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MOUTON

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ON THE SYNTAX OF ADJECTIVES
DETERMINING AGENT NOUNS IN
PRESENT-DAY ENGLISH

1.0. The following remarks are intended to clarify — though only in a preliminary way — the overall syntactic conditions underlying the following types of syntactic groups:

(1) *structural linguist*

(2) *good student*

(3) *deaf worker.*

These three types of adjective + substantive (agent noun) constructions are meant to exemplify the now commonly held hypothesis that adjectives in attributive position to a substantive may be derived from two basically different types of sentences: rectional sentences (i.e. sentences containing a full verb) and copula sentences.[1] The aim of this paper is to analyse a special sub-group of adjective + substantive constructions, namely those where the determined substantive is an agent noun and where the determining adjective is derived either from a verbal complement (object or adverb) of a rectional sentence or from an adjective in predicative position in a copula sentence.

Within the range of the problem so far stated we distinguish two classes of agent nouns: agent nouns directly derived from a verb by means of the *-er* suffix, and agent nouns that have no direct derivative connection with an underlying verb or noun (there *may* be a derivative connection with an underlying noun, i.e. *logician,*

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[1] Cf. e.g. H. Marchand, "Expansion, Transposition and Derivation" (in *La Linguistique* 1 [1967], 13-26), q. ETD; —, "On attributive and predicative derived adjectives and some problems related to the distinction" (in *Anglia* 84 [1966], 131-149), q. APA; W. Motsch, *Syntax des deutschen Adjektivs* (= *Studia Grammatica*, III) (Berlin, 1965). Charles Bally was probably the first to point out the basic difference between these two types of sentences. For precise references see Marchand, ETD, fn. 2. Furthermore F. Schmidt points out the related distinction between predication, which he calls "aktualer Satz", and attribution, — called "potentieller Satz"; both are described as universally valid modes of grammatical constructions. See: *Logik der Syntax* (4th rev. ed., Berlin, 1962), 60 ff.; *Zeichen und Wirklichkeit: Linguistisch-semantische Untersuchungen* (Stuttgart, 1966), 27 ff. Some semantic implications of the distinction between predication and attribution are discussed tentatively by U. Weinreich, "Explorations in Semantic Theory", in *Current Trends in Linguistics* (ed. Th. A. Sebeok), III: *Theoretical Foundations* (The Hague, Mouton, 1966), 394-477. See especially 420 ff. As a whole my article answers some of the critical remarks put forth by W. Winter, "Transforms without kernels?" *Lg.*, 41.484-489 (1965).

flutist etc.). All these agent nouns nevertheless fit into the same syntactic and semantic pattern displayed by derived agent nouns. The first class of agent nouns will be called REGULAR AGENT NOUNS, the second class may be termed QUASI-AGENT NOUNS.[2]

1.1. We may now formulate the problem under discussion by dividing it into three questions:

1.1.1. Which class of adjectives occurs only in attributive position and what are the defining syntactic conditions?

1.1.2. Which class of adjectives occurs attributively as well as predicatively but does not result in a semantic paraphrase in the two positions?

1.1.3. Which class of adjectives may be used both attributively and predicatively resulting at the same time in a semantic paraphrase in the two positions?

1.2. This tri-partite division of adjectives in attributive position to agent nouns is correlated with their different transformational origin in the deep structure of three types of underlying kernel sentences:

(1.1.1.): This class of adjectives (e.g. *structural* linguist) may only be derived from the object and/or adverbial position in a rectional sentence. Adjectives derived from object position appear on the surface structure of a sentence only under the form of desubstantival adjectives — derived by means of the suffixes *-al*, *-ar*, and *-ic*.[3] This statement is not reversible: not all elements of this class of desubstantival adjectives exhibit this type of syntactic behavior; some of them may belong to the class of adjectives discussed under 1.1.2.[4]

The other subclass of this type of adjectives derives from the adverbial position in a rectional sentence. The underlying adverbs are those of time, place and manner (this order seems to reflect the frequency of occurrence of the derived adjectives).[5] Following Marchand (see above fn. 3) we may term elements of this class of adjectives TRANSPOSITIONAL ADJECTIVES.

(1.1.2.): The defining criterion of this class of adjectives (e.g. *good* student) seems to be — apart from the possibility of using them in attributive as well as in predicative position — that — when used attributively — they originate in the deep structure of a rectional sentence from adverbial position only. The specifying feature of the underlying adverbs is that they belong to the class of adverbs called 'manner adverbs' and 'adverbs of degree'.[6] It should be noted that elements of this

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[2] Following Marchand, APA, 2.6.5.

[3] For fuller information on this point see H. Marchand, *The Categories and Types of Present-day English Word-formation: A Synchronic-Diachronic Approach* (Wiesbaden, 1960), 4.6.1 ff.; 4.1.18, and 4.43.5 ff. In APA Marchand classes these suffixes as leading to "transpositional adjectives", i.e. adjectives that "on account of their origin in a rectional type of predication ... merely transpose the complement part of the verb" (APA, 1.4.).

[4] Cf. for a discussion of the semantic side of such an adjective — e.g. *criminal* — that may belong to class 1.1.1. as well as to class 1.1.2., Marchand, APA, 2.5.5.

[5] This general derivational process was recognized by Jespersen, *MEG*, II, 12.11 ff. and 12.21, who termed its result "shifted subjunct-adjuncts".

[6] Cf. Jespersen, *MEG*, II, 12.241: "It is notable that adjectives indicating size (*great*, *small* etc.) are used as shifted equivalents of adverbs of degree (*much*, *little* etc.)." It should be noted that many of our recent discoveries in the field of grammar were already known to Leibniz and his

class of adjectives lead to semantic non-equivalence of the constructions containing them in attributive or predicative position. Consequently, adjectives occurring in this latter position are considered to be base forms and may be viewed as a special subclass of the type 1.1.3. These two criteria distinguish this type of adjectives from the following type 1.1.3. as well as from the preceding type 1.1.1.

(1.1.3.):   Eventually we may posit that class of adjectives which derives from the nominal part of the predicate in copula sentences (e.g. *deaf* worker). The defining criteria of the subclasses of this type of adjectives are — as we shall see later on — more of a semantic than of a syntactic character. Semantically speaking, attributive and predicative use of these adjectives leads to semantic equivalence of the constructions in which they occur. In both cases these adjectives determine directly an agent noun that functions as a whole as the head of the construction [adj + ag noun] or [ag noun + is + adj].

2.0.   In the following sections of this paper we shall try to give some empirical support to the claims made under 1.1.1.-1.1.3. The mode of presentation of the proposed solutions will to a certain extent be a formal one, though no attempt is made to supply a complete ramification of the procedures and results within the framework of transformational grammar. (This may be done when the problem under discussion is dealt with on a larger scale.) Yet, it is assumed that the results found are consistent with any linguistic theory based upon the principles of modern symbolic logic.

2.1.   As already indicated under 1.0. we distinguish within the scope of this paper two classes of agent nouns:

2.1.1.   regular agent nouns that are directly derived from transitive[7] as well as from intransitive verbs by means of the -er suffix. This class of agent nouns may again be split up into animate and inanimate agent nouns (e.g. *worker* and *lighter*), though this latter division is not relevant to an investigation of the syntactic behavior of agent nouns in general. The same holds true with compounded agent nouns (e.g. *bookseller, bricklayer* etc.) which from a purely syntactic point of view are nominalized sentences[8]: *He (-er) sells books.* etc. On the morphological surface these agent nouns should, however, be treated as compounds and not as derivatives.

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contemporaries (cf. e.g. the *Grammaire générale et raisonnée* of Port-Royal (1660); éd. crit.: Herbert E. Brekle, Stuttgart-Bad Cannstatt, 1967). Thus, the transformational equivalence between certain adjectives which indicate size and certain adverbs of degree was recognized by Leibniz: "... adverbium se habet ad verbum ut adjectivum ad nomen substantivum. Ita *valde potito*, et *sum magnus potator*, idem significant." (Louis Couturat, *Opuscules et fragments inédits de Leibniz*, Paris, 1903, 282).

[7]   There is a small subclass of transitive verbs — i.e. verbs that admit of a direct object — which cannot be transformed to form a passive sentence and which do not derive regular agent nouns or action nouns. These verbs are commonly called MIDDLE VERBS (e.g. *weigh, cost, have, suit, resemble, mean*, etc.). A similar restriction seems to hold with certain subclasses of copulative verbs and with the copula *be* itself (e.g. *become, seem, appear*, etc.). See R. B. Lees, *The Grammar of English Nominalizations* (Sec. printing, The Hague, Mouton, 1963), 7f.

[8]   Cf. for a fuller treatment H. Marchand, "The Analysis of Verbal Nexus Substantives", *Indogerma-*

Eventually we may note that — semantically speaking — the class of regular agent nouns can be split up into a sub-class that has the semantic feature 'habitualness (of an action)' and another sub-class which would lack this semantic feature (= 'non-habitualness'). These features may be disjunctively connected with the same form: e.g. *He is the writer of that letter* vs. *He was the greatest writer of his age.*[9]

In a somewhat formalized manner the transformational process[10] of generating regular agent nouns may be stated as follows:

$$(1) \quad \text{Subj}_{an/in} + \begin{bmatrix} V_t + (\text{Obj}) \\ V_i \end{bmatrix} \Rightarrow \begin{bmatrix} (\text{Obj}) + V_t + \text{-}er \\ V_i + \text{-}er \end{bmatrix}$$

where $\text{Subj}_{an/in}$ = animate or inanimate subject

V_t = Transitive verbs ($\neq$ middle and copulative verbs)

V_i = intransitive verbs

(Obj) = direct object is facultative

2.1.2. Quasi-agent nouns are — morphologically speaking — not derived from a verbal base. They may not be derivatives at all (e.g. *husband, surgeon, father* etc.) or they may be derived from a nominal base, mostly on a neo-latin basis (e.g. *linguist, logician, scholar, flutist*, etc.). Yet, as we shall see later, they all behave syntactically alike insofar as any member of the two sets of regular and quasi-agent nouns does contain a functional element — whether overtly statable or not — denoting a specific activity performed by a person or by a material object. It seems that quasi-agent nouns are necessarily tied up with the semantic feature of 'habitualness' implicit in the covertly existing verbal kernel of the construction. Consequently there seems to exist no generalizing rule for the generation of quasi-agent nouns; they would therefore find their place in the lexicon component of a transformational model of language.

The following sections will be devoted to the discussion of the syntactic regularities of the three main classes of adjectives determining agent nouns as mentioned before under 1.1.1.-1.1.3.

2.2. The first class of adjectives determining agent nouns discussed in some detail will be of the type *structural* (linguist), *federal* (printer), *continental* (scholar), *dialectal* (geographer); *nuclear* (physicist; *heretic* (preacher); *early* (riser), our *then* (commander); *local* player; etc.

The defining criterion for this class of adjectives (mentioned above under 1.1.1.)

nische Forschungen, 70 (1965), 57-71; and: —, "On the Analysis of Substantive Compounds and suffixal derivatives not containing a verbal element", *IF*, 70 (1965), 117-145.

[9] Cf. the insightful remarks on the semantics of agent nouns made by David Daube, "*Sponsor* and the History of Contract", *Law Quarterly Review*, 62 (July 1946), 266-272. (I owe this reference to Richard Epstein, Yale University.)

[10] In 1921 Edward Sapir clearly recognized the transformational connection between verbs and agent nouns formed by means of the 'agentive' suffix *-er*: "The word *farmer* has an agentive suffix *-er*. — It transforms the verb *to farm* into an agentive noun precisely as it transforms the verbs *to sing, to paint, to teach* into the corresponding agentive nouns *singer, painter, teacher*." (*Language*, ch. V, 83, Harvest Book).

is that they originate in the position of verbal complements in rectional sentences and that they may not occur in predicative position in copula sentences (e.g. *the linguist is structural).

In order to prove this assumption we may set up a sentence frame which gives us the means of testing empirically the relation between the syntactic construction under discussion here (i.e. [adj$_{tp}$ + agent noun], where adj_{tp} means 'transpositional adjective') and the type of rectional kernel sentence underlying it (i.e. [Subject + verb + verbal complement]).

We do not intend to develop all of the constructional subclasses of this type of adjective (= adj$_{tp}$), nor is it the aim of this paper to give detailed transformational rules which expose the intermediate steps leading from the kernel sentence to the syntactic construction [adj$_{tp}$ + agent noun]. What we shall be doing here is rather to state roughly some transformational connection between a certain type of kernel sentence — which is the initial string — and a certain type of syntactic construction which is the terminal string of symbols within the framework adopted here.

2.2.1. The following example is meant to clarify the procedure: *presidential adviser*. This syntactic group may be represented by a string of symbols as: [adj$_{tp}$ + ag noun]. The underlying kernel sentence which reflects the covertly existing syntactic relationships between the elements of the group [adj$_{tp}$ + ag noun] may be of the form *He advises the president;* in symbolic notation: [Subj$_{pers}$ + V$_t$ + Obj$_{pers}$] (the subscript '$_{pers}$' indicates that in this case the transitive verb *advise* (V$_t$) requires both a 'personal' subject and a 'personal' object.)

In a more concise notation it will become clear that our first example belongs to a special subclass of [adj$_{tp}$ + ag noun]-constructions:

[Subj$_{pers}$ + V$_t$ + Obj$_{pers}$] ⇒ [adj$_{tp}$ + ag noun]
He   advises   the   ⇒ presidential adviser
                      president

There is an obvious correlation on the one hand between [Subj$_{pers}$ + V$_t$] and
                                                          He advises
[ag noun];[11] on the other hand between [Obj$_{pers}$] and [adj$_{tp}$]. This is to say that the
adviser   president   presidential
determinatum (head) of the syntactic group (= agent noun) is derived from the elements constituting the [Subj + V] part of the kernel sentence, whereas the determinans (modifier) (= adj$_{tp}$) derives from the direct object [Obj] of the kernel sentence. This correlation or transformational equivalence between [Subj + V] and [ag noun] on the one hand, and [Verbal complement] and [adj$_{tp}$] on the other hand is valid for all constructions of the type [adj$_{tp}$ + ag noun] with a rectional sentence as its transformational origin. The symbol [Verbal complement] may be replaced by (1) direct object, (2) adverbs of time, place, and manner, (3) prepositional object.

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[11] Cf. the transformational rule (1) for constructing regular agent nouns given above under 2.1.

Examples:

(1) direct object: He advises the *president* → *presidential* adviser

(2a) adverb of time: He commanded us *then* → Our *then* commander

(2b) adverb of place: They play in the *town* → *local* players

(2c) adverb of manner: He drinks *habitually* → *habitual* drinker

(3) prepositional object: He prints *for the government* → *governmental* printer

The correlations exhibited in the above examples may be subsumed tentatively under the following formula:

$$(2) \quad \begin{bmatrix} Obj_{dir} \\ Obj_{prep} \\ Adv_{t/p/m} \end{bmatrix} + \begin{bmatrix} \{\text{-}al, \text{-}ar, \text{-}ic\} \\ \\ \varnothing \end{bmatrix} \Rightarrow adj_{tp}$$

where in the case of Obj_{prep} the preposition is deleted, and where with Adv the adverbial morpheme $\{-ly\}$ is deleted.

2.2.2. We may now tentatively combine the rule for generating regular agent nouns (1) with the rule for the generation of transpositional adjectives (2) to yield rule (3):

$$(3) \quad Subj_{an/in} + \begin{bmatrix} V_t + (Obj) \\ \\ V_i \end{bmatrix} + \begin{bmatrix} \begin{bmatrix} (Obj_{dir}) \\ Obj_{prep} \\ Adv_{t/m} \end{bmatrix} \\ \begin{bmatrix} Obj_{prep} \\ Adv_{t/m} \end{bmatrix} \end{bmatrix} \Rightarrow \begin{bmatrix} (Obj) + V_t + \text{-}er \\ \\ V_i + \text{-}er \end{bmatrix} + adj_{tp}$$
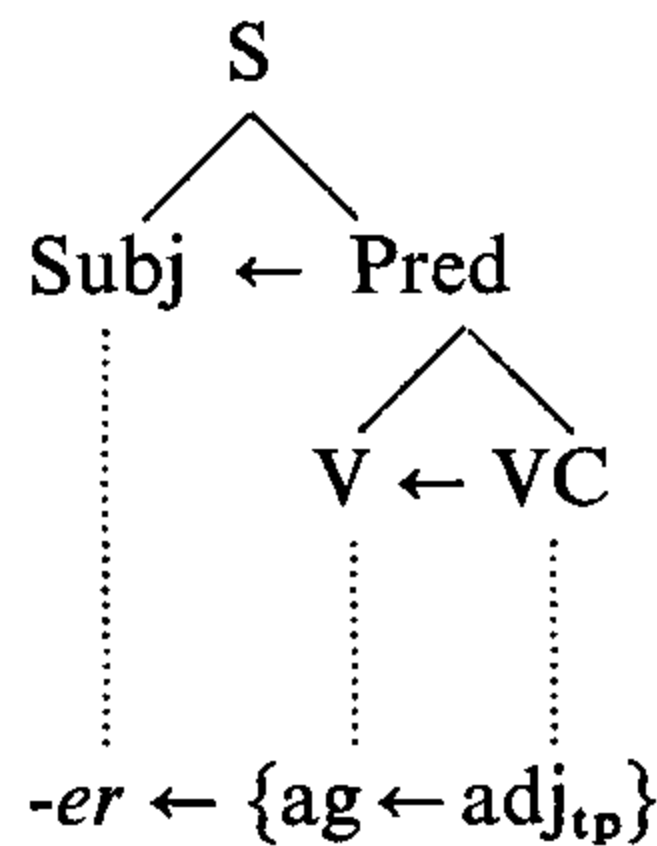
If the facultative symbol (Obj) is chosen within the first square brackets and becomes thus integrated into the agent noun (e.g. *bricklayer*), then the position of (Obj_{dir}) has to remain empty; if on the other hand (Obj_{dir}) is chosen, it is automatically transformed into adj_{tp}; i.e. the two symbols mutually exclude each other. Furthermore a subsidiary rule has — in order to ascertain the grammatical correctness of the terminal string — to rearrange adj_{tp} into prenominal position (i.e. before the agent noun: adj_{tp} + ag noun.

We have to be well aware of the fact that rule (3) gives only some overall information about the transformational relationships existing between the assumed kernel sentence (left of the arrow) and the terminal string (right of the arrow). More information about the details of the transformational process that leads — step by step — from the initial string to the terminal string can be gained by constructing tree diagrams with a matrix sentence plus two constituent sentences embedded in it. The embedding of the first constituent sentence into a matrix sentence of the copula type would generate a sentence with an agent noun as predicate. The second constituent sentence would lead to the expansion of the predicate by means of rule (2) given above (with the necessary deletions properly applied).

2.2.3. There is a further equivalence relation inherent in both the initial string

(i.e. [Subj + V + Verbal complement]) and in the terminal string (i.e. [adj$_{tp}$ + ag noun]) insofar as the verbal complement determines the verb in the initial string and the adj$_{tp}$ determines not the whole agent noun but only its verbal kernel.[12] This assumption seems to hold for regular agent nouns as well as for quasi-agent nouns; with this latter type of agent nouns the verbal kernel exists only covertly in some highly abstract deep structure (e.g. *linguist* ← *He studies languages*, *descriptive linguist* ← *He studies languages descriptively* where *descriptively* itself has a rather complex transformational history. It seems to be intuitively evident that this special type of manner adverb determines both grammatically and semantically the verb phrase of the sentence).

The following graph is meant to show the parallelism of the determinational relations[13] inherent in the two constructions (i.e. kernel sentence and its transformational result [Adj$_{tp}$ + ag noun]):

$$S$$
$$\diagup \diagdown$$
$$\text{Subj} \leftarrow \text{Pred}$$
$$\diagup \diagdown$$
$$\text{V} \leftarrow \text{VC}$$

$$\text{-}er \leftarrow \{\text{ag} \leftarrow \text{adj}_{tp}\}$$

where: ag = verbal kernel of the agent noun (whether overtly expressed or not)
-*er* = categorial morpheme denoting 'actor'
← = the relation and direction of determination
VC = Verbal complement

The vertical dotted lines indicate the functional equivalence of the terms so connected (comparable to a geometrical projection).

It should, however, be noted that this sort of parallelism of the determinational relations inherent in a kernel sentence and its transformational result does not hold universally. There are, at least in the field of word-formation, some types of nominal compounds where there is no such parallelism or equivalence between the determinans and determinatum in the kernel sentence and the compound generated from it.

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[12] Cf. *Duden-Grammatik* (Mannheim, 1959), § 328, 3, where principally the same opinion is expressed, though without differentiating the class of adjectives dealt with in this section (= adj$_{tp}$) and that class of adjectives discussed hereafter under 2.3.: "Schliesslich sind jene Adjektive noch auf den attributiven Bereich eingeschränkt, die bei Verbalsubstantiven stehen. Sie charakterisieren die durch das Substantiv benannte Person nicht, sondern beurteilen sie von ihrer Tätigkeit her, als ob sie als Artangabe beim Verb stünden. Karl ist ein *starker* Raucher (= er raucht stark). Aber nicht: Der Raucher ist stark. (Das ergäbe einen anderen Sinn.) ... ein *guter* Redner (= er redet gut), ..."

[13] For a tentative definition of the term 'determination' see my paper "Syntaktische Gruppe (Adjektiv + Substantiv) vs. Komposition im modernen Englisch" (in *Linguistics* 23 [1966]), 5-29; see esp. 2.2 *Déterminant — Déterminé.*

An example in point is the Verb-Object type of nominal compounds[14] where *drawbridge* is explained by the kernel sentence *John draws the bridge*. In the nominal compound, *bridge* is certainly the determinatum or head of the construction, the same cannot be said of *bridge* in *John draws the bridge*. It seems that the theory of transformational grammar has so far not explained if and to what extent such changes in the grammatical relations of constructions connected by a transformational process can be accounted for within the transformational model.

2.3.   The second class of adjectives determining agent nouns — as mentioned above under 1.1.2. — exhibits the following criteria that distinguishes them from the class of purely transpositional adjectives (discussed before in some detail under 2.2.):

(1)   These adjectives may occur in attributive as well as in predicative position (e.g. *He is a heavy smoker, the smoker is heavy*).

(2)   It is characteristic of this class of adjectives that they do not lead to semantic equivalence of constructions containing them in attributive or predicative position (i.e. *He is a weak chancellor* ≠ *The chancellor is weak*).

(3)   These adjectives, when used attributively, originate in the deep structure of a rectional sentence from adverbial position.[15] Moreover, they seem to form a restricted class. They occupy an intermediate position between purely transpositional adjectives (as discussed under 2.2.) and copula adjectives which will be discussed under 2.4. insofar as the same word-form may be used in two different functions: 1) as a trans-

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[14]   Cf. R. B. Lees, *op. cit.*, 148 ff.

[15]   Yet, it seems that some adjectives are creeping into this class which have a different transformational origin: e.g. *criminal lawyer* vs. *the lawyer is criminal*, where *criminal* in the first case is a transpositional adjective and derives from object position, whereas *criminal* in the second case is an underived base adjective. (Cf. Marchand, APA, 2.5.5.) This indicates that there is a partial overlapping between the classes of adjectives dealt with under 2.2. and 2.3. Moreover, it seems that a transformational connection between *good student* or *nice singer* and *he studies well* or *he sings nicely* is not assumed generally. Thus N. Chomsky (*Syntactic Structures*, 1957, 72) tried to explain all attributive adjectives as transforms of copula sentences containing the adjective in predicative position. Essentially the same opinion is held by J. J. Katz (*The Philosophy of Language*, New York-London, 1966, 290 ff.): "Any syntactically compound sentence containing an occurrence of 'good' as an adjectival modifier of a noun is derived transformationally from an underlying phrase marker ... which contains as a constituent a phrase marker for a copula sentence in which both 'good' and the noun it modifies in the compound sentence appear with the same grammatical relation of modification holding between them." Katz nevertheless recognizes the complexity involved in modificational processes with agent nouns in general. He arrives at a solution — e.g. in the case of *good mother* — by moving the whole problem into the semantic component of his theory of language. There he posits 'evaluation semantic markers' as a part of the lexical readings of certain nouns. These evaluation semantic markers are further subcategorized by subscripting them with symbols representing the concepts of *use, function, duty, purpose*, etc. The rationale of these concepts is that they make up precisely that component of the meaning of a noun which is modified by such an adjective like *good*. "... the evaluation semantic marker in the reading for 'mother' will have a subscript symbol that expresses the fact that someone who is evaluated as a mother is judged in terms of the performance of duties associated with this role." (Katz, *ibid.*, 296). To sum up: it seems that Katz' 'semantic solution' of the problem throws light upon the complexities of the modification of quasi-agent nouns — e.g. *good mother* — whereas with modified regular agent nouns — *heavy smoker* — the 'transformational solution' seems preferable.

positional adjective, (2) as a copula adjective that may occur both predicatively and attributively (see fn. 16).

2.3.1. A different way of looking at this phenomenon would be to say that with this class of adjectives we have simply to do with functional polysemy of one and the same form on the surface structure *or* that there are two homophonous forms having each a special grammatical function made explicit in the deep structure of the kernel sentence. Thus *weak* in *He is a weak student* in one of its readings[16] derives from adverbial position in the (paraphrased) kernel sentence *He fulfils his function as a student in a weak manner*, whereas *weak* (a base form) in *The student is weak* would normally refer to some physical state of a person denoted by *student*. Moreover, it seems to be evident that for reasons of semantically motivated co-occurrence restrictions there are only a few adverbs of manner and degree that may be transformed into transpositional adjectives determining agent nouns; it is therefore not possible to give a generalized transformational rule. Thus the following rule has only a restricted range of applicability and will therefore most suitably be placed in the lexicon component as a subsidiary rule.

$$(4) \quad \mathrm{Subj}_{\mathrm{an/in}} + \begin{Bmatrix} V_t + (\mathrm{Obj}) \\ V_i \end{Bmatrix} + \begin{Bmatrix} \mathrm{Adv_m} \\ \mathrm{Adv_{degree}} \end{Bmatrix} \rightarrow \begin{Bmatrix} (\mathrm{Obj}) + V_t + \textit{-er} \\ V_i + \textit{-er} \end{Bmatrix} + \mathrm{adj}_{\mathrm{tp}}$$

where $\mathrm{adv_m}$ = *poor, weak, heavy, civil, quick* ...

$\mathrm{adv_{degree}}$ = *great, small, light, big* ... (cf. fn. 6 above)

The adverbial morpheme {*-ly*} has to be deleted in its proper place and suppletive changes have to be considered, e.g. *much* → *great* etc.

2.3.2. To sum up: adjectives of this class are — when used attributively — really a special type of transpositional adjectives insofar as they derive from the position of a verbal complement ($\mathrm{adv_{m/degree}}$) in a kernel sentence, though adjectives having the same morphological shape do occur also in predicative position but with a different function: they then determine the feature of 'actor' contained in the agent noun, whereas any transpositional adjective may occur only in attributive position and has the grammatical function of determining only the verbal kernel of an agent noun

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[16] Another possible interpretation of sentences formed by means of these adjectives would be that in the case of *poor student*, *poor* may derive from a copula sentence and thus qualify the person denoted by *student* as such. According to L. L. Hammerich ("Nexus. Subjekt und Objekt. Aktiv und Passiv" in: *A Grammatical Miscellany offered to Otto Jespersen on his seventieth birthday* [Copenhagen/ London, 1930], 299-317) the Dutch language possesses morphological criteria to distinguish between the functions of prenominal adjectives as, 1. "copula adjectives" and, 2. as "transpositional adjectives": "Eigentümlich ist, daß das Holländische bisweilen den Unterschied zwischen attributiver Junktion [= our 'copula adjectives'] und attributiven Nexus [= our 'transpositional adjectives'] flexivisch ausdrücken kann: *een oude vriend* ist 'ein Freund, der alt ist, lange gelebt hat' (Junktion), aber *een oud vriend* ist 'einer, der als Freund alt ist, der seit langem Freund ist' (Nexus)." Thus, using Jespersen's terminology, Hammerich has shown, that in at least one language there is a material correlation between the transformational genesis of transpositional adjectives and their morphological shape on the syntactical surface; namely the lacking of a flexional element in *oud* (vriend), *goed* (Koning) (= $\mathrm{adj}_{\mathrm{tp}}$) in contradistinction to *oude* (vriend), *goede* (Koning) (= copula adjectives).

functioning as its determinatum (head).[17] A last example should elucidate this: *a nice singer* derives from *He sings nicely* (the adverb *nicely* modifies the verb *sings*). *The singer is nice* is a basic construction as far as the adjective *nice* is concerned and means that the person who sings is nice.

Because of the functional ambiguity of some of the adjectives used attributively (see fn. 16) we may say that there is again a certain overlapping between the class of adjectives discussed here and that class of adjectives discussed in the following section 2.4.

2.4. We come now to the third and — within the scope of this paper — last class of adjectives that may occur as modifiers of agent nouns. Under 1.1.3. two defining properties of this class of adjectives were posited: (a) they may occur both attributively and predicatively; (b) occurrence in these two positions leads to semantic equivalence of the two constructions (i.e. $[adj_{ap} + ag\ noun[= [The + ag\ noun + is + adj_{ap}]$, where adj_{ap} = adjective used attributively and predicatively).

2.4.1. It is an overall feature of this class of adjectives that their syntactic and semantic behavior relative to agent nouns is neutral; i.e. they always have as their determinatum (head) the whole agent noun, or, more precisely, that part of the agent noun which derives from subject position of its underlying kernel sentence. Thus the verbal kernel of an agent noun does not enter into a relation whatsoever with an adjective of this class. This implies that the adjectives dealt with here under 2.4. do not properly belong to the core of the main problem of this paper.

Both constructions — $[adj_{ap} + ag\ noun]$ and $[The + ag\ noun + is + adj_{ap}]$ — derive ultimately from a matrix sentence leading to an agent noun (see rule [1]) plus a subordinative constituent sentence of the form $[He + is + adj_{ap}]$ embedded into the matrix sentence either in predicative or in attributive position.
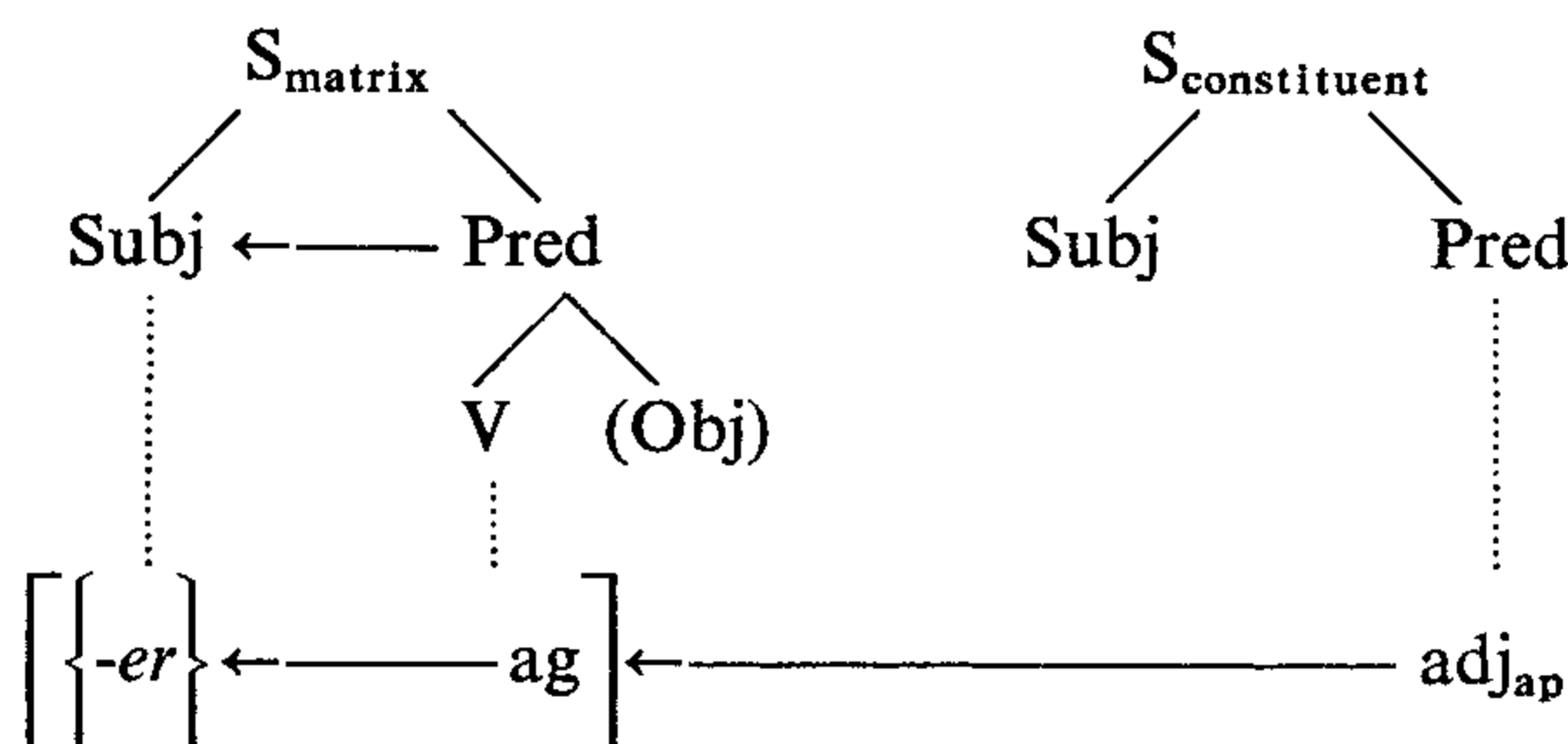
These syntactic properties of adj_{ap} may be subsumed under the following rule which indicates roughly the transformational history of adj_{ap}:

(5) $[He + is + a + ag\ noun] + [He + is + adj_{ap}] \rightarrow [The + ag\ noun + is + adj_{ap}] \rightarrow [He + is + a + adj_{ap} + ag\ noun]$

Example: [He is a worker] + [He is deaf] → [The worker is deaf] → [He is a deaf worker]

2.4.2. The special determinational relation in which these adjectives stand to an agent noun functioning as their determinatum (head) — either as the subject of a copula sentence or as the head in a syntactic group (= $[adj_{ap} + ag\ noun]$) — can be inferred from the following graph (cf. the graph at the end of section 2.2.):

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[17] Principally the same result was reached by Aristotle (*On Interpretation*, XI, 20b; ed. H. P. Cook, Loeb's Library, 1962): "Though a man is a cobbler and good, yet we cannot combine them together and pronounce him also 'a good cobbler'. For if we can say that, whenever both predicates, separately taken, are truly affirmed of one subject, both also, when taken together, are truly affirmed of that subject, then many absurdities follow." Of course, linguistics is not concerned with the truth values of propositions, but, logically speaking, it should be clear that the adjectives dealt with here operate on different predicational levels when used attributively as transpositional adjectives or predicatively

$$S_{matrix} \qquad\qquad\qquad S_{constituent}$$

$$Subj \longleftarrow Pred \qquad\qquad Subj \qquad Pred$$

$$V \quad (Obj)$$

$$\left[\left\{ -er \right\} \longleftarrow ag \right] \longleftarrow \qquad\qquad adj_{ap}$$

2.4.3. This class of adjectives (= adj$_{ap}$) can be split up into several subclasses; the defining properties are more of a semantic character.[18] It is for this reason that the following attempt of subclassifying these adjectives is not meant to be complete.

2.4.3.1. 'Finite state' adjectives: *dead, blind, deaf, dumb, naked, guilty, round, rectangular, married, virgin; black; American; communist; catholic;* etc. All these adjectives denote some essential, finite property of persons or things (these properties may be physical, social, denoting race, nationality, ideology, confession etc.). This rather imprecise semantic characterization is mirrored to some extent on the syntactic level insofar as these adjectives cannot be 'compared' (e.g. **She is more married than...*).[19] It is evident that a semantic description of this class of adjectives has to divide it further into adjectives that require an animate subject and those adjectives that take inanimate subjects (e.g. **The silencer of this machine is protestant; *The triangular teacher*).

2.4.3.2. Compound adjectives of the types *love-sick* and *cock-sure*[20] occupy a special position within the class of adj$_{ap}$ because of their specific transformational history. As far as the second element of these adjectives (= determinatum, head)

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as copula or base adjectives. Hans Reichenbach is one of the few contemporary logicians who succeeded in analyzing conversational language in terms of symbolic logic. Cf. his *Elements of Symbolic Logic* (New York, 1947, paperback edition 1966), ch. VII, especially § 53, where he clearly recognizes the essential difference between base adjectives which are — according to Reichenbach's terminology — independent functions, and transpositional adjectives (= dependent functions). Reichenbach's example (p. 301): "... 'John is a slow driver'. ... What is said is not that John is slow in general but only that John is slow in his driving; thus the word 'slow', ... operates as a modifier of 'drive'." At the beginning of the last century it was Karl Ferdinand Becker who recognized most clearly the defining characteristics of what we have called "transpositional adjectives": "Die Form *lich* ... ist nicht eigentlich als Attributiv auf ein Substantiv, sondern als Adverb auf das Verb bezogen. Hieraus ist zu erklären, warum die Form *lich* nicht wohl kann attributiv gebraucht werden, es sei denn, daß das Substantiv der Beziehung eine verbale Bedeutung habe, z.B. eine *absichtliche Lüge*, ein *glücklicher Spieler*, oder daß diese Form unmittelbar auf einen hinzugedachten verbalen Begriff bezogen werde, z.B. ein *heimlicher* (heimlich geschriebener) Brief, ein *täglicher* (täglich besuchender) Gast." (K. F. Becker, *Organism der Sprache* als Einleitung zur deutschen Grammatik [Frankfurt am Main, 1827], § 31, p. 82. Cf. also K. F. Becker's *Die deutsche Wortbildung* [Frankfurt am Main, 1824] (= *Abhandlungen des Frankfurter Gelehrten-Vereins für deutsche Sprache*, Band 4).

[18] For the position of these adjectives in a German grammar see W. Motsch, *op. cit.*, 31 ff.

[19] Cf. W. Motsch, *op. cit.*, 31 ff., where some of the subtleties of these adjectives are discussed more elaborately.

[20] Cf. L. Lipka, *Die Wortbildungstypen WATERPROOF und GRASS-GREEN und ihre Entsprechungen im Deutschen*, Diss. Tübingen 1966.

does not belong to the class of 'finite state' adjectives, they may be compared and accompanied by adverbs of degree, time, place, and manner.

2.4.3.3. The third and last class of adj_{ap} dealt with here has a very wide range. Semantically speaking it includes the afore-mentioned type of compound adjectives insofar as all these adjectives denote some accidental property of persons or things They thus may be contrasted with the class of 'finite state' adjectives which denote more essential[21] properties of persons or things. A precise investigation of the formal and semantic properties of these two classes of adjectives ('accidental' — 'essential') lies outside the scope of this paper and remains to be carried out. It can be assumed that adjectives belonging to this class admit of comparison, adverbs of degree, place, time, and manner.

Examples in point are: *dirty, healthy, brave, old, young, clever, stupid, sleepy, bold, noble, arrogant, humble, nice, poor, weak, valiant,* etc. As mentioned above, some of these adjectives may be used also as transpositional adjectives (see 2.3.).

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[21] Cf. W. Motsch, *op. cit.*, 59, where he gives some syntactic clues to differentiate between "Adjektiven, die 'inhärente Eigenschaften' bzw. 'akzessorische Eigenschaften' beschreiben".

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