Bracketing paradoxes as constructions
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Complex expressions like transformational grammarian and atomic scientist, usually called bracketing paradoxes, have been given different accounts in the linguistic literature. They have been analysed either as derived phrases as in (1a) and as combination of an adjective and a derived noun, as in (1b) (cf., for example, Sproat 1985, 1988; Di Sciullo & Williams 1987, Spencer 1988, Williams 1981):

(1) a. [[transformational grammar] ian] / [[atomic science] ist]
   b. [[transformational] [grammarian]] / [[atomic] [scientist]]

Both structures were considered problematic for different reasons: the first one because derivation of a syntactic phrase was in conflict with Botha's (1984) No Phrase Constraint, preventing derivation of phrases; the second one because of the presence of a mismatch between the morphological and the semantic structure: the scope of the adjective over the base noun (grammar and science respectively) is in fact blurred by this kind of analysis.

Spencer (1991), for example, considered the structure in (1b) a good one for the analysis of these bracketing paradoxes since, to the extent that:
a) the forms grammar, grammarian, transformational grammar and science, scientist, atomic science belong to the lexicon (even though the complexes transformational grammar and atomic science are not to be analysed as compound words),
b) the meaning of the words /expressions is the same, transformational grammarian and atomic scientist can be considered as obtained through a process of proportional analogy.

Recently, Ackema & Neeleman (2004:167, fn. 20) have observed that, though Spencer's proposal is by and large correct, expressions such as these, formed on phrases that are not lexicalised, though possible in English, cannot be formed in Dutch where only phrases that are not "lexical" can be derived. They suggest, consequently, that the correct structure for such expressions is that in (1a), on condition that the NP to which the derivational suffix is attached is head-final. This way, (one of) the (relevant) mapping principle(s) governing affixation they have proposed, the Input Correspondence\(^1\) principle, is obeyed.

Italian formations falling within the bracketing paradoxes' class discussed so far, however, are different. As is known, in Italian, adjectives modifying nouns are usually the righthand constituent: the expressions parallel to the English ones are scienza atomica/scienziato atomico, flauto barocco 'baroque flute' /flautista barocco 'baroque flautist'. Consequently, though in the Italian expressions too the affix scopes over the phrasal constituent it cannot be merged on the right side of the formations scienza atomica and flauto barocco.

The Input Correspondence principle of mapping can be obeyed only at the cost of violating another principle put forth by Ackema & Neeleman, Linear Correspondence, demanding that an affix /x/ structurally external to a (base) constituent /y/ is linearly external to /y/\(^2\).

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1 Ackema & Neeleman's Input Correspondence Principle is the following:

If an AFFIX selects (a category headed by) X,
the AFFIX is phonologically realized as /affix/, and
X is phonologically realized as /x/,
then /affix/ takes /x/ as its host.

2 Linear Correspondence Principle is as follows (cf. A&N 2004:140):

If X is structurally external to Y,
X is phonologically realized as /x/, and
Y is phonologically realized as /y/
then /x/ is linearly external to /y/
Violation of a mapping principle (Linear Correspondence in the case at hand), does not thus exclusively manifest in the subdomain of (Italian compound) inflection (cf. A&N 2004:142). The morphophonological form of the resulting complex – which becomes like that in (1b above) –, however, blurs the semantics of the formation.

It is necessary to account for these formations in a way not overshadowing the base constituent for the derivational suffix; expressions like flautista barocco or scienziato atomico, in fact, can have another interpretation (cf. Beard 1991 for the corresponding English forms) linked to the final category the base complex NA belongs to: if flautista barocco is a NP ([[flautista]N [barocco]A]NP), its meaning is that the flute player plays in a highly ornate way. But, if flautista barocco is to have the meaning that the musician plays a baroque flute, it must be obtained through the derivation of the complex form flauto barocco ([[flauto]N [barocco]A]N).

The situation of Italian word formation is complicated by the existence of other complex forms obtained from what Bisetto & Scalise (1991) called “compound-like phrases”, viz. expressions nowadays called “composti sintagmatici” ‘phrasal compounds’ or multiword expressions like tennis da tavolo ‘table tennis’ and pizza al taglio ‘sliced pizza’. From forms like these, derivatives such as tennista da tavolo lit. ‘table tennis player’ and pizzeria al taglio lit. ‘sliced pizzeria’ can be obtained. Here too the modifier constituent (da tavolo and al taglio) modifies the base noun (tavolo and pizza), not the derived one, thus proving that the derivational suffix (-ista and –eria respectively) scopes over the complex base; a mismatch between the morphosyntax and the semantics of the forms, of the same kind found in the bracketing paradoxes seen above, is at work here also.

The formations at issue here, hardly explainable with the formalism of the word formation rules proposed within the lexicalist (generative) approaches to word formation, seem to be better describable in constructionist terms, as will be demonstrated.

References
Sproat, R. (1985), On Deriving the Lexicon, PhD. dissertation, MIT.