

Reflexive nominal compounds

1. Introduction¹

The term ‘reflexive nominal compounds’ will be used in this paper for derived nouns such as *self-control* in English, *Eigenlob/Selbstlob* ‘self-praise’ in German, for *autodérision* ‘self-derision’ in French, for *zì ài* ‘self-love’ in Mandarin, for *samolët* ‘airplane’ in Russian, for *afto-élenxos* ‘self-control’ in Greek, for *ön-becsülés* ‘self-esteem’ in Hungarian and for *omakiitos* ‘self-help’ and *itse-luottamus* ‘self-confidence’ in Finnish. Apart from some occasional remarks here and there (cf. Safir 1996; König & Vezzosi 2004), such deverbal compounds have almost never been analyzed in any detail for individual languages, let alone from a comparative perspective². This paper will discuss both the formal and semantic properties shared by such derived lexemes - and thus the reason for subsuming them under one meta-grammatical term - as well as the contrasts exhibited by the relevant derivational processes in the languages selected for comparison³.

Among the properties shared by these derived nouns in the languages under comparison we find the following:

- The first component of these nominals can be derived (both diachronically and synchronically) from intensifiers (Engl. (X-)self; Ger. *selbst, eigen*; Russ. *sam*; Mand. *zìjǐ*, etc.) and the compounds can be paraphrased in terms of at least one of the uses normally distinguished for intensifiers (cf. König & Gast 2007). Their second component is a deverbal nominalization or deverbal adjective, with very rare exceptions such as German *Eigenkapital* ‘equity’, *Eigenblut* (*therapie*) ‘one’s own blood, autohaemotherapy’, *Selbstbild* ‘self-image’, *Selbstzweck* ‘end in itself’, etc., where a non-derived noun is found.
- More often than not, the first part of these derived nouns provides information about the noun’s argument structure: Typically, the two argument positions inherited from the underlying transitive verb must be bound by the same (generalized) quantifier or, putting it somewhat loosely, they must be filled by the same argument. In other words, the relevant nominals express a reflexive meaning.
- Given that we are dealing with the interface of grammar and the lexicon, it should not come as a surprise that we find a certain amount but not a total degree of semantic compositionality in this domain. As with most patterns of word-formation certain aspects of meaning are simply a matter of lexicalization. Nor do we always find parallel or analogous formations for certain meanings in different languages. German

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² Among the rare exceptions we find inter alia Ludwig (1963) and Mütz (2000, 2004) .

³ My sample includes the following, mainly European, languages: English, Finnish, French, German, Greek, Hungarian, Italian, Mandarin and Russian.

Selbstentmündigung does not translate easily into English or French ('to declare oneself incapable of managing one's own affairs'; 'se mettre soi-même sous tutelle de quelqu'un'), especially in its extended metaphorical use, nor does Fr. *autopersuasion* have a straightforward translation into German or English. The negative connotations of German *Selbstzufriedenheit* are not associated with *autosatisfaction* in French and *autojustification* is simply translated as *Rechtfertigung* in German. Moreover, there are false friends like German *Selbstbewusstsein* 'self-confidence' and Engl. *selfconsciousness*. It is therefore impossible to give parallel glosses in English for all examples and I will sometimes use a French gloss or a verbal paraphrase.

- So far I have used the vague term 'nominal' alongside with 'reflexive nominal compounds' in order to sidestep the terminological decision between 'nominalization' and 'compound'. In many cases this decision can be based on clear criteria. In the relevant compounds in German (*Selbstinszenierung* 'self-fashioning, self-styling', *Eigenkapital* 'personal capital') two free forms are combined in the order typical of endocentric compounds (i.e. modifier + head) in Germanic. Other data and other languages present a slightly different picture, however. In English the first component is no longer a free form and some of the languages under comparison use earlier or reduced rather than complex forms of intensifiers in the relevant derivations (e.g. Mand. *zì-* vs. *zìjǐ*). Moreover, the first component may be an affix borrowed from another language (e.g. Greek), as in Fr. *autodérision*, *autogestion* 'self-administration', *autodétermination* 'self-determination'. A further criterion that can be used in some languages is the capacity of these derived nouns to enter additional derivational processes, as is shown by *Selbstdisziplin+los+ig+keit* 'lack of self-discipline' in German or *self-disciplined* in English. What we clearly need to distinguish from *self*-compounds are the analogous nominalizations like *control of oneself* in English or *estime de soi* 'self-esteem' in French. Such formations manifest all the hallmarks of constructions, e.g. agreement between the subject and the reflexive marker in argument position, as in *mon estime de moi* 'my self-esteem' or *he kept control of himself*.
- In addition to varying degrees of lexicalization, there may be several types and layers of such reflexive compounds in a language. In German, both the adnominal intensifier (*selbst*) and the attributive intensifier (*eigen* 'own') may occur in the relevant compounds, typically with a clear division of labor, but sometimes also in combination with the same de-verbal nouns or adjectives, as in *Selbstlob* and *Eigenlob* 'self-praise'. And we also find loanwords such as *Autobiographie* 'autobiography', *Automobil* 'automobile', *Autodidakt* 'self-educated person'. In French there are two types based on (i) the Greek prefix *auto-* (e.g. *auto-satisfaction* 'being pleased with oneself', *auto-critique* 'self-criticism', *auto-punition* 'self-inflicted punishment') and (ii) on the attributive intensifier *propre* (e.g. *amour-propre* 'self-love', *sense-propre* 'basic meaning', *nom-propre* 'proper name'). Identical meanings can, of course, also be expressed by nominalizations like *mépris de soi* 'self-loathing', *confiance en soi* 'self-confidence' and by noun phrases with the adjective *personnel* (*initiative personnelle* 'one's own initiative', Ger. 'Eigeninitiative', *consommation personnelle* 'personal use'). In English and Mandarin, by contrast, there is only one possible reflexive marker for such compounds.
- The forms resulting from these processes of composition are typically nouns and adjectives (*self-sufficient*, *self-centered*, *self-evident*), but we also find verbs (e.g. Fr.

s'auto-feliciter 'to congratulate oneself', *s'auto-satisfaire*, *s'autoévaluer* 'to evaluate oneself', *s'autosuffire* 'to be self-sufficient', etc.).

- Reanalysis of the relevant forms as compounds may give rise to the creation of new abstract nouns such as (*the*) *self* in English. The noun *self* certainly existed before the 20th century, but it denoted a functional concept and was invariably used with a possessive determiner, as for instance in Shakespeare's sonnets (*thy sweet self*, *thy royal self*). The new abstract noun *self*, which is used with the definite article as an individual concept, is currently expanding its use at an enormous speed and may assume a wide variety of different interpretations ('identity', 'consciousness', 'individual', 'soul', 'character', 'perspective', etc). The Romance counterparts of Engl. 'the self', i. e. *le soi* in French and *il SE* in Italian are much more restricted in their use to formal, mainly philosophical discourse.
- Some languages (e.g. Vedic, Greek) may also have analogous (productive) reciprocal nominalizations with a meaning such as 'mutual help, mutual respect' (Gk. *alilo-voithia* 'mutual help', Sanskrit *anyonyāraṅga* 'mutual protection', *parasparadveṣa* 'mutual hatred' cf. Kulikov, 2007a, 2007b).

2. Argument structure

Apart from some rare exceptions like Ger. *Selbstläufer*, the nominalizations functioning as heads of reflexive compounds derive from transitive verbs. As far as their semantic type is concerned, they are typically event nominalizations (e. g. *self-determination*, *self-deception*, *self-destruction*), but agent nominalizations are also possible in some languages (Engl. *self-provider*, *self-insurer*; Ger. *Selbsterzeuger* 'a person who produces his own food', *Selbstversorger* 'somebody who is self-reliant'). Nominalizations inherit their argument structure from their underlying verbs, but in contrast to verbs the realization of the relevant arguments for nouns is optional. If the arguments are realized at all, they are expressed by the genitive case or by prepositions in many European languages. In keeping with the reflexive meaning of these compounds, however, only one argument can be realized, viz. the argument corresponding to the subject of the underlying verb:

- (1)a. The self-determination of the Korean people
 - b. *The self-determination of their destiny by the Korean people
 - c. John's self-control (*of his company)
 - d. John's control of himself/his weaknesses/his actions

The semantic effect of the fusion of a de-verbal nominalization with the intensifier *self-* in English is obviously an operation on the argument structure of the de-verbal noun: The two variables of the underlying verb are unified to a single one (typically x and $f(x)$) and must therefore be bound by the same generalized quantifier (determiner phrase). Or putting it more loosely, the two variables must be replaced by the "same" or by at least two related arguments. As is shown by example (1d), the specification "the same" also includes two

arguments related via metonymy. This effect, which is typical of derivation rather than compounding, can roughly be represented as follows for our example *self-control*:⁴

(2)a. /control/ [+N,...] $\lambda x \lambda y \lambda e [e \text{ inst } [y \text{ CONTROL } x]]$

b. /self-control/ [+N,...] $\lambda y \lambda e [e \text{ inst } [y \text{ CONTROL } f(y)]]$

Two things are worth noting about this operation: (a) composition does not normally change the argument structure of the head noun, but it affects the way certain argument positions are to be filled. A fire-insurance is an insurance against (the risks of) fire. In the compounds under discussion the effect on the argument structure of the underlying verb consists in the specification that the two variables of the argument structure are unified, i.e. reduced to one. Syntactically this amounts to a reduction in valency; (b) as is shown by our example, this unification takes the form of changing the variable for the PATIENT into a function of that used for the AGENT. As will be shown by further examples discussed below, this seems to be the more wide-spread situation rather than the exception⁵.

The process of deriving the reflexive compounds - and ultimately the noun *self* - by processes of condensation and abstraction can roughly be represented by the following steps:

(3)a. John assesses himself/his achievements.

b. John's assessment of himself/his achievements

c. John's self-assessment

d. the self

A reflexive compound is a condensed version of a reflexive proposition with the corresponding change of its semantic type. In going from such a compound to the noun *self*, abstraction is made from the content of the underlying verbs and from the arguments.

3. Possible interpretations and their derivation

It is a well known fact by now (cf. Edmondson & Plank 1978; König & Siemund 2000; and most recently König & Gast 2007) that there are at least four different uses of intensifiers. In view of the fact that intensifiers play an important role in the derivation of reflexive compounds it is interesting to see whether all of the different meanings exhibited by those uses can be found in the relevant compounds. The relevant uses of intensifiers can be illustrated by the following examples:

(4)a. (adnominal) The Pope himself will come to the rally. (in contrast to one of his clergy)

⁴ These representations are based on the framework presented in Bierwisch (to appear); *e* is an event variable and *inst.* stands for 'instantiates'.

⁵ Cf. Reuland (2008)

b. (adverbial, exclusive) Mrs. Dalloway wanted to buy the flowers herself. (alone, no delegation, no help)

c. (adverbial, inclusive) I cannot give you any money. I am a little short of cash myself. (also)

d. (Attributive) John's own death surprised me more than that of his brother. (in contrast to s.o. else's death).

(5)a. John assesses HIMSELF.

b. Johann bewertet sich selbst.

In these examples the meaning of the relevant use is indicated by a paraphrase, which gives a rough idea of the relevant meaning without necessarily exhausting it. The common denominator of all these uses is that they express emphasis by contrasting a given value, the semantic value of the expression to which they relate, with relevant alternatives. In (4a) we find the adnominal use of the intensifier which contrasts the referent (R) of the preceding DP with an alternative definable in terms of that referent (f(R)). Sentences of type (4a) illustrate the relevant type but do not form a suitable basis for reflexive compounds, in contrast to (5a) and its German counterpart (5b). The propositional structures underlying *self*-compounds are reflexive structures with an intensifier modifying the reflexive, as indicated by the combination *sich selbst* in the German example (5b). In English combinations of reflexive pronouns and the homophonous intensifiers are excluded, but the relevant focalization and emphasis is indicated by a focal stress on the reflexive. The effect of this focusing could be spelt out by the paraphrase 'himself rather than other people'. In languages in which intensifiers are formally distinct from reflexive anaphors, as for example in the languages of the European continent (German, Romance, Slavic), reflexive anaphors can be strengthened by intensifiers (*sich selbst*). The use of intensifiers exhibited by such sentences is therefore also an instance of the adnominal use exhibited by sentence (4a), with the sole difference that it is the object argument rather than the subject the intensifier combines and interacts with. Since German illustrates these parallels much more clearly than does English, I will have to use German examples occasionally to discuss the different types of reflexive compounds in detail.

The second and the third uses are instances of an adverbial use, where the intensifier has the function of an adverbial, even though it interacts in its morphological properties with an argument, typically the subject. The contrast expressed by the exclusive adverbial use of the intensifier in (4b) relates not only to the relevant argument, but also to the way an activity is carried out by an agent (alone or by delegation, with some help, etc.). The overall semantic effect of this use therefore is an emphasis on the autonomous action of an agent. The inclusive adverbial use exemplified by (4c) can roughly (though not fully) be paraphrased by *also* and implies that the referent of the argument interacting with the intensifier and the alternative given in the context are both equally affected by a condition that is relevant for some action or state under discussion. In contrast to the adnominal use and the exclusive adverbial use, this inclusive adverbial use is not found in many languages. The final, attributive, use exemplified by (4d) is expressed by a different form in many European languages (i.e. the originally

possessive adjective *own*⁶ in English or *eigen* in German and Dutch), but by exactly the same expression found in the nominal use in a wide variety of other languages (e. g. Turkish *kendi*, Mandarin *zìjǐ*). In some dialects of Dutch this attributive intensifier *eigen* ‘own’ can also be used as a reflexive marker. It should, therefore, not come as a surprise that in a variety of languages, for example in German, Greek and Finnish, this attributive intensifier is also used in reflexive compounds.

If we now return to our question as to which of the uses of intensifiers are also found in reflexive compounds we have to exclude subtype (4c) right from the start. There is nothing in the meaning of *self*-compounds that is even vaguely reminiscent of the inclusive use of intensifiers. Furthermore, we will have to exclude sub-type (4a) of the adnominal use, whereas the subtype (5) is highly relevant. ‘Self-pity’ is a state where somebody pities himself (rather than others). Examples of type (4b), in which the two argument positions of a transitive verb are filled by different arguments are relevant for the derivation of agentive compounds like English *self-provider* or Ger. *Selbstabholer* ‘people who pick up things (mail, etc.) themselves’, which will play a marginal role in our discussion. What we also have to include, however, are cases where an exclusive adverbial intensifier combines with a reflexive construction. Compounds like *self-assessment* imply the responsibility of the agent in an event where agent and patient refer to the same person. Finally, as already mentioned, the attributive intensifier may also show up in reflexive compounds. The following table summarizes the preceding discussion:

adnominal:	yes, if the reflexive marker is modified
attributive:	yes (in German, Finnish, Greek)
inclusive adverbial (4c):	no
exclusive adverbial (4b, 7):	yes, especially in reflexive construction

Figure 1 - uses relevant for the derivation of reflexive compounds

In other words, there are strong semantic reasons for the assumption that both the adnominal use exemplified by (5) and the adverbial use exemplified by (4b) are very relevant for the derivation and analysis of reflexive compounds. The semantic distinction in question can be more easily related to formal differentiations in Russian or German than in English or French. Consider the following two examples, where the addition of an adverb and a negation make a difference in constituent order more transparent:

(6)a. Dieses Dorf [verwaltet sich (normalerweise)] selbst. ‘This village has self-administration.’

b. Dieses Dorf verwaltet sich nicht selbst. ‘This village does not have self-administration.’

(7)a. Karl kritisiert (oft) [sich selbst]. ‘Charles often criticizes HIMSELF.’

b. Karl kritisiert nicht sich selbst. ‘Charles is not criticizing HIMSELF.’

⁶ That *own* has lost its original meaning of ‘possession’ in many of its uses is clearly shown by examples like *his own losses*, *his own death*, etc.

The first sentence means that the citizens of the village in question are not only the patient – as one would expect – but also the agent in the business of organizing their affairs. The paraphrases used above (without help, interference, delegation, alone) suggest that it is the exclusive adverbial use that we find in this example. The syntactic evidence of this analysis relates to the fact that the intensifier can be separated from the reflexive marker by the negator *nicht*.

In (7a), by contrast, the remarkable implication is that John is not only the agent in activities of criticizing, but also chooses himself as a victim, patient or target. The remarkable fact is the choice of the object referent as a target of criticism and we will therefore assume that the intensifier is in construction with the reflexive pronoun. I note in passing that the distinction between two basic verbal constructions even clearer in languages where intensifiers are inflected for case, as for instance in Russian. In Russian only the intensifiers in (7) would be marked for accusative case:

- (8) Narod upravljajet sam soboi ‘The people govern themselves’
 People govern-3.SG INT.NOM REFL.INSTR
 (9) Narod upravljajet samim soboi ‘The people govern themselves’
 People govern-3.SG INT.INSTR REFL.INSTR

In Russian the relevant distinction can be expressed through case marking. In (8) the use of the intensifier corresponding to the German sentences in (6) is marked for nominative case and has the agentive meaning (‘The people have taken their government into their own hands.’). The instrumental marking for both intensifier and reflexive signals the adnominal use of the intensifier in (9) and implies that the people do not govern anybody but themselves. It goes without saying that it is not easy to find a convincing context for (9).

We can now distinguish two groups of reflexive compounds on the basis of these two uses of the intensifier in the propositions underlying the *self*-compounds: the adverbial exclusive one, as illustrated by (6) and (8), and the adnominal one in construction with the reflexive marker, as illustrated by (7) and (9). The relevant test is whether it is the agent or the patient that is a surprising choice for the event in question. The former choice is based on the adverbial exclusive use, the latter on the adnominal use in combination with reflexive pronouns. These two meanings can be distinguished in the underlying verbal constructions, but are neutralized in the formally condensed nominal compounds. The list given in (10) presents a collection of *self*-compounds with remarkable agents. The relevant information in those cases is the one providing the source or agent of the event in question:

(10) adverbial reflexive compounds

Selbstzensur ‘self-censurship’, *Selbstbeziehung* ‘self-accusation’, *Selbstbestimmung* ‘self-determination’, *Selbsthilfe* ‘self-help’, *Selbstachtung* ‘self-respect’, *Selbstentmündigung* ‘self-incapacitation’, *Selbstentleibung* ‘suicide’, *Selbstverpflichtung* ‘voluntary acceptance of an obligation’, *Selbstaufgabe* ‘self-abandonment’, *Selbstbedienung* ‘self-service’, etc.

Representative examples of the other type, i.e. of adnominal reflexive compounds, which characterize the patient or a non-subject as a surprising choice for the event in question, are the following:

(11) adnominal reflexive compounds

Selbstgefälligkeit ‚complacency‘, *Selbstzufriedenheit* ‚Fr. autosatisfaction‘, *Selbstironie* ‚self-irony, self-mockery‘, *Selbstinszenierung* ‚self-fashioning, self-styling‘, *Selbstüberschätzung* ‚overestimate one’s potential‘, *Selbstgespräch* ‚talking to oneself‘, *Selbstvertrauen* ‚self-confidence‘, *Selbstbefriedigung* ‚masturbation‘, *Selbsthass* ‚self-hate‘, *Selbstbild* ‚self-image‘, *Selbstreflektionen* ‚self-reflexions‘, *Selbstverständnis*, etc.

Note that the distinction between the two meanings has no formal correlate in the compounds themselves and is even difficult to draw for the underlying verbal constructions in many of the languages under comparison. The best test we can offer for the reality of this distinction is the question whether the subject or the object is a remarkable case for the relevant reflexive relation. It is, for example, not remarkable that we talk to someone, but to choose ourselves as addressees is remarkable and may even be regarded as pathological. *Selbstgespräch* is therefore an instance of an adnominal reflexive compound. On the other hand, accusations and help may often be directed towards us, but they typically and normally come from others. It is therefore highly remarkable that the subject referent is both the source and the target of such acts. *Self-accusations* and *self-help* are therefore adverbial exclusive compounds in our terminology.

Note furthermore, that the distinction between these two semantic types of nominal reflexive compounds has a clear parallel in the class of reflexive adjectival compounds:

(12) adverbial adjectival compounds

self-loading, *self-induced*, *self-appointed*, *self-inflicted*, *self-supporting*, *self-cleaning*, etc.

(13) adnominal adjectival compounds

self-sufficient, *self-reliant*, *self-respecting*, *self-addressed*, *self-satisfied*, *self-deprecating*, etc.

The contrast is easily visible in the relevant paraphrases of the examples in each category:

(14) a self-inflicted wound → ‘a wound inflicted by someone on him-/herself (adverbial exclusive → remarkable agent)

(15) a self-addressed envelope → ‘an envelope addressed to oneself’ (adnominal → remarkable target)

4. Constraints on Productivity

Word formation, both derivation and composition, is partly systematic and partly riddled with idiosyncrasies. In the following section I will take a look at the productivity of the relevant compounds and at the ecology of competing forms, such as, for example, the compounds with *selbst-* vs. those with *eigen-* in German.

In each of the languages under discussion there are a large number of reflexive compounds, only some of which are listed in dictionaries. Moreover, new formations are possible with one or more strategies available in a language. New formations analogous to *self-control* are possible in English, and German allows new reflexive compounds with both *selbst* and *eigen*. There is thus a considerable degree of productivity in this domain. There are, however, also constraints, most of which can probably be formulated in terms of the verbs underlying the nominalization with which the intensifier combines. The following constraints concern those verbal predicates:

- (i) The verbs must be transitive, since they must be capable of expressing a reflexive relationship. But this constraint only applies to those cases which we have labeled adnominal compounds. The adverbial type can also be found with underlying intransitive verbs, as is shown by the German examples *Selbstläufer* ‘sure-fire success’, *Selbtheilungskraft* ‘self-healing power’, *Selbstreinigungskraft* ‘self-purifying power’, which are based on the adverbial use of the intensifier (*Selbtheilung* ‘self-healing’ < something heals by itself).

The constraint that the arguments of the underlying transitive verb must be subcategorized for the feature [+ human] applies only to the adnominal type (*Selbsthass*, *Selbstbetrachtung*, *Selbstanklage*), since we also find *Selbstverwaltung* (< ‘jmd. verwaltet etwas selbst’).

- (ii) The non-existence of **Selbstrasur* ‘self-shaving’, **Selbstvorbereitung* ‘self-preparation’, **Selbstscham* ‘self-shame’ alongside the existence of *Selbstgespräch* ‘talking to oneself’, *Selbstmord* ‘suicide’, *Selbstkontrolle* ‘self-control’ suggests that a relevant property of the underlying verbs is their other-directed character, that is they denote activities or states typically directed away from the agent. In other words, the adnominal compounds express remarkable reflexivity (cf. König & Vezzosi 2004). Body care and grooming is normally performed on oneself rather than on others and de-verbal nominalizations such as ‘washing’, ‘shaving’, ‘dressing’, ‘preparation’ or ‘defense’ are normally interpreted in a reflexive sense. Compounds like *Selbstverteidigung* ‘self-defense’ seem to provide a problem for this hypothesis, since ‘defend’ is clearly a non-other directed predicate. Note, however, that the German noun has a special non-compositional meaning

This brief discussion has shown how difficult it is to formulate input-based constraints which allow us to make clear predictions. There are analogous difficulties for any attempt to formulate output-based constraints. The overall impression is that any formation is possible which can be interpreted analogously to certain well-established prototypes.

5. Distribution of competing forms

A comparative analysis of the relevant expressions shows that the set of reflexive compounds in a language comprises several layers, distinguishable both on the basis of their form and on the basis of their integration into a language. In German three different subsets or types can be distinguished. There are, first of all, a small number of lexemes which have been borrowed from Latin or Romance languages and employ the Greek prefix *auto-* (16a). Secondly there are two major subsets with either *selbst* or *eigen* as markers of the “reflexive” relationship (cf. (16b) and (16c)).

(16)a. *Autodidakt* ‘self-educated person’, *Autokratie* ‘autocracy’, *Autobiographie* ‘autobiography’;

b. *Selbstbetrug* ‘self-deception’, *Selbstverschulden* ‘one’s own fault’, *Selbstlob* ‘self-praise’

c. *Eigenleistung* ‘personal contribution’, *Eigenwert* ‘intrinsic value’, *Eigenmittel* ‘one’s own resources’, *Eigenmächtigkeit* ‘unauthorized behavior’

Compounds with either *selbst-* or *eigen-* are clearly the majority pattern. As is indicated by our examples, these two reflexive ‘prefixes’ overlap to a certain extent in their distribution, but manifest also a clear complementarity. In order to demonstrate this complementarity we have to exclude all those cases which are no longer compositional for various reasons, one being that the second component is no longer a free form and the complex lexeme can be regarded as an instance of derivation: *selbstlos*, *selbständig*, *Eigenschaft*, *Eigentum*, *Eigenheit*. The remaining cases manifest three tendencies differentiating between the distribution of *selbst* and *eigen*:

- (i) In contrast to *selbst*, *eigen* also combines with non-derived nouns (*Eigenblut* ‘one’s own blood’, *Eigenheim* ‘one’s own home’, *Eigeninitiative* ‘initiative of one’s own’, *Eigenleben* ‘independent existence’, *der Eigenname* ‘proper name’, etc. (note, however: *Selbstzweck* ‘end in itself’).
- (ii) The adverbial exclusive type is rare among compounds with *eigen*, the only exception being adjectival compounds like *eigenhändig* (< *mit eigenen Händen* ‘with one’s own hands’), *eigenmächtig* (< *aus eigener Macht*) ‘high-handed’, which can themselves be used as exclusive adverbial intensifiers.
- (iii) A vague possessive relation (*appartenance*) is still apparent in compounds with *eigen-*, and more clearly so in the possible paraphrases with attributive *eigen*: (*sein eigener Name* – *sein Eigenname*; *sein Eigenheim* – *sein eigenes Heim* ‘his own home’; *der Eigenwert* ‘intrinsic value’ – *der eigene Wert*; *Eigenkapital* ‘privately owned capital’; *Eigengeräusch* ‘background noise’; *Eigenwärme* ‘body heat’). In a slightly archaic construction the attributive adjective *eigen* can be used without the usual adjectival agreement: *ein eigen(es) Haus* ‘a house of your own’, *ein eigen(es) Leben* ‘individual existence’. It is plausible that the compounds with *eigen-* developed from these NPs without inflectional marking as a result of frequent use.

Reflexive compounds are not only found in European languages. In Mandarin, reflexive compounds are based on the intensifier *zì*, a morpheme which is also used as the first component of the reflexive marker *zìjǐ*. Available dictionaries (e.g. the *Chinese-English Dictionary*, compiled by Guanghua Wu, University of Transportation, Shanghai, 1998) convey the impression that the relevant pattern of compounding has a high degree of productivity. Here are a few examples:

(14) *zì ài* ‘self love, self-respect’; *zì ào* ‘self-conceited’; *zì zhuàn* ‘autobiography’; *zì zhì* ‘self-administration’; *zì zhù* ‘self-help’;

The target of this process of word-formation may be members of different word classes:

- (15) (i) *zì zhù* ‘self-help’ (noun)
 (ii) *zì mǎn* ‘self-satisfied, conceited’ (adj)
 (iii) *zì kuā* ‘boast’ (verb)
 (iv) *zìrán* ‘of course’ (adverb), ‘nature’ (noun)

Considered in this context, the reflexive marker (and intensifier) *zìjǐ* is itself an instance of this compounding process. The following examples illustrate the syntactic properties of some relevant examples:

- (16) Zhāngsān hěn zì ài. ‘Zhangsan has strong self-love.’
 Zh. very self love
- (17) Zhāngsān hěn zì ào. ‘Zhangsan is very conceited.’
 Zh. very self arrogant
- (18) Zhāngsān bù zhī-dào zì bá ‘Zhangsan does not know how to extricate himself’
 Zh. NEG know self pull

As many idiomatic expressions reflexive compounds are frequently used in so-called double phrasal structures of the type [*zìV*₁ *zìV*₂] or [*zìN*₁ *zìN*₂] (cf. Meng Ji, 2005). The following examples are cases in point:

- (20) Zhāngsān zì yán zì yǔ. ‘Zh. is talking to himself.’
 Zhangsan self talk self talk
- (21) Zhāngsān hěn zì ài zì zhòng. ‘Z. has strong self-love and strong self-esteem.’
 Zhangsan very self love self esteem

5. Contrasts

Reflexive compounds are found in all the languages under comparison. Moreover, there are typically several types of such expressions. German has as many as three types, three compounding strategies (*selbst-*, *eigen-*, *auto-*) in addition to the reflexive nominalization construction (*Unzufriedenheit mit sich selbst* ‘discontent with oneself’) Finnish has two compounding strategies parallel to those with *selbst-* (*itse-*) and *eigen-* (*oma-*) in German and with *afto-* and *iðio-* in Modern Greek. In English there is the productive strategy with *self-* and a short list of compounds with the Greek root *auto-*. In Chinese there seems to be only one strategy based on the intensifier *zì*. The different types differ in their productivity. In German compounding based on the Greek intensifier *auto-* ‘self-’ is only possible with Greek roots. The compounds with *selbst-* listed in dictionaries, by contrast, are only a small subset of those currently in use.

Languages may differ in the category of possible targets of such compounding processes: German and English allow nouns and adjectives, French also allows verbs (*s’autoféliciter* ‘congratulate oneself’, *s’auto-organiser* ‘organize oneself’). But there are also differences in the types of admissible nouns: German allows the derivation of agentive nouns (*Selbstversorger* ‘somebody who is self-reliant’, *Selbsterzeuger* ‘somebody who produces his own food’), French does not. Translation from one language into the other must be based on a

search through all the different options in a language and requires a thorough familiarity with the target language.

Several types of nominal reflexive compound can be distinguished on the basis of their meaning. There is first of all the contrast between underlying adnominal uses and adverbial uses of intensifiers in the interpretation of de-verbal event nominalizations, i.e. the contrast between a remarkable object referent and a remarkable agentive subject referent for the reflexive compounds. Moreover, we have agentive compounds in German and in English.

The languages under comparison use various formal means to derive the relevant compounds: intensifiers (German), shorter and older versions of intensifiers (English, Mandarin, Hungarian), uninflected intensifiers (Russian) and prefixes borrowed from Greek (Romance). Despite some overlap there is some kind of complementarity in the distribution and meaning of the relevant formal elements. In those cases where two compounds with different intensifiers are found there is usually a difference in meaning, as is illustrated by minimal pairs in German like *Selbstwert* 'self-esteem' vs. *Eigenwert* 'intrinsic value' or *Selbständigkeit* '(economic) independence' vs. *Eigenständigkeit* '(intellectual) independence'.

Reflexive compounds are highly condensed expressions of very complex meanings and seem to be found primarily in languages with a long tradition of literacy, philosophical writing and psychological reflections. They are not found in all languages. In Arabic, Hebrew, Basque and Turkish the relevant notions are always expressed by nominalizations of the type Fr. *confiance en soi*, which do occur in all the languages under comparison. We can thus formulate the following hierarchy for the encoding of reflexive relations: compounds > nominalizations > sentential constructions. Whether or not a language also has the relevant compounds in addition to the nominalizations depends on the availability of compounding processes in the relevant language. Apart from that, language contact seems to have played an important role. More often than not the relevant pattern seems to have been borrowed from neighboring languages and Greek seems to have played an important role as a source.

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