

Why Does Contrast Allow Relational Adjectives to Be Used Predicatively?

A Qualia Structure-based Account*

Takashi ISHIDA (*Hiroshima Shudo University*)

Ryohei NAYA (*University of Tsukuba*)

1. Introduction

1.1. Relational Adjectives: Attributive-only Modifiers

(1) Two Types of Derived Adjectives

- a. Relational Adjectives (RA): senatorial, polar, algebraic, etc.
- b. Qualitative Adjectives: beautiful, picturesque, nervous, etc.

(Plag (2003: 94), Nagano (2015: 3))

→RAs show much more nominal behaviour than qualitative adjectives (see Levi (1978), Beard (1995), Bisetto (2010), Shimamura (2014), Nagano (2015, 2016)).

(2) a. a rural policeman

b. *a policeman who is rural

(3) a. a chemical engineer

b. *an engineer who is chemical

(Levi (1978: 15))

(4) Whereas qualitative adjectives *qualify* the referent of nouns, RAs serve to *classify* a type of nouns.

1.2. Predicative Use of Relational Adjectives

(5) RAs can be used predicatively in certain contrastive environments (Levi (1978), Nagano (2016), Ishida (2020)).

(6) *mechanical engineer*

a. Our firm's engineers are all mechanical.

b. Our firm's engineers are all mechanical, not chemical.

→(6b) is more acceptable than (6a).

(Levi (1978: 260))

(7) *musical therapy*

a. ?The therapy he does is musical.

b. The therapy he does is primarily musical.

(Levi (1978: 260))

(8) *(mono-)chromatic drawing*

a. *Those drawings are chromatic.

b. Those drawings are monochromatic.

(monochromatic ≠ drab)

(Levi (1975: 323); see also Ishida (2020: 38), Togano et al. (2019))

- (9) N-deletion Analysis (Levi (1978), Nagano (2016, 2018), Shimada and Nagano (2018))
X *be* RA N.

→ Contrastive environments evoke alternatives. As a result, the head nouns can be deleted, leaving RAs stranded in predicate position. RAs are thus still prenominal modifiers even in predicate position.

- (10) a. Those drawings are monochromatic. (= (8a))
b. Those drawings are monochromatic ~~drawings~~.

- (11) Question

Why does contrast allow the deletion of modified nouns?

- (12) To answer the question in (11), we pay particular attention to the classificatory function of RAs and argue that contrast contributes to identifying the role of the qualia structures of the head nouns which should be specified by the stranded RAs, giving crucial hints to recover the deleted head nouns.

2. Semantic Composition in Qualia Modification

- (13) Synonymous Relation between RA-N and N-N
- | | | | |
|----|-------------------|---|-----------------|
| a. | atomic bomb | ≈ | atom bomb |
| b. | maternal role | ≈ | mother role |
| c. | industrial output | ≈ | industry output |
| d. | marine life | ≈ | ocean life |
| e. | linguistic skills | ≈ | language skills |
| f. | urban parks | ≈ | city parks |

(adopted from Levi (1978: 38), see also Beard (1995: 188))

→ The analysis of N-N compounds can be applied to RA-N expressions.

2.1. Qualia Modification in N-N Compounds

- (14) Johnston and Busa (1999)

“For English compounds, what we need is to capture that a modifying noun can specify the semantic type of one of the arguments in the qualia of the head noun”. (p. 177)

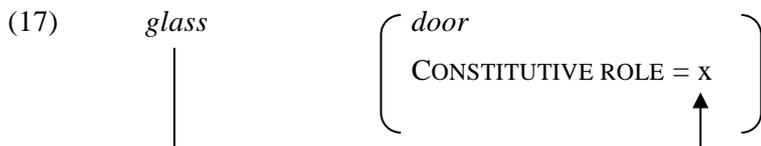
- (15) Qualia Structure

- | | | |
|----|---------------|---|
| a. | CONSTITUTIVE: | the relation between an object and its constituent parts; |
| b. | FORMAL: | that which distinguishes it within a larger domain; |
| c. | TELIC: | its purpose and function; |
| d. | AGENTIVE: | factors involved in its origin or “bringing it about”. |

(Pustejovsky (1995: 76))

(16) *glass door* 'a door made of glass'

→*Glass* expresses a material constituting a door. This relation between glass and door can be encoded in the CONSTITUTIVE role (see Johnston and Busa (1999: 176)).



(Kageyama (1999: 56))

2.2. Qualia Modification in RA-N Expressions

(18) RAs classify a type of nouns by qualia modification, where the base nouns of RAs modify or specify some parts of the Qualia Structure of the head nouns.

→In accordance with the Qualia Structure, we can find four types of relations in RA-N expressions.

(19) a. CONSTITUTIVE:

monochromatic drawing 'the type of drawing that consists of one colour' (see (20))

b. FORMAL:

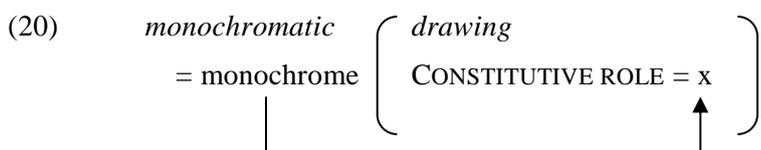
triangular diagram 'the type of diagram that has a triangle form'

c. TELIC:

insecticidal compound 'the type of compound that is used to kill insects'

d. AGENTIVE:

nuclear energy 'the type of energy brought about by the nucleus'



3. Analysis

3.1. Two Roles of Contrast in Recovering the Deleted Head Nouns

(21) *(mono-)chromatic drawing* (= (8))

a. *Those drawings are chromatic.

b. Those drawings are monochromatic

(22) Question Why does contrast allow the deletion of modified nouns? (= (11))

(23) Answer

Contrastive environments have the following two roles to identify the deleted noun:

a. They ensure that the stranded RA has a classificatory function.

b. They contribute to identifying which qualia role to be modified, recovering the deleted noun.

(24) Those drawings are MONOchromatic. (Togano et al. (2019: 17))

→With a contrastive accent, the prefix *mono-* implicitly evokes other alternatives such as those in (25). These alternatives indicate that the adjective in question contributes to classifying a type of nouns.

(25) *dichromatic, trichromatic, multichromatic, achromatic, etc.*

→These alternatives together point to an appropriate qualia role to be modified (here, CONSTITUTIVE role), which further recovers the deleted noun.

(26) something that (partly) CONSISTS OF (some) colours
= *drawing*

3.2. Disambiguation of Attributive Modifiers by Contrast

(27) Contrastive environments contribute to identifying which qualia role to be modified. (see (23b))

→This role can be observed in attributive modifiers as well.

(28) Potential Readings of *presidential company*

- a. a company established for the President's sake [TELIC]
- b. a company established by (ex-)presidents [AGENTIVE]

(29) John belongs to a presidential company, but Mary belongs to a financial company.

presidential company = 'a company established for the President's sake' [TELIC] (= (28a))

(30) John belongs to a presidential company, but Mary belongs to a national company.

presidential company = 'a company established by (ex-)presidents' [AGENTIVE] (= (28b))

(31) Potential Readings of *allergic illness*

- a. an illness that consists of allergy as one symptom [CONSTITUTIVE]
- b. an illness caused by allergy; a complication of allergy [AGENTIVE]

(32) John studies allergic illnesses, but Mary studies diarrheal illnesses.

allergic illness = 'an illness that consists of allergy as one symptom' [CONSTITUTIVE] (= (31a))

(33) John studies allergic illnesses, but Mary studies viral illnesses.

allergic illness = 'an illness caused by allergy; a complication of allergy' [AGENTIVE] (= (31b))

4. Implication: Japanese Counterparts of English RAs

(34) Expanded Modifier (Nagano (2016)):

N + classifier + *-no*

- (35) *genshiryoku-gata* _____ *no* *denki* (原子力型の 電気) [Japanese]
 nuclear power-classifier GEN electricity
 ‘nuclear electricity’

(Shimada and Nagano (2018: 83); see also Nagano (2016))

- (36) 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.’

(Shimada and Nagano (2018: 65–66))

→Unlike English RAs, the Japanese expanded modifier in (36a) can appear in predicate position without recourse to contrastive contexts (see also Nagano (2016: section 4.8)).

- (37) The classifiers *-gata* (-型) and *-yurai* (-由来) have the specific meanings of ‘type of’ and ‘derived from / originating in’, respectively. They explicitly indicate that the relevant modifier should be associated with the AGENTIVE role, which successfully recovers the deleted noun.

(cf. Odagiri et al. (2019), Shimada and Nagano (2018))

- (38) a. CONSTITUTIVE:
komugi-sei-no (小麦製の)
 wheat-made.of-GEN
 ‘wheaten’
- b. FORMAL:
sankaku-kei-no (三角形の)
 triangle-in.the.shape.of-GEN
 ‘triangular’
- c. TELIC:
sacchu-yo-no (殺虫用の)
 insect.killing-for-GEN
 ‘insecticidal’

- (39) Whereas RA-forming suffixes such as *-al*, *-ic*, *-ary* do not add specific meanings (Levi (1978: section 4.2.4), Bauer et al. (2013: 314)), Japanese classifiers in expanded modifiers express specific qualia roles.

5. Conclusion

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Abbreviations: COP = copula, GEN = genitive, NONPST = non-past, TOP = topic

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