the head √KIND.

The first cross-linguistic puzzle concerns why *nuclear* is an adjective while its Japanese counterpart is a noun. In our view, this case is a morphological difference between the two languages concerning the pronunciation of the underlying √ structure. Starting with the Japanese structure in (52), *-gata* is in the head position, so its pronunciation involves the morphological amalgamation of this material and the material in the specifier position. The resulting composite is categorially nominal because it is internally headed by *-gata*, which is categorially nominal. The morphological amalgamation co-occurs with word-order inversion. Let us compare (50a) with (50b) again. While *no* in (50b) comes in front of *kata* 'type', *no* in (50a) comes after the nominal composite headed by *-gata*. There is some technical discussion regarding the status of the inverted *no*, but here, it suffices to consider that Japanese uses the genitive marker to link two NPs (Saito, 2012).

Next, let us consider the case of English. It should be noted that the structure in (51) does NOT lead to the following expression:

(53) nucleus of electricity

This phrase means 'nucleus PART OF electricity' rather than 'nuclear KIND OF electricity', so it should be seen as headed by the light root √PART, rather than √KIND. In our view, the heavy root √nucleus takes different forms depending on the subtype of √. When √ is rooted with √PART, its specifier is pronounced in the nominal form (*nucleus*), but when rooted with √KIND, its specifier is pronounced in the relational adjectival form (*nuclear*). Most likely, English distinguishes a √KIND-rooted structure from a √PART-rooted structure by the final form of the specifier, realizing the former structure

by relational adjectival forms or their zero-marked counterparts (as in, e.g. *cashmere scarf*, *PC desk*; see §2.1).

The second cross-linguistic puzzle is also related to a morphological difference between English and Japanese. One important contribution of this paper is that it has detected the existence of overt realizations of Adger's κ category: Japanese classifiers. The inventory of morphemes differs from one language to another; English happens to lack relevant morphemes, while Japanese happens to possess them. (Note that the reverse is true in the case of relational adjectival forms: English possesses them, but Japanese does not.) Assuming this fundamental difference, we propose that English RAdj stranding – or the deletion of the complement of the κ head – is greatly facilitated by certain semantico-syntactic contexts of contrast because κ remains null in this language. In contrast, Japanese nominal predicates exhibit no preference for such contexts because κ is morphologically realized by the classifiers. As we saw in (45), all that is required in Japanese is classifiers. If we suppose that the stranded use of a Japanese nominal predicate is systematic because morphological realization of κ enables the identification of the deleted complement, then it is possible that the stranded use of a RAdj is not systematic due to the absence of such substance. To identify the deleted element, English employs modifiers of extension and other contrast-evoking strategies to compensate for the absence of a classifier-like substance. Hence, the second cross-linguistic puzzle indicates that the notion of subkind is activated differently between the two languages: either morphologically or semantico-syntactically.

As correctly predicted based on the above analysis, Japanese ascriptive copular sentences do not require a classifier when there is a modifier of extension in the sentence. Shimada (2017) observes that the material-denoting simplex noun *kashimiya* 'cashmere' can be ascriptive when modified by a modifier of extension. Compare the following three sentences ((54a) from Takahashi, 2015; (54b-c), from Shimada, 2017):

(54) a. ??Kono sētā wa **kashimiya** da.
This sweater TOP cashmere COP.NONPAST
(Intended) 'This sweater is made of cashmere.'

b. Kono sētā wa **kashimiya-sei** da.
This sweater TOP cashmere-classifier COP.NONPAST
'This sweater is made of cashmere.'

c. Kono sētā wa 100% **kashimiya** da.
This sweater TOP 100% cashmere COP.NONPAST
'This sweater is 100% cashmere.'

The first two sentences in (54a, b) are parallel to those in (45a, b), showing the function of the classifier *-sei* 'made'. Interestingly, (54c) further shows that a modifier of extension is functionally similar to the classifier, which is exactly what our analysis predicts[13].

Before closing this section, we emphasize that our proposal in (51) concerns complex nominals as complex common names only. As discussed in section 2.1, there are different types of complex nominals involving RAdjs. In particular, RAdjs as pre-head complements (e.g. *presidential murder*) should be analyzed differently. Additionally, we believe that a relational adjective can modify a lexical noun directly, yielding structures of direct adjectival modification [AP + NP] (Baker, 2003: ch. 4). If our analysis is on the right track, such a structure should underlie complex nominals as general descriptions.

5. Conclusion

In this paper, we have provided a new analysis of the non-qualitative predicative use of English RAdjs. Through an in-depth comparison between English and Japanese, we have uncovered a previously unrecognized generalization of the phenomenon: the independent use of a denominal relational expression in an ascriptive copular sentence is licensed by the status of the common name. At the same time, we have shown that the two languages differ in two important respects: the category of the relational expression and the involvement of modifiers of extension. We have argued that Adger's theory of DP syntax can be naturally extended to our case and that our empirical findings about RAdjs and their Japanese counterparts can be neatly captured by his structural analysis of relational nominals. The core of our proposal can be summarized as follows: (i) the phenomenon should be seen as an instance of the DP complement deletion; and (ii) the differences between English and Japanese basically stem from their morphologies. Our analysis is entirely novel, so some points require further theoretical and empirical investigation. Nonetheless, we believe that we have successfully shown the merits of a comparative-structural approach to address this issue.

[13] Certain RAdj + noun combinations might allow for RAdj stranding due to their unambiguously קּ-related semantics. Fradin (2016) discusses French denominal adjectives with an essive interpretation, in which the head noun and the base noun are semantically related by the ascriptive BE, as in: *prédicat verbal* 'verbal predicate' = 'predicate (which) is a verb' and *nombre fractionnaire* 'fractional numeral'. In one case of this type, the head noun denotes a hypernym of the base noun, as in: *Une fraction est (un/une sorte de) nombre* 'A fraction is a (sort of) number' (Fradin, 2016, p. 5). Interestingly, such noun + adjective combinations embodying the hyperonymic/hyponymic relationship can be stranded in the predicative position, as in: *Ce nombre est fractionnaire* (Bernard Fradin, personal communication). In our view, this outcome likely occurs because the hyperonymic/hyponymic relationship automatically introduces a קּ-headed structure between the two nouns.

The List of Abbreviations

ACC	accusative
AP	adjective phrase
CN	complex nominal
COP	copula
DP	determinative phrase
Eng	English
Fre	French
Jp	Japanese
GEN	genitive
N	noun
NONPST	non-past
NOM	nominative
NP	noun phrase
PL	plural
Pol	Polish
POLITE	politeness
PST	past
RADj	relational adjective
TOP	topic

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