

## THE COGNITIVE MOTIVATION FOR ADJECTIVE SEQUENCES IN ATTRIBUTION

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“His eyes fell on a large, purple satin coverlet”

(Oscar Wilde, *Dorian Gray*, p. 133).

**ABSTRACT.** *Adjective sequences in attributive position tend to follow a fairly rigorous order, which was already observed in several structuralist approaches. Thanks to the insights of case grammar, iconicity studies and cognitive linguistics, these adjective sequences can now also be given a semantic, i.e. a conceptual basis. Adjective types that imply some semantic role such as agent, instrument, source, are conceptually and hence also syntactically in close proximity to the noun they modify. Next in proximity are the more “objective” adjective types denoting properties such as size, shape, age and colour. The internal sequence of these four properties can be explained by the principle of saliency, which is supported by observations in language acquisition and language typology research. More “subjective” qualifications such as nice, splendid, wonderful are least inherent to any entity denoted by the noun and consequently, iconically speaking, at the greatest distance from it.*

The paper will focus mainly on three problems:

1. The relation between the noun and participles, adjectives of provenance, and relational adjectives, all of which are often referred to as classifying adjectives<sup>1</sup>, and which –on the basis of the analysis proposed here– will be subsumed under the category of role-based adjectives.
2. The principle of proximity and its explanatory power for the position of the three major categories of attributive adjectives.
3. The principle of saliency for the internal distribution within each major category.

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1. The term *classifying adjective* is used in this sense by, amongst others, Beatrice Warren (1984). But since she also subsumes colour adjectives under this category label, the term is not exclusively applicable to the three last categories of Table 1. Moreover, the term *classifying* wrongly suggests that only the limited group

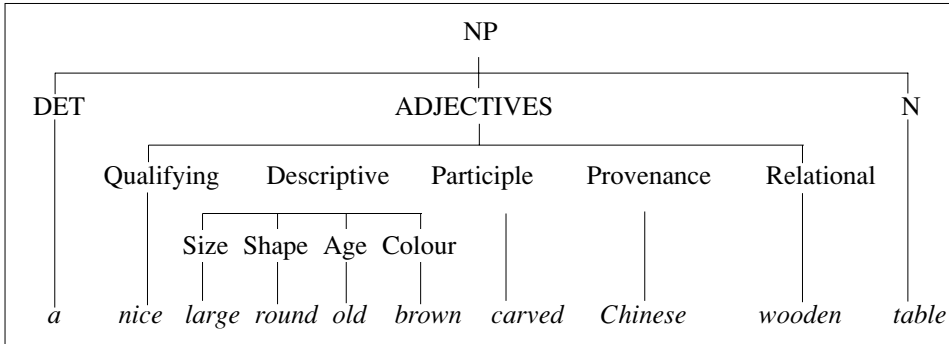


Table 1

## 1. ROLE-BASED ADJECTIVES

In the structuralist approach reflected in Table 1, there are five major categories of attributive adjectives, i.e. a) qualifying ones such as *nice*, b) descriptive ones such as *large*, *round*, *old*, and *brown*, c) participles such as *carved*, d) adjectives of provenance such as *Chinese*, and e) relational adjectives such as *wooden*. This distinction seems a rather *ad hoc* one and does not manage to surpass the level of observational adequacy. At the level of descriptive adequacy we would rather expect some semantically based common denominator for the three last subtypes of adjectives, since they are in strong contrast to the two other major subtypes of qualifying and descriptive adjectives. There is also a compelling syntactic-semantic reason for setting up a common major category for these three subtypes of adjectives. They are all exclusively limited to the attributive position, which means that they can only be used attributively and not predicatively. Semantically, they form a very close relationship with the noun and even have more noun-like status than free-adjective-like status. Real adjectives, i.e. qualifying and descriptive adjectives, can be used freely in attribution or predication and are therefore also called “freely attributive adjectives”. In the same vein, the other adjectives are labelled “exclusively attributive adjectives”. The reason why they are exclusively attributive is that they incorporate a strong semantic link to the noun they modify. They are, in other words, purely “noun-oriented” adjectives. But these characterisations are still too intuitive to have much explanatory power and we must look for more tangible and better accessible tools to describe the semantic link between these three subcategories and the noun they modify.

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of such adjectives would have to fulfill a ‘classifying’ function. In actual fact, all adjectives can ‘classify’ subsets of the noun category they modify.

The solution proposed here is to analyse these semantic links in terms of semantic role configurations. From the canonical set of semantic roles such as *agent*, *patient*, *instrument*, *experiencer*, *possessor*, *goal*, *path*, *source*, and *essive* (see Dirven and Radden, forthcoming), the roles of agent/ patient, source, and essive are serious candidates allowing us to describe the underlying relationships between each subcategory of these noun-oriented adjectives and the noun.

Thus *a carved table* implies that someone has carved the table, which suggests that such past participles used as an attributive adjective incorporate a transitive relationship between an agent that did the carving and a patient that underwent this process or action. In comparison with other languages, English has a second constraint on the attributively used past participle, i.e. it must denote a lasting, more permanent state. Thus we can have phrases such as *a painted/ damaged/ repaired table*, but not *\*a looked at/ \*touched/ \*pushed aside table*. The link between the agent and the patient must in other words be such that the agent has seriously “affected” the table, which even underlines the implicitly given link with an agent.

What is called *provenance* in Table 1 for the semantic characterisation of *Chinese* in *a Chinese table*, is, in terms of role configurations, equivalent to a source relation, i.e. the table comes from China or it is made after a model from China, etc. This is, however, not the only possible role configuration we may find with geographical adjectives. Thus *the Chinese president* does not imply a source relation, but rather a patient relation as suggested by the paraphrases “X presides over China”, “X rules China”, etc. So according to the type of modified noun, also the adjective *Chinese* may enter into different role relationships.

Finally, relational adjectives<sup>2</sup> such as *wooden* in *a wooden table* reflect the role configuration of an essive, i.e. the table is made of wood and is in fact wood. This essive relation can be overlaid by a source relation (see Radden 1989: 564), which then implies a process of change. But this is not the case in relational adjectives, which only express the resultant state of such a process, not the process itself. This difference is not trivial, but touches upon the very essence of an exclusively attributive adjective. A source can, in the literal sense, be defined as the location or state from where some entity or process proceeds and, in the figurative sense, as the state of departure or the source of information, which are typically found with predicates such as *change from X to Y*, *learn*

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2. The term *relational adjective* suggests the existence of the relationship of a semantic role (or semantic case relationship) between this type of adjective and the noun it modifies. In fact, it is shown that this holds for all so-called exclusively attributive adjectives. The name can be kept, however, since such adjectives may contain a number of different role relations as appears from expressions with more than one relational adjective such as *the presidential military adviser*, i.e. ‘an adviser to the president on military matters’, which contains the roles of Experiencer and Area. (For definitions, see Dirven & Verspoor, eds. 1998).

*sth. from, receive sth. from*, etc. In other words, the notion of “source” presupposes two different entities or states, but in an essive such as in *wooden table* we make a conceptual distinction between two aspects or appearances of the same entity. In conclusion, it is not claimed that the three role configurations of agent, source, and essive are the only possible relations underlying past participles and relational adjectives. Rather, it was our intention to show that these subcategories of adjectives form a somehow homogeneous group in that they all reflect underlying role relations.

We have thus arrived at three major categories of attributive adjectives: in addition to the categories of qualifying and descriptive adjectives, established in structuralist research, we have now set up a third category, i.e. role-based adjectives. We will now look into the relatively fixed sequential order governing these three categories and relate them to the principle of proximity or distance.

## 2. THE PRINCIPLE OF PROXIMITY

The cognitive motivation for the sequential ordering of the three major categories of attributive adjectives is based on the iconic principle of proximity, or its reverse, the principle of distance. This means that the category of adjectives that is conceptually more strongly related to the noun is also syntactically closer to it. The various theses to be defended therefore are (i) that role-based adjectives are closest to the semantic nature of nouns, (ii) that descriptive adjectives are less close, and (iii) that qualifying adjectives are least close or most distant from nouns.

### 2.1. *The proximity between semantic roles*

As already pointed out before, the main syntactic difference between role-based adjectives like *wooden* and descriptive or qualifying adjectives like *round* or *nice* is that the former are exclusively attributive, whereas the latter are freely attributive. That is, they can be used both attributively and predicatively, e.g. *the table is round* or *the table is nice*, but the three subtypes of role-based adjectives do not allow predication as shown by the ungrammaticality of *\*the table is carved*, *\*the table is Chinese*, *\*the table is wooden*. What is the conceptual or semantic factor blocking this syntactic asymmetry? This is precisely the underlying role-based nature of adjectives like *wooden*, *Chinese* or *carved*. The role configurations of essive (*the table is in wood*), of source (*the table originates from China*) and of agent/ patient (*someone carved the table*) necessitate that each time the two morphemes stay in close proximity. The same presence of role configurations applies to noun-noun combinations, known as compounds such as *atom*

*bomb*. Here the underlying role-configuration is that of instrument (or force) as the paraphrase *a bomb operated by atom fission* suggests. Remark that alongside the noun-noun compound *atom bomb* English also has the syntactic group of relational adjective plus noun, i.e. *atomic bomb*. The link between such adjectives and nouns is based on an implicit predication; it would consequently be contradictory that the relational adjective should in its turn be able to serve the function of a second predication. Thus we reach the conclusion that the syntactic phenomenon of the exclusively attributive use of relational adjectives is not an autonomous syntactic fact, but just reflects the close conceptual unity through a predication link underlying the relational adjective and the noun. Here the basic iconic principle of “What belongs together conceptually stays together linguistically” finds its fullest application.

## 2.2. Roles in past participle adjectives

Things are somewhat different for past participle adjectives like *a carved table*. Here the form *carved* expresses the predication relation itself. Still, this relation is basically different from that of descriptive or qualifying adjectives like *a round table* or *a nice table*. These are conceptually one-argument predicates which do not invoke any second argument beyond their own domain.<sup>3</sup> The role configuration is quite different with past participle adjectives like *carved*, since here the agent and patient domains (*someone carved the table*) are fundamentally different domains. On the other hand, there is also a wide conceptual gap between the type of conceptualisation in the adjective-like past participle in *carved table* and a real past participle, which is always part of a verb phrase as in the expressions *a table which has been carved in China* or *a table carved in China*. This so-called post-posed participle has all the characteristics of a verb-like predication and can indeed be extended indefinitely, e.g. by an agent, a time adjunct or any other adjunct as *the table carved by a Chinese carpenter*, or *the table carved in the 17th century*, etc. A pre-posed participle as in *a broken window* is largely limited to a subcategory of transitive verbs that “leave a mark on something”, as Bolinger (1967: 19) in his cognitive (*avant la lettre*) intuition put it. In line with the general tendency found with attributive adjectives, pre-posed participles reflect the conceptualisation of more permanent, resultant states. This further implies that the pre-posed or attributively used past participle is to be situated somewhere on a continuum ranging from a verb phrase to a predicative adjective. There is

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3. It can be argued that conceptually each predicator (or relation) is always a two-place or two-argument relation. In the case of adjectival predicates the second argument can be claimed to be the domain, e.g. value scale or other parameters linked to the first domain (*The kitchen table is large (for the standard we set for kitchen tables)*).

no constraint on the post-posed participle: *money deposited* or *withdrawn* are both possible here. In pre-position only the participle denoting a relevant, lasting state is acceptable: *deposited money*, but not *\*withdrawn money*. But such “lasting state” participles like *deposited* cannot make it for a *be*-predication: *\*the money is deposited*. Such a predicative use is only possible when the past participle has become fully equivalent to a freely attributive adjective. In English, this last phase in the morphological evolution process is most of all a case of complex morphology. Thus compound forms such as *hand-written* represent the final phase in the continuum, since we can both use *hand-written letters* and *letters that are hand-written*. Notice that it is impossible to make the agent explicit here: *\*letters (that are) hand-written by her mother*. All these observations boil down to one and the same thing: the attributively used past participle still contains an implicit role configuration, but it cannot have any explicit agent or patient. But if a less salient role participant such as instrument as in *hand-written* enters the morphological derivation and compounding process, a clear case of relevant classification of clearly recognisable, permanent relations obtains. This potentially hybrid character of pre-posed past participles may also help to explain its intermediary position between relational adjectives and freely attributive ones.

### 2.3. *The greater distance of descriptive and qualifying adjectives*

The next proximity question to be discussed is the difference within the two freely attributive adjective categories, i.e. descriptive and qualifying adjectives. We can first observe that in contrast to role-based adjectives, descriptive adjectives denote less stable properties of the entity denoted by the noun. Thus the adjective in *a wooden table* denotes a more or less permanent, unchangeable property of the entity *table*, but the shape-denoting adjective in *a round table* denotes still fairly stable, but anyway less stable properties than the material the table is made of. In fact, descriptive adjectives denote stable, but changeable properties, whereas relational adjectives denote stable and unchangeable properties.

In comparison with relational and descriptive adjectives, qualifying adjectives denote both changeable and unstable properties of entities. These properties are least intrinsic to the entities, but partly depend on the evaluation of the beholder(s) and of the criteria they apply. What is a nice table for one buyer need not be so for the other, but both can always very easily agree on the more objective properties of size and material.

We can summarize the notions of stability and (un)changeability and their relations to the iconic principle of proximity or distance for each major category of attributive adjective as in Table 2.

**Table 2:** Categories of attributive adjective and proximity

<i>Categories</i>	Det	Qualifying adj.	Descriptive adj.	Role-based adj.	Noun
<i>Properties</i>					
stable		—	+	+	
unchangeable		—	—	+	
Example:	<i>a</i>	<i>nice</i>	<i>round</i>	<i>wooden</i>	<i>table</i>

### 3. THE PRINCIPLE OF SALIENCY: INTERNAL PRIORITIES IN EACH MAJOR CATEGORY

It is not a coincidence that in Oscar Wilde’s line *His eyes fell on a large purple satin coverlet*, the two descriptive adjectives *large* and *purple* appear in the order of size before colour. In fact, the structuralist approach (as summarised in Table 1) sees a hierarchy of four descriptive subcategories, i.e. size, shape, age and colour. As stated before, it would hardly make any sense to explain this hierarchy on the basis of conceptual proximity. There is no a priori reason why an entity’s colour should be conceptually closer to the nature of an entity than its size or shape. On the contrary, intuitively one would rather expect that the properties of size, shape and age should be more stable than that of colour. Obviously, the internal hierarchy within the descriptive adjective category is not governed by the principle of conceptual proximity.

The hypothesis I want to explore here is almost the opposite of the principle of proximity, namely a principle which does not iconically reflect the order of things in the experienced world, but which rather or even solely springs forth from the human conceptualiser. This is the principle of perceptual or conceptual saliency. Saliency is not a result of the world’s primacy over the human conceptualiser, but rather reflects the human conceptualiser’s primacy over the world. It is the human perceiver or conceptualiser that imposes his gestalt-based priorities on the world. In one word, saliency is in the eye (and the mind) of the beholder. According to the principle of saliency, humans would perceive the size of things before the shape, both these properties before the age of entities and all these three properties before their colour. This hierarchy in saliency can be summarized as in the formula given in Table 3.

**Table 3**

size < shape < age < colour

What may be involved here is not actual saliency, but rather developmental saliency. This may be reflected both in the historical evolution of languages and language universals and in the language acquisition process of young children. Evidence from research on language universals is only helpful if it can point to the existence of concrete lexical or grammatical universals. The only approach trying to set up such “ideational” universals I know of is Anna Wierzbicka’s (1996) proposed list of semantic primes or primitives. This list is based on the comparison of some hundred different languages from all over the world. Thus far some sixty universal concepts have been ascertained. These may appear in various languages as lexical items, bound morphemes or grammatical units. Amongst these sixty primes, we find two descriptive adjectives, i.e. BIG and SMALL<sup>4</sup>. Various languages may have a large number of allolexes covering aspects or segments of such universal concepts. Thus English has a choice of five allolexes: *big*, *large*, *tall*, *great*, and *huge*<sup>5</sup>, whereas other languages such as German and Dutch may only have two lexemes, i.e. *groß/klein* or *groot/klein*, respectively. The fact that the list of semantic primes only contains two descriptive adjectives and that both are adjectives of size constitutes serious evidence that size is the most salient factor in human perception and that size adjectives come first amongst descriptive adjectives. Before going into the other subcategories of descriptive adjectives, it may be useful to point out that the other adjectives in Wierzbicka’s list are the evaluative or qualifying adjectives *good* and *bad*. Wierzbicka does not use a measuring scale for the internal hierarchy of saliency amongst the sixty semantic primes, which would –given the small number of primes– hardly be relevant, anyway. What is striking, however, is that both qualifying adjectives like *good* and *bad*<sup>6</sup> or descriptive adjectives like *big* and *small* are conceptually the most salient properties that humans have universally shaped. This fact would take care of the most important and general dimension of the principle of saliency in this type of hierarchy

The absolute saliency of size over the other subcategories of shape and colour is also confirmed by their frequency of use. A dictionary that mentions frequency categories and even gives separate information for spoken and written language is DCE<sup>6</sup>, where the figures 1, 2, and 3 mark the categories of the thousand, two thousand and three thousand most frequent words, respectively. The adjectives of size such as *big*, *small*, *short*, *long*, *high*, *low*, *wide* all have the characterisation 1/2 (whereby the first figure marks spoken language, and the second written language). The adjectives

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4. These capitals want to convey the idea that it is the concepts represented by these English lexemes that are meant.

5. See Dirven (1976) for an analysis

6. Also evaluation adjectives, such as *good* and *bad* are obviously further culturally specified along a number of parameters in each conceptual domain.



of shape and colour behave differently: *round* 1/2, *straight* 1/2, *square* 2/2, *oblong* -; *white*, *black*, and *red* also have 1/1, but *grey* and *blue* have 1/2 and *brown* and *yellow* have 2/2.

We can be much less outspoken about the internal weighting of the three other descriptive subcategories, i.e. shape, age, and colour. Still, everyday observation of 6-month old babies shows that they classify objects rather on the basis of shape than on the basis of colour. Round objects are put together with other round objects, squares with squares, triangles with triangles etc. But these different objects are not classified together on the basis of their colour unless they are all the same size and shape. Linguistically, the smaller saliency of colours is reflected in the great diversity of the number of colour terms in the languages of the world. Although Berlin and Kay's (1969) first findings about the universality and evolution of colour terms are not all valid (see Kay et al. 1991), it is a fact that some languages only have two basic colour terms, others three, others four etc., whereas some have as many as eleven (English) or twelve (Russian). This fact is a strong indication that the elaboration of colour terms is a highly language-specific and consequently culture-specific phenomenon. In other words, peoples and cultures can live with or without colours –as the colour-blind may confirm– but not without an awareness of sizes and shapes. The only problematical case is the subcategory of age adjectives. There seems, as yet, to be no obvious explanation why it tends to occur in the slot that has been observed for it.

The last category, i.e. role-based adjectives, poses fewer problems. The internal hierarchy amongst role-based adjectives as reflected in the sequence *a carved Chinese wooden table* is not based on any perceptual saliency, but on a purely conceptual criterion. In discussions on the greater saliency of the various semantic roles, Fillmore ([1971], 1987: 64) already made a proposal<sup>7</sup> for the internal hierarchy of semantic roles and suggested the following hierarchy, which has been extended on the basis of Radden's (1989a) analysis of more detailed role relations.

**Table 4**

Agent < Experiencer < Object<sup>8</sup> < Instrument < Area < Goal < Source < Essive<sup>9</sup> < Location < Time.

7. But the lack of consensus on a great number of issues should be mentioned, too. (See Blake 1994).

8. Fillmore has regularly changed his terminology. What is called Object here, is usually referred to as Patient.

9. Essive has always been treated as a somewhat dubitable semantic role but in Dirven & Verspoor (eds., 1998) the Essive role is incorporated in a global concept of event schemata.

Here Fillmore's hierarchy has been supplemented by the semantic roles of *Area* and *Essive*. In view of the fact that only three subtypes of role-based adjectives come into play, we can infer the semantic role hierarchy in role-based adjectives of Agent/Experiencer < Patient < Source < Area < Essive. The Agent/Patient roles account for the past participle priority (*a carved table*), the source priority accounts for the provenance priority (*a Chinese table*) and the Essive role for the last slot (*a wooden table*). (For Experiencer and Area, see Footnote 2) This semantic role hierarchy is strongly based on the anthropocentric principle that humans find human agents or experiencers most salient. Likewise the object affected, the instrument used, or the area dealt with get priority. As a next group in the hierarchy we find the Source-Path-Goal group. Essive comes last since it is a non-human, non-process-oriented, non-directed conceptual relation. Location and time are not relevant in the discussion at hand.

#### 4. GENERAL CONCLUSIONS

The two principles of proximity and saliency governing the positions of attributive adjectives are somehow each other's antipodes. The principle of proximity stresses a conceptually inherent link between an entity and its properties. These properties are related to semantic roles in the stable, unchangeable role-based adjectives and to physical properties, which are stable, though changeable, in descriptive adjectives. The conceptual difference between these two categories of adjectives is reflected in the greater proximity of role-based adjectives and the greater distance of descriptive adjectives. Since qualifying adjectives denote non-inherent properties of entities, they are at the greatest distance from the noun if other subcategories of adjectives are present. In English, and in all languages with pre-posed adjectives, the principle of proximity is therefore right-bound, since the noun is to the right of the attributive adjectives. In contrast with this right-bound directionality of the proximity principle, the principle of saliency is left-bound: the most salient properties come first in the linear structure of the noun phrase. Whereas the principle of proximity is more objectively based, the principle of saliency is a matter of attention-focusing and consequently more subjectively and egocentrically based.

Although both principles are each other's antipodes, they need not be contradictory, but in a certain way they overlap and complement one another. This is most obvious for the position of the qualifying adjective in any string of adjectives, e.g. *a nice, large, purple satin coverlet*. Due to the conceptual proximity principle, the qualifying adjective is least close or most distant from the modified noun *coverlet*. But due to the saliency principle the subjective qualifying adjective, which expresses the speaker's subjective

evaluation, has absolute priority and comes first, that is leftmost in the linear structure of the noun phrase.

A similar complementary functioning of the two principles of proximity and saliency holds for the adjective of size. Given its strong link with the stable nature of entities, it is closer to the noun than the qualifying adjective. But given its far greater saliency than the other descriptive adjectives of shape, age, and colour, it ranks first in the saliency hierarchy of those four subtypes and has to precede them all..

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