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DGfS Siegen March 1, 2007
AG 8: 'The role of variation
in language evolution'

The role of analogy in morphosyntactic change

Structure of the talk
I. Introduction
II. Form vs function and linguistic modelling
III. The principle of analogy
IV. Language as an adaptive system
V. A case study: the development of epistemic modals in English
VI. Concluding remarks

Ad II: Form vs function

(1)

And one last example from this genre, perhaps my favourite … A grocery-store checkout clerk asked me, "Plastic bag all right?", to which I replied, "Prefer a wood one … uhh, a … a *paper* one, please." Contributing towards this slip might have been the following factors: paper is made from wood pulp, grocery bags are brownish, somewhat like wood and unlike standard paper, they are also considerably "woodier" in texture than ordinary paper is, and plastic and wood are both common materials out of which many household items are made, whereas paper is not.

Substitution errors like these reveal aspects of the subterranean landscape – the hidden network of overlapping , blurred together concepts. They show us that under many circumstances, we confuse one concept with another, and this helps give a picture of what is going on when we make an analogy between different situations. The same properties of our conceptual networks as are responsible for our proneness to these conceptual-halo slips make us willing to tolerate or "forgive" a certain degree of conceptual mismatch between situations, depending on the context; we are congenitally constructed to do so – it is good for us, evolutionary speaking. My term "conceptual slippage" is in fact no more and no less than a shorthand for this notion of "context-dependent tolerance of conceptual mismatch" (Hofstadter 1995: 201)

(2) *automatization of (a) token- and (b) type-schemas*

(a) idiomatic phrases such as '(s)he kicked the bucket'; 'it drives me mad'
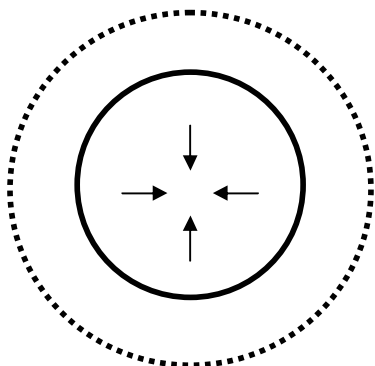(b) grammatical schemas such as NP → Det Adj Noun; S → NP $_{subject}$ V NP $_{object}$

Figure 1: Organizing forces in 'autonomous grammar' (cf. Du Bois 1985: 345). The outer circle represents language use, and the inner circle represents the system of language
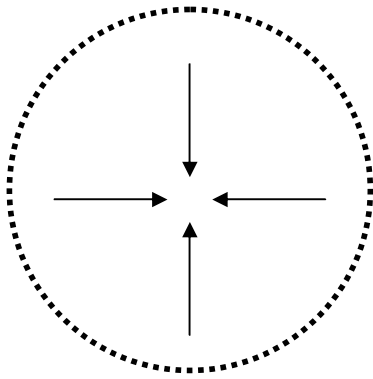
Figure 2: Organizing forces in 'functional grammar' (cf. Du Bois 1985: 346)

(3)   Although it is possible to describe change in terms of the operation of successive strategies of reanalysis (rule change) and analogy (rule generalization), *the important question remains why these strategies come about* – in other words, what *enables* the mechanisms we have outlined (emphasis added, Hopper and Traugott 2003: 71)

(4)   In Heine *et al.* (1991), grammaticalization is described as 'the product of conceptual manipulation' (p. 150); it is a process 'metaphorical in nature' (p. 151) and 'context induced' (p. 165), in which 'cognitive restructuring […] *precedes* linguistic change' (p. 174).

Ad III: The principle of analogy

(5)   *The influence of form and meaning on folk-etymological developments*
Dutch **rot**onde 'round about' > **ront**onde because of its formal and semantic similarity to *rond* 'round', and similarly **ope**reren 'operate upon' > **open**reren.

(6)   *The iconic-indexical-symbolic hierarchy*
Symbolic relationships are composed of indexical relationships between sets of indices and indexical relationships are composed of iconic relationships between sets of icons (…). This suggests a kind of semiotic reductionism in which more complex forms of representation are analyzable to simpler forms. In fact, this is essentially what occurs as forms are interpreted. Higher-order forms are decomposed into (replaced or represented by) lower order forms. Inversely, to construct higher representation, one must operate on lower-order forms to replace them (represent them) (Deacon 1997, 75).

(7)   (a) *evolutionary old*:   - iconic and indexical modes of thinking (Deacon 1997)
(b) *evolutionary young*:   - symbolic mode of thinking (Deacon 1997)
- sense of self/imitation/play(Knight 2000, Dąbrowska 2004)
- intention reading (Tomasello 2003)
- pattern finding (cf. Tomasello 2003)
- biological changes in the larynx, tongue, vocal tract,
brain increase (larger memory space) (cf. Lieberman 1979, Hauser and Fitch 2003)

(8)   a strong argument can be made that children can only understand a symbolic convention in the first place if they understand their communicative partner as an intentional agent with whom one may share attention (Tomasello 2003b: 98).
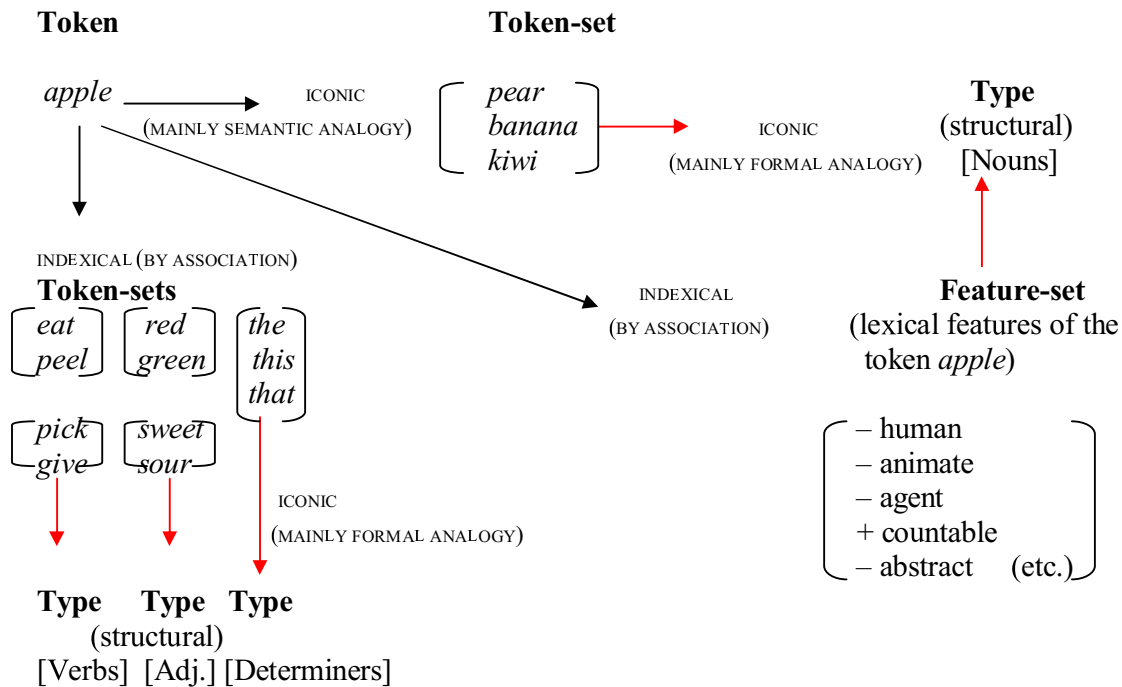
Token   **Token-set**

apple ────────▶ ICONIC   ⎡ *pear*   ⎤ ──▶ ICONIC   **Type**
                   (MAINLY SEMANTIC ANALOGY) ⎢ *banana* ⎥   (MAINLY FORMAL ANALOGY)   (structural)
         │   ⎣ *kiwi*   ⎦   [Nouns]
         │   ╲
         ▼   ╲
INDEXICAL (BY ASSOCIATION)   ╲
Token-sets   ╲   INDEXICAL   **Feature-set**
⎡ *eat* ⎤ ⎡ *red*   ⎤ ⎡ *the* ⎤   (BY ASSOCIATION)   (lexical features of the
⎣ *peel* ⎦ ⎣ *green* ⎦ ⎢ *this* ⎥   token *apple*)
                         ⎣ *that* ⎦
⎡ *pick* ⎤ ⎡ *sweet* ⎤   ⎡ – human   ⎤
⎣ *give* ⎦ ⎣ *sour* ⎦   ⎢ – animate   ⎥
                                                               ⎢ – agent   ⎥
   │   │   │   ICONIC   ⎢ + countable ⎥
   │   │   │ (MAINLY FORMAL ANALOGY)   ⎣ – abstract   (etc.)⎦
   ▼   ▼   ▼

Type   Type Type
     (structural)
[Verbs] [Adj.] [Determiners]

Figure 3*: possible paradigmatic (iconic) and syntagmatic (indexical) relations between the sign* apple *and other linguistic signs forming token-sets and types*

(9)   i.   *I am going (to the market) to buy some fish*
        ii.   *I am going to marry (tomorrow)*
        iii.   *I am going to like it*
        iv.   *It is going to rain*
        v.   *I am going to go there for sure*
        vi.   *I'm gonna go there for sure*
        vii.   *I'm gonna Haarlem to visit my aunt

Ad IV. Language as an adaptive system

(10)   speakers tend to choose those variants that suit them best. These variants then become increasingly frequent and entrenched in speakers' minds, and at some point they may become obligatory parts of grammar. In this way, grammars come to be adapted to speakers' needs … Grammatical constraints are thus the way they are because they have arisen from user constraints in a diachronic process of adaptation (Haspelmath 1999: 203-4).

(11)   At every stage, any language has a set of options which it can take, which in turn affect its future options. The choice of a particular option may be triggered by social factors (…), but the social factors simply pointed the language down one or another of an existing set of options, which were predetermined by its existing structure (…). In certain cases, the structural pressures would be so strong that the social trigger simply nudged the language along a preordained path, at other times genuine options could exist. … The probable options are usually spoken of as 'natural tendencies'(…) The problem is that natural tendencies are just that, tendencies which need not be implemented (Aitchison 1987:19).

(12)   A complete theory of diachronic adaptation […] needs to take into account both the selection pressures on linguistic variants that arise from E-language and the structure of I-language into which these variants must be coded (Kirby 1999b: 224).
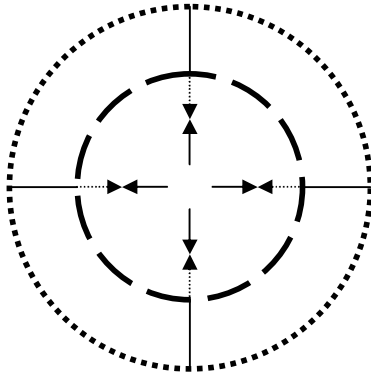
Figure 4: Competing forces in language (change) (after Du Bois 1985: 361) (it shows the influence of language use – the outer circle – on the language system – the inner circle – as well as the influence from the inner system on the way language gets used)

(13)   Kirby (1999a: 12-3), referring to Hyman (1984): distinguishes two types of 'function';
        (a) function in relation to the *purpose of language use*
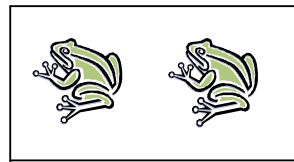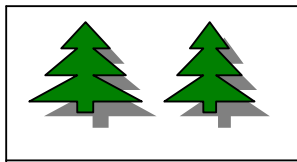   (b) function in relation to *users of language*
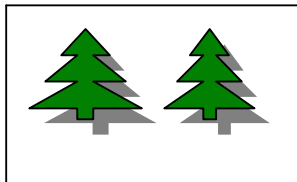

Figure 5.1

Figure 5.2 *'system-mapping'(cf. Holyoak and Thagard 1995: 50)*

Ad V: The English modals: A case of grammaticalization or analogical replacement?

(14)   *Lehmann's (1982) parameters: Diachronic stages in the process of grammaticalization*
        (i)   phonetic and semantic reduction
        (ii)   formal fusion of elements/clauses
        (iii)   scope decrease
        (iv)   reduction of choice within a paradigm
        (v)   reduction of choice within a clause (elements become obligatory and fixed in position, strict word order).

(15)   Eaðe *mæg*, þæt me Drihten þurh his geearnung miltsigan wille   (Bede 3 11.192.5)
        Easily can that me Lord   through his merit   show-mercy will
        'it may be that the Lord will show me mercy because of his merit'

(16) a þonne *mæg hine scamigan* þære brædinge   his   hlisan (Bo 19.46.5)
         then   can him shame   of-the spreading of-his fame
         'then he may be ashamed of the extent of his fame
      b Hwy ne sceolde me[DAT] swa þyncan? (Bo 38.119.9)
         Why not should me   so seem
         'Why should/How could it not seem so to me?'

(17) a Ðeah þe *hit swa beon mihte* þæt he þas blisse   begitan mihte (ÆLS(Ash Wed)106)
         though   it so   be   could that he those favours beget could
         'though it could be the case that he would receive those favours'
      b Eaðe *mæg gewurðan* þæt þu wite   þæt ic nat (ApT 21.10)
         easily may happen   that you know that I not-know
         'it may easily be the case that you know what I don't know
      c … cwæð þæt *hit na geweorþan sceolde* þæt se wære leoda   cyning
         … said   that   it not happen   should that he were of-people king
         se þe ær   wæs folce   þeow (Or 4 6.95.32)
         who before was to-people servant
         '…said that it should not happen that he would be king of the people who before was their
          servant'

(18)   *Impersonal verbs and their construction types in Old English*
         type i: without a nominative subject *Him likes apples*
         type ii: with the (animate) experiencer-role as nominative subject *He likes apples*
         type iii:with the (inanimate) source/cause-role as nominative subject *Apples like*(= 'please')
         him

(19)   *Possible conclusions based on OE instances (17)-(19):*
(i)   OE modal verbs behave like impersonal verbs (cf. Denison 1990), occurring in the same three
         types of constructions as distinguished in Fischer and van der Leek (1983): i.e. they are
         impersonal (no nominative subject or empty *hit*) when used epistemically, they are personal
         (with a lexical nominative subject, animate or inanimate) when used dynamically/deontically
         (see (20)).
(ii)   (a) impersonal infinitive → impersonal (epistemic) modal: *Him can shame*
                (both verbs take dative case)
         (b) personal infinitive → personal (deontic) modal: *He can read*
                (both verbs take nominative case)
         (NB *both types are **monoclausal**, i.e. no control, no subject-raising, no verb-raising*)
(iii)   impersonal (i.e. epistemic) modals cannot occur in OE with personal (agentive) infinitives in
         a monoclausal construction as given in (ii) (i.e. in OE *He must come soon* can only occur
         with deontic *must*)
(iv)   impersonal (epistemic) modal can only occur with a personal (agentive) infinitive if
         combined with an impersonal (agentless) infinitive relegating the personal infinitive to a *þæt-*
         clause (*a **biclausal** construction*)

(20)   *How did* 'He may come' *acquire epistemic sense in late Middle English?*
         (a) the rise of structural subjects due to the loss of case inflexions
         (b) the loss of impersonal verb constructions
         (c) the emergence of subject raising with *seem, happen* etc.
         (d) replacement by analogy: due to the frequency of the already existing deontic/dynamic
              construction with the same form *It may be that he* comes was replaced by *He may come*

(21) a   a kan de fanowdu fu tan wakti (*Waktitoren*, Edhard 2004: 45)
               it can be necessary to stay wait
               'it may be necessary to keep waiting'
       b   a musu de taki a sondu nanga a sari di   den ben   kon   de na ini … (*ibid.*)
               it must be that the sin   and   the sad that they been come be at in
               'it must be that the sin and sorrow that they had gotten into …

(22)   me mos tap usin   all dark colors
           I must stop wearing all dark colours (because they don't look good on me)

(23) a   A mosa   wet deah
               it must-be wet there
       b   An ha gol on it an coes five dolla? No, mosa tiif dem from somebody den
               It's gold and costs five dollar? Can't be, must-have stolen it from someone then
               (from Shepherd 1982: 320)

Selected references

Aitchison, Jean. (1987). "The Language Lifegame: Prediction, Explanation and Linguistic Change." In *Explanation and Linguistic Change*, edited by Willem Koopman, Frederike C. van der Leek, Olga Fischer and Roger Eaton, 11-32. Amsterdam: Benjamins.

Anttila, Raimo. (2003). "Analogy: The Warp and Woof of Cognition." In *The Handbook of Historical Linguistics*, edited by Brian D. Joseph and Richard D. Janda, 425-40. Oxford: Blackwell.

Bickerton, Derek. (2003). "Symbol and Structure: A Comprehensive Framework for Language Evolution." edited by Morten H. Christiansen and Simon Kirby, 77-93.

Briscoe, Ted. (2003). "Grammatical Assimilation." In *Language Evolution*, edited by M.H. Christiansen and S. Kirby, 295-316. Oxford: Oxford University Press.

Chomsky, Noam. (1988).*Language and Problems of Knowledge*. Cambridge, Mass.: MIT Press.

Coates, Richard. (1987)."Pragmatic Sources of Analogical Reformation". *Journal of Linguistics* 23: 319-40.

Dåbrowska, Ewa. (2004).*Language, Mind and Brain: Some Psychological and Neurological Constraints on Theories of Grammar*. Washington D.C.: Georgetown University Press.

Deacon, Terrence W. (2003). "Universal Grammar and Semiotic Constraints." edited by Morten H. Christiansen and Simon Kirby, 111-39.

Denison, David. (1990)."Auxiliary + Impersonal in Old English". *Folia Linguistica Historica* 9, no. 1: 139-66.

Du Bois, John W. (1985). "Competing Motivations." In *Iconicity in Syntax*, edited by John Haiman, 343-65. Amsterdam: Benjamins.

Edhard, Anne. (2004). "Semantic Modality Map for Sranan Tongo." MA, University of Amsterdam.

Fischer, Olga. (2007).*Morphosyntactic Change. Functional and Formal Perspectives*. Oxford: Oxford University Press.

Harris, Alice C., and Lyle Campbell. (1995).*Historical Syntax in Cross-Linguistic Perspective*. Cambridge: Cambridge University Press.

Haspelmath, Martin. (1999)."Optimality and Diachronic Adaptation". *Zeitschrift für Sprachwissenschaft* 18: 181-205; 51-68.

Hauser, Marc D., and W. Tecumseh Fitch. (2003). "What Are the Uniquely Human Components of the Language Faculty?" in *Language evolution* edited by Morten H. Christiansen and Simon Kirby, 158-81. Oxford: Oxford UP.

Hawkins, John A. (2004).*Efficiency and Complexity in Grammars*. Oxford: Oxford University Press.

Heine, Bernd, Ulrike Claudi, and Friederike Hünnemeyer. (1991). "From Cognition to Grammar -- Evidence from African Languages." In *Approaches to Grammaticalization*, edited by Closs Traugott Elizabeth and Bernd Heine, 149-87. Amsterdam: Benjamins.

Holyoak, Keith J., and Paul Thagard. (1995).*Mental Leaps. Analogy in Creative Thought*. Cambridge Mass.: MIT Press.

Hopper, Paul J. (1998). "Emergent Grammar (Revised Version)." In *The Psychology of Language: Cognitive and Functional Approaches to Language Structure*, edited by Michael Tomasello, 155-75. Mahwah, New Jersey: Erlbaum.

Hopper, Paul. J., and Elizabeth C. Traugott. (2003 [1993]). *Grammaticalization*. 2nd ed. Cambridge: Cambridge University Press.

Hofstadter, Douglas. (1995). *Fluid Concepts and Creative Analogies*. New York: Basic Books

Itkonen, Esa. (2005).*Analogy as Structure and Process*. Amsterdam: Benjamins.

Kirby, Simon. (1999a).*Function, Selection and Innateness. The Emergence of Language Universals*. Oxford: Oxford University Press.

———. (1999b)."The Role of I-Language in Diachronic Adaptation". *Zeitschrift für Sprachwissenschaft* 18: 222-25.

Knight, Chris. (2000). "Play as Precursor of Phonology and Syntax." edited by Chris et al. Knight, 99-119.

Kuteva, Tania. (2001).*Auxiliation. An Enquiry into the Nature of Grammaticalization*. Oxford: Oxford University Press.

Lehmann, Christian. (1982).*Thoughts on Grammaticalization: A Programmatic Sketch*, *Arbeiten Des Kölner Universalien-Projektes. University of Cologne, Institut Für Sprachwissenschaft*.

Lieberman, Philip. (1991).*Uniquely Human. The Evolution of Speech, Thought, and Selfless Behavior*. Cambridge Mass.: Harvard University Press.

Lightfoot, David W. (1999).*The Development of Language: Acquisition, Change, and Evolution*. Oxford: Blackwell.

———. (2000). "The Spandrels of the Linguistic Genotype." edited by Chris et al. Knight, 231-47.

Mithun, Marianne. (1991). "The Role of Motivation in the Emergence of Grammatical Categories: The Grammaticization of Subjects." In *Approaches to Grammaticalization*, edited by Closs Traugott Elizabeth and Bernd Heine, 159-84. Amsterdam: Benjamins.

Newmeyer Frederick, J. (2003). "What Can the Field of Linguistics Tell Us About the Origin of Language?" In *Language Evolution*, edited by Morten H. Christiansen and Simon Kirby, 58-76. Oxford: Oxford University Press.

Pinker, Steven. (1994).*The Language Instinct. The New Science of Language and Mind*. Harmondsworth: Penguin books.

Plank, Frans. (1985)."Prädikativ Und Koprädikativ". *Zeitschrift für germanische Linguistik* 13: 154-85.

Tabor, Whitney, and Elizabeth Closs Traugott. (1998). "Structural Scope Expansion and Grammaticalization." In *The Limits of Grammaticalization*, edited by Anna Giacalone Ramat and Paul J. Hopper, 229-72. Amsterdam: Benjamins.

Tomasello, Michael. (2003).*Constructing a Language. A Usage-Based Theory of Language Acquisition*. Cambridge Mass.: Harvard University Press.

Wanner, Dieter. (2006).*The Power of Analogy. An Essay on Historical Linguistics*. Berlin: Mouton de Gruyter.

Warner, Anthony R. (1990). "Reworking the History of English Auxiliaries." In *Papers from the 5th International Conference on English Historical Linguistics, Cambridge, 6-9 April 1987*, edited by Sylvia Adamson, Vivien Law, Nigel Vincent and Susan Wright, 537-58. Amsterdam: Benjamins.