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PARAMETER THEORY AND MOTION PREDICATES[1]

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The Compounding Parameter (TCP) of (Snyder 1995, 2001) has been linked to a number of the same points of cross-linguistic variation that Leonard Talmy (1985, 1991, 2000) addresses in his well-known verb-framed / satellite-framed typology. Talmy differentiates between languages in which path-of-motion is normally encoded in the main verb of a clause ("verb-framed" languages), and those in which path-of-motion is more commonly expressed outside the verb ("satellite-framed" languages).

Both the English type of verb-particle construction (where the particle can be separated from the verb by a phrasal constituent, as in *Mary pulled the lid off*) and the English adjectival resultative construction (*John wiped the table clean*) have been argued to depend on the positive setting of TCP (e.g. Snyder 2001, Sugisaki & Isobe 2000); and both are typical of Talmy's satellite-framed languages (e.g. Talmy 1985:68,104). Likewise, researchers have argued that a spatial PP (such as *under the bridge*) can convert a pure manner-of-motion activity predicate (Sue *swam for/*in 15 minutes*) into an accomplishment (*Sue swam under the bridge in 15 minutes*) only in [+ TCP] languages (Beck & Snyder 2001, Gehrke 2008), and only in satellite-framed languages (cf. Aske 1989:6-7).

This chapter examines the precise role of TCP in the linguistic expression of motion events. One of my central claims will be that TCP should be understood as the availability, or unavailability, of a specific rule of semantic composition, which I term

Generalized Modification (GM). In languages where this operation is available, if two bare morphological roots (e.g. *cat, book*) are merged in the syntax, the combination (i.e. *cat book*) can be interpreted semantically as an endocentric compound (e.g. 'book about cats'). I will argue that GM can also be used to construct an accomplishment event, using (for example) an activity verb of motion and a predicate of location or path, provided the other parametric choices of the language permit it. In this way [+ TCP] languages will commonly (though not universally) allow many of the surface patterns that are characteristic of Talmy's satellite-framed languages.[2]

Note that my goal will not be to argue that Talmy's typology is correct or incorrect. Typology and parameter theory have somewhat different domains of inquiry, and very different criteria for success. As Talmy (2001b: 21) writes, "We do not look at every case of semantic-to-surface association, but only at ones that constitute a pervasive pattern, either within a language or across languages." In other words, a typology of the kind Talmy is proposing seeks to characterize each language in broad strokes: the types of overt linguistic forms that are most commonly employed, by speakers of the given language, to express a given type of meaning.

In contrast, the goal of a parametric analysis (and of generative grammar more broadly) is to characterize, as precisely as possible, the grammar of an individual speaker of a language: the particular meaning-sentence pairs that are, and are not, grammatically permissible. For example, from Talmy's typological perspective, both Spanish and Japanese are verb-framed, because in both languages, path-of-motion is overwhelmingly encoded in verbs, not expressed outside the verb. Yet, from a parametric perspective, the

underlying explanation for verb-framing in the two languages may be different – as in fact it is, in the particular parametric account that I am proposing here.

Specifically, we will see evidence that Spanish is [- TCP], while Japanese is [+ TCP], like English. The fact that Japanese nonetheless resembles Spanish more than it does English, in the ways it typically expresses motion events, will follow from the fact that Japanese differs from English on two other points of cross-linguistic variation. First, in the terms of (Gehrke 2008), it lacks "incremental P." Second, it disallows small-clause complements to V. The surface consequences of these differences will include the fact that Japanese allows "weak" but not "strong" resultatives (as argued in Washio 1997), the fact that Japanese lacks any separable-particle construction, and the fact that Japanese does not permit one to create an accomplishment-denoting VP simply by combining a path or location PP with a manner-of-motion verb.

Thus, my second key point in this chapter will be that the precise surface consequences of a parameter-setting like [+/- TCP] can vary considerably, depending on the settings of other parameters. As a result, the forms of data collection that are useful in language typology are often insufficient for testing a parametric hypothesis. A surface-level diagnostic for a typological characteristic can often be satisfied by languages that are really quite different in their underlying grammars.

The plan for the chapter is as follows. Section 1 presents the current version of TCP, reviews the supporting evidence, and along the way responds to a few common points of confusion. Drawing on an event-based semantics, including proposals of (Gehrke 2008), Section 2 argues that the positive setting of TCP can make available certain types of motion predicates that are more difficult (though not necessarily

impossible) to construct in [- TCP] languages. Supporting evidence comes from both child language acquisition and a survey of cross-linguistic data. Section 3 examines the situation in Japanese, and Section 4 draws together the principal conclusions.

1. The Compounding Parameter

The two main proposals in (Snyder 2001) are that languages differ parametrically in whether they allow endocentric, bare-root compounding as a fully "creative" process; and that the positive setting of the parameter responsible for this type of compounding is also one of the grammatical prerequisites for both the English adjectival-resultative construction, and the English separable-particle construction. Empirical support for these proposals comes from child language acquisition, and also from comparative morphosyntax.

1.1 Terminology

Before proceeding, allow me to define my terms carefully, because a fair amount of confusion has arisen in the literature. First, what do I mean by "a fully creative process"? This terminology is based on the observation that certain languages, like English and German, permit the native speaker to freely, automatically create new endocentric, bare-root compounds to fit the occasion, whenever the need arises (e.g. *faculty lab space committee,* for a committee that allocates space to be used by faculty members for their laboratories). In these languages other native speakers automatically interpret novel

compounds in a way that fits the discourse context. To put it another way: In these languages, endocentric bare-root compounding exhibits the "creative aspect" of human language, much as the phrasal syntax does when novel sentences are created.

In other languages, like Italian and French, native speakers do not create novel endocentric bare-root compounds automatically, to fit the occasion, at least not if they expect to be understood by others. Of course, such compounds do exist in French and Italian. A familiar example is Italian *capo-stazione* (lit. 'master-station'), for the manager of a railroad station.

Yet, the bare-root endocentric compounds found in Italian or French are lexicalized. At some point someone coined a new word (*capo-stazione*) that other speakers gradually learned. We know this because the form and meaning are fixed. For example, in English we can create not only *station master* but *master station*, if the situation calls for it (e.g. a station that controls the railroad switches for the other stations nearby); and even the meaning of *station master* can change if the situation calls for it (e.g., to identify one of several artists who is a master at painting murals in railroad stations). As I understand it, neither of these options is even remotely possible in Italian.[3]

Thus, it appears to be simple confusion about terminology that leads Guevara & Scalise (2009:123) to write the following:

> Without going into the details of this proposal, we only make one observation: Snyder's parameter implies a strictly binary interpretation of the notion "productivity". We believe that this is incorrect for it is clear that for instance the Romance languages show at least some N+N compounding (especially coordinate

and attributive compounds, as well as some subordinate compounds), while they have other very productive compound types (such as V+N A+A, etc.). The relative productivity of compounding as a morphological process is inescapably gradual.

In their use of the term *productivity*, Guevara and Scalise make no distinction between truly novel compounds (i.e. "creative" compounding), and lexicalized compounds. If they did, they would find that Italian's bare-root endocentric compounds are lexical, not the result of a creative process in the sense explained above. Similarly, I believe they would find that V+N compounding is indeed a creative process in Italian, but only when the result is exocentric (e.g. *rompighiaccio* lit. 'break-ice' for ‘icebreaker’, Guevara & Scalise, p.113). Thus, I beg to differ with Guevara and Scalise's stated conclusion. The availability of bare-root endocentric compounding as a creative process is binary, not gradual.[4]

Similar issues of terminology arise when I refer to "the adjectival-resultative construction" and "the separable-particle construction" of English. The intended constructions are exemplified in (1a,b).

(1) a. Mary wiped the table clean.

b. John pushed the ball out.

In both cases the verb (*wiped*, *pushed*) is the primary predicate, while the result phrase (*clean*) or particle (*out*) is a kind of secondary predicate.

In (Snyder 2001) I referred to the construction in (1a) simply as the "transitive resultative." This choice of terminology may have contributed to Mateu's (2008:245, n.26) mistaken conclusion that Russian, a language that lacks creative root compounding, nonetheless permits "resultatives" of a sort that might falsify the claims of (Snyder 2001). The examples that Mateu provides (drawn from Spencer & Zaretskaya 1998) do, in some ways, resemble English adjectival resultatives or particle constructions:

(2) a. Rebënok do-kričal-sja do xripoty (Mateu 2008:237, n.19, ex. i.e)
baby do-cried-sja(itself) to hoarseness
'The baby cried itself hoarse.'

b. Ona is-pisala svoju ručku (Mateu 2008:236, 20a)
she iz(out)-write her pen.ACC
'Her pen has run out of ink' (lit. She has written her pen out (of ink))

c. On pro-pil vsju svoju zarplatu (Mateu 2008:237, n. 19, i.d)
he pro-drank all his wages
'He's drunk his way through all his wages.'

In example (2a), the PP *do xripoty* 'to hoarseness' is reminiscent of the result AP *hoarse* in the English phrase *cry oneself hoarse*. Examples (2b) and (2c), where there is no actual result phrase present, are closer to an English separable-particle construction, like (1b). In

other words, the prepositional prefixes (*iz-* 'out', *pro-* 'through') are reminiscent of English particles.

Yet, the availability in Russian of examples like (2a-c) is completely orthogonal to TCP, because GM plays no role in their semantic interpretation. As we will see below, GM is required when a secondary predicate needs to be integrated into the meaning of the verb phrase, but it plays no role in the process by which the primary predicate combines with its lexically specified arguments.

Specifically, the examples in (2a-c) all involve a "prepositional prefix" (*do-* 'to', *iz-* 'out', *pro* 'through') that is attached to the verb. As Mateu himself argues (pp.236-7), these prefixes actually function as the primary predicate, and take the main verb as an argument. Thus, (2a) has a literal meaning closer to 'the baby moved herself to hoarseness by crying', while (2b) is something like 'she exhausted her pen by writing', and (2c) is akin to 'he went through all his wages by drinking'. In other words, Russian has a system of preposition-like elements that select for (and attach to) a verb; and these elements can be lexically specified as taking phrases like the PP in (2a), or the direct objects in (2b-c), as arguments.[5]

As discussed in (Snyder 2001), however, Russian systematically disallows resultative secondary predicates. The Russian sentence in (3a) is possible only if a preposition is added, converting the result phrase into a manner phrase.

(3) a. Ivan pokrasil dom *(v) krasnyj tsvet. (Snyder 2001:338, A2.g)
John paint-PST house in red color
'John painted the house *(in) the color red.'

b. Juana se volvió loca.
Jane 3SgRefl turn-3SgPret crazy-FSg
'Jane went crazy.'

c. Juana batió la mezcla (*suave).
Jane beat-3SgPret the-FSg mixture-FSg (smooth)
'Jane beat the mixture (smooth).' [* on result reading]

Thus, Russian is similar to other [- TCP] languages like Spanish, where "resultatives" can be constructed using verbs that take a result AP as one of their arguments (e.g. *volverse* 'turn', *dejar* 'leave'), as in (3b), but where adjectival resultatives are otherwise impossible, as illustrated in (3c).[6,7,8]

In this respect my parametric account diverges from Talmy's typological system. Talmy has consistently placed the Russian prepositional prefixes in the same category ("satellites") as English particles. From the parametric perspective that I am advocating here, if our typology treats the Russian system of prepositional prefixes as a type of satellite framing, then it is a type that can be achieved even in languages with a parameter-setting ([- TCP]) that is much more typical of verb-framed languages.[9]

1.2 Formalization of TCP

The next question is how exactly this binary point of cross-linguistic variation – that is, whether the language permits bare-root endocentric compounding as a creative process – should be characterized formally. Over the years I have explored a number of different possibilities. The one that now seems most satisfactory is the following:

(4) The Compounding Parameter (TCP)

The language (does / does not) permit Generalized Modification.

Generalized Modification refers to a special type of semantic composition, operating at the syntax-semantics interface:

(5) Generalized Modification (GM)

If α and β are syntactic sisters under the node γ, where α is the head of γ, and if α denotes a kind, then interpret γ semantically as a subtype of α's kind that stands in a pragmatically suitable relation to the denotation of β.

In (5) the term *kind* is used in the special sense of (Chierchia 1998:348):

> [K]inds are generally seen as regularities that occur in nature. They are similar to individuals like you and me, but their spatiotemporal manifestations are typically 'discontinuous'. To any natural property, like the property of being a dog, there corresponds a kind, viz. the dog-kind.

To see how GM works, consider the situation in English if we merge the roots *frog* and *chair* to create a syntactic constituent [*frog chair*]. Both *frog* and *chair* denote kinds of individuals, namely the "frog" kind and the "chair" kind. (Note that the term *individual* is used here in the technical, semantic sense, which includes non-human entities). Because *chair* is the head of the constituent, application of GM yields the following interpretation: ‘a subtype of the "chair" kind that stands in a pragmatically suitable relation to the "frog" kind’. When a determiner is added, as in *the frog chair*, we get an instance of the particular individual-kind – that is, a chair of the type associated, in some contextually salient way, with frogs.

The formulation in (5) is loosely based on Kratzer's (2010: 16-17) semantic analysis of English nominal compounding, which in turn draws on work of Jackendoff (2002:249-250). The principal differences from Kratzer's and Jackendoff's proposals are (i) that I take the availability of GM as a point of parametric variation (TCP), and (ii) that I take the availability of GM to have consequences beyond nominal compounding (a point on which Kratzer and Jackendoff are, to my knowledge, silent). Notice also that (5) is formulated in such a way that it makes no reference to word order. In English, the morphological head of a word-level category is on the right, and the head of a phrasal category is on the left, but GM abstracts away from these details.

The portion of the semantics that I express as "stands in a pragmatically suitable relation to" is deliberately vague, because in practice the relationship between the two elements in an English nominal compound is tremendously flexible. For example, the English compound *frog chair* might mean a chair used by frogs, resembling a frog, or

bearing an image of a frog, among many other possibilities. As long as the listener knows the relevant background information, use of the term *frog chair* is entirely natural.

Finally, note that a language with the positive setting of TCP will normally permit bare-root endocentric compounding as a creative process, yet it is always possible that some [+ TCP] language will turn up that disallows it. For example, purely hypothetically, we might discover a [+ TCP] language in which another parameter-setting imposes a requirement on inflectional morphology that cannot be satisfied within an endocentric compound. I do not know whether this situation will arise, but I wish to be clear that the variation captured by TCP is abstract, and is not directly tied to any single surface form.

1.3 Support for TCP

The next question is what GM can be used for, outside of compounding, in languages that have it available. In (Snyder 2001) I provided acquisitional evidence that [+ TCP] is a critical "prerequisite" for the English type of verb-particle construction (e.g. *Mary pulled the lid off*). I also provided some cross-linguistic comparative evidence for the claim that [+ TCP] is a critical prerequisite for the English adjectival resultative construction (e.g. *John wiped the table clean*).[10]

Specifically, in a study of the longitudinal corpora of spontaneous-speech samples from ten children acquiring American English, I showed that the point at which a given child begins producing V+DP+Particle constructions (e.g. *throw the picture away*) is almost exactly the point when the child suddenly starts producing novel endocentric compounds (e.g. *zoo book*, for 'book about the zoo'). Statistically speaking, the

correlation is incredibly strong (r=.98, t(8)=12.9, p<.001), and remains strong even when the variability that can be explained by control measures (such as the age at which a given child first used a compound like *apple juice*, which is lexicalized) has been subtracted out by means of a partial-correlation procedure. Moreover, the finding has held up well in a larger version of the study (Snyder 2007, ch.5), based on a total of 19 children who were acquiring either American or British English (r=.94, t(17)=11.1, p<.001).

Evidence that the English adjectival-resultative construction has [+ TCP] as one of its grammatical prerequisites came from informant work with speakers of 18 different languages, drawn from a wide variety of language groups: Afroasiatic (Egyptian Arabic, Hebrew), Austroasiatic (Khmer), Austronesian (Javanese), Finno-Ugric (Hungarian), Indo-European (*Germanic:* English, German; *Romance:* French, Spanish; *Slavic:* Russian, Serbo-Croatian), Niger-Kordofanian (*Bantu:* Lingala), and Sino-Tibetan (Mandarin Chinese), plus Japanese, Korean, American Sign Language, and Basque. Novel bare-root endocentric compounds (e.g. *banana box*, for 'box where bananas are stored') were accepted only by speakers of ASL, Basque, English, German, Hungarian Japanese, Khmer, Korean, Mandarin, and Thai. Resultatives (e.g. *John wiped the table clean*) were accepted only by speakers of ASL, English, German, Hungarian, Japanese, Khmer, Korean, Mandarin, and Thai. The only discrepancy between the set of AP-resultative languages, on the one hand, and the set of compounding languages, was that Basque informants permitted an equivalent of *book box* for 'box where books are stored', but rejected direct translations of English adjectival resultatives, like *She is painting her fingernails red*.

Interestingly, it recently came to my attention that Basque was probably misclassified. On closer examination, the apparent counterparts in Basque to English bare-root, endocentric compounds almost certainly require a different type of analysis. De Rijk (2008: 853-859) shows in considerable detail that the first element in a Basque nominal compound is not simply a bare form of the noun. Instead, each noun has a specific form that is used when it serves as the modifier of another noun. In some cases this "modificational" form is the same as the bare form, but that is only one among a number of options, and indeed the actual modificational form appears to be specified lexically, because it is not entirely predictable. Therefore, Basque should not be regarded as allowing bare-root endocentric compounding of the English type, and there is no longer any reason to classify it as a [+ TCP] language.

This experience illustrates the care one should take in evaluating macroparametric proposals through cross-linguistic informant work: Surface diagnostics only go so far. In the case of TCP, the effect of the positive setting is to make available a special mode of semantic composition. This is a highly abstract point of grammatical variation. What it means for the surface characteristics of a given language can vary considerably, depending on the other parametric choices that the language has made (both in the syntax, and elsewhere in the grammar). One has to be alert to the possibility that a surface construction tied to [+ TCP] in English will be blocked by independent properties of the language, and also to the possibility that a surface form resembling an English construction will have a different grammatical basis entirely.

In this connection, Son (2007) has examined predictions of TCP through cross-linguistic field work, but her report of the findings is a bit confusing. For example on p.160 she writes:

> The macroparameter approach is [...] compromised by the fact that the typology of adjectival resultatives is not just a two-way split, one with adjectival resultatives and one without them. [...] a finer grained taxonomy of resultative types suggests that macroparametric approaches, which posit only a small set of parametric settings for linguistic variation, cannot account for the full range of variation we encounter [...].

Here and throughout her article, Son interprets TCP as if it were a list of specific surface constructions (such as *hammer the metal flat*) that are all required to be present ([+ TCP]), or absent ([- TCP]), in a given language. In other words she seems to view TCP as a typological, rather than parametric, hypothesis.

In spite of this, Son finds strong support for a link between adjectival resultatives and creative compounding, as predicted by TCP. She writes (pp.158-159) that "so far we have not found languages that have only adjectival resultatives without productive N-N compounding [...]." (In other words, every language with adjectival resultatives has also exhibited creative N-N compounding.) What this suggests to me is that GM may be one of a very few devices that a language can use to construct AP resultatives; and that relatively few (if any) parametric options can block a [+ TCP] language from creating compounds. This is convenient if true, but certainly not a logical necessity.

2. Motion predicates and resultatives in [+ TCP] languages

2.1 Deriving AP resultatives

The next question is how GM gives rise to AP resultatives. My proposal is that GM can apply not only to individual-kind predicates (like *frog* and *chair*), but also to "eventuality-kind" predicates, like *wipe* and *clean*. Here, following Bach (1986), I am using *eventuality* as a cover term for activities, accomplishments, achievements, and states; and once again, by *kind* I mean a semantic kind, roughly in the sense of (Chierchia 1998). I assume that the verb *wipe* denotes (in effect) a kind of activity; while an adjective like *clean* denotes a kind of state. This is an extension of Chierchia's specific proposals, but one that he might have been anticipating when he wrote, for example, that just as the property denoted by a common noun is correlated with an individual kind, "the individual correlates of properties associated with verbs, might be, say, action types" (Chierchia 1998:349).

Accordingly, if the V and AP are syntactic sisters, as in (7), then I propose that GM can apply to the node that dominates them and yield the meaning in (8a).

(7) [*wipe* [$_{AP}$ *clean*]]

(8) a. a subtype of the "wiping" kind of event, that stands in a pragmatically suitable relation to the "clean" kind of state

b. a kind of accomplishment event, with "wiping" as its development and "clean" as its culmination

Here I assume that unlike individual kinds, which exhibit enormous variation, eventuality kinds are heavily constrained by the human conceptual system. In the case of (8a), the only permissible relation between these two eventuality kinds may be the one in (8b), where they are taken as the two constituents (development, culmination) of an accomplishment event.[11,12]

Note that in (7) I take *wipe* to form a syntactic constituent with a full AP, not a bare adjective. This has the desirable effect of accommodating adjectival resultatives like [*paint (the house)* [AP *blue with purple polka dots*]], which are readily available in English. While the two nouns in an English nominal compound can have the phonological characteristics of a complex word, an English AP-resultative generally cannot. Thus, contrary to a proposal in (Snyder 2001), I assume here that English does not actually require the verb and the result predicate to constitute a single word at any point in the derivation. According to the present approach, the basic connection between compounding and resultatives is semantic, not morphological.[13]

2.2 Path phrases in [+ TCP] languages

Availability of GM in the [+ TCP] languages can greatly expand the options for constructing a motion predicate. In English, for example, one dramatic effect is that the combination of an activity verb with a directional particle, or with a locative PP, can be

interpreted as an accomplishment predicate. For example, just as the resultative AP in (9b) converts an activity to an accomplishment, so does the particle in (10b) and the locative PP in (11b).[14]

(9) a. John wiped the table (*in an hour).

b. John wiped the table clean (in an hour).

(10) a. The bottle floated (*in an hour).

b. The bottle floated away (in an hour).

(11) a. The bottle floated (*in an hour).

b. The bottle floated under the bridge (in an hour).

Interpretation of the VP's in (10b) and (11b) proceeds very much as it would for an AP resultative like (9b):

(12) a. [*float* [$_{PP}$ *away*]]

b. a subtype of the "floating" event-kind that stands in a pragmatically suitable relation to the "away" state-kind

c. an accomplishment event-kind with "floating" as its development and "away" (= 'not here') as its culmination

(13) a. [*float* [$_{PP}$ *under the bridge*]]

b. a subtype of the "floating" event-kind that stands in a pragmatically suitable relation to the state named by "under the bridge"

c. an accomplishment event-kind with "floating" as its development and "under the bridge" as its culmination

Exactly as it did for the adjectival resultative in (8b), the broader conceptual system (outside the language faculty proper) interprets (12b) and (13b) as (12c) and (13c), respectively.

Notice that in (12b) I take the English particle *away* to denote a state-kind, which may seem counterintuitive at first glance. The explanation is that I am following Aske (1988:6), who takes this type of particle to express an "un-location" – in the case of (12c), something akin to 'not here'. Aske's approach makes it possible to treat most (or perhaps all) of the English spatial particles as denoting either a telic path or a location.

2.3 Gehrke's (2008) framework

Building on Rothstein (2004), Gehrke (2008) provides a fine-grained semantic framework for the natural-language semantics of motion events. In Section 3 her framework will play an important role, so allow me to introduce a few of the essential points.

Following Rothstein, Gehrke (2008:50) assumes the following "template" for accomplishment events:

(14) *Revised accomplishment template (Rothstein, 2004, 108)*

$\lambda y\, \lambda e.\ \exists e_1,e_2\, [e =^{s} (e_1 \sqcup e_2)$

$\wedge\ \text{ACTIVITY}_{<x>}(e_1) \wedge \text{Ag}(e_1)=x \wedge \text{Th}(e_1)=y$

$\wedge\ \text{BECOME}_{<y>}(e_2) \wedge \text{Arg}(e_2)=\text{Th}(e_1)$

$\wedge\ \text{INCR}(e_1,e_2,C(e_2))]$

Setting aside many details, (14) is a function that takes an individual (y) and an eventuality (e) as its arguments. The function returns a value of 'true' if, and only if, e is an accomplishment event. For the function to yield 'true', e must be the sum of two smaller eventualities (e_1 and e_2), where e_1 is an activity and y is its Theme; e_2 must be a "becoming"-type event, in which y is again a participant; and e_1 must be incrementally linked to e_2 .

The notion of 'incremental linking' is a bit complicated, but here is the gist of it. 'Incrementality' refers to gradual change in the Theme. In an accomplishment event, the gradual change is directed towards a specific end-state. Each incremental step towards that state can be mapped onto a specific portion of the activity.

To see how this works, let's return to the example in (13). The relevant portion is provided in (15a-b), with a few modifications:

(15) a. [$_{VP}$ *float* [$_{SC}$ <[$_{DP}$ the bottle]> [$_{PP}$ *under the bridge*]]]

b. a subtype of the "floating" event-kind, that stands in a pragmatically suitable relation to the state named by *the bottle under the bridge*

c. an accomplishment event-kind comprising two subparts, e_1 and e_2, where e_1 is an activity of (the bottle) floating, e_2 is a "becoming"-type event involving the bottle, and at the upper bound of e_2, the bottle is under the bridge.

In (15a), the sentential subject (*the bottle*) originates as the subject of a small-clause complement to the verb, where it leaves behind a copy. In (15b), GM applies and treats the entire small clause (*the bottle under the bridge*) as modifying its head (i.e. the syntactic head of the VP, the verb *float*). The resulting interpretation in (15c) is given in terms of the Rothstein-Gehrke framework. Crucially, the small clause provides a full specification of what becomes true at the upper bound of e_2 (or in Parson's terms, at the "culmination" of the accomplishment event): The bottle is under the bridge.

The situation in (15) should be contrasted with the one in (16).

(16) a. [$_{V'}$ <*carry*> [$_{PP}$ *over the bridge*]]]

b. a subtype of the "carrying" event-kind that stands in a pragmatically suitable relation to the path named by *over the bridge*

c. an accomplishment event-kind comprising two subparts, e_1 and e_2, where e_1 is an activity of *carrying*, and e_2 is a "becoming" event whose incremental structure is provided by the path named by *over the bridge*.

In (16a) the main verb *carry* has undergone head-movement to a position preceding the direct object, and has left behind a copy.

In contrast to (15b), (16b) has GM treating the PP (not a small clause) as the modifier. Note that in (16b) I adopt Gehrke's (2008) treatment of directional PP's as path-denoting, where a path is defined as an atemporal sequence of points in space. The interpretation in (16c) is based on Gehrke's idea that the incremental structure needed to construct an accomplishment event can have a number of different sources, one of which is a telic path PP. (Paths of the kind named by *over the bridge* are telic, because reaching the far side of the bridge provides a natural end-point.)

Gehrke (2008: ch.6) adopts the central proposal of (Snyder 2005): In order to build accomplishments in the syntax, using simple-event predicates, a language needs GM.[15] In terms of Rothstein's template for accomplishments, (14), this means that GM is needed whenever e_2 (the 'BECOME' subevent) comes from outside the main verb. The two chief ways this can happen are the ones we have just seen in (15) and (16). In (15) neither the main verb nor the small clause provides incrementality: The verb denotes an activity-kind, and the small clause denotes a state (or perhaps a state-kind). BECOME is introduced when (15b) is re-interpreted (by the conceptual system) in terms of the accomplishment template.

In (16), however, the modifier is a path PP, and therefore has incrementality in its own right. In this case the output of GM, (16b), is interpreted not as an activity and an end-state, but rather as an activity and a BECOME event. The upper bound of the BECOME event is the point where the Theme reaches the end of the path.

In adjectival resultatives, I would like to propose that there is a distinction similar to the one we have just seen for the motion predicates in (15) and (16). Some adjectival resultatives are directly parallel to (15), and contain a small clause that fully specifies the

event's culmination. Others contain only an AP, which is reminiscent of the path PP in (16). A difference, however, is that an AP cannot provide incrementality by itself. Instead, the lexical semantics of the main verb plays a crucial role.

Consider once again (7) and (8), repeated as (17) and (18).

(17) [*wipe* [$_{AP}$ *clean*]]

(18) a. a subtype of the "wiping" kind of event, that stands in a pragmatically suitable relation to the "clean" kind of state

b. a kind of accomplishment event, with "wiping" as its development and "clean" as its culmination

In (17) the verb's complement is an AP, not a small clause. If we restate (18b) in terms of the Rothstein-Gehrke framework, we get something along the lines of (19).

(19) an accomplishment event-kind comprising two subparts, e_1 and e_2, where e_1 is an activity of the kind named by *wiping*, e_2 is a "becoming"-type event involving Th(e_1), and at the upper bound of e_2, Th(e_1) has the property denoted by *clean*.

Notice that strictly speaking, *clean* denotes not a state or state-kind (as in 18a), but simply a property of individuals. This is reflected in (19), where the Theme argument of e_1 is required to have this property at the culmination of the event.

I propose that getting from (17) to (19) requires reference to the lexical semantics of the verb. Specifically, I propose that the conceptual system does not automatically leap from an activity verb modified by a property (i.e., the output of GM), roughly 'a subtype of the "wiping" kind of event that is somehow associated with something being clean', all the way to the interpretation expressed in (19), roughly 'an accomplishment event in which a wiping activity causes the surface being wiped to become clean.'

Rather, in the case of (17), this type of interpretation is achieved because the lexical semantics of *wipe* includes (in some form) the information that the object being wiped is expected to become clean. In other words, the lexical semantics of *wipe* is responsible for the inference that the Theme of *wipe* is what should be understood as having the property *clean* at the event's culmination. I will elaborate on this idea in the following section.

3. Resultatives and Motion Predicates in Japanese

In this section I consider the surface consequences of the [+ TCP] and [- TCP] settings, as a function of other parametric choices in a given language. As a case-study I will examine Japanese. Italian will also be discussed briefly at the end of the section.

Japanese clearly allows bare-root endocentric compounding as a creative process. For example, in reference to a hypothetical box where one stores bananas, native speakers readily accept the novel compound *banana+bako* (where the phonological process of rendaku has converted *hako* 'box' to *bako*; Snyder 2001:338).[16] Moreover, adjectival resultatives are relatively easy to elicit:

(20) John-ga teeburu-o kiree-ni hui-ta. (Snyder 2001:337)
John-NOM table-ACC clean wipe-PST
'John wiped the table clean.'

Adjectives in Japanese are normally marked for tense, but result predicates, like *kiree-ni* in (20), always appear in a tenseless form (ending in *–ni* or *–ku*).

In allowing creative compounding and adjectival resultatives, Japanese clearly patterns with the [+ TCP] languages. Yet, in a number of respects Japanese looks different. First, as described in detail by Washio (1997), Japanese speakers either resist (21a) or consistently reject (21b) certain types of adjectival resultatives found in English.

(21) a. ?? John-ga kinzoku-o petyanko-ni tatai-ta. (Washio 1997:5, ex.16b)
J.-nom metal-ACC flat pound-PAST
'John pounded the metal flat.'

b. * karera-wa sono otoko-o timamire-ni nagut-ta. (Washio 1997:6, ex.18d)
they-TOP the man-ACC bloody hit-PAST
'They beat the man bloody.'

c. * boku-wa zibun-o kutakuta-ni odot-ta. (Washio 1997:20, ex.67c)
I-TOP self-ACC tired dance-PAST
'I danced myself tired.'

After polling 100 native speakers of Japanese on (21a), which corresponds to the fully acceptable English resultative *John pounded the metal flat*, Washio reports that 9% found it fully acceptable, and 42% found it marginally acceptable, but 49% rejected it altogether. The examples in (21b,c) correspond to resultatives that are somewhat degraded for many English-speakers (myself included), though others reportedly find them fully acceptable. In contrast, Washio reports that these examples are completely unacceptable in Japanese.

Washio refers to examples like (20) as "weak" resultatives, and to those in (21) as "strong"; Japanese allows only weak resultatives, while English allows both types. He argues (pp.40-41) that the relevant difference is as follows: In a weak resultative, the verb always specifies that the direct object is affected by the action, and that IF the direct object undergoes a change of state, it will be in a particular direction. In a strong resultative, either the verb's meaning does not even entail that the direct object is affected by the action, or it does not entail the specific direction of the (possible) change of state.[17]

A second, fairly dramatic way that Japanese diverges from English concerns the P system. Japanese has an extremely limited inventory of postpositions. In many cases spatial nouns are used to compensate for this. An example is provided in (22).

(22) neko-wa teeburu-no sita -ni it-ta.
cat-TOP table-GEN space-underneath-DAT go-PAST
'The cat went under the table.'

Here the verb *iku* 'go' selects for an optional Goal argument, which can be marked with either of the Japanese dative markers, *–ni* or *–e*. The noun *sita* means 'space underneath'. In this way Japanese successfully expresses the idea that the cat moved to a location under the table, despite the lack of a postposition meaning 'under'.

As a third difference, where English has an extensive system of separable, prepositional particles, Japanese postpositions never function this way. English verb-particle combinations are typically translated as "compound verbs" like (23), where one of the verbs (here *agaru* ‘ascend’) expresses motion along a specified path.

(23) *kake-agaru*
'run+ascend
'run up'

In contrast to an English separable-particle construction, however, the verbs in such a compound can never be separated by another constituent.

Finally, pure manner-of-motion verbs (without a directional component in their lexical semantics) cannot combine with any sort of phrase expressing a path or a destination.

(24) * Taro-ga hasi-no sita-ni oyoi-da.
Taro-NOM bridge-GEN space-underneath-in swim-PAST
'Taro swam under the bridge.' [* on a ‘result’ reading, with locative PP]

Why is Japanese, a [+ TCP] language, forced to rely on directional verbs like *iku* to express a path of motion? And why are adjectival resultatives so much more restricted in Japanese than in English? I propose that these differences, and the others noted above, follow from the settings of just two critical parameters.

First, Japanese is [- Incremental P]. In other words, I propose that certain languages, as a parametric property, simply prohibit adpositions that are "incremental" (in the sense of Gehrke 2008). Thus, Japanese has no P's expressing a path through space. The closest counterparts to an English path P are *-e* and *–ni*, which often serve to translate English *to*. Yet, when used in the sense of 'to' these are dative case-markers, not adpositions, and have to be assigned by the verb.[18]

The lack of path P's in Japanese accounts for the lack of motion predicates like the English example in (16), *carry (something) over the bridge*, where the PP crucially denotes a path. Yet it does not account for the lack of motion predicates like (15), *float* [<*the bottle*> *under the bridge*] (on a result reading), where the PP simply denotes a location. Japanese does not have many locative P's, but *-ni* sometimes functions as one, with the meaning of 'in' or 'on', and more complex locative phrases can be constructed using spatial nouns, as shown above. Why then is the [+ TCP] setting insufficient to give Japanese the kind of motion predicate illustrated in (15), composed of a manner verb and a locative PP?

I propose that the explanation concerns a third parameter: Japanese is [- Small Clause]. In other words, Japanese is a language that systematically disallows small-clause complements to V. This proposal is supported by data like (26).

(26) * John-ga Mary-o aruku mita.
John-Nom Mary-Acc walk see-PST
'John saw Mary walk.'

In other words, even aside from data concerning motion predicates or resultatives, Japanese can easily be seen to lack the sorts of small-clause complements that are routinely encountered in English.

These two parameter-settings, [- Incremental P] and [- SC], effectively block Japanese from exploiting many of the surface constructions that the [+ TCP] setting makes possible in English.[19] First, in the domain of adjectival resultatives, the lack of small-clause complements means that Japanese cannot construct a VP containing an activity V and a fully specified culmination state, in the way that English can (cf. [*pounded* [$_{SC}$ *the metal flat*]], where the state denoted by the SC is readily interpreted as the state that becomes true at the culmination of the event). Instead, Japanese can only combine an activity V like *tatai-ta* 'pounded' with a simple property, like *petyanko-ni* 'flat'. When GM applies, the result is roughly a 'metal-pounding event of the kind associated with something being flat'. For speakers whose lexical entry for *tataku* 'pound' includes "flatness" as the expected direction of any resulting change of state in the Theme, it will be possible to interpret this as an accomplishment event in which the thing becoming flat, at the event's culmination, is the metal. For other speakers, however, the output of GM is quite likely to be unintelligible. Thus, the lack of strong resultatives in Japanese follows from the [- SC] setting.[20]

Clearly, [-Incremental P] will suffice to block true path PP's in Japanese. Moreover, [- SC] will block path-of-motion predicates constructed from an activity V combined with a locative PP, as in (15), *float* [$_{SC}$ <*the bottle*> [$_{PP}$ *under the bridge*]]. The combination of [-Incremental P] with [- SC] should also block most types of separable-particle construction involving adpositional particles, insofar as [- Incremental P] excludes path particles, and [- SC] excludes any result particle whose meaning is independent of the verb's – in other words, the particle version of a strong resultative.[21]

In sum, the combination of three abstract parameter-settings, [+ TCP], [- SC], and [- Incremental P], does a good job of accounting for the characteristics of Japanese. The [+ TCP] setting accounts for both creative endocentric compounding and the possibility of weak resultatives, while [- SC] accounts for the lack of strong resultatives. The lack of path meanings derived from locative PP's follows from [- SC], and the lack of path meanings involving true path PP's follows from [- Incremental P].[22]

Before concluding, let me say a word about the parallel situation in [- TCP] languages. Just as [+ TCP] gives rise to different surface characteristics in Japanese than it does in English, the surface properties of a [- TCP] language will depend on the other parameter settings in the language, together with the lexical resources that it has available. Moreover, the grammatical and lexical resources may be sufficient to give the language some apparent counterparts to surface constructions that in English depend on the [+ TCP] setting.

As discussed in some detail by Gehrke (2008, especially ch.6), Italian is an example of a [- TCP] language that nonetheless exhibits (highly restricted) possibilities

for resultatives, prepositional particles, and path PPs with manner V's. On closer examination, however, there emerge some important differences from the constructions that we commonly find in [+ TCP] languages.

For example, the resultative constructions that are possible in Italian seem to be far more limited than the resultatives permitted in Japanese (let alone English). Relevant examples can be found in (Washio 1997). One possibility is that the few Italian verbs that participate in these constructions simply take a result phrase as an optional argument (cf. *volverse* 'turn', in Spanish).

Similarly, Stringer (2002) demonstrates that combining a pure manner-of-motion activity verb with a directional PP is sometimes possible in Italian, but the result is still an activity predicate, not an accomplishment predicate (as it can be in a [+ TCP] language like English):

(27) La ragazza ballò giù per la collina {per 3 minuti / *in 3 minuti}
'The girl danced down the hill {for 3 minutes / *in 3 minutes}'

[Stringer 2002:12, ex.57]

My objective here is not to attempt a systematic account of the Italian facts (though that would be a worthy project). Rather, I simply want to illustrate the kinds of data that need to be considered when testing TCP, or similar parametric proposals, by means of a cross-linguistic survey.[23]

In sum, languages find ways to express much the same meanings, both in the domain of motion events and more generally, using whatever lexical and grammatical

resources are available (cf. Beavers, Levin & Tham 2010). This has vital implications for the proper use of cross-linguistic data in testing TCP, or indeed any macroparametric proposal. Surface diagnostics are useful, but no single diagnostic is 100% reliable. Proposed macroparameters are (more or less by definition) abstract, and their expected surface consequences can vary considerably, as a function of other characteristics in the language.

4. Conclusions

In this chapter I have argued that TCP is simply the availability, or unavailability, of a semantic composition rule, GM. In [+ TCP] languages, the availability of GM normally gives rise to both "creative" endocentric root compounding, and adjectival resultatives. Availability of GM also commonly gives rise to a number of motion-related constructions, including the separable-particle construction and the possibility of combining a manner-of-motion activity verb with a PP denoting a location or path, to create an accomplishment predicate.

Yet, in every case these common surface consequences of [+/- TCP] can be blocked by other abstract characteristics of a given language. In Japanese, a [+ TCP] language, the settings of two other parameters, [+/- Incremental-P] and [+/- SC], have been argued to limit Japanese to "weak" resultatives, to block separable-particle constructions, and to prevent a pure manner verb from combining with a locative or directional PP.

When evaluating a "macroparametric" proposal like TCP through a cross-linguistic survey, it is critical to remember that surface diagnostics only go so far. One must either tolerate some noise in the data (as experimental psychologists do in statistical hypothesis-testing), or invest the time and effort needed for an adequate assessment of potentially interfering characteristics of the language. An attractive option is to combine cross-linguistic survey data with data from child language acquisition, a method with a very different profile of strengths and weaknesses (Snyder 2007), as I did in the studies summarized in Section 1.3. Advantages of testing a parametric hypothesis with acquisitional data include the possibility of concentrating on a single target language (like English, in the case of TCP) that is already well studied, and the fact that every child evaluated provides information comparable to a new language, in a cross-linguistic survey – that is, an opportunity for the predictions of the parametric hypothesis to be falsified.

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[2] Note that TCP is a parameter of the syntax-semantics interface, rather than syntax proper. Yet, when the [- TCP] setting renders a sentence semantically uninterpretable,

the native speaker's perception will be that the sentence is grammatically impossible, not merely infelicitous. TCP therefore has major effects on which sentence-meaning pairs are, and are not, acceptable to speakers of a given language. The status of TCP as an interface parameter makes it compatible with certain Minimalist efforts to derive "syntax-level" variation entirely from information stored in the lexical entries of individual morphemes. For reasons discussed in other work (e.g. Snyder 2007, ch.2) I have serious reservations about those efforts, but TCP (as it will be defined in this chapter) is not an obstacle.

[3] Another major difference between the bare-root endocentric compounds found in these two languages is the possibility in English, but not Italian, of recursion. Thus, in the example mentioned above, [*lab space*] becomes part of the compound [*faculty* [*lab space*]], which in turn becomes part of [[*faculty* [*lab space*]] *committee*]. To my knowledge, endocentric compounds of four (or more) nouns are simply non-existent in Italian, though they are common in English. This aspect of cross-linguistic variation in compounding has been emphasized in the work of Namiki (1994), and examined from an acquisitional perspective in work such as (Roeper & Snyder 2005).

[4] One point of caution is in order. In the example *capo-stazione*, the morpheme *capo-* 'master, chief, director' appears to be taking on a life of its own as a combining form (whence examples like *capo-settore* 'department head'). On similar phenomena in French, and the need to distinguish these from the creative process of endocentric bare-root compounding found in Germanic languages, see (Bauer 1978). The key point is that *capo-* has this particular use, once again, as a lexical property.

[5] Thus, Mateu (2008:236-7) follows Spencer & Zaretskaya in adopting a "lexical subordination" account of these Russian facts, where the directional prefix is treated as the "core predicator" and the activity verb is treated as a "subordinate predicator." This approach is strikingly similar to Zubizarreta & Oh's (2007:ch.3) account of manner verbs with path PP's in the Germanic languages. Zubizarreta & Oh propose that the [+ TCP] setting in these languages enables the compounding of a manner V with a null directional V meaning 'go' or 'come', and that the null V actually selects the path PP as an argument. While I am obviously eager to relate motion predicates to TCP, the fact that Russian is [- TCP], yet employs structures very similar to the ones they propose for Germanic, strikes me as a problem for their approach.

[6] Note that the specific example in (3a), 'paint X red', is not an optimal diagnostic for adjectival resultatives of the kind connected to TCP, because some [- TCP] languages (e.g. Javanese, Palestinian Arabic) have a verb for 'paint' that takes a result AP as an optional argument. Indeed, if a language is [+ TCP], then we should expect a range of different verbs to combine with secondary result predicates, and it would be unwise to rely on any single verb as our sole diagnostic. On the other hand, if a language does not allow an adjectival resultative even for 'paint X red', it will disallow others too. Hence, (3a) is sufficient for present purposes.

[7] In earlier works (e.g. Snyder 2007, ch.5) I have recommended being careful to distinguish between the "separable particles" (1b) found in English, and the inseparable "prepositional prefixes" found in languages like Russian and French. Observationally, the separable particles are largely (though perhaps not entirely) restricted to languages with

creative compounding, while prepositional prefixes are commonly found even in [- TCP] languages.

As illustrated by Russian, it can be difficult to tell whether a preposition-like element connected to the verb is really a secondary predicate, or the primary predicate. On the other hand, when the particle is separated from the verb, it is less likely to be functioning as a "primary predicate in disguise." Hence, from a practical standpoint, separable particles make a better surface diagnostic, and I will generally focus on them. From a theoretical standpoint, however, I doubt that "separability" plays any deep role.

[8] An interesting phenomenon, found in both Spanish and Italian, is that certain resultative-like sentences become more acceptable if the adjective is doubled, or if it bears emphatic morphology. Thus, Demonte (1991) reports Spanish examples along the lines of *Juan masticó la carne chiquitita* / **chica*, 'John chewed the meat *(very) small'. My guess is that the "emphatic" adjective in such examples is functioning as an adverb of manner or extent, and not as a result predicate, but the issue requires further investigation.

[9] The fact that Russian patterns with verb-framed languages in quite a number of respects has led to the suggestion (Snyder & Lillo-Martin 2005, Gehrke 2008) that it be reclassified as a verb-framed language within Talmy's own typology. Not only does Russian disallow adjectival resultatives of the English type, but it disallows path PPs with simple (i.e. unaffixed) motion verbs. Indeed, given the lexical-subordination analysis followed in the text, one could make an argument that Russian normally encodes path information in the "head" of the verb phrase. For purposes of this chapter, however, I will simply follow Talmy's typological classifications.

[10] Note that when I call [+ TCP] a "prerequisite" for the English type of separable-particle construction (and for the adjectival resultative construction), I mean that [+ TCP] is a necessary, but not a sufficient, condition. As we will see, Japanese is one example of a [+ TCP] language in which separable-particle constructions are blocked by independent properties of the grammar.

[11] I first advocated this general approach, based on the idea that the set of eventuality types is extremely limited, in (Snyder 2005) and (Snyder & Lillo-Martin 2005). Recently I discovered that an extremely similar proposal was made much earlier by Levin and Rappaport Hovav (1995:54): When a result XP occupies the lowest bar level within the VP, “it must be integrated into the core eventuality named by the verb”; there is only “a limited ontological typology of eventuality types”; and the “only type of eventuality with a state following any kind of process is an accomplishment.” Washio (1997:35) criticizes their proposal on the grounds that it has no way to account for the fact that the typology of resultatives found in Japanese is more restricted than in English – a concern that will be addressed later in this chapter.

[12] The formulation in (8b) should be taken as a first approximation, to be improved upon below. For one thing (8b) employs the widely-used terminology of (Parsons 1990), but in Section 2.3 I will introduce the more nuanced semantic framework of (Gehrke 2008), based on (Rothstein 2004). As Gehrke (2008:208-9) notes, however, the translation is straightforward: A 'culmination' in Parson's sense is simply the upper bound of a BECOME event.

[13] Note that the facts are somewhat different in Dutch (Neeleman 1994) and Afrikaans (LeRoux 1988). In those languages the verb and the adjective often do form a complex

word, in the sense that the A+V combination seems to function as the head of VP. It was this overt connection between resultatives and compounds in Dutch that first led me to suspect a relationship between the availability of resultatives, on the one hand, and the availability of compounding.

[14] Following Gehrke (2008:88) I take the English P *under* as unambiguously locative, rather than directional. This distinction will play a role in Subsection 2.3.

[15] In (Snyder 2005) I used "Rule C," an earlier formulation of GM. Gehrke (2008) likewise uses Rule C, but her proposals are readily re-stated in terms of GM, as I have done here.

[16] As expected in a [+ TCP] language, Japanese also readily permits recursive compounding. For example, *gakusee* 'student' can be combined with a compound like *eiga kenkyuukai* 'film club' to create the larger compound *gakusee eiga kenkyuukai* 'student film club'.

[17] As far as I can tell, Washio (1997) does not address the fact that (21a), one of his strong resultatives, was fully acceptable to nine of his Japanese speakers, and marginally possible for many more. My guess is that the precise lexical semantics of *tatai-ta* ‘pounded’ varies from speaker to speaker, with the result that for some, (21a) is actually a weak resultative. In other words, for some speakers the lexical meaning of *tatai-ta* would entail that a Theme that changes state is likely to become flat.

[18] Another candidate for an incremental P in Japanese is *–made* 'until', which is sometimes used to translate the English path-P *to*. As indicated by the gloss ‘until’, I concur with Beavers (2008) that this P expresses the temporal or spatial extent of an event, and never a path of motion.

[19] Note that I am treating these two points of crosslinguistic variation as binary "parameters," but this decision might well need to be revised. First, it may turn out that the lack of any incremental postpositions in Japanese is better treated at the level of lexical inventories, rather than parametric variation, if we find that other languages exhibit a wide variety of "mixed" systems (i.e., counterparts to arbitrary subsets of the incremental P's in English). Second, even if I am correct in my claim (as I hope I am) that Japanese prohibits small-clause complements to verbs, it may turn out that this is a special case of some broader point of parametric variation. For now I will leave these topics as directions for future research.

[20] Note that reinterpreting Washio's weak/strong distinction in terms of whether the result phrase is an AP or an SC is my own, rather recent innovation. If this idea does not stand up to empirical scrutiny, I expect that there will be other ways to capture Washio's distinction within a TCP-based approach.

[21] Admittedly, this leaves open the possibility that Japanese could employ a purely locative P as a particle, in combination with a verb whose meaning entailed a likely location for the theme – something like *on* in the English phrase *Jump on!*, for example – that is, the particle counterpart to a weak resultative. Given that the only good candidate for such a locative particle in Japanese is probably *–ni* 'in, on', and considering that the language would probably need to develop a special "intransitive" version of *–ni* for use in this construction, it may not be overly surprising that the language does not (so far as I know) avail itself of this option .

[22] Incidentally, Korean looks very similar to Japanese in relevant respects, and plausibly shares the Japanese settings for all three of the parameters proposed here. One small

difference is that according to Wechsler & Noh (2001), Korean has a fully acceptable counterpart to 'Tom hammered the metal flat', whereas Washio reports mixed judgments for the Japanese counterpart in (21a), ranging from fully acceptable to unacceptable, as noted earlier. I assume that this particular difference (if it is a difference at all) is probably related to fine details of the lexical semantics of the particular verbs used to translate *hammer*, and not to a point of parametric variation.

[23] Regarding prepositional particles in (standard) Italian, Masini (2005) demonstrates that such particles resist being separated from the verb by a full-fledged direct object. This is an important difference from English, though it does not, by itself, tell us exactly what the Italian particles are. Interestingly, Masini (2008) reports that a search of large corpora of spoken and written Italian turned up examples of particles that were separated from the verb by a full DP, and she suggests that this might indicate historical change in progress. Naturally, those examples could also be simple performance errors, or could reflect the inclusion of data from second-language learners of Italian, but historical change (perhaps towards a [+ TCP] grammar) is also a genuine possibility, and calls for further investigation.