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 (hokadenomai) zibun/kare-zisin,-o hihans-ta] -to kinsite-ru
-NOM that article-NOM none,other.than self/-self-ACC criticize-PAST-NEG 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
(Katada 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. Taroo$_1$ -ga zibun$_1$ -o but-ta
-NOM self-ACC hit-PAST
'Taroo hit himself'

b. *[NP Taroo$_1$ -no ootoo] -ga zibun$_1$ -o but-ta
-GEN brother -NOM self-ACC hit-PAST
'*Taroo$_1$’s brother hit himself.'

c. *[Zibun$_1$ -ga Taroo$_1$ -o but-ta
self-NOM -ACC hit-PAST
'*Himself hit Taroo'

d. Hanako$_1$ -ga [s Taroo$_2$ -ga zibun$_{1/2}$ -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$_1$ -ga Taroo$_2$ -o/-ni [NP zibun$_{1/2}$ -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.\(^3\) Here Taroo is neither the subject of the sentence nor c-commanding
zibun.

\(^3\) An account assuming the ‘psych verb’ status of karurimeta ‘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.
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 **Taro**, 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)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)⁵.

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⁴Iida (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.

⁵Dowty (1989) explicates a model-theoretic approach to thematic proto-roles in which an **INDIVIDUAL THEMATIC ROLE** (i) is defined as a set of entailments (ii) 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 δ and a particular argument xᵢ, the INDIVIDUAL THEMATIC ROLE < δ, i > is the set of all properties α such that the entailment below holds.

□[δ(x₁, ..., xᵢ, ..., xₙ) → α(xᵢ)]

b. TRIVIAL INDIVIDUAL THEMATIC ROLE ENTAILMENT

λx₁, 3x₁, ..., 3xᵢ₋₁, ..., 3xᵢ₊₁, ..., 3xₙ[δ(x₁, ..., xᵢ, ..., xₙ)]
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) 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) a. Basic zibun interpretation (preliminary):

\[ T = \{ \text{agent}, \text{patient} \} \]

b. Given a set \( T \) of pairs \( \langle \delta, i \rangle \) where \( \delta \) 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.

In 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.

As 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.

The convention is a revision of a previous formulation found in my oral presentations (Fukushima 1993). Also Engdahl (1990) points out the relevance of thematic proto-roles for the interpretation of anaphors in English. In passing, it is noted that, though she 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.