

HOW DISGRACE-FUL

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In order to constrain morphological theory one could hypothesise that all allomorphy must be conditioned locally, in the sense that morphemes must be adjacent (and perhaps within the same word) to be able to influence the selection of allomorphs. In principle the restrictive force of such a constraint would obviously be considerable, in particular with allomorphy where the determining factors are morphological rather than purely phonological and an adjacency requirement hence cannot be motivated on phonological grounds. It is also obvious, however, that the empirical import of such a constraint could vary depending on one's understanding of the crucial notions in terms of which it is stated, and of course also on one's analyses of the data where the constraint is invoked. The adjacency requirement may, for example, be conceived of as pertaining to linear contiguity of formatives or to operational succession, and with complex words resulting from prefixation operationally alternating with suffixation linear and operational sequences do not coincide. And evidently there are also differences of opinion concerning the notions of morpheme and allomorphy themselves, not to mention those concerning which general descriptive approach (such as Item and Arrangement, Item and Process, Word and Paradigm) to prefer. Nevertheless, irrespective of all possible disagreements about details as well as principles, some kind of constraint against distant conditioning of allomorphy would seem to command much intuitive appeal, and in one guise or another indeed has often been assumed, explicitly or tacitly, in morphological analyses and theories. Even if it should turn out

that an adjacency constraint, however formulated, admits of exceptions, one would hope that these will be exceedingly rare and attributable to unusual circumstances of one kind or another.¹

The present paper takes up a familiar issue from English morphology, and, less familiarly, argues that an adjacency requirement bears upon issues of this kind. What is at issue are alternative descriptive solutions in instances where the correct immediate constituent structure of complex words is questionable or at any rate not immediately obvious. What will be argued is that an adjacency constraint may well help decide between the alternatives.

Multiply derived words — such as *disgraceful* — may look as if they would admit of alternative immediate-constituent analyses — in our case, *disgrace-ful* and/or *dis-graceful*. But often only at first sight. The criteria usually employed in IC analysis as a rule prefer one solution over its rivals. Do they in the case of complex words such as *disgraceful*?

Nida (1949:89) uses this very word to illustrate that decisions about IC structure are not always dead easy with successive peripheral constituents on more than one side of the nucleus. He points out that both potential IC's, *disgrace* and *graceful*, are meaningful combinations, and that *dis-* as well as *-ful* may occur with single morphemes (e.g. *dis-count* and *faith-ful*), rendering the criterion of substitutability indecisive. But there are more criteria than these two, and the criteria of meaningful relationships and of structural parallels, in Nida's opinion, indeed force a unique solution in the case at issue.

As to meaningful relationships, Nida suggests that the total meaning of *disgraceful*, glossed as 'full of disgrace', follows more naturally when *-ful* is combined as a modifier with *disgrace* than on the basis of the IC's *dis-* and *graceful*, which would combine to give the total meaning 'not graceful'. Regardless of whether or not one finds Nida's speculation about the expected total meanings resulting from the different orders of combination intuitively plausible, I doubt that there is any effective decision procedure being applied here.

1. See Plank (1982) for a more extensive discussion of this constraint, of its various formulations in the relevant literature, and especially of the empirical problems it encounters. There are indications, incidentally, that the constraint at issue pertains not only to word structure but also to phrase structure (cp. e.g. Plank 1984).

This is not to say, of course, that seeking principled correlations between total meanings of complex expressions and their IC structures is futile. In syntax as well as in morphology,² certain kinds of ambiguities are no doubt appropriately accounted for in terms of alternative IC structures. Thus, the two meanings of *old men and women* result most naturally from different ways of combining the syntactic constituent parts, viz. *old (men and women)* vs. *(old men) and women*. Analogously, with a potentially ambiguous morphologically complex expression such as *archduchess*, meaning differences can be construed as corresponding to differences of IC structures: the meanings 'wife or widow of a highest-ranking duke' and 'highest-ranking among those, males and females, holding the rank of a duke, this person happening to be female' (which status is independent of the rank, and even the existence, of a husband) naturally correlate with the IC-structuring *archduke-ess*, while the meanings 'highest-ranking of women of a rank equivalent to that of a male duke' (which status need not be identical to that of highest-ranking duke who happens to be female) and 'highest-ranking of wives or widows of dukes' (which status may be obtained by a woman without her husband being an archduke) naturally correlate with the IC-structuring *arch-duchess*. (The fact that, as a matter of historical contingency, *archduchess* was only used to refer to wives or widows of male archdukes because that title happened to be conferred only on a son or nephew of former Emperors or Empresses of Austria, is immaterial to the pairing of total-meaning construction and immediate-constituent combination suggested here.) Surely it would be rather unnatural to try and connect a total meaning such as 'wife of an archduke' with an IC-structuring such as *arch-duchess*. It would be equally unnatural to assume IC structures with constituents that do not yield meaningful combinations in the first place (which, incidentally, is not tantamount to requiring that meaningful combinations must be complete and independently occurring actual morphological expressions): for instance, with a derived noun such as *enrichment*, the IC's *en-* and *richment* would be difficult to motivate, given that *richment* hardly qualifies as a meaningful combination.

2. More rarely perhaps in morphology than in syntax, presumably on account of the in general rather weakly compositional nature of (derivational) morphology (cp. Plank 1981).

Returning to *disgraceful*, the consequences of the criterion of meaningful relationships seem to me to be considerably less obvious in this case. In principle, *dis-* (the one that interests us here, that is) may express two different aspects of negativity, which tend to shade into one another: it may convert a noun into its contradictory ('absence/lack of') or its contrary ('reverse of') opposite, depending in part on the meaning of the basic noun (cp. Marchand 1969: 161). Given that *dis-* could convert *grace* into its contradictory opposite, meaning roughly 'lack of grace', the total meaning resulting when the IC's *dis-grace* and *-ful* are being combined could well be very much like the one Nida believes can only result from combining the IC's *dis-* and *graceful*, viz. 'lacking in grace'. Thus, the two meanings, 'lacking in grace' and 'characterised by the reverse of grace', would seem to be compatible with the IC-structuring *disgrace-ful*. On the other hand, at least the contradictory-opposite reading of *disgraceful*, but presumably also its contrary-opposite reading (notice that the two are not easily distinguished with most pertinent adjectives, including *dishonest*, *disloyal*, *dissimilar*), result just as naturally if the negative prefix and the complex adjective *graceful* are taken as the IC's. This, incidentally, seems the obvious solution with a related adjective consisting of a negative prefix, the noun *grace*, and the suffix *-ful*, which clearly does not involve the contrary-opposite notion 'reverse of grace', viz. *ungraceful*.

However, the different aspects of negativity may not have been the crucial factor behind Nida's suggestion that the semantic relationship between *disgraceful* and *disgrace* is, in a sense, closer than that between *disgraceful* and *graceful*. What he may have had in mind instead is the fact that *disgraceful* shares the primary reference to respect and reputation with *disgrace*, but not with *graceful*, which in turn primarily refers to pleasing outward appearance, just like the basic noun *grace*. (*Ungraceful* and *graceless* would be negative adjectives which better preserve the meaning of *grace*.) The criterion of meaningful relationships would, thus, exploit a semantic anomaly, though one that is not uncommon in derivational morphology: viz. the fact that *disgrace*, like some other denominal *dis-*nouns (e.g. *disease*, *distaste*) but unlike still others (e.g. *disadvantage*, *disorder*), has aspects of meaning which are not automatically predictable from the meaning of the basic noun. In fact, lexicalisations with idiosyncratic

aspects of meaning, rather than productive derivations systematically related to the meaning of their bases, would seem to be the only domain where the criterion might be appealed to at all in deciding about immediate-constituency. It would not help, for instance, in cases such as *disadvantageous* or *disorderly* where no affixation recognisably interferes with the meaning of the basic nouns, with none of the derived forms (*disadvantage/disorder* or *advantageous/orderly*, as the case may be) thus requiring lexicalisation. And one might even wonder whether the criterion is really decisive in the case of *disgraceful*: Do not *disgraceful* and *graceful* likewise share an aspect of meaning, one which is not shared by *disgrace*, viz. the class meaning of adjectives?

Regardless of the merits of the criterion of meaningful relationships as a rule of thumb, in instances where it is applicable, it actually raises a rather interesting theoretical issue, insofar as it suggests a general constraint on lexicalisation. This immediately-or-never constraint would require idiosyncratic meaning developments of morphemes to take place immediately upon individual affixations (or other morphological operations), and would prohibit such idiosyncratic meaning developments from taking place in the course of subsequent affixations following an affixation that has not exerted any unsystematic semantic influence on its base. Thus, supposing that *grace-ful* is a semantically perfectly regular and non-lexicalised derivative of the base *grace*, inheriting its reference to pleasing outward appearance, the immediately-or-never constraint would prevent the development of semantic idiosyncrasies pertaining to the ultimate base morpheme *grace* in all subsequent derivatives with the base *graceful*. It remains to be seen whether lexicalisation potentials can be tied to IC structures as a matter of theoretical principle. The addition of another locality constraint to morphological theory as such would be welcome, if it should stand up to more intensive empirical scrutiny.

As to the criterion of structural parallels, Nida relies on the principle that "divisions should be supported by the total structure of the language" (1949:92). As relevant patterns in the case of *disgraceful* he identifies the following:

- (a) negative *dis*-³ primarily combines with nouns (*disorder*, *distaste* etc.) and with verbs (*disobey*, *disagree* etc.);

3. Others are not at issue — e.g. the non-negative reversative *dis*- as in *disinter*.

- (b) the suffix *-ful* primarily combines with nouns (*successful*, *skillful*, *resourceful* etc.) and verbs (*forgetful*, *resentful*, *inventful* etc.) as well;
- (c) the resultant combinations with *dis*- are usually nouns or verbs, depending on the category of the base;
- (d) the resultant combinations with *-ful* are always adjectives (with our *-ful*, that is: the one in nouns like *bucketful*, *handful* is not at issue).

The structural parallels (b) and (d) are not decisive in deciding about the IC's of *disgraceful*. Parallels (a) and (c) are crucial, though, insofar as they are only preserved if *dis*- is first combined with *grace*, *disgrace* then being combined with *-ful*. Unfortunately, however, Nida's supposed parallels (a) and (c) are illusory, and this argument, thus, does not hold. Note that negative *dis*- does combine with adjectives as well, the derivatives being again adjectives: *disloyal*, *dishonest*, *disaffected*, *dissimilar*, *dispassionate*, *disingenuous*, *discourteous*, *disconsolate* (in which case the hypothetical base, *consolate*, happens to be not an actual but only a potential English adjective), *discontent* (which happens to be no longer commonly used as an adjective). If this parallel were not arbitrarily disregarded, *grace* could well be first combined with *-ful*, in accordance with parallels (b) and (d), and the resulting adjective then with *dis*-, also in accordance with the total structure of English.

What would have to be shown to exclude the IC-structuring *disgraceful* by force of structural parallels, is that negative *dis*-, although in principle capable of combining with adjectives, in fact does not combine with all kinds of adjectives — in particular not with those derived from nouns with the help of *-ful*. Analogously, the alternative IC-structuring *disgrace-ful*, favoured by Nida, would be in trouble, also by force of structural parallels, if it could be shown that our *-ful*, although in principle capable of combining with nouns, does not combine with all nouns — in particular not with those derived with the help of negative *dis*-. As a matter of fact, it has been observed (e.g. by Hansen 1977:44,64) that there is a preference for *-ful* to be suffixed to non-derived bases; and if this were a valid constraint, it would automatically rule out the IC-structuring *disgrace-ful*. But this supposed morphological constraint is far from being generally valid; *-ful* does combine with bases which are morphologically complex:

meaningful, pleasurable, truthful, strengthful, healthful, thoughtful, deceitful (if *deceit* counts as a derivative of *deceive*), *refreshful* (attested in the OED). A morphological constraint on *-ful*, thus, would have to be more specific, perhaps pertaining exclusively to bases with the prefix *dis-*.⁴ *Dis-ful* adjectives do occur, though. In cases such as *disdainful, disguiseful, disgustful, dismayful, dissentful, or diseaseful* one could argue that *dis-* is not really productively prefixed to nominal bases, there being no such simplex nouns, or at least no semantically suitable simplex nouns, in contemporary English. But this way out, distinguishing between independently occurring and non-occurring bases of *dis-*, is not open in cases such as *disgraceful, disregardful, distasteful, disrespectful, distrustful, disorderly, disreputeful*: nouns such as *grace, regard* etc. do occur independently and may serve as bases, synchronically, of regular negative prefixation. These *dis-ful* adjectives, containing independently occurring adjectives, in *-ful*, likewise foil any attempt to deny structural parallels of *dis-* prefixation to adjectives in *-ful*.

It would seem, then, that the criterion of structural parallels still leaves us with the possibility of non-unique IC analyses of such adjectives, viz. *dis-graceful* and *disgrace-ful*. And in view of the problems with the criterion of meaningful relationships discussed above, further kinds of evidence bearing on IC structures should be welcome — presupposing that unique IC analyses are indeed desirable in such cases. The patterning of allomorphy could supply the appropriate kind of evidence, provided one is prepared to confide in a general regularity about the conditioning of allomorphy. This supposedly universal constraint on the distribution of morphologically conditioned allomorphs would require conditioning morphemes and conditioned allomorphs to be (word-internally) adjacent, where adjacency is defined in terms of successive morphological operations.⁵ The allomorph patterning in the case at hand involves the exponents of affixal

4. It has been suggested by Siegel (1979:169-74), drawing largely on Brown (1958), that the relevant constraint is not sensitive to morphological complexity, but rather to the stress pattern of the base.

5. I assume (but do not really argue here) that it is appropriate at least for derivational morphology to consider multiply complex words as being constructed by means of successive morphological (i.e. semantic and formal) operations. Issues such as morphological compositionality and the distinction between inflection and derivation are dealt with elsewhere in more detail (Plank 1981,

negation. And to illustrate the import of the hypothetical constraint, it is instructive to consider one pattern involving two of these exponents, viz. the negative prefixes *un-* and *in-* (including its phonologically conditioned allomorphs *im-*, *il-*, and *ir-*), before turning to the distribution of *un-* and *dis-*, the two allomorphs with a potentially crucial role in clearing up our IC indeterminacy.

Let us assume, following Aronoff (1976: § 6.2), that morphologically speaking there are two suffixes corresponding to the spelling variants *-able*, *-ible*, and *-uble*, a weak-boundary suffix *+abl* and a strong-boundary suffix *#abl*. As a semantic correlate of this distinction, the semantic relationship between an adjective in *#abl* and its base is normally more regular than that between adjectives in *+abl* and their bases, if in fact these have independent bases (cp. *possible, credible, audible*, etc.). There are a number of formal correlates as well, concerning (a) stem allomorphy (*#abl* requires the inflectional root allomorph of latinate verbs, *+abl* the non-inflectional allomorph), (b) stress pattern (with *#abl* adjectives stress assignment observes the strong boundary, whereas with *+abl* words the usual primary stress rule applies ignoring the weak boundary), and (c) truncation (the verb-final morpheme *-ate* deletes before *+abl* but not before *#abl*). As the following examples show, *#abl* and *+abl* may alternatively be added to the same verbs, and the resulting adjectives characteristically differ, then, with regard to the properties just noted.

	<i>+abl</i>	<i>#abl</i>
(a)	<i>soluble</i> <i>perceptible</i> <i>divisible</i> <i>circumscribable</i>	<i>solvable</i> <i>perceivable</i> <i>dividable</i> <i>circumscribable</i>
(b)	<i>réparable</i> <i>cómparable</i> <i>révocable</i>	<i>repáirable</i> <i>compáritable</i> <i>revókable</i>
(c)	<i>violable</i> <i>regulable</i> <i>educable</i>	<i>violatable</i> <i>regulatable</i> <i>educatable</i>

1982). I largely ignore here the possible influences of linear adjacency, and assume that operational distance is crucial for derivational morphology.

Only occasionally is this neat pattern disturbed. For instance, there is some stress variation, in particular with supposed +abl adjectives, which is not easily accounted for in terms of a distinction between weak and strong internal boundaries alone (cp. *éxplicable/explicable*, perhaps also *réfutable/refutable*, *dísputable/disputable*); and some verbs are resistant to the usual rules of root allomorphy, insisting on the inflectional root where one would expect the weak-boundary +abl to be possible (cp. *describable/*descriptible*, *conceivable/*conceptible*).

Negative prefixation is a derivational operation which adjectives in +abl and #abl undergo rather frequently. Focusing only on the *u*-ful and the *i*-ful allomorphs of the negative prefix, one could expect them to be distributed randomly, to the extent that there are no phonological conditions favouring one or the other alternant.⁶ If their distribution turns out not to be random in morphological terms (as it surely does), one might look for conditioning factors in two places: the choice of the prefix allomorphs could have to do with the basic verbs or other root elements of #abl and +abl adjectives, or it could be related to the suffix distinction between #abl and +abl. The general adjacency constraint suggested above cuts down on the choices available: disallowing morphological conditioning at an operational distance (and here it is important to distinguish between operational and surface-positional distance), the constraint implies that the basic elements of #abl and +abl adjectives as such may no longer be referred to when these complex adjectives are subject to further morphological operations. And this is evidently the right thing to imply. As many verbs combine with both +abl and #abl, the distant-conditioning alternative would lead one to expect one negative-prefix allomorph with any one verb regardless of the different suffixes of the verb, whereas the adjacency constraint would require the prefix allomorphy to mirror the distinction between +abl and #abl. Trying out negative prefixation on the above sample of +abl/#abl pairs with the same basic elements, the conditioning is immediately revealed to be adjacent: adjectives in the left, +abl, column regularly take *in-* or its phonologically induced alternants (*imperceptible/*unperceptible* etc.), while adjectives in the right, #abl, column regularly take *un-*

6. There indeed is some phonological conditioning with *un-* vs. *in-*, which can be accounted for in terms of syllabic dissimilation (cp. **in-/un-important*).

(*unperceivable/*imperceivable* etc.) Adjectives, without independent base behave as one accordingly expects of +abl forms: *impossible/*unpossible*, *incredible/*uncredible*, *inaudible/*unaudible*, etc.

There are some uncertainties and a few apparent disturbances of this allomorphic pattern. In particular, when derived adjectives are not clear cases of either +abl or #abl suffixation by all semantic and formal criteria, the *i*-ful allomorphs may be found, as the only possibility or as one alternative, where one would rather expect *un-*: compare e.g. expected *irréfutable*, *indisputable* with perhaps not-so-expected *irrefutable* (but also *unrefutable*), *indisputable* (but also *undisputable*), or consider *inconceivable*, *in-/un-describable*. Although many former *un+abl* adjectives have in fact innovated *in-* (cp. formerly *uncredible*, *undubitable*, *uneffable*, *unpossible* — see Marchand 1969:203), the opposite situation also obtains, perhaps more often, with *un-* showing up where only the *i*-ful allomorphs are expected: e.g. *un-/in-tenable*, *un-/ir-reducible*. Such marginal untidiness, rather than falsifying the regularity suggested, can presumably be explained away as reflecting occasional blurrings of the distinction between +abl and #abl. Clear cases of #abl suffixation consistently take *un-* and avoid *in-*; clear cases of +abl suffixation, perhaps not quite so consistently, favour *in-*. And the idea, of course, is that this regularity of operationally adjacent conditioning of allomorphs is not something that is peculiar to the morphological elements and rules we just dealt with, nor something that, a little more generally, holds of all allomorphic conditioning in the language we happened to deal with, viz. English: the pattern observed in English should ideally follow from, i.e. be predicted by, a universal rather than rule-particular or language-particular constraint against distant conditioning.

In addition to *un-* and *in-/im-/il-/ir-*, there are some further negative affixes in English, including *non-*, *dis-* (and marginally also *mis-*), the not very productive *a(n)-*, and the suffix *-less*. To account for their distribution, at least in those cases where derivations are semantically regular, it will at times be unavoidable to assume certain inherent semantic specialisations of one or the other of these affixes (for instance, unlike its rivals, *non-* seems limited to the 'absence', or contradictory-opposite, sense of negation, and incapable of expressing contrary-opposite negation). And the ensuing semantic contrasts, if usually quite subtle, may occasionally militate against the treatment of all these affixes as morphologically conditioned allomorphs

par excellence. Nevertheless, reasonably liberal (i.e. essentially non-Bloomfieldian) conceptions of allomorphy would no doubt recognise most of these affixes as allomorphs (most of the time); and their distribution indisputably involves morphological conditioning – which ought to be subject to the adjacency constraint suggested and illustrated above. Alternations between *un-* and *dis-* would seem to be cases in point.

Thus, considering only *dis-* and *un-* adjectives, it would seem to be an essentially idiosyncratic property of individual adjectives to require either *un-* (*un-royal*, *un-equal*, *un-just*, *un-able*, etc.) or *dis-* (*dis-loyal*, *dis-honest*, *dis-ingenuous*, *dis-continuous*, etc.) when affixally negated, with *un-* adjectives being in the majority. Equally idiosyncratically, some adjectives seem to allow both negative prefixes alternatively: *dis-/un-similar*, *dis-/un-courteous*, *dis-/un-social*, *dis-/un-affected* (with no regular semantic relationship between the *dis-* form and the adjective *affected*, however), and, with *im-* instead of *un-*, *dis-/im-passionate*. But there are also less idiosyncratic morphological factors involved in the choice between *dis-* and *un-*. For instance, the occurrence of *un-* is limited to adjectives, while nominal and verbal bases require other negative affixes, including *dis-*, which in turn combines with (individual) adjectival bases as well.⁷ Hence alternations between *un-* and *dis-* in related adjectives and nouns such as *unsatisfactory* vs. *dis-satisfaction* or *un-comfortable* vs. *dis-comfort* (cp. Jespersen 1942:472). Notice, however, that negative adjectives in such pairs may alternatively take *dis-*: *dissatisfactory*, *discomfortable* (listed in Lehnert 1971). This seems fair enough: after all, we have already observed that adjectives may idiosyncratically vacillate between *un-* and *dis-*, and *satisfactory* etc. would thus pattern with *similar* and the like. If the nouns in such pairs instead would turn out to admit *un-* in addition to *dis-* (*unsatisfaction*, *uncomfort*), this would certainly be more likely to upset the observed regularity. Yet the attested pattern also raises a problem, insofar as such *dis-* adjectives pairing with *dis-* nouns might be analysed differently: not as the

7. The exception of *unemployment*, where *un-* looks like it would combine with a nominal base, presumably can be explained away if we assume that *un-* in fact is combined with the adjectival base *employed*, which then undergoes some formal readjustment upon the suffixation of *-ment*. Admittedly, however, there may be some more recalcitrant exceptions, such as *unbelief* and *unsuccess* (listed in Lehnert 1971).

results of negative affixation applied to adjectives, but as adjectivalisations, by means of suffixes such as *-ory* or *-able*, of nouns which have already been affixally negated (by means of *dis-*, rather than *un-*, as is appropriate for nouns). The disappearance of *-ion* upon adjectivalisation with *-ory* in the case of *dissatisfaction* is no insurmountable obstacle to the latter alternative: it is possible to give independent reasons for deriving *-ory* adjectives from *-ion* nouns rather than directly from – possibly not independently occurring (cp. **illude* – *illusion* – *illusory*) – base forms without *-ion*.⁸ The problem here, it should be noted, is again one of non-unique IC analyses; neither of the alternative IC analyses of multiply derived words such as *dissatisfactory* and *discomfortable*, however, necessitates any modification of the conditioning regularities mentioned above.

Furthermore, the morphological conditionings of negative allomorphs surveyed so far were also in accordance with the adjacency constraint: whether idiosyncratic lexical properties or more general word-class categorisations were the determining factors, there was no need to refer to arbitrarily distant morphemes (in terms of morphological operations) in selecting the appropriate allomorphs. One seemingly marginal quirk should be noted, though, in this connection. An adjective like *kind*, which selects the negative allomorph *un-*, retains that allomorph when undergoing further morphological operations, as one would expect: *unkind-ness*. Other adjectives, however, which also take *un-* when affixally negated, tend to exchange that allomorph for *in-* when undergoing subsequent nominalisations: *unable* vs. *inability*, *unequal* vs. *inequality*, *unjust* vs. *injustice*, *unapt* vs. *inaptitude* (see Jespersen 1942:468, who suggests length and learnedness as the factors responsible for the choice of *in-*). If this analysis is accepted, such data indicate that subsequent, but still not distant, morphological operations may influence the distribution of morphologically conditioned allomorphs, rather than only immediately preceding morphological operations or basic simplex elements upon which an initial morphological operation is performed. Not accepting this analysis would be tantamount to claiming that *inability* etc., rather than being a nominalisation of *unable*, is the affixal negation of the noun *ability*, itself derived from the adjective *able*. And this

8. See Plank (1981:207ff.) for some discussion of the status of possible bases of derivation (words, stems, or maybe other units.).

claim seems difficult to defend in view of the reluctance of the negative allomorph *in-* to combine with nouns in English (of the few pertinent examples — including *indignity*, *indisposition*, *indiscipline*, *ingratitude*, *imperception* — some may still admit alternative analyses invoking non-nominal determiners of *in-*).

There are two regular ways of affixal negation with adjectives in *-ful*, provided they are amenable to affixal negation: like other strong-boundary suffixes, including #abl, *-ful* demands the negative prefix *un-* (as in *unsuccessful*, *unyouthful*, *unwatchful*, etc.); alternatively, negation may be expressed by substituting the suffix *-less* for *-ful* (as in *careless*, *hopeless*, *useless*, etc.). The two ways are not mutually exclusive: disregarding some more (e.g. *unlawful* vs. *lawless*) or less (e.g. *unhelpful* vs. *helpless*) idiosyncratic semantic differentiations, *un-* and *-less* can sometimes be used interchangeably (as in *unfruitful/fruitless*, *unremorseful/remorseless*, *unharmful/harmless*, etc.). The derivation of adjectives in *-less* is not without its difficulties — one of which is to determine the appropriate base forms. Although there often exist corresponding positive adjectives in *-ful*, *-less* also combines with nouns (e.g. *homeless*, *limitless*, *breathless*) and with verbs (e.g. *tireless*, *resistless*, *countless*) that do not admit of suffixation with *-ful*. And on the strength of these patterns one might consider deriving *-less* adjectives directly from the nouns admitting *-ful* as well, rather than via the intermediate step of adjectives in *-ful*, with that suffix disappearing upon the addition of the negative suffix *-less*. Putting aside these problems that await more intensive discussion, note that there seems to be a third way of affixally negating adjectives in *-ful*, viz. prefixation with *dis-*, which in cases such as the following is an alternative to prefixation with *un-*: *dis-/un-graceful*, *dis-/un-respectful*, *dis-/un-tasteful*. This is where the adjacency constraint proves useful.

This alternation between *un-* and *dis-* could invite comparison with that between *un-* and *in-* treated above, where the prefix alternation correlated with a distinction between suffixes, +abl and #abl, which at first sight look indistinguishable. That is, are there actually two suffixes *-ful*, one calling for the negative allomorph *un-*, the other for *dis-*? Now, the only basis for drawing distinctions with *-ful* appears to be a semantic one. Sometimes, *-ful* adjectives have 'possessive' meaning, paraphrasable as 'possessing or exhibiting the property, attitude or the like denoted by the basic noun to a considerable extent'

(cp. *beautiful*, *respectful*, *youthful*, *graceful*, etc.); sometimes they have 'causative' meaning, paraphrasable as 'causing the attitude etc. denoted by the basic noun' (cp. *wonderful*, *delightful*, *harmful*, etc.); sometimes they have 'repletive' meaning, with the basic noun denoting the brim of a container (cp. *brimful*); sometimes they have 'dispositive' meaning, the disposition being identified by basic verbs (cp. *forgetful*, *neglectful*, *inventful*, etc.); sometimes *-ful* adjectives are ambiguous between the first two meanings (cp. *hopeful*, *fearful*, etc.); and, finally, some *-ful* adjectives (such as *masterful*, *useful*) fall outside all of these major and minor semantic groups. It is self-evident that such semantic distinctions cannot account for the choice of negative prefixes in cases where *un-* alternates with *dis-*. Even if *-ful* adjectives from some of these semantic groups (viz. the repletive and dispositive ones) may never exhibit these alternations, and even though *dis-* and *un-* forms may turn out to fall into different semantic groups (*disgraceful*, for example, being causative, and *ungraceful* primarily possessive), decisions on *un-* or *dis-* are not systematically contingent on these semantic factors. Only note that a positive adjective such as *graceful*, admitting of *dis-* as well as *un-* when negated, does not really belong in two semantic groups to begin with, but is exclusively possessive. Semantics aside, there is no apparent formal evidence either for splitting up *-ful* into two suffixes, a weak- and a strong-boundary one, with which to correlate the appearance of *un-* or *dis-* in these cases.

The alternative solution is to assume that *un-* in *ungraceful*, *unrespectful* and *untasteful* is conditioned by *-ful* as usual, whereas *dis-* in *disgraceful* etc. is conditioned by individual nouns serving as bases of *-ful* suffixation. It is the second part of this solution that is ruled out by the adjacency constraint. Supposing that nouns such as *grace* are adjectivalised by means of *-ful* suffixation, the resulting adjectives in turn undergoing affixal negation, the adjacency constraint disallows any reference to elements undergoing a preceding morphological operation when the appropriate allomorphs of the negative affix are to be selected. That is, the putative IC-structuring *dis-graceful* is incompatible with the allomorphic patterning of negative affixes in English, insofar as this patterning is determined by a universal constraint against morphological conditioning at an (operational) distance.

There can be little doubt that it is nouns such as *grace* that do condition the negative allomorph *dis-*. These same nouns demand *dis-* when directly negated without being adjectivalised (*dis-grace*, *dis-respect*, *dis-taste*, alongside *dis-repute*, *dis-order*, *dis-trust*, *dis-regard*, etc.); and nominal bases of *-ful* adjectives excluding *dis-* when the adjectives are affixally negated either resist affixal negation altogether (**dis-/un-/non-help* etc.) or reject the negative prefix *dis-* (*un-/non-/dis-success* etc.). Thus, if we accept that in English the negative allomorph *dis-* is morphologically conditioned by nouns such as *grace*, and if we rule out on universal grounds that morphological conditioning of allomorphs can ever be accomplished at an operational distance, the obvious conclusion about the assemblage of adjectives consisting of nominal elements such as *grace*, the suffix *-ful*, and the negative allomorph *dis-* is that the nouns are first affixally negated before these complex bases containing the appropriate negative allomorph are adjectivalised with *-ful*. That is, the difference between *disgrace-ful* and *un-graceful* is revealed to be a matter of different IC structures thanks to our reliance on the adjacency constraint. If *dis-ful* and *un-ful* adjectives should turn out to differ semantically in belonging to one or the other of the above-mentioned groups (as with *disgraceful* being causative while *ungraceful* is possessive), this difference should be readily explicable on that basis; after all, the nominal bases combining as IC's with the suffix *-ful* already differ semantically, one being positive and the other negative, and this may be a crucial factor in determining semantic group membership of adjectives in *-ful*. In instances such as *disrepute-ful* or *disorder-ful*, where *dis-* does not seem to alternate with *un-* (though it may alternate with *-less*, just as in instances where *un-* is a possible alternative: cp. *grace-less*, *order-less*), the only IC-structuring is also supported by the criterion of meaningful combinations⁹ — if *repute-ful* and *order-ful* are not considered meaningful combinations, that is.

The adjacency constraint could presumably be exploited in further cases of potentially controversial IC analyses with affixal negation as well. It would, for example, seem to support IC-structurings such as these:

9. Which may of course also be appealed to in cases such as *disgust-ful* (**gust*), *dismay-ful*, *disease-ful*, *disdain-ful*, *disguise-ful*.

- *un-friendly*, *un-honestly*, *un-seemly* vs. *disorder-ly*, *dishonest-ly*;
- *un-liked*, *un-interested*, *un-pleasing* vs. *dislike-d*, *disinterest-ed*, *displeas-ing*.

But rather than going into such further patterns, let me conclude with a partial withdrawal of a claim made in the last paragraph, about the difference between *disgrace-ful* and *un-graceful* being a matter of different IC structures. Recalling the power of subsequent morphological operations to interfere with the choice of allomorphs made with a preceding morphological operation, which was discussed above in connection with examples such as *un-equal* vs. *inequal-ity*, one must in fact acknowledge the theoretical possibility that a negative allomorph *dis-*, selected by an adjacent morpheme at one stage, at a later stage metamorphoses into *un-*, again under the influence of an adjacent morpheme. Given that possibility, which apparently cannot be excluded on empirical grounds although it would seem rather marginal, *ungraceful* could be the result of negative prefixation being applied to the noun *grace* (*dis-* being the appropriate allomorph here), followed by *-ful* suffixation being applied to the negative noun and requiring an exchange of the negative allomorphs. Under this somewhat extravagant analysis *ungrace-ful* would not really differ from *disgrace-ful* in IC-structuring, but rather in the occurrence of negative-allomorph metamorphosis. This was also the distinctive feature in the case of *inequal-ity* vs. *unkind-ness*, although in that case the allomorph metamorphosis correlated with a difference of subsequently introduced suffixes (*-ity* vs. *-ness*), which may increase the credibility of such an analysis. Anyway, these speculations about *ungraceful* do not affect our conclusion about the IC structure of *disgrace-ful* drawn on the basis of the adjacency constraint: *disgraceful* cannot even in principle be the result of a metamorphosis of *un-graceful*, because with that IC-structuring there would be no subsequent morphological operation that could meddle with the negative allomorphs.

To sum up, a general constraint against (operationally) non-local conditioning of allomorphy would prove beneficial insofar as it helps decide between alternative IC analyses of complex words (where unique IC structures indeed seem desirable). Its usefulness in this, so far unexplored, respect, thus, lends further plausibility to the hypothesised constraint, especially as long as its implications do not

contradict other criteria customarily applied in IC analyses. Provided the construction of complex words is, under most if not all circumstances, subject to a universally valid adjacency constraint, there are certain regularities in the patterns of allomorphy we observed with negative adjectives in English which could not be different.

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REICHENBACH REVISITED: ONE, TWO, OR THREE TEMPORAL RELATIONS?

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1. Introduction

Reichenbach (1947:287-298) is widely recognized as the classical attempt at a symbolization of semantic values of verbal tenses.

This article¹ will suggest alternatives on two particular points: His system of tenses (sections 2 & 3) and his way of illustrating the semantic values of tenses as one three-place relation involving three points in real time, which may or may not coincide (section 4). First a chain of two two-place relations will be considered (section 5), and then a chain of three two-place relations (section 6). Finally I will mention some problems and consequences of the alternative analysis (section 7), mainly relating to time adverbials, before the conclusion in section 8.

2. Reichenbach's System: Nine Tenses

Reichenbach gives a supposedly universally valid system of nine tenses:

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