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Why we Subject Incorporate (in English):
A Post-Whorfian View

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1. Introduction

In his article called "Grammatical Categories" published after his death (Language 1945), Benjamin Lee Whorf explicates the notion of overt and covert grammatical categories. According to Whorf (p. 2), an overt category has "a formal mark which is present [...] in every sentence containing a member of the category." The plural in English is therefore an overt category in that it is marked on the noun as in (1), with an independent word as in (2), or by the sentence pattern as a whole as in (3):

(1) linguists [bound plural morpheme on noun stem]
(2) The fish will be plentiful, [presence of pluralizing adjective]
(3) Fish appeared, [absence of article here indicates plural]

In contrast to an overt category, a covert category "is marked, whether morphemically or by sentence-pattern, only in certain types of sentence and not in every sentence in which a word or element belonging to the category occurs" (ibid.). As examples, Whorf discusses English intransitive verbs and English gender: Both categories are covert in that they are defined "negatively." Intransitive verbs lack "the passive participle and the passive and causative voices" (ibid.); the gender of nouns can only be indirectly determined through the pronominal system.

Parallel to the terms ‘overt’ and ‘covert,’ Whorf uses phenotype and cryptotype respectively, claiming that this distinction is "of supreme importance in the theory of grammatical categories" (p. 5). Moreover, he points out that some cryptotypes are particularly hidden; i.e., they "easily escape notice and may be hard to define, and yet have profound influence on linguistic behavior" (p. 4).

We think we have uncovered just such a cryptotype. What we are claiming is that, in
English, **Subject Incorporation** (SI) together with **Object Incorporation**\(^5\) (OI) constitutes an **ergative** cryptotype, a pattern of word formation via verb incorporation in which the subject of an intransitive verb as in (4) and the object of a transitive verb as in (5) are treated alike, i.e. may incorporate with a verb, in contrast to the subject of a transitive verb as in (6), which is typically excluded from this word formation process.

(4) snow fall  
Subj + \(V_{\text{intr}}\)

(5) gift wrap  
DO+V

(6) *clerk wrap  
Subj + \(V_{\text{tr}}\)

We think this as yet uncovered cryptotype in English can be accounted for on a conceptual basis, has cross-linguistic significance, and may supersede the doctrine of linguistic relativity. In fact, Whorf himself hypothesizes at the end of his paper that there are general grammatical categories which he calls **taxonomic categories of the second degree** that are "generalizations of the largest systemic formations [...] when language is [...] described in terms of the whole human species" (p. 11).

English Subject Incorporations are compounds like *snowfall* that consist of a bare noun stem and a verb stem. They have sentential counterparts denoting events in which the first element of the compound functions as subject and the second element as predicate.\(^6\) They instantiate the well-known conceptual metaphor **EVENTS ARE OBJECTS**. Subject Incorporations contrast with the more extensively investigated Object Incorporations. OIs like *gift wrap* have sentential counterparts in which the first element of the compound functions as direct object and the second as verb in a transitive sentence. Whereas Object Incorporation produces complex verb stems, Subject Incorporation produces complex noun stems.\(^7\)

The paper is organized as follows. In Section 2 we analyze the events that SIs "compress"\(^8\) in terms of the conceptual domain of the "subject participant" and in terms of the aspectual properties of the "verb." We also consider the metaphorical and metonymic uses of the incorporations. Subject Incorporations predominantly correspond to **intransitive** predications, but interestingly there is a subset of SIs that have transitive counterparts; i.e., in contrast to (6) above, in some cases a transitive subject may incorporate with its verb to

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5 Langacker (1991: 374) claims that "[o]bject incorporation is [...] a special case of noun incorporation, which in turn instantiates the broader phenomenon of compounding or complex-system formation." To our knowledge, we are the first to attempt to account for subject incorporated compounds with particular reference to object incorporations.

6 We do not consider formations such as hair loss or student demonstration in our investigation since the second part is a nominal, not a bare verb stem.

7 Subject Incorporations can be used as verbs only under special conditions. See Section 2.

8 In some cases, SIs do not denote events but substances that are the results of events. See Section 2.
form a compound noun. The classification we develop allows us to formulate some generalizations and constraints regarding the types of participants and processes involved in the events denoted by Subject Incorporation.

In Section 3 we compare our findings on Sis with the types of events that OIs "compress." Our analysis reveals a motivation for the formation of Sis and OIs as well as an explanation for the observation that Object Incorporation is more productive than Intransitive Subject Incorporation, which in turn is more productive than Transitive Subject Incorporation in English and other languages (cf. Comrie 1978: 337).

In Section 4 we suggest that the ergative pattern of morphological marking, manifested in many languages as an overt grammatical category (what Whorf calls a phenotype), may be the result of a grammaticalization process that is conceptually grounded.9

Finally, in Section 5 we pay homage to Whorf's insights into covert categories and their significance for linguistic analysis.

2. Subject Incorporations in English

In this Section we present a tentative classification of the kinds of events that are denoted by Sis. The superordinate categories (in bold capitals) are the semantic attributes of the "subject" participants. Under each superordinate category we include information about the event types denoted by the verb stem and note some metaphorical and metonymic extensions. We list incorporations that, to our knowledge, are well established, accepted (in use, but not in dictionaries), or possible. Dubious and unacceptable examples are marked with question mark and asterisk respectively.10

2.1 A Classification of the Event Domains of SIs in English

EVENTS INVOLVING HUMANS

Activities

baby step
baby/girl/foreigner/lawyer talk
*boy/*uncle/*brother/*sister talk
student sit-in; ?student sing

9 Du Bois (1987) makes a similar point in claiming that morpho-syntactic ergativity is grounded outside grammar, namely, in discourse. We would argue, however, that no one covert ergative pattern constitutes a single basis, but that together such cryptotypes may indeed motivate the grammaticalization of the ergative phenotype.

10 We do not follow any systematic orthographic convention in listing the SIs and OIs; i.e., the compounds are variously listed as one word, hyphenated words or two words. These conventions have no linguistic significance for our paper.
old-pensioner rally
*man rally
bus driver/teacher strike
?preacher strike

**Metonymic extension**

**ACTIVITY FOR PRODUCT RESULTING FROM ACTIVITY**
[SI denotes producer-product resulting from activity]

- baby drool/spitup/poop/piss
- coot /codger drool
- teen vomit
- *boy drool

**EVENTS INVOLVING HUMAN BODY PARTS/EXCRETIONS**

**Processes**

- nose bleed
- ?ear bleed; *lip/arm/foot/stomach bleed
- heartbeat
- ?heart flutter
- ?bone break
- leg/stomach cramp
- ?neck/shoulder cramp; *hand cramp
- *hair/*tooth fall-out
- *nose sneeze

**States**

- head/ear/tooth/back/stomach/belly/leg ache
- ?eye/*nose ache
- heartburn
- scalp/nose/back itch
- ?skin itch

**Metaphorized to human emotions**

- heartache/break
**Metonymic extensions**

PROCESS FOR PRODUCT RESULTING FROM PROCESS

- tear/sweat drop; snot/shit smear
- ?saliva drool; ?piss drip; *snot/saliva drop

BODY PART FOR BODY

- nose dive

**Processes**

- ship/train wreck; plane/car crash
- *limousine crash; *yacht wreck
- horn honk; bell chime; clock tick; siren wail
- *clapper chime; *whistle blow
- ?pendulum swing
- *clock stop

**Metonymic extensions**

PROCESS FOR PRODUCT RESULTING FROM PROCESS

- ship/train wreck
- ?plane/car crash

**EVENT FOR PLACE OF EVENT**

[SI denotes the place where a characteristic process of the "subject" occurs]

- bus/truck stop

**EVENTS INVOLVING ANIMALS**

**Activities/ Processes**

- bird call/chirp/twitter/warble
- duck quack; goose honk; turkey cackle
- wolf howl; pig squeal/snort/grunt; snake hiss; fly buzz
- ?dog bark; ?cat purr; ?sheep bleat
- *cow low; *elephant trumpet
- *cat nap [possible only as a human process]
- horse race; fish/salmon run; horse play
- bee /*wasp/*fly swarm
Metaphorized to human activities

horse laugh/play

* cat nap; dog paddle [can be used as verbs]

* panther/Manx nap

Metonymic extensions

PROCESS FOR PRODUCT RESULTING FROM PROCESS

dog/cat/horse pee/piss/shit

horse sweat; bull shit

? poodle piss/shit

PROCESS (MOVEMENT) FOR PATH OF PROCESS

catwalk

Actions [transitive]¹¹

dog/cat/cock fight [symmetrically related entities; reciprocal process]

bee/wasp/hornet sting

mosquito/chigger/flea bite

snake/cat/dog bite

lion/elephant/pit bull attack

* dog love [occurs only as an OI]

Metaphorized to human actions

bear hug [can be used as a verb]

Metonymic extensions

ACTION FOR PRODUCT RESULTING FROM ACTION

bee/wasp/hornet sting

mosquito/chigger/flea bite

ACTION FOR OBJECT AFFECTED BY ACTION

cat-lap [Brit, slang: ‘weak beverage fit only for a cat to lap up’]

catnip [Cats nip (at) catnip, most likely a misanalysis of ‘cat mint’]

¹¹ SIs that exceptionally have transitive constructions as counterparts have been marked as such. Non-marked cases correspond to intransitive sentential counterparts.
EVENTS INVOLVING PLANTS

Processes
log jam
leaf/tree fall; branch break
tree rot; grass die-off
"The spirillina die-off will force the flamingoes to move on." (Nature 1/4/98)
onion/garlic smell
tulip bloom; ?crop grow
*leaf turn

Metaphorized to human affairs
log jam

Metonymic extension
PROCESS FOR PRODUCT RESULTING FROM PROCESS
tree rot

EVENTS INVOLVING HEAVENLY BODIES

Processes/States
sunshine/glow/beam/burst
moon/shine/glow/beam
*moonburst; *star shoot/twinkle; *comet streak

Metonymic extension (metonymic chaining)
PROTOTYPICAL ATTRIBUTE FOR TIME PERIOD FOR ACTIVITY DURING TIME PERIOD FOR PRODUCT
moonshine [‘illicitly distilled liquor made by the light of the moon’]

Processes structuring time
sunrise/set; moonrise/set
*sunpeak [‘when sun is directly overhead; when one's shadow disappears’]
nightfall; daybreak
* month/ *yearbreak

Metaphorized to human affairs
semester start/break/?end
*week break
Telic processes [transitive]

- sunburn/damage ['sun burns/damages skin']
- sun/star/moonlight ['sun/stars/moon light(s) the sky']
- comet light

Metonymic extension

TELIC PROCESS FOR RESULT OF TELIC PROCESS

- suntan ['result caused by the action of the sun']

Metonymic extension (metonymic chaining)

PROTOTYPICAL ATTRIBUTE FOR TIME PERIOD FOR ACTIVITY DURING TIME PERIOD

- moonlight ['to work at an additional job after one's regular job, as at night']

METEOROLOGICAL EVENTS

Processes

- snow/rain fall
- soot fall
- sleet/* hail fall
- cloud burst
- wind gust
- *wind blow

Metonymic extension

PROCESS FOR PRODUCT RESULTING FROM PROCESS

- rain/snow drop
- nuclear waste fall out

EVENTS INVOLVING THE LANDSCAPE

Processes

- snow/ice melt
- glacier melt
- earthquake
- land/mud/rock slide
- lava flow
- ocean swell
- creek rise; ?river rise
- sand drift/flow/slide
2.2 The Conceptual Structure of Subject Incorporations in English

2.2.1 Prototypical Sis: General Features
As all of our eight categories reveal, Subject Verb Incorporations correspond to intransitive predications. However, there is a small but important subset of Sis that corresponds to transitive predications (discussed further in section 2.2.3). A striking feature of both the predominant intransitive and minority transitive types of SI is that the "subjects" are usually non-humans. Of the eight categories in our classification, only one includes humans as participants in Sis. The other seven categories denote participants and entities in the world apart from humans but that are nonetheless highly relevant to humans. The prototypical SI then combines a non-human entity with an intransitive process verb. The result is typically a noun that denotes a process, e.g. sunrise or snowfall (see Table 1).

2.2.2 Non-prototypical Sis: Events Involving Humans
As noted above, the occurrence of a noun denoting a human participant in Sis is very restricted. We have identified three factors that seem to constrain the types of human "subjects" that may occur in these non-prototypical Sis. They preferably denote (1) specialized human groups, e.g. students, pensioners, bus drivers; (2) human groups with "deviant" behavior, e.g. foreigners, lawyers, babies, girls, teens; and (3) non-redundant and salient characteristic activities associated with the human group. To illustrate, student sit-in is an acceptable SI whereas student study is not; teacher strike is acceptable but doctor strike, being (still) less characteristic of doctors than teachers, is questionable; preacher strike is unacceptable. In general then, the humans admitted to the SI construction can be considered as peripheral members of the human prototype. Thus, the fact that some "peripheralized" humans do occur in Sis does not invalidate the generalization that Sis prototypically express processes/activities involving non-humans (see Table 2).

2.2.3 Events Involving Animals; Events Involving Heavenly Bodies
The two categories Events Involving Animals and Events Involving Heavenly Bodies

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We distinguish Humans (as "subject" participants in a process) from Human Body Parts/Excretions.
require special mention. Both categories are prototypical in that they instantiate the features of Sis given in Table 1, i.e., they denote intransitive processes with non-human participants. However, these two categories are also non-prototypical in an important way. They admit Subject Incorpations that correspond to transitive predications. That is to say, in addition to manifesting the prototypical SI that denotes an intransitive process, the Sis in these two categories may also compress events that are grounded in prototypical transitivity. For example, *dogfight, bee sting, lion attack* and *star light, suntan, sunburn* differ from the prototypical SI in having a transitive "subject," transitive verb stem and implied direct object. Like the other non-prototypical and heavily constrained Sis with human participants, these Sis seem to be severely constrained as well. In the case of animals, the transitive predications seem to be limited to a single semantic domain of aggressive behavior: there are actions such as fighting each other (e.g. *dog fight, cockfight*) that have no adverse effects on humans, and other actions such as biting and attacking (e.g. *mosquito bite, pit bull attack*) that do have adverse effects on humans. In the case of heavenly bodies, transitive events seem limited to lighting the sky (as with the stars, moon and sun) and, with regard to the sun only, to burning and damaging human skin. We note that these transitive predications of heavenly bodies exhibit a similar range of effects on humans as do the transitive predications of animals, i.e. from neutral (starlight) to adverse (e.g. sunburn) (see Table 3).

2.2.4 Additional Constraints on Events Involving Non-Humans

With regard to all seven event types involving non-humans (see Tables 1 and 3), the following factors seem to play a role in the productivity of the construction: (1) basic level terms seem to be preferred over non-basic level terms (e.g. *dog bite* over *Chihuahua bite*, *snowfall* over *sleetfall*); (2) characteristic but salient processes/activities are preferred over characteristic and backgrounded processes/activities (e.g. *wind gust* over *wind blow; wolf howl* over *dog bark*); (3) verbs with a metaphorical sense resist incorporating a "subject" in Sis; e.g. *leaf turn* (i.e. 'change color') is unacceptable but *leaf fall* is not. At this point, none of our constraints seem to account for excluded forms like *sand/dust/dirt drift/flow/slide.

2.2.5 Metonymic and Metaphorical Extensions of Sis

In all eight categories we find metonymic extensions from the respective event type; in seven of the eight categories processes may stand for products, i.e. objects, substances, or phenomena resulting from processes, e.g. *shipwreck, landslide, or bee sting*. These Sis then may be used to denote either an event or the resulting "product" of the event. In some cases, metonymic extensions have become lexicalized as with e.g. *tear drop, baby drool, dog shit/piss* to the degree that they can no longer denote an event but only an object or substance resulting from the event. Sis then may denote (1) only an event (no metonymization occurs), e.g. *snowfall*, (2) an event and/or its product (metonymization
allowed), e.g. *shipwreck*, or (3) only the product of a presupposed event (metonymization obligatory), e.g. *snowdrift*.

The metonymy **PROCESS FOR PRODUCT RESULTING FROM PROCESS**, occurring fairly systematically in our data, is a sub-type of the more general metonymy **CAUSE FOR EFFECT**. We also find other less productive metonymies in the data. They are: **BODY PART FOR BODY** (*nose-dive*), **EVENT FOR PLACE OF EVENT** (*bus/truck stop*), **PROCESS (MOVEMENT) FOR PATH OF PROCESS** (*catwalk*), **ACTION FOR OBJECT AFFECTED BY ACTION** (*cat-lap, catnip*). We also observed two instances of metonymic chaining: **PROTOTYPICAL ATTRIBUTE FOR TIME PERIOD FOR PROCESS DURING TIME PERIOD** (*to moonlight*) and **PROTOTYPICAL ATTRIBUTE FOR TIME PERIOD FOR PROCESS DURING TIME PERIOD FOR PRODUCT** (*moonshine*). In all these cases the metonymic meaning has been lexicalized. Note that *to moonlight* is exceptional in that the metonymic chaining results in a conversion from noun to verb.

As we have seen, metonymic extension pervades the conceptual domains of SIs; interestingly, metaphorization is less apparent. The most productive metaphorical mapping in our data is **HUMANS ARE ANIMALS** (*horse laugh/play; catnap; dog paddle; bear hug*). And, in most cases the metaphorical meaning has been lexicalized; that is, cats do not catnap, dogs do not dog paddle, and bears do not bear hug.

### 3. The Motivation for and Complementarity of SIs and OIs in English

The motivation for Subject Incorporations seems to arise from a need to refer to predominantly intransitive events brought about prototypically by non-human entities or forces. In contrast, Object Incorporations (e.g. *gift wrap, flower arrange, witness tamper*) arise from a need to refer to event types brought about by deliberately acting humans. The predications corresponding to OIs prototypically have human agents as subjects and denote events with relatively high degrees of transitivity.\(^\text{13}\) In this sense, the word formation processes of Subject and Object Incorporation have complementary event structure. This conceptual complementarity is represented by the contrastive features (in bold type) presented in Tables 1-3. Table 1 contrasts the properties of prototypical Sis with those of prototypical OIs. Tables 2 and 3 show that even non-prototypical Sis are complementary in most respects to prototypical OIs.

Object Incorporation produces a complex verb stem leading to a type interpretation of some transitive event, that is "a schematic representation of a generic activity [...] underscoring] a sense of habitualness and non-uniqueness "(cf. Rice & Prideaux 1991: 290).\(^\text{14}\) The OI in (7), *witness tamper*, for example, has a purely generic interpretation, and

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\(^\text{13}\) We acknowledge the existence of non-prototypical OIs having no human subjects in their sentential counterparts such as *a record-breaking cold spell* and *a bloodcurdling/hair-raising/nerve-shattering experience*, though the latter crucially involve humans (data from Rice & Prideaux 1991: 286).

\(^\text{14}\) We accept Rice & Prideaux's (1 991) analysis of OIs as the result of incorporation rather than back-formation, as well as their explanation for the skewed categorial distribution of OIs.
this newly created complex verb can be predicated of the human subjects Clinton and his friend Vernon Jordan. Since there is an anthropomorphic need to create expressions referring to human activities, it comes as no surprise that Object Incorporation is much more productive than Subject Incorporations in English. Furthermore, this asymmetry is paralleled by the wider categorial distribution of Ols in comparison to Sis. As Rice and Prideaux show, Ols can occur as finite verbs, participial adjectives, gerunds and agentives as exemplified in (7)-(10).

(7) BOB WOODWARD, Washington Post: Well, the hardest thing in all of these scandals is to take something one step at a time, and say these are the allegations. Now what's the proof? As Evan pointed out, these are second-hand conversations. These are not tapes of Clinton. This is a young woman who - whose credibility has not really been fully tested. It is - it obviously, is going to be in the future in a very significant way. But the alleged crime is that Clinton and his friend Vernon Jordan witness tampered. ("Larry King Live" January 21, 1998 - 9:00 p.m. ET) [finite verb]

(8) But [Irving] Howe was not wholly uncritical of this limelight-seeking adventurer [T.E. Lawrence]. (The Atlantic Monthly, Jan 98, p. 104) [participial adjective]

(9) Agenda-setting is just not my top priority right now. Sorry, [gerund]

(10) ROBERT NOVAK: I don't think the federal prisons are filled with perjury suborners. Is that the right word, suborners? (CNN "Capital Gang" January 25, 1998 - 3:30 p.m. ET) [agentive noun]

Sis, on the other hand, are more restricted in their categorial distribution.

(11) a. *The titmouse bird chirped all morning, [finite verb]
    b. *The French teachers will teacher strike in September, [finite verb]

(12) a. *The bird-chirping titmouse gets on my nerves, [participial adjective]
    b. *The teacher striking instructors left, [participial adjective]

(13) a. Bird chirping always cheers me up. [gerund]
    b. Teacher striking always makes me mad. [gerund]

(14) a. *These woods are filled with bird-chirpers. [agentive noun]
    b. *The federal prisons are filled with teacher strikers. [agentive noun]

This restricted categorial distribution of Sis together with the fact that they overwhelmingly denote non-human events makes them a less productive category than Object Incorporation. The many constraints on Transitive Subject Incorporation, already described in Section 2.2.3, make this sub-type of SI an even less likely candidate for innovative expressions.

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15 We disagree with Mithun (1984: 847) that in English they are few in number and that they result from compound nouns through back-formation.
As a final remark on the categorial distribution of Subject Incorporation, we note that there are a few SIs literally denoting animal activities (catnap, dogpaddle) or actions (bear hug), that have become conventionalized metaphors of particular physical human activities/ actions. As such they function like Object Incorporations in that they have the same categorial distribution and are predicatable of any human subject.

(15) a. She **catnapped** during every seminar, [finite verb]
    b. Here comes my **catnapping** student, [participial adjective]
    c. **Catnapping** is healthful, [gerund]
    d. This seminar is difficult; **catnappers** shouldn't enroll, [agentive noun]

(16) a. Every morning I **dogpaddle** across the lake, [finite verb]
    b. That **dogpaddling** swimmer is my nephew, [participial adjective]
    c. **Dogpaddling** is not an Olympic event [gerund]
    d. **No dogpaddlers** allowed! [agentive noun]

(17) a. Clinton **bear hugged** his way through the reception, [finite verb]
    b. **Bear hugging** presidents are always popular, [participial adjective]
    c. **Bear hugging** is part of American culture, [gerund]
    d. Honk if you love **bear huggers**. [agentive noun]

The foregoing discussion is summarized in Tables 1-3.

<table>
<thead>
<tr>
<th>Subject Participant</th>
<th>Prototypical SI</th>
<th>Prototypical OI</th>
</tr>
</thead>
<tbody>
<tr>
<td>explicit</td>
<td>implicit</td>
<td></td>
</tr>
<tr>
<td>non-human</td>
<td>human</td>
<td></td>
</tr>
<tr>
<td>non-agentive</td>
<td>agentive</td>
<td></td>
</tr>
<tr>
<td>Event Type</td>
<td>intransitive</td>
<td>transitive</td>
</tr>
<tr>
<td>processes/states</td>
<td>actions</td>
<td></td>
</tr>
<tr>
<td>Object Participant</td>
<td>explicit</td>
<td></td>
</tr>
<tr>
<td>Categorial Distribution</td>
<td>more restricted</td>
<td>less restricted</td>
</tr>
<tr>
<td>Productivity</td>
<td>low</td>
<td>high</td>
</tr>
</tbody>
</table>

Table 1. Prototypical SI Contrasted with Prototypical OI

16 In the category of Events Involving Heavenly Bodies, one of the transitive subject incorporated forms also exhibits the range of categorial distribution found in OIs and the SI exceptions in the animal domain. That SI is **suntan** and can be used in all four constructions. Interestingly, this form has lexicalized the metonymic meaning RESULT FOR ACTIVITY. For example, in *He suntanned a lot last summer* the speaker metonymically uses the sunbathing result (the tan) for the activity of sunbathing itself.
Table 2. Non-Prototypical SI (with Human Participant) Contrasted with Prototypical OI

<table>
<thead>
<tr>
<th></th>
<th>Non-Prototypical SI</th>
<th>Prototypical OI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Participant</td>
<td>explicit human (highly restricted) agentive</td>
<td>implicit human agentive</td>
</tr>
<tr>
<td>Event Type</td>
<td>intransitive activities</td>
<td>transitive actions explicit</td>
</tr>
<tr>
<td>Object Participant</td>
<td>more restricted</td>
<td>less restricted</td>
</tr>
<tr>
<td>Productivity</td>
<td>low</td>
<td>high</td>
</tr>
</tbody>
</table>

Table 3. Non-Prototypical SI (with Transitive "Subject") Contrasted with Prototypical OI

<table>
<thead>
<tr>
<th></th>
<th>Non-Prototypical SI</th>
<th>Prototypical OI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject Participant</td>
<td>explicit (restricted to animals/heavenly bodies) quasi-agentive</td>
<td>implicit human agentive</td>
</tr>
<tr>
<td>Event Type</td>
<td>transitive (restricted set of telic processes &amp; actions)</td>
<td>transitive (actions)</td>
</tr>
<tr>
<td>Object Participant</td>
<td>implicit (restricted to animals &amp; humans/the sky &amp; skin)</td>
<td>explicit</td>
</tr>
<tr>
<td>Categorial Distribution</td>
<td>more restricted</td>
<td>less restricted</td>
</tr>
<tr>
<td>Productivity</td>
<td>very low</td>
<td>high</td>
</tr>
</tbody>
</table>

4. Ergative Patterns as ‘Covert’ Categories

The data discussed in the previous section lend themselves to the conclusion that intransitive subjects along with transitive objects are preferred over transitive subjects for compounding with their respective verb. This system constitutes a conceptually grounded ergative pattern.\(^\text{17}\)

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\(^{17}\) To remind the reader, an ergative (-absolutive) pattern is one in which the subject of an intransitive verb and the object of a transitive verb are treated alike for some grammatical process to the exclusion of the subject of a transitive verb. The ergative pattern contrasts with the (nominative-) accusative pattern in which both subjects of transitive and intransitive verbs are treated alike (typically in case marking) to the exclusion of the object of a transitive verb.
The framed portions of the diagram in (18) represent the covert ergative pattern for Subject and Object Incorporation. Because of the absence of overt marking and the particularly hidden nature of this pattern, we interpret it as a cryptotype in the Whorfian sense.

We thus claim that ergativity is not just an overtly marked typological feature of the morphology and/or syntax of certain languages, but that it is a property of conceptual structure. This view contrasts with the characteristically formal approach of linguistic typologists such as Bernard Comrie. Comrie (1978: 392) concedes that "presumably all languages have a large amount of 'lexical ergativity.'" He illustrates this with the English verb break where the subject in its intransitive use and the object in its transitive use as in (19) and (20) share the same semantic role in Opposition to the semantic role of the transitive subject as in (21).

(19) The window broke.
(20) John broke the window.
(21) John broke the window.

He also cites ergative patterns of derivational suffixing; e.g. English formations with the adjectival suffix *-able* refer to a quality of either an intransitive subject as in (22) or to a transitive object as in (23) but not to a like quality of a transitive subject as in (24).

(22) S V\textsubscript{intr} *-able (perishable 'likely to perish')
(23) S V\textsubscript{tr} O *-able (washable 'able to be washed')
(24) S V\textsubscript{tr} O *-*-able (*washable in the sense of 'able to wash X')

However, Comrie regards such data as "having little value in terms of typological classification [...] unlike morphological and syntactic ergativity, which provide useful means of grouping together a number of parameters along which languages may vary" (ibid.)- We propose that covert categories and cryptotypes constitute important parameters along which languages may vary.

With all due respect to the field of linguistic typology, we take the position that a comparison of languages in terms of these hidden categories might lead to new typological insights, e.g. that covert conceptual ergative patterns could be a basis for their grammaticalization.
5. **Homage to Whorf and Concluding Remarks**

In conclusion, we regard Benjamin Lee Whorf's distinction between overt and covert categories as a major contribution to linguistics. With regard to the Linguistic Relativity Hypothesis, claims about how language shapes thought should not be based on superficial structural differences among languages (phenotypes) but on in depth analyses of linguistic systems that easily escape even the notice of linguists because they are deeply rooted in the subconscious conceptual system of language users.

**References**


