Thematic Proto-Roles and Zibun

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1 Introduction

Matters concerning zibun\(^1\) have been some of the most controversial issues in (particularly generative) linguistics. Zibun commands a long history of being the target of linguistic research and has received plenty of attention of linguists in general. This paper sheds—though in a preliminary fashion\(^2\)—new light on zibun with respect to its interpretation and is organized in the following manner. A brief overview of the past studies is given in section 2, providing the reader with the set of standard data. This section points out that the set of relevant facts are not treated uniformly, exhibiting an uneasy and arbitrary division of a single phenomenon into syntactic and pragmatic domains. In section 3, a new approach to zibun based on the thematic proto-role theory (Dowty 1989/1991) is introduced which is capable of furnishing a unified explanation for the disjunctively treated standard facts. With some modifications in section 4, the current system is shown to be able to provide coverage for previously undiscovered data introduced there. The new data expand zibun's horizon since they are problematic for any existing account.

2 Past treatments

Let us glance at some standard facts about zibun (more examples to follow) and examine the past proposals aimed at explaining them. Among the past accounts proposed, there are two categories: (a) syntactic and (b) pragmatic approaches.

2.1 Syntactic accounts

Syntactic accounts for zibun can come in various forms depending on the kind of theoretical framework assumed by them. However, since such accounts—regardless of a particular choice of a framework—are uniformly based on configurational properties of sentences, it seems to be reasonable to extract the essence of the accounts in a general way as below. (See Inone

\(^1\)Though basically an account for data of the form X-zibun ‘X-self’ can be provided along the lines of the current proposal, the data involving X-zibun are ignored here. However, it is noted in passing that the claim often made in the literature concerning the locality of X-zibun binding is false as the example below demonstrates.

(i) Taroo, -ga sono kiji-ga (hokadenai) zibun/kare-zisin, -o hihan-ta] -to kinsite-ru
-NOM that article-NOM none,other,than self/self-ACC criticize-PAST-COMP worry-PRES
‘Taroo, worries that the article criticized (none other than self),’

Clearly, zibun/kare-zisin in this example, does not have to be bound in the minimal local S domain containing it.

\(^2\)See Fukushima (in progress) for a more definitive statement on the subject matter.
(1976) for a summary of the classical transformational approaches. More recently, some try to derive the syntactic conditions seen in the text from LF movement and VP-adjunction (Kataoda 1991) or from binding by INFL (Aikawa 1993.).

(1) Syntactic conditions on zibun binding

- Subject condition: the antecedent of zibun has to be the subject.
- C-command condition: the antecedent has to c-command zibun.

According to such assumptions, the data in (2) below is expected. In (2a), Taroo is the c-commanding subject for zibun but the same NP is neither in (2b) and (2c). In (2d), both Hanako and Taroo are the c-commanding subjects for zibun.

(2) a. Tarooi -ga zibun1-o but-ta
   -NOM self-ACC hit-PAST
   'Taroo hit himself'

b. *[NP Tarooi -no otooto] -ga zibun1-o but-ta
   -GEN brother -NOM self-ACC hit-PAST
   '*Tarooi’s brother hit himself,'

c. *Zibun1-ga Tarooi -o but-ta
   self-NOM -ACC hit-PAST
   ' himself hit Taroo'

d. Hanako -ga [s Taroo2 -ga zibun1/-j-o home-ta]-to omot-ta
   -NOM -NOM self praise-PAST-COMP think-PAST
   'Hanako thought that Taroo praised her/himself'

With the assumption that causatives are syntactically complex involving S-embedding, the data below can also be easily accounted for. On some derivational stage, both Hanako and Taroo will be the c-commanding subjects, hence both are possible antecedents for zibun. So far so good.

(3) Hanako -ga Taroo2 -o/-ni [NP zibun1/-j-no ie]-de mat-ase-ta
   -NOM -ACC/-DAT self-GEN house-at wait-CAUS-PAST
   'Hanako made Taroo wait at her/his house'

2.2 Pragmatic accounts

It did not take a long time for researchers to recognize that the syntactic story told above about the distribution of zibun is incomplete (Kuno (1978) and Kameyama (1985); see also Sells (1987)). An examination of the data in (4) is sufficient to show the inadequacy of the syntactic conditions. Here Taroo is neither the subject of the sentence nor c-commanding zibun.

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3 An account assuming the 'psych verb' status of karasimeta 'agonized' may be possible along the line of Belletti and Rizzi (1988). We ignore such an account for now but will come back to it below and show that such an account is also problematic.
(4) [s Zibun, -ga bakana]-koto-ga Taroo, -o kurusime-ta
    self-NOM stupid-COMP-NOM -ACC agonize-PAST
    'The fact that self, is stupid agonized Taroo,'

Faced with such data, the following pragmatic account was proposed.

(5) Pragmatic condition on zibun binding

- Zibun as a logophoric pronoun.
- Zibun is anteceded by a logophoric NP referring to an individual whose speech, thought, feelings, or general state of consciousness are reported.

In (4), a report is being made of Taroo, a logophoric NP, concerning his feelings, or general state of consciousness, making it a possible antecedent of zibun, a logophoric pronoun.

2.3 Summary

Upon summarizing the current state of affairs with regard to the treatments of zibun, the following picture (6) emerges. As correctly pointed out by Iida (1992)\textsuperscript{4}, the distribution of zibun which ought to be treated as a single phenomenon is unnaturally and arbitrary divided into disjunctive domains each of which operates independently according to unrelated rules and conditions.

(6) Disjunctive conditions on the antecedent of zibun

- C-commanding subject or ...
- A logophoric NP.

3 Proposal

3.1 Assumptions

One of the aims of the current proposal is to remedy the unnatural disjunctive accounts for zibun currently assumed in the literature and open up a possibility of treating various data involving zibun in a uniform manner. We begin with the basic approach in this section and then see how it can be extended to widen the coverage of the data in the next section. The key concept is that of entailment-theoretic THEMATIC PROTO-ROLE of Dowty (1989/1991)\textsuperscript{5}.

\textsuperscript{4}Iida (1992), in attempting to provide a uniform account for zibun, tries to reduce the task of zibun binding to the matters of pragmatic 'points of view' in conjunction with a minimal syntactic restriction. Such an approach appears to let some data slip though its coverage as shown below.

\textsuperscript{5}Dowty (1989) explicated a model-theoretic approach to thematic proto-roles in which an INDIVIDUAL THEMATIC ROLE (ia) is defined as a set of entailments (ib) made available for each argument of a predicate. Traditional thematic role labels such as 'agent', 'theme', etc. correspond to Dowty's THEMATIC ROLE TYPES (ic).

(i) a. Given an n-place predicate $\delta$ and a particular argument $x_i$, the INDIVIDUAL THEMATIC ROLE $<\delta, i>$ is the set of all properties $\alpha$ such that the entailment below holds.

\[ \Box [\delta(x_1, ..., x_i, ..., x_n) \rightarrow \alpha(x_i)] \]

b. TRIVIAL INDIVIDUAL THEMATIC ROLE ENTAILMENT

\[ \lambda x_i. \exists x_1, ..., \exists x_{i-1}, ..., \exists x_{i+1}, ..., \exists x_n [\delta(x_1, ..., x_i, ..., x_n)] \]
According to Dowty, thematic roles are not primitives but rather derived concepts utilizing independently available lexical properties (i.e., entailments) of lexical items. Also, instead of being discrete objects, thematic roles are located along the continuum of roles the dimension of which is characterized by the concepts of PROTO-AGENT (an 'agent-like' element) and PROTO-PATIENT (a 'patient-like' element). As seen in (7), both proto-agent and proto-patient are clusters of a verb’s entailments available for each argument of the verb.7

(7) a. PROTO-AGENT properties
   • volitional involvement in the event or state.
   • sentience (and/or perception).
   • causing an event or change of state in another participant.
   • movement (relative to the position of another participant).
   • (exists independently of the event named by the verb).

b. PROTO-PATIENT properties
   • undergoes change of state.
   • incremental theme.
   • causally affected by another participant.
   • stationary relative to movement of another participant.
   • (does not exist independently of the event, or not at all).

3.2 The basic account

Capitalizing on the proto-role theory, the basic account of zibun is deceptively simple as seen in the following convention (8a) with two ancillary definitions (8b, c).8

(8) a. Basic zibun interpretation (preliminary):

   c. Given a set T of pairs < i, i > where i is an n-place predicate and i is the index of one of its arguments (possibly a different i for each verb), a thematic role type \( \tau \) is the intersection of all the individual thematic roles determined by T.

It is noted, as pointed out by Dowty (1991), that thematic proto-roles are independently motivated in that, among other things including child language acquisition, they play a crucial role in predicting argument selection patterns of predicates—a semantic argument with more PROTO-AGENT properties will be lexicalized as the syntactic subject.

6In this way, Dowty’s approach is distinct from that of Jackendoff (1987) based on conceptual structures. In the latter, though they are also non-primitives, thematic roles are defined by employing the primitive vocabulary of conceptual semantics, namely predicates like BE, GO, TO, IN, AT, ORIENT, etc. Thus, in comparison to Dowty’s truly primitive-free characterization of them, Jackendoff defines thematic roles by employing other primitives.

7As emphasized by Dowty, it is important to distinguish entailments arising purely from the lexical property of a given predicate per se and those arising from the (pragmatic) inferences made based on a situation described by such a predicate. For example, if Mary hits John, he (being a live human) will certainly feel something (i.e., sentience below). But this is not what the predicate hit necessarily entails for the object argument since Mary can hit a rock as well.

8The convention is a revision of a previous formulation found in my oral presentations (Fukushima 1993). Also Inglis (1990) points out the relevance of thematic proto-roles for the interpretation of anaphors in English. In passing, it is noted that, though he is concerned with a much restricted range of data involving zibun, Uda (1993) independently proposes an account for zibun drawing on thematic proto-roles. The crucial difference between the current approach and Uda’s is that the former is purely semantic while the latter is partially syntactic in which a hierarchy of grammatical relation plays a role.
If an argument of a given semantic predicate possesses at least one proto-agent property, then it can be the antecedent of zibun contained in the (transitive) predicate-command domain of the predicate. Zibun contained inside of some element cannot be anteceded by that element.\(^9\)

b. Predicate-command (p-command):

A semantic predicate predicate-commands its arguments and adjuncts in a modificational relationship with it.

c. (transitive) p-command domain:

An element p-commanded by a predicate is in a p-command domain of the predicate. An element contained in a p-command domain of a predicate is in a transitive p-command domain of that predicate.\(^10\)

(8a) may appear to some to be equivalent to saying that the antecedent of zibun is a (traditional) 'agent' (whatever that may be). As demonstrated below, this is not true at all since the range of arguments that count as a proto-agent and that of a mere (traditional) 'agent' are far from identical. It is also emphasized that the current proposal avoids all conceptual as well as empirical problems encountered by an account of zibun (e.g. Momo (1985)) (or any other linguistic theory for that matter) that assumes primitive thematic roles such as 'agent', 'theme', etc.\(^11\)

3.3 Standard facts explained away

Let us consider some standard examples here to see the workings of the account proposed. Data given in (2) (repeated in (9)) is straightforwardly accounted for.

(9) a. Taroo ga zibun to but-ta (=1a))
     -NOM self-ACC hit-PAST
     'Taroo hit himself'

b. *[NP Taroo -no otooto] ga zibun to but-ta (=1b))
     -GEN brother -NOM self-ACC hit-PAST
     'Taroo’s brother hit himself,'

c. *Zibun ga Taroo -o but-ta (=1c))
     self-NOM -ACC hit-PAST
     'Himself hit Taroo'

d. Hanako ga [s Taroo ga zibun] to omot-ta
     -NOM -NOM self praise-PAST-COMP think-PAST
     'Hanako thought that Taroo praised her/himself'

\(^9\)This prevents zibun from making an infinite reference to itself.

\(^10\)This is similar to GPCG’s DOM\(^+\) predicate defined over syntactic feature structures (GKPS 1985). We take ‘contained in’ to be a transitive relation.

\(^11\)See Ladusaw and Dowty (1988) and Dowty (1991) for vexing problems faced by the traditional primitive approach to thematic roles and the employment of such concepts for linguistic research.
In (9a), Taroo will have several proto-agent properties made available by the predicate but 'hit' and zibun is in the p-command domain of the predicate. There will be no proto-agent entailments for Taroo in (9b) to be furnished by the predicate but—it is not an argument of the predicate. Though zibun is indeed in the p-command domain of the predicate in (9c), Taroo does not have any proto-agent properties. Rather it commands plenty of proto-patient entailments. In (9d), Hanako is the proto-agent of the matrix predicate omotta 'thought' and zibun is in the transitive p-command domain of the predicate. Also the same is true for Taroo with regard to the embedded predicate hometa 'praised' and zibun is in the p-command domain of it.

How would a causative sentence like (3) above (repeated in (10a)) be handled? Semantically, (10a) will be represented (with zibun indicated as x) as in (10b).

(10) a. Hanako, -ga Taroo, -o/-ni [NP zibun,/-no ie]-de mat-ase-ta (=3)
    -NOM -ACC/-DAT self-GEN house-at wait-CAUS-PAST

    'Hanako made Taroo wait at her/his house'

b. cause(Hanako', at-x's-house'(wait'(Taroo')))

Though it is assumed that causatives are syntactically simplex, mat-ase 'make.wait' is analyzed as semantically complex consisting of two predicates mat (wait') and (s)ase (CAUSE). Each (transitive) p-command domain of the two predicates contains zibun (x) and both predicates entail at least one proto-agent property for their arguments Taroo and Hanako, making both NPs possible antecedents for zibun in the respective domains.

Moving to the next type of data, we consider (4) (repeated in (11)). As recalled from the discussion in the previous section, (11) is different from the data in (2) and (3) in that the c-command subject condition fails, making it necessary to appeal to the pragmatic condition.

(11) s Zibun, -ga bakana/-koto/-ga Taroo, -o kurusime-ta (=4)
    self-NOM foolish-comp-NOM -ACC agonize-PAST

    'The fact that self, is foolish agonized Taroo.'

The way zibun is interpreted here is no surprise from the current point of view. Though Taroo is a syntactic object of the verb kurusime 'agonized', due to the lexical property of the predicate in question, there is at least one proto-agent entailment for Taroo, namely sentence. Zibun is in the transitive p-command domain of the predicate since it is included in the subject which is (directly) p-commanded by the predicate. This makes Taroo a legitimate antecedent of zibun.

Above, I have demonstrated that the range of data that has been treated disjunctively (i.e. syntactically or pragmatically) in the literature can indeed be handled as a uniform set of facts under the current proposal—a welcome result. Now we consider more data that are quite perplexing for an account based on a structural condition like c-command (including psych movement) or a pragmatic factor like logophoricity.
The novel contrast between (12a) and (12b) (also familiar (12c); see below) is totally unexpected from a structural point of view since they share the same structural configuration in the relevant respect. Semantically, however, the two are quite distinct. In (12a) kao-o massao-ni su ‘(Lit.) make (someone)'s face pale' is an idiom expression meaning 'surprise and upset (someone)’. This semantic property of the idiom expression gives rise to a proto-agent entailment (i.e. sentence) for Ziroo making it a possible antecedent of zibun just as in (4) above. In contrast, there is no idiomatic expression in (12b) entailing a proto-agent property for Ziroo, hence the impossibility of it to antecede zibun.

The contrast (12a) vs. (12b) above can also be accounted for by the logophoric condition but such an explanation is no use for (12c) where no reports are made about Ziroo's speech, thought, feelings, or general state of consciousness. The present system provides a straightforward account. All that has to be recognized is that the indirect object Ziroo (the possessor of the acquired fame) obtains at least one proto-agent entailment, namely existence independently of the event named by the verb motaraisita 'brought'. This is the same proto-agent property that a predicate like have entails for the subject who is a possessor in a sentence like John has a bike. (Of course (as in (11) above) many more proto-agent entailments are available for the subject zibun-no kootikusi-ta riron 'the theory that self constructed' but this subject, being an element containing zibun in addition to being inanimate, is disqualified as an antecedent for it.)

In this section it has been demonstrated that, in addition to some new data (like (12a, b)), the standard set of data involving zibun found in the literature can be accounted for in a uniform fashion under the present proposal based on the theory of thematic proto-roles. It is emphasized that the standard data set has traditionally received unnatural disjunctive treatments. In the next section I will introduce more new data that necessitate an extension of the current proposal. The extension, however, is not an abandonment of the central idea presented in this section. Rather, it retains a strong dependency on thematic proto-roles.

4 Extension

We have so far seen various types of data involving zibun that have appeared in the literature. However, they by no means exhaust the range of relevant facts. In this section
we will have an exposure to more data and expand the current system in order to account for them.

4.1 More data

We begin with the examination of the relevant data and make important observations about their properties. (13a) (so far unnoted in the literature as far as I can tell) establishes that any account that restricts the antecedent of *zibun* to a subject is incorrect. In (13a), not only the subject *Taro*o but also the (dative) indirect object *Ziro*o can be the antecedent of *zibun*. Faced with such data, simply dropping the subject condition is not good enough due to the fact that (13b) is ill-formed with *zibun* anteceded by *Ziro*o. In fact, these data are quite problematic for a configurationally-based (c-command, etc.) account since they have the identical structural properties.

(13) a. *Taro*o, -ga *Ziro*o,-ni [is (sonna toki-wa) *zibun*,-/-/-/-/-/-/-/-/ -/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/-/
doosiyoomonai ‘is helpless’, nasakenai ‘is disappointing’, tanomosii ‘is dependable’, tayorininaru ‘is reliable’, tuyoimikatada ‘is a strong ally’, etc.

b. Non-opinion predicates

bakada ‘is foolish’, but ‘hit’, hasir ‘run’, rikooda ‘is smart’, yaseteiru ‘is thin’, yotteiru ‘is drunk’, etc.

c. Taroo\textsubscript{i} -ga Ziroo\textsubscript{j} -ni [s (sonna toki-wa) zibun\textsubscript{i/+j/k}-ga -nom -dat such time-top self-nom
Hanako\textsubscript{k} -ni-totte tayorininaru] -to it-ta
-for reliable -comp tell-past

‘Taroo\textsubscript{i} told Ziroo\textsubscript{j} that self\textsubscript{i/+j/k} is reliable for Hanako\textsubscript{k} (at such a moment)’

The next data set (also unnoticed in the literature as far as I am aware) is (15) and exhibits a very interesting contrast. Again the data clearly shows that a structurally-based account is helpless in that the configurational properties of (15a, b) are completely identical in the relevant sense. It also argues strongly against a psych movement approach to zibun— if in (15a) kurusimeta ‘agonized’ is a psych verb with the ‘surface’ subject zibun in some ‘deep’ object position that can be c-commanded by the intended antecedent Ziroo on D-S, the example should be well-formed. Such an account will be evoked for the data like (4) above as well as (15b). It is also noted in passing that an account that assumes a ‘minimal’ syntactic condition (like the one found in Iida (1993)) requiring that zibun has to be commanded by some higher (or superior) element within a hierarchy of grammatical relation will be problematic faced with (15b).

(15) a. *Zibun-ga Ziroo -o kurusime-ta
   self-nom -acc agonize-past
   ‘Self, agonized Ziroo’

b. [NP Sonna/ Doosiyoomonai/ Tayorininaranai zibun] -ga Ziroo -o kurusime-ta
   such/ helpless/ unreliable self -nom -acc agonize-past
   ‘Such/Helpless/Unreliable self, agonized Ziroo’

Though the prediction according to the current system is correct with respect to (15b), it is incorrect with respect to (15a). The reason is that in both cases Ziroo will obtain a proto-agent entailment (sentence) from the predicate kurusimeta, hence a possible antecedent for zibun in either example. Something more has to be said about this also. However, whatever needs to be said will not be about the configurational properties of the sentences since the data in (16a, b) as a pair contrasts with the pair (15a, b) sharply. Despite the fact that all the sentences under consideration share the identical syntactic structures, Ziroo will never be able to antecede zibun in (16a, b).

(16) a. *Zibun-ga Ziroo -o but-ta (=1c))
   self-nom -acc hit-past
   ‘Self, hit Ziroo’
b. *[NP Sonna/ Doosiyoomonai/ Tayorininaranai zibun]-ga Ziroo-o but-ta  
such/ helpless/ unreliable self -NOM -ACC hit-PAST
'Such/Helpless/Unreliable self, hit Ziroo,'

4.2 Solutions

In this subsection, we consider possible solutions within the current framework to the interesting problems raised by the two types of data introduced above, namely the contrast in (13) and the contrast between (15) and (16).

4.2.1 Conventional implicature

Let us begin with the former, the contrast between (13a) and (13b) (repeated in (17)).

(17) a. Taroo,-ga Ziroo,-ni [s (sonna toki-wa) zibun,-i/-j-ga tayorininaru] -to it-ta  
-NOM -DAT such time self-NOM reliable -COMP tell-PAST
'Taroo, told Ziroo, that self is reliable (at such a moment)'

b. Taroo,-ga Ziroo,-ni [s zibun,-i/-j-ga bakada] -to it-ta  
-NOM -DAT self-NOM foolish -COMP tell-PAST
'Taroo, told Ziroo, that self is foolish'

The clue has already been offered when we considered the distinct lexical properties of the two classes of predicates in (14a, b). First, we recall that CONVENTIONAL IMPLICATURES (Grice 1975) arising from the lexical properties of a word give rise to presuppositions.13 Looking back to (14a, b) from this perspective reveals the fact that the two classes of predicates do differ with respect to their potential for evoking conventional implicatures.

The opinion predicates in (14a) are the ones that are used for expressing opinions and necessarily presuppose some evaluative action the dimension of which is specified by the individual predicates. For example, tayorininaru ‘is reliable’ (seen in (17a)) used in both declarative and negative sentences as in (18) presupposes the act of making an evaluation on Hanako along the dimension of reliability. In this case the opinion can be attributed to the speaker or the speaker can simply be reporting Taroo’s judgment. But the important point is that there will always be an act of evaluating involved and the same goes for the other predicates in the group.

(18) a. Hanako -wa Taroo -ni-totte tayorininar-u  
-top -for be.reliable-PRES
'Hanako is reliable for Taroo'

b. Hanako -wa Taroo -ni-totte tayorininar-a-nai  
-top -for be.reliable-PRES-NEG
'Hanako is not reliable for Taroo'

13It is emphasized here that the extended accounts proposed in this subsection (based on conventional implicatures) makes no appeal to an exclusively pragmatically-oriented wild card like CONVERSATIONAL IMPLICATURES arising from the way a given conversation is carried out. A clear line is drawn between the matters that can be predictable primarily from lexical properties of a word and those for which lexical properties play a secondary or no role at all.
In contrast to (14a), there is no such conventional implicature necessarily available for the non-opinion predicates in (17b). So, for example, bakada 'is foolish' (seen in (17b)) may or may not involve opinion formation—a speaker may simply be reporting a fact. For this particular predicate, there is a contingent implication for an evaluative action but, for others like but 'hit' in the same group, such an action is down right implausible.

The extended convention given in (19) below builds on the basic zibun interpretation in (8a) above.

(19) Extended zibun interpretation:

A lexically triggered conventional implicature can indirectly furnish a predicate whose proto-agent entailments can be used to determine the antecedent of zibun as done in the basic zibun interpretation.

With (19), the contrast in (17) is accounted for in the following way. In (17a), the fact that Taroo—the proto-agent of the matrix predicate itta 'told'—can antecedee zibun requires no further comments. Ziroo which in this sentence can plausibly be taken as an individual making an evaluative judgment presupposed by the predicate tayorininaru 'is reliable' will be taken as a proto-agent (with sentence) of the conventionally implicated predicate tayorinisu 'rely'. This in effect 'drags' Ziroo in to the p-command domain of the predicate tayorininaru where zibun is included, making Ziroo a possible antecedent.

What happens in (17b) is quite different where no conventionally implicated predicate can be furnished to make Ziroo a proto-agent of the predicate bakada 'is foolish'. Taroo which is the proto-agent of the matrix predicate itta 'told' is the only possible antecedent for zibun in this case.

4.2.2 Competition

Let us now consider the second challenge to the present (in fact any) account of zibun, namely the contrast between (15) and (16) (repeated in (20) and (21)).

(20) a. *Zibun,-ga Ziroo,-o kurusime-ta
    self-NOM -ACC agonize-PAST
    'Self, agonized Ziroo,'

    b. [NP Sonna/ Doosiyoomonai/ Tayorininarai zibun,-i] -ga Ziroo,-o kurusime-ta
    such/ helpless/ unreliable self -NOM -ACC agonize-PAST
    'Such/Helpless/Unreliable self, agonized Ziroo,'

(21) a. *Zibun,-ga Ziroo,-o but-ta (= (1c))
    self-NOM -ACC hit-PAST
    'Self, hit Ziroo,'

    b. *[NP Sonna/ Doosiyoomonai/ Tayorininarai zibun,-i] -ga Ziroo,-o but-ta
    such/ helpless/ unreliable self -NOM -ACC hit-PAST
    'Such/Helpless/Unreliable self, hit Ziroo,'
It is noted that in all the examples under consideration, \textit{zibun} is the syntactic subject. In addition, (20) involves the matrix predicate that can furnish a proto-agent entailment (sentience) to the direct object which can be the antecedent of \textit{zibun} only in (20b). The key to this puzzle resides in the combination between proto-agenthood and the presence of an opinion-laden evaluative modifier for the subject \textit{zibun} like \textit{sonna} 'such' and \textit{tayorinininaranai} 'unreliable' (c.f. the discussion on opinion predicates in the previous subsection).

One aspect of the proto-role theory that is not very clear from Dowty's (1991) discussion is the concept of 'competition' on a general level between elements with varying numbers of the same proto-role type entailments. In a more restricted domain like syntactic subject selection, the idea of competition play a significant role—the element with the largest number of proto-agent entailments will be lexicalized as a syntactic subject and \textit{mutatis mutandis} for the selection of a syntactic direct object.

For an explanation of the contrast seen in (20), we can appeal to the concept of competition and minimally revise the basic \textit{zibun} interpretation (8a) in the following way.

(22) Basic \textit{zibun} interpretation (revised):

\begin{quote}
Only an argument of a given semantic predicate possessing the largest number of \textit{proto-agent} properties can be the antecedent of \textit{zibun} contained in the (\textit{transitive}) \textit{predicate-command domain} of the predicate. \textit{Zibun} contained inside of some element cannot be anteceded by that element.
\end{quote}

Looking at (20a) from this perspective, we recognize that the subject \textit{zibun} commands the largest number of proto-agent entailments: (a) causing an event or change of state in another participant and (b) exists independently of the event named by the verb, while the direct object \textit{Ziroo} possesses only one such property: sentience. Thus the subject \textit{zibun} is the only possible choice for the antecedent but due to the restriction on self reference, it fails to be so, resulting in ungrammaticality. In contrast, the situation is different for (20b) where the direct object \textit{Ziroo} possesses the same number of proto-agent entailment tokens as the subject, namely \textit{two} instances of sentience. One is provided by the predicate \textit{kurusimeta} 'agonized' and the other is made available by the evaluative modifiers \textit{sonna}, \textit{tayorinininaranai}, etc. in a similar manner as described in the previous section via conventional implicature (see (19)). In this sentence \textit{Ziroo} can plausibly be considered to be making an evaluative judgment indicated by the modifiers. Though, as in (21a), the subject \textit{zibun} disqualifies as an antecedent for itself, the direct object with the same number of proto-agent properties can take over and antecede \textit{zibun} in the subject position.

The story is completely different for (21) both examples of which are ill-formed. The reason is that there is no proto-agent entailment whatsoever for the direct object of \textit{but} 'hit' in (21a). There are five such entailments for the subject \textit{zibun}: (a) volitional involvement (b) sentience (c) causing an event (d) movement (e) exists independently of the event named by the verb. But, again due to the prohibition on self reference, the subject is not a possible antecedent for itself. In (21b) the addition of the opinion modifiers as \textit{done} in (20b) does not help since, even after \textit{Ziroo} acquires one such entailment, it is still outnumbered by the subject \textit{zibun}. 

Finally, it is noted that (22) which is based on the idea of competition will not cause any inconsistency for the account of causative sentences like (3) above. The reason for this is that, though they are syntactically simplex with a case array of a simplex sentence, semantically causatives are analyzed as having a complex structure with two separate predicates each of which can provide an independent p-command domain for its arguments.

4.3 Summary

In this section we have seen how the set of more intricate data that have so far escaped the attention of researchers can plausibly be accounted for based on the basic zibun interpretation (8a) outlined in section 3. Though we have appealed to the additional concepts like conventional implicature and competition, in the center of the extended accounts remains the notion of thematic proto-role, particularly proto-agent.

5 Concluding remarks

Though what has been demonstrated here is far short of being complete with respect to explaining the behaviors of zibun, I have established the following points. First, the currently assumed disjunctive accounts is not only conceptually implausible but empirically incorrect. Second, aided by the concept of thematic proto-role, a unifying account can be formulated that is able to encompass both the standard and expanded set of data. I would like to close by pointing out some potential problems for the present account without offering any speculations on how to solve them (see Fukushima (in progress)).

The first problem is the treatment zibun in a passive sentence. According to Dowty (1991), all the relevant proto-role entailments are retained even after a syntactically active predicate is passivised. Following this naively seems to give rise to incorrect predictions by the current account—the interpretation of zibun should be the same in both passives and actives which is obviously not true as the data below can attest. Something more has to be said about them.

(23) a. Taroo,-ga zibun,-o home-ta
   -NOM self-ACC praise-PAST
   'Taroo praised himself'

   b. *Zibun,-ga Taroo,-ni home-rare-ta
      self-NOM       -DAT praise-PASS-PAST

A different sort of problem is encountered when considering a sentence like (24), an adapted version of familiar examples.

(24) [NP Zibun,-no sippai]-ga Ziroo,-no syusse-o samatage-ta
    self-GEN mistake-NOM Ziroo-GEN promotion-ACC hinder-PAST
    'His, mistake hindered Ziroo,'s promotion'

The problem here is that zibun and its antecedent are not in the p-command domain of the same predicate. The former is in the transitive p-command domain of the predicate
samatageta 'hindered' and the latter in that of (the nominal predicate) syusse 'promotion' where it is indeed a proto-agent. Since the two p-command domains are separate this renders the construal pattern in (24) unexpected from the current point of view. Again something more has to be said about this, too.

References


Fukushima, K.: in progress, 'Zibun Explained Away without Subject, C-command, or Logophoricity'.


