Linking of Arguments and the Nature of UTAH

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(1)   *The Uniformity of Theta Assignment Hypothesis (UTAH)*
        Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.

        Baker (1988) left the UTAH quite vague and open to various interpretations.

        a.   What are the thematic roles that enter into the "relationships"?
        b.   What are the structural relationships (X-bar notions, grammatical relations)?
        c.   How identical is "identical"? Perhaps what's needed is "equivalent".

(2)   Goals of Baker (1997)

        a.   Establish the crosslinguistic validity of something like UTAH.
        b.   Specify the thematic roles relevant to UTAH.
        c.   Decide between an absolute and relative interpretation of UTAH.
        d.   Argue against an aspectual basis for linking.
        e.   Place UTAH within a minimalist context as an interface condition.

(3)   Breaking down the linking problem

        a.   Determine the subject.
        b.   From the remaining arguments, determine the direct object.
        c.   Project remaining arguments as obliques (transparent linking).

Linking to Subject

(4)   Universally, given a two-place verb with the θ-grid *<agent,patient/theme>*, agent is projected as a subject and patient/theme as an object. There are many such verbs like (a), and no verb like (b).

        a.   John hit/found/broke the table.
        b.   The table plit/vound/proke John.   *table* = theme, *John* = agent

We also know that there are many structural asymmetries between subject and object. The verb forms a constituent (VP) with the object, excluding the subject; and the subject asymmetrically c-commands the object (binding, scope).

(5)   In English, the only apparent challenge to UTAH is psych-verbs.

      a.   John likes long novels.   Exp>>Th
      b.   Long novels please John.   Th>>Exp

Possible responses: i) UTAH is false; ii) one variant, probably (b), is syntactically derived; iii) The thematic analysis is too coarse, and in fact, one label (probably Th) masks two distinct θ-roles.

(6)   Is there an Experiencer θ-role?

Baker denies that Exp is a specific thematic label. Instead (following Dowty) he proposes a macro-role, subsuming agent and Exp as subcases. This is a fuzzy prototype notion, related to Levin & Rappaport's "internal cause". In *John fears dogs*, "it is a property of John's internal make-up – though not necessarily his will – that causes him to respond in a particular way to dogs" (p.79).

Note 1: Isn't it "an internal property" of chairs that makes the chair break in response to forceful twists, and still, *chair* is the object in *The pressure broke the chair*. Is there a way to make Baker's intuition work?

Note 2: When both an agent and an experiencer are present, some fine-grained scale of "Proto-Agent properties" must select the agent as the subject:

      a.   Mary deliberately annoyed Bill.

Ergativity

It has been claimed that in ergative languages, agents link to VP-internal positions and themes to VP-external positions. If so, ergative languages would be a mirror image of accusative languages – and a flat refutation of the UTAH.

In fact, the evidence for the "subjecthood" of the theme and "objecthood" of the agent in ergative languages is often mixed and indecisive.

(7)   Theme is the subject because…

      a.   It bears the case of intransitive subjects [7],[8].
      b.   It can be controlled in adjuncts [9].
      c.   It can be "shared" in VP-conjunction.
      d.   It has scope over negation (while the agent has scope under negation).

(8)   Theme is the object because…

      a.   The agent can bind into the theme, but not vice versa [10].
      b.   The theme can, but the agent can't, be incorporated into the verb.

(9)   <u>Solving the puzzle</u>: Universally, Agent is projected above Theme (UTAH). In accusative languages, the agent raises to the surface subject position [Spec,IP], whereas in "deep ergative" languages, it is the Theme that becomes a subject [12]. Properties (7) are sensitive to SS/LF, properties (8) are sensitive to DS.

      <u>A residue</u>: Baker mentions among the invariant properties the fact that agents rather than themes are controlled in complement nonfinite clauses. This is supposed to be a DS property. But in fact, in accusative languages themes can be easily controlled under certain verbs (*John$_1$ wanted PRO$_1$ to be elected*); although the controller is determined thematically ("at DS"), the controllee, PRO, isn't.

Linking to Object

Given that there is at most one causer/agent in an event, the subject linking rule is pretty straightforward. But among the remaining arguments – two internal arguments in the interesting cases – which are we to project as direct object?

(10)   *The Dative Alternation*
      a.   I gave the candy to the children.   *donate*
      b.   I gave the children the candy.   *owe*

(11)   *The Locative Alternation*
     a.   I loaded the hay onto the truck.   *pour*
     b.   I loaded the truck with the hay.   *fill*

Some verbs don't alternate; some languages have only a single member of each pair.

(12)   Possible approaches

     UTAH-compatible
     a.   The thematic roles in DA/LA pairs are identical; one member is derived.
     b.   The thematic roles in DA/LA pairs are distinct; both members are base-generated.

     UTAH-incompatible
     c.   The thematic roles in DA/LA pairs are identical; both members are base-generated.

     Baker's approach
     d.   (a) is true of DA, (b) is true of LA.

(13)   Middle-level semantic analysis

On a very gross level of description, (a) and (b) in (10)/(11) convey the same meanings; on a very detailed level (involving focus and topic), they don't. But there is an intermediate level, at which (10a-b) are equivalent whereas (11a-b) aren't. That's the level of thematic roles.

(14)   In the LA, the direct object is totally affected. It also determines the aspectual class of the predicate, while the PP argument has no such effect [15]. Baker takes this test ("incremental theme") to be diagnostic of the true "theme". In the DA, the aspectual class of the predicate depends on the theme – regardless of its position [16]. Baker concludes that the two alternants are thematically identical.

(15)   Common claim: The direct object in the double object construction is "affected"; transfer of possession is implied, but not in the dative construction.

     a.   I taught French to the children.
     b.   I taught the children French.   ⇒ The children learned French

c. I threw the ball to Bill.

d. I threw Bill the ball. $\Rightarrow$ Bill got the ball

e. She sang a song for her dead lover.

f. # She sang her dead lover a song.

Baker agrees that there is some suggestion of affectedness, but insists that it is not an entailment, see [20]. The intuition is too weak to support a syntactic analysis.

Syntactic tests

(16) Under a variety of tests, the arguments of DA and LA divide in the following manner:

a. Pattern I – theme in either alternant of DA, direct object in either alternant of LA.

b. Pattern II – shifted goal/benefactive in double object construction.

The tests diagnoze an underlying (deep) object, namely class (a) but not (b).

(17) <u>Secondary predication</u>: The predicate cannot be predicated of a prepositional object (due to mutual c-command).

In LA, the AP can be predicated of the direct object, whatever its thematic role is [22]. In DA, there is a further restriction – the AP can't be predicated of the goal, even when it is not a PP [23]. In fact, that's the only instance where a secondary predication seems to be sensitive to thematic information (suggesting a misanalysis).

<u>Baker</u>: Reduce predication in NP_{Goal}-NP_{Theme} to NP_{Theme}-PP_{Goal} – since the latter is derived from the former [24] (by P-incorporation).

(18) <u>A-bar movement</u>: The direct object is "frozen" in DOC, not in the LA [25]-[28]. (Possibly, the null P in [25]/[28a] is causing trouble)

(19) <u>*-ing* nominalizations</u>: The DOC can't be nominalized, while either alternant of the LA can [29]-[32]:

a.   John's renting of the house to the men / *John's renting of the men (of) the house.

b.   Mary's spraying of paint onto the wall / Mary's spraying of the wall with paint.

Account: *of*-NP must be a direct argument of the head noun; the goal in DOC is only an indirect argument (owing to the null P), hence it can't be case-marked by N (nor by P).

(20)   Synthetic compounds: Only a bare argument can be incorporated into the head noun (the other argument must be optional).

a.   *relative-depending.

b.   book-reading / *children reading

c.   hay-loading / truck-loading

⇒ There is a null P in DOC blocking compound formation.

(21)   Scope freezing

In DOC, the theme is frozen in scope: Goal>>Theme. The LA shows scope ambiguity in either alternant [36]-[37]. Unfortunately, there is no satisfactory explanation for scope freezing.

(22)   *goal-unaccusatives / √locative-unaccusative

a.   The dropped a rope (down) to John.

b.   The roped dropped (down) to John.

c.   They dropped John (down) the rope.

d.   * John$_{Goal}$ dropped (down) the rope.   [$_{VP}$ Theme [$_{V'}$ V Goal]]

e.   The bees swarmed in the garden.   [$_{VP}$ Theme [$_{V'}$ V Locative]]

f.   The garden swarmed with bees.   [$_{VP}$ Theme [$_{V'}$ V Material]]

Note: *swarm* has no triadic entry, like *drop*; is there a truly minimal pair?

g.   * The hay loaded onto the truck / *The truck loaded with hay.

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Account: Only the higher argument, in [Spec,VP], can raise to [Spec,IP], due to locality. In dative verbs, it must be the theme; in locative verbs, it is either the material or the location, each of which can be projected as a theme.

Note: It's not clear why the goal can move past the theme in (c) but not in (d). Baker (p. 96) appeals to the idea that NP-trace is an anaphor subject to condition A in the CFC framework; in transitives, VP isn't a CFC (lacking the external argument) but in unaccusatives it is (there is no external argument). This analysis is problematic because i) NP-traces and anaphors don't have the same distribution, ii) If external subjects are generated inside VP, all VPs are CFCs.

(23)   Support for UTAH

"Where there are few semantic differences, there are syntactic oddities pointing to a nontrivial derivation (the DA); where there are significant semantic differences, there is no sign of such a derivation (the LA)" (p. 97).

(24)   A crosslinguistic challenge

Some languages ("primary object languages") only have the DOC, not the dative construction [44]-[45]. Could it be that goals in such languages are directly projected in [Spec,VP] and, unlike English, do not raise across the theme?

Baker's answer: No, these goals show all the peculiarities of the English goal in DOC, pointing to a derived structure. The conclusion is that in some languages, dative shift is obligatory (cf. *owe* in English).

(25)   Evidence for dative shift in Mohawk and Sesotho

a.   The "incremental theme" is the theme, not the direct object, which is the goal, since events are individuated by themes [46]-[47].
b.   Themes, but not goals, can be incorporated into V [48].
c.   A-bar movement of the applied goal/benefactive is impossible [51].
d.   The goal can become a subject of passive but not unaccusative [53]-[54].

(26)   Are there languages with no dative shift?

In Japanese, there is an alternation between DAT-ACC-V and ACC-DAT-V [58]. The case markings are invariant, unlike English. Still, there are significant asymmetries. Quantifiers can float off the theme but not the goal, in both variants (due to a null P?); theme-compounds exist, goal-compounds don't; There is scope freezing in the DAT-ACC-V order; there are goal passives but no goal unaccusatives. Baker points out that if indeed Japanese has dative shift, then NP-movement need not be case driven.

What is the Thematic Hierarchy?

(27)   a.   (Proto-)Agent is the highest.
        b.   Theme>>Goal.

(b) was denied by many researchers (Grimshaw 1990, Kiparsky (1987), LFG work), but the evidence for the derived status of the goal in DOC supports it. Baker notes another benefit: Goal and location can be collapsed (since theme is higher than location on everyone's account).

c.   John threw the ball to Bill / to the fence / toward the fence / into the dugout.

A problem: If goal and location are two instances of the same θ-role, why does dative shift apply only to one of them? (*John threw Bill/*the fence the ball*).

Baker: The distinction is semantic, but not *thematic*. Dative shift is licensed by the redundancy of *to* with goals, and perhaps by the need to assign structural case to animate nouns in many languages.

More problems: i) why isn't *to* redundant in the dative construction? (*John threw the ball *(to) Bill*); ii) The structural case-animacy link doesn't seem to be general enough (*Mary pleaded with John/*the stone, Mary met with the boss/*wall*).

More generally, the problem of constraining dative shift to just the right verbs is very serious. A derivational theory must allow syntax to be sensitive to semantic distinctions much subtler than θ-roles; a lexicalist theory can simply make the linking rules sensitive to these distinctions, a more natural solution.

(28)   The thematic hierarchy

         agent/causer >> theme/patient >> path/location

         Agent/causer include "experiencer" of verbs like *fear*; "experiencers" that
         undergo change of state are themes/patients; goal/benefactive falls under
         path/location (and maybe some "experiencers as well); instrumentals are
         "intermediate agent-themes" (left unspecified). The idea is that syntax need
         nothing beyond these coarse distinctions for the purposes of linking.

UTAH or RUTAH?

Does the thematic hierarchy impose an absolute, unique syntax ("Always project theme
in [Spec,VP])", or only a parallel syntactic hierarchy ("Always project theme above
goal")?

Evidence for RUTAH

(29)   *agent >> goal*
         a.   Mary sent a package to John from Maraboo.
         b.   John received a package from Baraboo.

         agent>>instrument
         c.   John loaded the truck with a crane/pitchfork.
         d.   The crane/*pitchfork loaded the truck.

         agent>>experiencer
         e.   Mary deliberately worried John.
         f.   John worried about the exam.

         In all these examples, projection seems to care about relative rankings of thematic
         roles, rather than their specific labels.

         Baker: The subjects in (b,d,f) are all proto-agents, hence all rank topmost on the
         thematic hierarchy; cf. *crane* vs. *pitchfork* in (d). With (b) and (f), some internal
         property of the subject is responsible for the eventuality taking place. (Does
         receiving require intention or decision?).

"this line does not eliminate all relativity from the analysis; rather, it moves the relativity from the statement of UTAH into the cognitive realm of what is perceived to be an agent" (p. 110).

(30)   Psych Verbs (yet again)

    a.   John fears the darkness.
    b.   The darkness frightens John.

Belletti & Rizzi (1988): i) agent >> experiencer >> theme; ii) (b) is derived by NP-movement of the experiencer from a position inside VP above the theme. So in (a), the experiencer is projected as a subject; in (b), as a second, higher object. What's important is that in both cases the theme is projected lower, hence RUTAH.

Baker's reanalysis: The subject of (b) is a proto-agent by virtue of being a causer. Implication: (b) is underived, not an unaccusative structure. The source of the special "psych-effects" is a null P introducing the experiencer, which can be thought of as a (mental) goal or locative; see [66]. The experiencer is very much like an applied object (goal or benefactive), explaining why it is a weak island [67], why object experiencer verbs can't be nominalized, form compounds or have unaccusative counterparts.

Evidence for UTAH

(31)   Intransitives

RUTAH predicts that all monoargumental verbs should project their single argument in the same fashion. For example, if that argument is an agent, it could equally be projected as subject or object, since each position trivially c-commands all other argument positions. Likewise for a theme verb.

It is well-known that unaccusatives and unergatives contrast in this respect. Unaccusativity Hypothesis $\Rightarrow$ UTAH. Hence, support for the UH is support for UTAH.

(32)   Possible escape hatches for RUTAH

      a.   Unergatives are concealed transitives (with a covert/cognate object).

      b.   Unaccusatives are concealed transitives, with a suppressed agent.

      c.   If a hierarchical thematic relation can be established between V and its arguments, and not only between co-arguments, then the syntactic contrast between the two verb classes can be reconciled with RUTAH.

(a) and (b) play around with the syntax of intransitives, (c) complicates the interpretation of UTAH. There is little motivation for any of these options.

(33)   Theme vs. Goal

Is there evidence that theme is in [Spec,VP] even in the absence of a goal?

      a.   Argument sharing in Edo: Only the theme can be shared, not the goal – even when the theme is absent [61b].

      b.   goal-incorporation into V is impossible in Mohawk even in the absence of a theme [48b]. [Can you see a problem with this argument?]

      c.   The conative alternation [70] shows that projection of an argument as a direct object or as a PP has semantic consequences even when no other argument competes for these positions. [Can you see a problem with this argument?].

Against aspectual linking

Is linking to syntax informed by θ-roles or aspectual roles (Measurer, Terminus)?

(34)   Baker points out that on the coarse-grained θ-theory, the two views nearly converge. The COS argument is both the theme and the measurer of the event; the goal is also a terminus, specifying the completion of the event.

But L&R show that aspect and unaccusativity are only loosely connected:

      a.   There are both telic and atelic unaccusatives [72].

      b.   There are both telic and atelic unergatives [73].

Similarly, state/event contrast don't fully predict unaccusativity:

c.   Mary stood in line for an hour.   *unergative*
d.   The statue stood in the park for 50 years.   *unaccusative*

And while all measure phrases are direct objects, not all direct objects measure [74]. The notion of theme, however vague, is better suited to predict the linking in [74b].

Problem: Baker argues that stative transitives, like psych verbs, pose a problem for aspectual linking theories but not so much for thematic ones [75]. He says that "[75b] comments more on John's character and tastes, while [75a] comments on a particular property of the dog" (p. 120). But notice that this is a *consequence* of the fact that *John* is the subject of [75a] and *the dog* of [75b], given that the subject is the unmarked topic; it doesn't explain *why* this fact.

(35)   Linking rules (at last)

a.   An agent is projected in the highest [Spec,VP].
b.   A theme is projected in the lower [Spec,VP].
c.   A goal/path/location is projected in the complement of V.

Notes: θ-roles are (fuzzy) prototypes, and movement (in unaccusatives and DOC) may disguise the underlying structure.

(36)   Final speculations: Baker suggests at the end [78]-[79] that the thematic hierarchy may in fact be reduced to lexical decomposition of predicates:
[x CAUSE [y BECOME [AT STATE z]]]; here, x is the agent, y the theme and z the goal/location. If this conceptual structure is directly mapped to the syntax (with abstract heads), then it follows automatically that x is the subject, y the direct object and z oblique. In other words, the more closely our syntax reflects conceptual structure, the more trivial UTAH becomes, perhaps to the point of redundancy.