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NATURAL SYNTAX: NEGATION IN ENGLISH

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ABSTRACT

Natural Syntax is a developing deductive theory, a branch of Naturalness Theory. The naturalness judgements are couched in naturalness scales, which follow from the basic parameters (or "axioms") listed at the beginning of the paper. The predictions of the theory are calculated in "deductions", whose chief components are a pair of naturalness scales and the rules governing the alignment of corresponding naturalness values. Parallel and chiastic alignments are distinguished, in complementary distribution. Here almost only chiastic alignment is utilized, the latter being mandatory in derivations limited to unnatural environments. (This paper deals with negation, a phenomenon of low naturalness in Natural Syntax.)

The exemplification is taken from English. The following pairs of variants are dealt with in deductions: (1) *Is there somebody else?* vs. *Is there nobody else?* (2) *Nobody* vs. *nothing*. (3) *She is not lazy* vs. *She does not like ice cream*. (4) Absence vs. presence of *not* with *no* and *any*. (5) The adverb *nowhere* clause-initially and clause-internally. (6) *Nowhere* expressing rest and movement. (7) Pronouns with *no-* used as subject or object vs. pronouns with *any-* used as object. (8) *Not* with finite and non-finite verbs. (9) *He hadn't* vs. *he didn't have*. (10) The adverb *never in situ* and *ex situ*. (11) *No money* vs. *not any money* in conversation. (12) The determiner *no* vs. the pronoun *none*.

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Natural Syntax is a (developing) deductive linguistic theory that determines the presuppositions on the basis of which a (morpho)syntactic state of affairs can be made predictable, and thus synchronically explained. The two basic kinds of presuppositions are naturalness scales and rules of alignment among corresponding values of any two scales. Every (morpho)syntactic state of affairs is represented by two comparable variants. Natural Syntax contains no generative component.

I begin by listing the criteria with which Natural Syntax substantiates naturalness scales:

(a) The parameter of *favourable for the speaker* and of *favourable for the hearer*. What is favourable for the speaker is more natural, the speaker being the centre of communication. Expressed in a scale: >nat (favourable for the speaker, favourable for the hearer). This view of naturalness is commonplace in linguistics (Havers 1931: 171), under the names of *tendency to economise* (utilized first of all by the speaker) and *tendency to be accurate* (mainly in the hearer's interest).

(b) The principle of least effort (Havers 1931: 171). What conforms better to this principle is more natural for the speaker. What is cognitively simple (for the speaker) is easy to produce, easy to retrieve from memory, etc.

(c) Prototypicality. What is nearer to the prototype is more natural for the hearer. The speaker favours non-prototypicality.

(d) Degree of integration into the clause. What is better integrated into its clause is more natural for the speaker.

(e) Frequency (in the spirit of Fenk-Oczlon 1991). What is more frequent token-wise is more natural for the speaker. What is cognitively simpler (for the speaker) is used more. (However, the reverse does not obtain: what is natural for the speaker is not necessarily more frequent.)

(f) Small vs. large class. The use of (a unit pertaining to) a small class is more natural for the speaker than the use of (a unit pertaining to) a large class. During speech small classes are easier for the speaker to choose from than are large classes.

(g) Specialised vs. non-specialised use. The specialised use of a category is more natural for the speaker than its non-specialised use. Suppose that a language has reflexive personal pronouns. The latter are specialised for expressing reflexivity (whereas other personal pronouns are not specialised for expressing reflexivity, although they do express it under certain conditions) and their use for expressing reflexivity is very natural for the speaker: >nat (+, −) / reflexive personal pronoun expressing reflexivity.

(h) Given a construction, the movement of a unit to the left is more natural for the speaker than the movement of a unit to the right.

(i) Acceptable vs. non-acceptable use. What is acceptable is more natural for the speaker than what is not acceptable. The very reason for the acceptability of a syntactic unit is its greater naturalness for the speaker with respect to any corresponding non-acceptable unit.

(j) What is more widespread in the languages of the world is more natural for the speaker (the typological criterion). What is cognitively simpler (for the speaker) is realized in more languages.

A quick comparison with the Natural Morphology of Dressler and his circle (see Kilani-Schoch and Dressler 2005) yields the following picture. (To simplify matters, I cannot do justice here to the circumstance that the theory of Natural Morphology is vastly richer than the theory of our Natural Syntax.) If Dressler's optimality judgements are couched in optimality scales, and the latter related to our naturalness scales, it emerges that the orientation of the optimality scales is *grosso modo* the reverse of the orientation of our naturalness scales. By way of example, consider our item (c) above: being prototypical is optimal for Dressler and unnatural for us. The orientation of scales opposite to ours can also be observed in Mayerthaler et al. (1998). Inasmuch as the orientation of Dressler's (and Mayerthaler's latest) scales is systematic, as I believe it to be, a certain degree of mutual translatability seems guaranteed. More importantly, any incompatible empirical consequences remain to be established. (Those readers acquainted with Natural Morphology should expect the contents of our naturalness scales to be exactly opposite to their expectations. In this spirit, our Natural Syntax is rather a continuation of early Mayerthaler, with his emphasis on the central role of the speaker, cf. Mayerthaler 1981.)

The basic format of our naturalness scales is >nat (A, B), where A is favourable for the speaker and B is favourable for the hearer. A and B are the "values" of the scale. Whenever two basic scales are called for, the other assumes the shape >nat (C, D). Two expanded scales are allowed, viz. >nat (A + B, B) and >nat (A, A + B); they are valid if the corresponding scale of the format >nat (A, B) is valid. Exemplification below.

The above criteria of naturalness (henceforth, axioms) are utilised to support our naturalness scales. Normally it suffices to substantiate any scale with one criterion, which backs up either value A or value B of the scale; the non-supported value is allotted the only remaining position in the scale. Of course, a scale may be supported with more than one criterion. Any clash among the criteria applied to a scale is to be handled with constraints on the combinations of criteria. So far only a few constraints have been formulated; I have not yet encountered much useable crucial language data.

The naturalness scales are an essential part of deductions, in which Natural Syntax expresses its predictions about the state of affairs in language data. An example of a deduction:

English. The numerical indication of frequency normally consists of a cardinal number followed by the word *times* – e.g., *four times* – except that there are one-word expressions available for the lowest numbers: *once, twice* and archaic *thrice* (*Collins Cobuild English Grammar* 1990: 270–71).

The two variants: the type *once* and the type *four times*.

1. The assumptions of Naturalness Theory:
   1.1. >nat (type *once*, type *four times*)
   I.e., the type *once* is more natural than the type *four times*. – According to the criterion of least effort, item (b) in the list of axioms.
   1.2. >sem (low, non-low) / number
   I.e., any low number is more natural than any non-low number (Mayerthaler 1981: 15). – Low numbers are more easily accessible to the speaker. According to the criterion of favourable for the speaker, item (a) in the list of axioms.

2. The rules of parallel alignment of corresponding values:
   2.1. value A tends to associate with value C,
   2.2. value B tends to associate with value D. See Note 4.1 below.

3. The consequences:
   If a language distinguishes between low and non-low numbers in numerical indications of frequency, such that one kind of number uses the pattern *four times* and the other kind of number uses the pattern *once*, it is the low numbers that tend to use the pattern *once* and it is the non-low numbers that tend to use the pattern *four times*. Q.E.D. (The reverse situation is not expected.)

4. Notes.
   4.1. Value A of scale 1.1 (= the type *once*) tends to combine with value C of scale 1.2 (= low number). Value B of scale 1.1 (= the type *four times*) tends to combine with value D of scale 1.2 (= non-low number); similarly in the remaining deductions, with the proviso that the alignment (unlike here) is chiastic in most cases. Chiastic alignment will be explained below.
   4.2. Natural Syntax cannot predict the cut-off point between low and non-low numerals.

This deduction maintains that the state of affairs cannot be the reverse; i.e., that the numerals above *two* (or *three*) would be one-word formations and that the numerals under *three* (or *four*) would be two-word formations. All predictions of our Natural Syntax are restricted to such modest claims about the unlikelihood of the reverse situation.

In every deduction, the rules of alignment play a prominent role; compare item (2) in the above deduction. The alignment rules regulate the combinations of corresponding values of the two naturalness scales mentioned in the deduction. The alignment can be parallel or chiastic. Suppose that the two scales are >nat (A, B) and >nat (C, D). Parallel alignment pairs value A with value C, and value B with value D. Chiastic alignment pairs A with D, and B with C.

A paramount question is when the alignment is parallel and when chiastic. Parallel alignment is the default case. Experience based on work with a number of examples has shown that chiastic alignment is necessary whenever a given deduction is limited to language data obtaining within an "extremely unnatural environment". The latter is defined as value B of the scale >nat (A, B), provided the scale cannot be extended to the right; i.e., if there is no such value that would be even less natural than value B.

An example: In the scale >nat (main, dependent) / clause, the value "dependent clause" is an extremely unnatural environment because the scale cannot be extended to the right. This means: all deductions whose language data lie within the environment "dependent clause" require the implementation of chiastic alignment.

At the time of this writing, the state of the art cannot explain why there are two kinds of alignment and why they are distributed as they are.

The present paper is dedicated to negation. The fundamental naturalness scale regulating negation is >nat (affirmation, negation). The scale can be supported with an appeal to the circumstance that any expression of negation is normally accompanied by some special language feature; namely, a negative word or a related element. On the other hand, affirmation is rarely coded as such. Decisive here is the criterion of least effort, item (b) in the list of axioms. Furthermore, affirmation is much more frequent than negation tokenwise, so the criterion of frequency, item (e) in the list of axioms, points in the same direction. The above scale cannot be extended to the right, and therefore negation is its extremely unnatural value, hence a potential extremely unnatural environment. Any deduction limited to some language data within the field of negation must implement chiastic alignment of corresponding values of the scales involved.

Let me point out that the mere presence of any negative element in the deduction does not suffice to licence the use of chiastic alignment instead of the default parallel alignment. Consider the following deduction:

English. An interrogative clause and the corresponding answer. If an interrogative clause contains (exceptionally) any *some*-initial indefinite determiner or pronoun, the expected answer to such a question is affirmative; for instance, *Is there somebody else? Yes. John.* If an interrogative clause contains (exceptionally) any *no*-initial (thus negative) indefinite determiner or pronoun, the expected answer is negative; for instance, *Is there nobody else? Not that I know of* (*Collins Cobuild* 1990: 38, 55–56).

The two variants: *some*-initial and *no*-initial indefinite determiners and pronouns.

1. The presuppositions of Natural Syntax:
   1.1. >nat (*some*-, *no*-) / -initial indefinite element
      I.e., a *some*-initial indefinite element is more natural than a *no*-initial indefinite element. – *No*- is easy for the hearer to decode because of its invariably negative meaning; therefore it occupies position B in the scale.

According to the criterion of favourable for the hearer, item (a) in the list of axioms.

1.2. >nat (affirmative, negative) / answer

I.e., an affirmative answer is more natural than a negative answer. – Affirmative answers are much more frequent tokenwise than negative ones. For instance, Google (December 2005) has several times more hits for *yes, he plays* than for *no, he does not (doesn't) play* and for similar pairs. According to the criterion of frequency, item (e) in the list of axioms.

2. The rules of parallel alignment of corresponding values:
   2.1. value A tends to associate with value C,
   2.2. value B tends to associate with value D.

3. The consequences:
   If a language distinguishes between *some-* and *no-* in interrogative clauses, such that the corresponding answer is affirmative in one case and negative in the other case, it is *some-* in interrogative clauses that tends to combine with an affirmative answer and it is *no-* in interrogative clauses that tends to combine with a negative answer. Q.E.D. (The reverse situation is not expected.)

It can be seen in this deduction that parallel alignment is necessary to guarantee correct predictions, even if the deduction includes the negative element *no-*. This is the case because the language data are not restricted to the environment "negation", but also involve the non-negative element *some-*.

In the next deduction it is otherwise: it is completely limited to the environment "negation":

English. The indefinite pronoun *nobody* refers to +human, whereas the indefinite pronoun *nothing* refers to –human (*Collins Cobuild* 1990: 36).

The two variants: the indefinite pronouns *nobody* and *nothing*. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (*nothing, nobody*)

   I.e., *nothing* is more natural than *nobody*. – In many languages 'nothing' has less sound-body than 'nobody'. For instance, French *rien* 'nothing' vs. *personne* 'nobody', Italian *niente* 'nothing' vs. *nessuno* 'nobody', Spanish *nada* 'nothing' vs. *nadie/ninguno* 'nobody', German *nichts* 'nothing' vs. *niemand* 'nobody', Slovenian *nič* 'nothing' vs. *nihče* 'nobody'. Therefore *nothing* is more natural according to the criterion of least effort, item (b) in the list of axioms.

1.2. >nat (+, −) / human
I.e., +human is more natural than −human (Mayerthaler 1981: 13). – The speaker is +human, therefore +human is natural according to the criterion of favourable for the speaker, item (a) in the list of axioms.

2. The rules of chiastic alignment of corresponding values:
2.1. value A tends to associate with value D,
2.2. value B tends to associate with value C.

3. The consequences:
If a language distinguishes between the indefinite pronouns *nobody* and *nothing*, such that one of them refers to +human and the other to −human, then *nobody* tends to refer to +human and *nothing* tends to refer to −human. Q.E.D. (The reverse situation is not expected.)

In the remainder of the paper I continue to adduce English examples of negation, utilising chiastic alignment throughout, as necessary within the extremely unnatural environment "negation". I have chosen language data as simple and as easy to appraise as possible.

English. Within finite verbs, the negative word *not* is used only with "auxiliaries". For instance, *she is not lazy* vs. the unacceptable *she likes not ice cream* (in the latter case, do-support provides an "auxiliary": *she does not like ice cream*; *Collins Cobuild* 1990: 207).

The two variants: "auxiliaries" and lexical verbs. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
1.1. >nat ("auxiliary", lexical verb)
I.e., an "auxiliary" is more natural than a lexical verb. – "Auxiliaries" constitute a small class, lexical verbs a large class. According to the criterion of small vs. large class, item (f) in the list of axioms.
1.2. >nat (–, +) / *not*
I.e., the absence of the negative word *not* is more natural than its presence. – According to the criterion of least effort, item (b) in the list of axioms.

2. The rules of chiastic alignment of corresponding values:
2.1. value A tends to associate with value D,
2.2. value B tends to associate with value C.

3. The consequences:

If a language distinguishes between "auxiliaries" and lexical verbs, such that one class of units can be accompanied by the negative word *not* and the other class of units cannot be accompanied by *not*, then it is the "auxiliaries" that tend to be accompanied by *not* and it is the lexical verbs that tend not to be accompanied by *not*. Q.E.D. (The reverse situation is not expected.)

English (standard only). *No-* and *any-* as indefinite determiners and pronouns. A clause containing *any-* also contains the negative word *not*; for instance, *they hadn't meant any harm to her*; a clause containing *no-* does not tolerate any additional negative word; for instance, *nobody left* (*Collins Cobuild* 1990: 38, 211).

The two variants: *no-* and *any-* as indefinite determiners and pronouns (included are the words *no* and *any*). – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (*any-*, *no-*) / indefinite determiner or pronoun
   I.e., the indefinite element *any-* is more natural than the indefinite element *no-*. – *No-* is easy for the hearer to decode because of its invariably negative meaning; therefore it occupies position B in the scale. According to the criterion of favourable for the hearer, item (a) in the list of axioms.
   1.2. >nat (–, +) / *not*
   I.e., the absence of the negative word *not* is more natural than its presence. – According to the criterion of least effort, item (b) in the list of axioms.

2. The rules of chiastic alignment of corresponding values:
   2.1. value A tends to associate with value D,
   2.2. value B tends to associate with value C.

3. The consequences:
   If a language distinguishes between indefinite *any-* and indefinite *no-*, such that one class of units is accompanied by the negative word *not* and the other class of units is not accompanied by *not*, then it is the indefinite *any-* that tends to be accompanied by *not* and it is the indefinite *no-* that tends not to be accompanied by *not*. Q.E.D. (The reverse situation is not expected.)

English. If *nowhere* (or any broader negative adverb such as *seldom*) stands clause-initially, the inversion of the subject and the "auxiliary" is called for. For instance, *nowhere have I seen any serious mention of this*; *seldom has society offered so wide a range of leisure activities* (Collins Cobuild 1990: 215, 304).

The two variants: *nowhere* clause-initially and clause-internally. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (internal, initial) / clause position
   I.e., the internal position is more natural than initial position. – The internal position is better integrated into its clause than initial position. According to the criterion of integration into the construction, item (d) in the list of axioms.
   1.2. >nat (+, −) / inversion of the subject and the "auxiliary"
   I.e., inversion is more natural than standard word order. – The inverted subject is not *in situ*, but moved to the left. According to the criterion of movement (to the left), item (h) in the list of axioms.

2. The rules of chiastic alignment of corresponding values:
   2.1. value A tends to associate with value D,
   2.2. value B tends to associate with value C.

3. The consequences:
   If a language distinguishes between the initial and the internal position of the adverb *nowhere*, such that one position is accompanied by inversion and the other position is not, then it is the initial position that tends to be accompanied by inversion and it is the internal position that tends not to be accompanied by inversion. Q.E.D. (The reverse situation is not expected.)

English. The negative adverb *nowhere* is used first of all metaphorically when it expresses movement (meaning 'to no place'); for instance, *they were getting* <u>*nowhere*</u> (*Collins Cobuild* 1990: 307).

The two variants: *nowhere* expressing rest and movement. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (rest, movement) /
   I.e., rest is more natural than movement. – Movement is more favourable for the hearer (and is therefore mentioned in position B of the scale) because movement is easier to perceive than rest. According to the criterion of favourable for the hearer, item (a) in the list of axioms.
   1.2. >nat (metaphorical, literal) / use
   I.e., metaphorical use is more natural than literal use. – Literal use is easier for the hearer (and is therefore mentioned in position B of the scale) because the literal meaning is easier for the hearer to compute. According to the criterion of *favourable for the hearer*, item (a) in the list of axioms.
   A special case of 1.2:
   1.2.1. >nat (only metaphorical, metaphorical and literal) / use

I.e., obligatory metaphorical use of a unit is more natural than optional metaphorical use of that unit. – The scale assumes the permitted expanded format >nat (A, A + B) and is automatically valid because the corresponding basic scale 1.2 has been substantiated.

2. The rules of chiastic alignment of corresponding values:
   2.1. value A tends to associate with value D,
   2.2. value B tends to associate with value C.

3. The consequences:
   If a language distinguishes between the meanings of 'rest' and 'movement' with the negative adverb *nowhere*, such that one meaning is metaphorical and the other meaning is metaphorical or literal, then it is the meaning 'rest' that tends to be metaphorical or literal and it is the meaning 'movement' that tends to be only metaphorical. Q.E.D. (The reverse situation is not expected.)

English. Non-interrogative negative clauses. *No-* can be used as subject or object, whereas *any-* can only be used as object; for instance, *nobody left; she was to see no one*; *you still haven't told me anything* (*Collins Cobuild* 1990: 38).

The two variants: *no-* as subject and object, and *any-* as object only. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (*any-*, *no-*) / indefinite pronoun
      I.e., the indefinite pronoun *any-* is more natural than the indefinite pronoun *no-*. – *No-* is easy for the hearer to decode because of its invariably negative meaning; therefore it occupies position B in the scale. According to the criterion of favourable for the hearer, item (a) in the list of axioms.
   1.2. >nat (subject, object)
      I.e., the subject is more natural than the object. – In languages of our type, the subject is often not coded with any special means, the object less often so. According to the criterion of least effort, item (b) in the list of axioms.
      A special case of 1.2:
      1.2.1. >nat (subject & object, only object)
         I.e., the conditions that allow the use of the subject and the object are more natural than the conditions that allow the use of the object only. – The scale assumes the permitted expanded format >nat (A + B, B) and is automatically valid because the corresponding basic scale 1.2 has been substantiated.

2. The rules of chiastic alignment of corresponding values:

2.1. value A tends to associate with value D,
2.2. value B tends to associate with value C.

3. The consequences:
If a language distinguishes between *any-* and *no-* (within non-interrogative negative clauses), such that one of them can be subject or object and the other can be object only, then it is *no-* that tends to be subject or object and it is *any-* that tends to be object only. Q.E.D. (The reverse situation is not expected.)

English. The negative word *not* immediately FOLLOWS finite verbs (which are "auxiliaries" in such case) and immediately PRECEDES non-finite verbs; for instance, *it isn't easy*; *we stood there, not knowing what was expected of us* (*Collins Cobuild* 1990: 208).

The two variants: the negative word *not* beside a finite and a non-finite verb. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
1.1. >nat (finite, non-finite) / verb
I.e., a finite verb is more natural than a non-finite verb. – In any language, finite verbs are more frequent than non-finite verbs. According to the criterion of frequency, item (e) in the list of axioms. All languages have finite verbs, whereas some languages lack non-finite verbs. By the typological criterion, item (j) in the list of axioms.
1.2. >nat (before the verb, after the verb) / negative word
I.e., the position of the negative word BEFORE the verb is more natural than the position of the negative word AFTER the verb. – In most languages expressing negation with a negative word the latter occupies the position BEFORE the verb (Dahl 1979). By the typological criterion, item (j) in the list of axioms.

2. The rules of chiastic alignment of corresponding values:
2.1. value A tends to associate with value D,
2.2. value B tends to associate with value C.

3. The consequences:
If a language distinguishes between finite and non-finite verbs, such that the negative word PRECEDES one class of verbs and FOLLOWS the other class of verbs, then it is the finite verbs that tend to have the negative word following them and it is the non-finite verbs that tend to have the negative word preceding them. Q.E.D. (The reverse situation is not expected.)

English. The verb *have* is negated with the "auxiliary" *do* and the negative word, less often with the negative word only; for instance, *he didn't have a grand salary*; *he hadn't enough money* (*Collins Cobuild* 1990: 208).

The two variants: the two kinds of negation with the verb *have*. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (*hasn't, doesn't have*)
   I.e., the variant *hasn't* is more natural than the variant *doesn't have*. – According to the criterion of least effort, item (b) in the list of axioms.
   1.2. >nat (more, less) / frequent (as token)
   I.e., what is more frequent is more natural than what is less frequent. – This is the very criterion of frequency, item (e) in the list of axioms.

2. The rules of chiastic alignment of corresponding values:
   2.1. value A tends to associate with value D,
   2.2. value B tends to associate with value C.

3. The consequences:
   If a language distinguishes between the variants *hasn't* and *doesn't have*, such that one kind of negation is more frequent and the other kind of negation is less frequent, then it is the variant *hasn't* that tends to be less frequent and it is the variant *doesn't have* that tends to be more frequent. Q.E.D. (The reverse situation is not expected.)

English. The negative adverb *never* usually FOLLOWS any "auxiliaries"; for instance, *she was never too proud to learn*. (This is the basic order.) If *never* PRECEDES any "auxiliaries", it is emphatic; for instance, *I NEVER would have guessed if he hadn't told me*. (This is not the basic order.) *Never* usually PRECEDES lexical verbs; for instance, *I never want to see you in my classes again*. (This is the basic order.) Emphatically: *I NEVER do see her now*. (This is not the basic order; *Collins Cobuild* 1990: 210–11).

The two variants: *never* obeying and disobeying the basic order. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (–, +) / basic order
   I.e., being outside the basic order is more natural than being in the basic order. – Being outside the basic order is, in our case, a consequence of movement to the left. According to the criterion of movement (to the left), item (h) in the list of axioms.
   1.2. >nat (–, +) / emphasis

I.e., non-emphasis is more natural than emphasis. – According to the criterion of least effort, item (b) in the list of axioms.

2. The rules of chiastic alignment of corresponding values:
   2.1. value A tends to associate with value D,
   2.2. value B tends to associate with value C.

3. The consequences:
   If a language distinguishes between the basic and the non-basic orderings of *never*, such that one ordering combines with the emphasis of *never* and the other ordering combines with the non-emphasis of *never*, then it is the basic ordering that tends not to combine with emphasis and it is the non-basic ordering that tends to combine with emphasis. Q.E.D. (The reverse situation is not expected.)

English. Instead of the type *no money,* conversation uses the type *not any money*; for instance, *I can't see any hope in it* (*Collins Cobuild* 1990: 211).

The two variants: conversation and formal language. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (conversation, formal language)
      I.e., conversation is more natural than formal language. – Conversation is the prevailing or even only kind of language in some communities. By the typological criterion, item (j) in the list of axioms.
   1.2. >nat (type *no money*, type *not any money*)
      I.e., the type *no money* is more natural than the type *not any money*. – According to the criterion of least effort, item (b) in the list of axioms.
      A special case of 1.2:
      1.2.1. >nat (type *no money* & type *not any money*, only type *not any money*)
         I.e., the conditions under which both the type *no money* and the type *not any money* are used are more natural than the conditions under which only the type *not any money* is used. – The scale assumes the permitted expanded format >nat (A + B, B) and is automatically valid because the corresponding basic scale 1.2 has been substantiated.

2. The rules of chiastic alignment of corresponding values:
   2.1. value A tends to associate with value D,
   2.2. value B tends to associate with value C.

3. The consequences:
   If a language distinguishes between conversation and formal language, such that one kind of language uses only the type *not any money* and the other kind of language uses both the type *not any money* and the type *no money*, then it is conversation that tends to use only the type *not any money* and it is formal language that tends to use both the type *not any money* and the type *no money*. Q.E.D. (The reverse situation is not expected.)

English. *No* is a determiner, *none* is a pronoun; for instance, *there was no money for an operation*; *I waited for comments but none came* (*Collins Cobuild* 1990: 211).

The two variants: *no* and *none*. – The deduction proceeds in the extremely unnatural environment "negation".

1. The presuppositions of Natural Syntax:
   1.1. >nat (*no, none*)
      I.e., *no* is more natural than *none*. – According to the criterion of least effort, item (b) in the list of axioms.
   1.2. >nat (pronoun, determiner)
      I.e., a pronoun is more natural than a determiner. – The class of pronouns is smaller than the class of determiners. According to the criterion of small vs. large class, item (f) in the list of axioms.

2. The rules of chiastic alignment of corresponding values:
   2.1. value A tends to associate with value D,
   2.2. value B tends to associate with value C.

3. The consequences:
   If a language distinguishes between *no* and *none*, such that one word is a pronoun and the other word is a determiner, then it is *no* that tends to be a determiner and it is *none* that tends to be a pronoun. Q.E.D. (The reverse situation is not expected.)

As can be seen, Natural Syntax can predict the existence of a number of simple situations involving negation in English.

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