Discussion

Grammar of binding in the languages of the world: Unity versus diversity

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ABSTRACT

Cole, Hermon, and Yanti (2015) present a number of far-reaching conclusions about language universals on the basis of their study of the anaphoric systems of the Austronesian languages of Indonesia. The present contribution critically assesses these conclusions. It reports a further set of data, and shows that contra to what these authors argue, the systems they discuss can be straightforwardly accounted for by a simple set of universal principles plus properties of the vocabulary of the languages involved. I conclude this article with some remarks on acquisition.

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1. Introduction

Over the last few decades the number of languages that have been studied in detail has greatly increased. And, concomitantly, the diversity of the patterns for binding phenomena discovered (Bennis, Pica, & Rooryck, 1997; Cole, Hermon, & Sung, 1990; Dalrymple, 1993; Faltz, 1977; Frajzyngier & Curl, 2000; Koster & Reuland, 1991; Lust, Wali, Gair, & Subbarao, 2000; Pica, 1987; and recently, for instance, Déchaine & Wiltschko, in press). The work on Peranakan Javanese and Jambi Malay reported in Cole, Hermon, and Yanti (2015), henceforth CHY, adds a significant contribution.

One of the challenges linguistic theory faces is how to understand this diversity and to determine what it tells us about the nature of language and the cognitive system underlying it. This goal I fully share with CHY, just like the fascination for hitherto less well-studied languages and the conviction that the careful study of these languages is crucial for meeting this challenge.

CHY study variation in the domain of binding, that is, the way in which the counterparts of expressions like *him*, or *himself* depend on other expressions for their interpretation. Their conclusions are far-reaching. As they say: "If our claims are correct, it cannot be Universal Grammar plus properties of the vocabulary of the language alone that constitute the totality of our grammatical competence." They continue saying that "the solution to that problem [=the poverty of the stimulus AU] must reside at least in part in special properties of the grammar construction tools available to the language learner . . .."

This conclusion is important, since it immediately bears on what Baker (2008) refers to as the Borer–Chomsky conjecture, a conjecture that plays a prominent role in the current study of linguistic variation: *All parameters of variation are attributable to differences in the features of particular items (e.g., the functional heads) in the lexicon.* If CHY are right, this conjecture must be false in the domain of binding, that is, the way in which expressions like *him*, or *himself* depend on other expressions for their interpretation. This would constitute a more direct way of evaluating this conjecture than Baker proposes.

The facts CHY discuss are intriguing, just like the issues these raise, but their overall interpretation of the facts is not warranted. In this response I identify a number of claims that cannot be maintained or should be qualified, and present an alternative interpretation of the facts, using a theory that is designed to account for the diversity, but is based on a common core that languages share, and is compatible with the Borer–Chomsky conjecture.

2. The facts and their implications

As CHY argue, the classical binding theory (Chomsky, 1981; Chomsky, 1986), henceforth CBT, posits a strict division between anaphors ('reflexives') and pronominals. This is reflected in two conditions. *Condition A* says that anaphors, elements like English *himself*, must be bound in their local domain (roughly the domain of the nearest subject). *Condition B* expresses that pronominals,

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elements like English *him*, should not be bound in this local domain (and may – but need not – be bound in a larger domain). CHY argue that the classical binding theory cannot be maintained on the basis of two observations. One concerns the existence of a third type of element in a number of Austronesian languages spoken in Indonesia, which they refer to as a 'binding theory exempt anaphor', in short 'BTE anaphor'. The other concerns the variation between two dialects of the language Jambi. I will start with the former issue, and later come back to Jambi.[1]

The notion of a BTE anaphor is illustrated in (1) (CHY's (14)), on the basis of Peranakan Javanese, with the dependencies indicated by indices:

(1)	Ali$_j$ ngomong nek aku pikir [Tono$_i$ ketok awake dheen$_{i/j/k}$ nggon kaca].
	Ali N.say COMP 1SG think Tono see body.3 3SG in mirror
	'Ali said that I thought that Tono saw himself/him in the mirror.'

Unlike English *himself*, but like *him*, *awake dheen* can have an antecedent beyond the local subject, or receive a value from the discourse (index k). Yet, unlike English *him*, but like *himself* it can also have its local subject as an antecedent. Elements with similar properties to *awake dheen* occur in virtually all languages of this group.[2] On the basis of the behavior of *awake dheen* in VP-ellipsis CHY show that the pattern observed cannot be accounted for by *awake dheen* just being ambiguous. Hence it has to be indeterminate as to its status as a reflexive or a pronominal. Therefore, they argue, the CBT cannot be correct.

Note, however, that this is not a new result about the CBT. It has already been established many years ago that the CBT is an approximation – too bad to be true, but too good to be false, as summarized in Reuland (2011a: 6), see also Chomsky (2013).[3] The presence of SELF-anaphors in English with a non-local antecedent or without a linguistic antecedent at all (exempt/logophoric in the sense of Pollard & Sag, 1992; Reinhart & Reuland, 1991, 1993), the pervasive cross-linguistic contrast between complex anaphors such as Dutch *zichzelf*, or Norwegian *seg selv*, and simplex anaphors like Dutch *zich*, or Norwegian *seg* (Everaert, 1986; Reinhart & Reuland, 1991, 1993), the existence of unbound ('logophoric') anaphors like *sig* in Icelandic (Reuland & Sigurjónsdóttir, 1997; Thráinsson, 1991), and locally bound pronominals in Frisian (Everaert, 1986, 1991) and other languages, already showed that a binding theory based on the features [α pronominal/β anaphor] is untenable. Many more puzzling facts have been discovered over the years and led to an approach analyzing binding into more primitive notions (see the literature cited for analyses and explanations). Also the existence of BTE anaphors is in fact not a new observation. Jayaseelan (1997) already showed that Malayalam *taan tanne* can be locally bound, but need not be. *Taan tanne* was analyzed and accounted for in Reuland (2001). Moreover, based on the facts presented in Cole, Hermon, Tjung, Sim, and Kim (2008), *awake dheen* itself has been discussed in Reuland (2011a), and given a similar analysis as *taan tanne* (see Section 4.2).[4]

This contribution addresses the challenge posed by this variation. Summarizing the approach of Reuland (2011a), I will show how it can account for recurring patterns in cross-linguistic variation on the basis of three simple universals.

3. Toward an explanatory theory of binding conditions

CHY discuss conditions on binding, but they leave open how binding dependencies are grammatically represented. This issue is crucial, however, for an understanding of the status of these dependencies with respect to UG. What we know about the representation of these dependencies in fact provides the key to a different interpretation of the facts than CHY arrive at.[5]

As is uncontroversial since Chomsky (1995), the main ingredient of the CBT, syntactic indices, cannot be part of UG. Consequently, as current work on binding agrees on, the canonical binding conditions as such cannot be part of UG either; they should be derived rather than stipulated (Hornstein, 2000 and subsequent work; Rooryck & Vanden Wyngaerd, 2011; Safir, 2004, and works by the present author including Reuland, 1995, 2001, 2011a).[6] Reuland (2011a) presents a detailed proposal of how locality conditions on binding can be derived from more primitive notions. (For a succinct exposition, see Volkova & Reuland, 2014, henceforth V&R.) The following paragraphs present a condensed overview. As will be shown, the existence of 'BTE anaphors' is not an anomaly, but in fact follows from this approach.

Crucially, in this view, the way in which anaphoric dependencies are represented in natural language is determined by the interplay of the semantic relation of binding with lexical, syntactic, and discourse related properties of the sentence, together with a general principle of processing economy *Minimize unresolved dependencies*. Dependencies can in principle be resolved by syntactic, semantic or discourse processes, governed by an *economy* hierarchy *morpho-syntax < semantics < discourse* (where '<' means 'is less costly than', see Koornneef, Avrutin, Wijnen, & Reuland, 2011; Reuland, 2011a: chap. 4).

As will be discussed in the next sections, the locality restrictions on binding are captured by the system in (2) (replacing the canonical conditions A and B):

(2) a. *Locality restrictions on binding*
   i. *Reflexivity condition*: Reflexivity must be licensed;
   ii. *Chain condition*: Only the highest element in a syntactic dependency (a 'chain') can be fully specified for syntactic features;
   iii. A *Rejection is final* principle: If the derivation of a particular interpretation of a certain expression in a given component of the language system violates a fundamental principle of grammar, this derivation is canceled. Hence access to subsequent components in the hierarchy to derive precisely the same interpretation for the given expression is prohibited.

 b. *Feature determinacy thesis* (FDT)
   Syntactic binding of pronominal elements (including anaphors) in a particular environment is determined by their morphosyntactic features and the way these enter into the syntactic operations available in that environment.