Grammatical Categories in Australian Languages

edited by R.M. W. Dixon

Linguistic Series No. 22
Australian Institute of Aboriginal Studies
Canberra

Humanities Press Inc., New Jersey U.S.A.

1976
76. Arabana-Wanggagur and Ñagandji

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This note presents data on i as transitive/causative stem-final vowel in verbs from Arabana-Wanggagur [Wanggagur] (originally spoken in the Simpson Desert region of South Australia) and from Ñagandji [Ñagandji] (spoken in the Darling River basin, New South Wales).

Arabana-Wanggagur

In Arabana-Wanggagur the stem of verbs ends in -a or -i. Verbs ending in -a may be intransitive or transitive: yuga- 'to go'; hida- 'to hit'. Verbs ending in -i are usually transitive, though there are many exceptions, for example: idji- 'to lie round', 'to exist', pari- 'to fly'. Intransitive verbs ending in -a may be turned into transitive/causative verbs by the substitution of i or -a as in:

yuga- 'to go'  yugi- 'to move (a sick person)', 'to drive a car'
gudnu- 'to lie', 'to sleep'  gudni- 'to put down'
ganda- 'to sit'  gandi- 'to lay (eggs)', 'to give birth'
ganji- 'to fall (of rain)'  gandi- 'to make rain'
dari- 'to stand'  dargi- 'to raise up'
djiga- 'to return'  digi- 'to take back'

More rarely transitive verbs in -a may be turned into causative verbs in -i.
galha- 'to gather'  galbi- 'to bring about an increase (by ritual means)'

Ñagandji

In Ñagandji the situation is similar to Arabana-Wanggagur. Both transitive and intransitive verbs may end in any of the three vowels -a, -i, -u. But there are a number of intransitive verbs ending in -a which correspond to transitive/causative verb stems ending in -i, for example:

ibá- 'to lie down'  íbi- 'to put down'
bura- 'to fall out' (teeth)  buri- 'to pull out'
baba- 'to lock up'  babi- 'to cause someone else to be locked up',  'to do someone in'

This evidence, combined with the slightly more complex situation in Dieri (causative stem-forming affixes -iba and -ingana) shows that the use of stem-final -i as a transitive/causative marker was well established over a large part of eastern Central Australia.

77. Ergative/Accusative' Typologies in Morphology and Syntax

Jeffrey Heath

1. Morphology

The syntactic typology developed by Dixon which classes languages as syntactically 'ergative' or 'accusative' is obviously modelled on the well-known typology of case systems as ergative, accusative, and other types. Before discussing Dixon's typology, I would like to make some remarks about the morphological typology, since I feel that even this has been misunderstood by most linguists.

In defining morphological ergativity and accusativity, most linguists have taken for granted the opposition between the two major transitive categories, TS (transitive subject) and TO (transitive object). This leaves IS (intransitive subject) as the pivotal category. If IS is combined with TS into one case, we have the accusative system—so called because the marked case is the accusative TO category. If IS is combined with TO we get the ergative type, with IS in the marked ergative case. In both types the unmarked category is called nominative; this covers IS and TS in the accusative type and IS and TO in the ergative one.

In my view, this explanation of ergativity and accusativity is both oversimplified and misleading, precisely because the emphasis is on IS. In fact, the treatment of IS is invariable and hence predictable; in both accusative and ergative types it is put in the unmarked nominative case. The question really is this: which (if any) of the transitive categories is to join IS in the unmarked case? In other words, which of TS and TO is to be taken as the unmarked member of the TS-TO pair? In accusative languages, TS is the unmarked transitive category; in ergative languages it is TO.

It is true that the fieldworker analysing a particular language must work from a different direction. In his attempt to discover what kind of case system the language has, he uses the following algorithmic recipe:

- step 1—discover the form of the IS category;
- step 2—discover the forms of the TS and TO categories;
- step 3—compare IS with TS, and compare IS with TO;
- step 4—if IS matches TS we have the accusative system, whereas if IS matches TO we have the ergative system.

In this discovery procedure, then, the role of IS is crucial. The only way we can reliably ascertain which of the two transitive categories is relatively unmarked is to compare them one by one with IS, which we know in advance is in the least marked case.

Unfortunately, linguists have hopelessly confused this discovery procedure with the theoretical analysis of the systems in question. If I am right, the fundamental difference between ergative and accusative language lies in their treatment of TS and TO with respect to each other. The two possible surface equations, IS = TS and IS = TO, are trivial and automatic consequences of the decision which is made regarding the relative markedness of TS and TO. It is only because such surface equations are tangible, while underlying dynamics are not, that our discovery procedures must be based on the
former. However, to dress a discovery procedure up as a theory—to confuse a test with an explanation—is to make the same dreadful mistake which led to such sterility in American descriptive linguistics in the thirties and forties.

Since these concepts are important for syntactic typology as well, I will go into more detail as to how I think morphological case systems arise (synchonically). Out of the primeval semantic gelatin, where each NP is marked for a specific semantic role (for example, 'agent of hitting' recipient of gift', etc.), each language gradually builds up conglomerate categories of similar role functions, resulting in a system with a number of categories like Agentive, Patiientive, Instrumental, etc. I take these as ill-defined and theoretically invalid, though heuristically useful, categories, and do not assign them theoretical primacy or absolute universality as does Fillmore. However, at levels close to the concrete semantic level the confusions of very specific categories into slightly more general and abstract ones is probably universal in its broad direction, if not in its details. For the purposes of this paper, then, we can think of a universal Fillmorean system with a dozen or so conglomerate categories occurring at a fairly deep level in all languages.

In general, still further confusions will be needed to map this Fillmorean system onto the surface morphological system, but these mapping processes begin to lose their universality the closer we get to the surface. Most languages, as an important step in the formation of the surface system, create an IS category which essentially covers all 'major' NPs which do not co-occur with another major NP in the same clause. I will not attempt a formal definition of 'major' here, but basically it covers the Agentive and Patiientive.

Not all languages create such an IS category, however. In Choctaw (Mississippi), there is an agentive case, a patiientive case, and a dative case in the case system used with pronominal affixes in the verb. Some instances of what would be IS in English are agentive, others are patiientive and a handful of others are dative. The same cases recur in transitive and doubly-transitive combinations, so we can have agentive-patiientive transitive forms, patiientive-agentive transitive forms, and the doublytransitive clause type with all three cases represented. In effect, then, Choctaw freezes its system at a deeper level than do the languages which create a (semantically nonunitary) IS category. The Choctaw cases have a much clearer semantic basis than do such categories as nominative and accusative in English. I call the Choctaw type the multiple-intransitive type (subdivisible as double-intransitive, triple-intransitive as in Choctaw, and so forth). The type with an IS category I call single-intransitive. Although there are very few multiple-intransitive languages, the distinction between multiple- and single-intransitive systems is, from the structural viewpoint, the most significant bifurcation which can be made among the various types of case systems.

As long as there are two or more intransitive cases like agentive and patiientive, it may be difficult to determine which case (if any) is unmarked morphologically. In Choctaw, for example, the agentive and patiientive are about equally common, equally well-distributed, syntactically, and of about equal semantic importance and specificity. In such languages, therefore, it may well be that no single case can claim to be the least marked category.

In the single-intransitive type, there are three easily distinguishable possibilities, depending on how the two transitive categories, TS and TO, are treated. TS covers all instances of semantically Agentive NPs, and TO covers all Patiientive NPs, aside from those which have become ISs. TS and TO may also have absorbed some NPs from other semantic categories.

If TS is taken as unmarked with respect to TO, the former goes into the unmarked nominative case. Since this case has already been automatically assigned to IS, we have an equation IS = TS. This is the accusative system.

On the other hand if TS is taken as unmarked, it goes into the nominative, we have an equation IS = TO, and we call the system ergative.

The final possibility within the single-intransitive type is that both TS and TO will remain marked. Since IS is in the unmarked nominative case, neither IS = TS nor IS = TO will be valid equations. TS will be ergative, and TO accusative. Although several terms have been suggested by various people as labels for this type of system (Silverstein's term 'agentive' being the latest contribution), I find none of them either widely acceptable or aesthetically satisfying, and suggest the term doubly-marked.

Other single-intransitive systems can be formed by combining the accusative, ergative, and doubly-marked systems in various ways. Those 'split' systems where the choice depends on substantial hierarchies have been discussed in detail by Silverstein (this volume). Dyrbal and Rithang are examples of languages showing all three subtypes. Dyrbal, for example, has an accusative system for personal pronouns, the doubly-marked system for the human interrogative pronoun 'who', the ergative system for inanimate and many other nouns, and either the doubly marked or ergative systems for personal names and some other human nouns.

The steps in the formation of the surface systems can be schematised as in:

Fillmore system

A: creation of IS category.
B: TS unmarked, TO marked.
C: TS and TO both marked.
D: TS marked, TO unmarked.
E: (in all systems) IS unmarked.

No process as such is necessary to link the Fillmorean system with the multiple-intransitive one, since the two are fundamentally identical.

I would emphasise that the doubly-marked system is intermediate between...
the ergative and accusative systems. In the ergative system the pendulum swings one way (so to speak), in the accusative system it swings the other way, but in the doubly-marked system it is in the middle. I say this since 1 view the formation of subtypes of the single-intransitive system as essentially a conflict between TS and TO for morphological primacy, and in the doubly-marked type the two are in equilibrium. A concrete manifestation of the intermediate status of the doubly-marked type is the fact that in split systems such as those investigated by Silverstein, the doubly-marked type is always lower in the hierarchical order than the accusative system, but higher than the ergative one (for example, Ritharrngu, Dyirbal).

2. Syntax

Dixon's ergative/accusative syntactic typology was largely formulated within the context of 'classical' transformational grammar, the version of generative grammar which was dominant in the sixties. It is now no longer generally adhered to either in its original solution to the problem of semantic relations or in its generative semantics. The principal distinguishing feature of classical TG was its generation of underlying structures by means of PS rules, of which the first two for English were the following (given in simplified form):

$$\text{PS-1: } S \rightarrow \text{NP} \text{ VP}$$

$$\text{PS-2: }\text{ VP } \rightarrow (\text{NP} \text{ V})$$

An intransitive clause resulted if the optional NP in PS-2 was omitted; if it was present we got a transitive structure. On the basis of these rules, it was possible to define a 'subject' category as the case of the NP introduced in PS-1, or in terms of tree diagrams as an NP not dominated by a VP node. In other words, the accusative case system (with IS = TS) could be regarded as a natural derivative of the PS rules.

It was also possible to see how an ergative system could be generated by this kind of rules. One way of doing this was to take the NP in PS-1 as representing the IS or TO, and the optional NP in PS-2 as the TS. Alternatively, we could rewrite the rules altogether as PS-1' and PS-2':

$$\text{PS-1': } S \rightarrow (\text{NP} \text{ V})$$

$$\text{PS-2': }\text{ VP } \rightarrow \text{NP V}$$

Again the optional NP, this time in PS-1', is the TS and the obligatory NP, here in PS-2', is the IS or TO.

In the context of this theory, it seemed that every language had to be, at the deepest level, either ergative (IS = TO) or accusative (IS = TS), since these were the only systems which could be conveniently generated by such PS rules. Not much was made of this at first, since none of the linguists who mattered knew any ergative languages. However, Dixon's research on Dyirbal led him to conclude that this was a language with an underlying ergative organisation, as opposed to the many better-known languages with accusative deep structures. Dixon found evidence for underlying ergativity primarily in the workings of the rules creating 'topic chains', rules which were triggered and blocked by networks of coreferentiality and non-coreferentiality among major NPs in juxtaposed clauses.

It is clear from reading Dixon's grammar (1972) that he regarded Dyirbal as ergative to the core. That is, he believed that Dyirbal base forms, at the deepest level prior to any transformational operations, were already ergative in structure, with IS and TO in equivalent positions distinguishable from that of TS. The ergative behaviour of Dyirbal clauses in the topic-chain transformations was regarded as a consequence of this underlying ergativity. This is an important point: ergative base forms come first, and ergative syntactic behaviour is a result of them.

Unfortunately, the trend of TG has been away from this way of conceptualising the formation of underlying structures. It is now clear that deeper, more semantic, underlying representations are necessary, roughly along the lines indicated by Fillmore and others (we do not have to accept the details and paraphernalia of Fillmore's theory to profit from its fundamental concepts). For example, no PS rules like those shown above can account for the multiple-intransitive, semantically-based case system of Choctaw mentioned earlier. So we have to start from deep structures where semantically-heterogeneous surface categories like nominative are missing, and where instead we have more concrete and specific case categories like Agentive and Patientive (even these may need to be broken up). To arrive at the surface morphological system, it is necessary to envisage several mapping processes, including straight mergers, context-sensitive hierarchical rules (for example, the 'highest-ranking NP becomes nominative'), etc., linking the deepest case system to the surface system. In a few languages we can see clear traces of intermediate stages in this development; in Choctaw, for example, we have the semantically-based agentive/patientive/dative system with pronominal affixes in verbs, but also a binary subject/oblique system for independent substantives and it is clear that the latter is derivable from the former by a simple hierarchical rule.

In this light it begins to appear as though there is no underlying ergativity or accusativity: rather, there are differences in the way the more or less universal semantic cases are amalgamated into surface categories. This removes some of the attractiveness from a typology which asserts that all languages are either ergative or accusative at a deep level.

One consequence of this is that it is no longer possible to maintain that ergative syntactic behaviour is an automatic consequence of pre-existing structural characteristics. Instead, we now have deep structures which are neither ergative nor accusative. The definition of syntactic ergativity must now be in terms of syntactic behaviour—the way transformations operate, not the form of the inputs supplied to them by PS rules. Dyirbal is syntactically ergative to the extent that topic-chain rules work on an ergative basis; English is syntactically accusative to the extent that its transformations operate on accusative principles.

The next problem is deciding what kinds of syntactic evidence we are prepared to admit in trying to decide how a given language should be categorised. Unfortunately, there are many kinds of evidence which can be thought of, and in some languages certain syntactic phenomena suggest ergativity while others suggest accusativity. The diversity of evidence adduced in the papers contributed to this section of the conference confirms this point with painful clarity.

Blake, in pre-circulated materials, attempted to define more precisely the criteria for determining syntactic ergativity and accusativity, so that the information collected on various Aboriginal languages would be directly
comparable. This was a welcome step (and would have been more welcome had contributors paid more attention to it). What I now wish to do is to formulate more precisely the kinds of phenomena which I, along with Blake, consider most useful in this connection. In doing so, however, I will suggest that the binary ergative/accusative syntactic dichotomy is too oversimplified and rigid to account for even the rather limited syntactic phenomena at hand.

Suppose we have a transformation applying to a two-clause configuration like the following:

\[ S_1: \text{NP}_1 \text{NP}_2 \text{NP}_3 \text{Verb} \]
\[ S_2: \text{NP}_1 \text{NP}_4 \text{NP}_5 \text{NP}_6 \text{Verb} \]

Suppose further that the transformation involves a choice between two possible structural changes P and Q (at most one of which is null), and that the choice depends on whether one particular cross-clause NP pair is coreferential or not. For example, if NP\textsubscript{3}/NP\textsubscript{4} is the triggering NP pair, then P operates if NP\textsubscript{3} = NP\textsubscript{4} and Q operates otherwise. None of the other NP pairs (NP\textsubscript{1}/NP\textsubscript{4}, NP\textsubscript{2}/NP\textsubscript{5}, etc.) has any bearing on the choice between P and Q.

Given such a rule, or an extended and more elaborate version of it as in Dyirbal (where more than one NP pair can be relevant and where there are more than two possible operations), we have a basis for a syntactic typology so long as S\textsubscript{1} and S\textsubscript{2} are allowed to take a representational set of forms. For example, if any kind of clause can function as S\textsubscript{1} (which need not have exactly three NPs), there must be some general rule or convention determining which NP will act as the triggering NP. Suppose, for example, that the rule is as follows: the triggering NP in S\textsubscript{1} is the IS of an intransitive clause and the TS of a transitive clause. This could be taken as evidence of syntactic accusativity. On the other hand, if the triggering NP were defined as the IS or TO, we would have evidence of syntactic ergativity.

There are some problems, however. One is that our transformation operates on two clauses at once, S\textsubscript{1} and S\textsubscript{2}. In many instances the rule for finding the triggering NP in S\textsubscript{1} is not the same as the rule for finding the other triggering NP in S\textsubscript{2}. Suppose the rule for S\textsubscript{1} is accusative and the rule for S\textsubscript{2} is ergative?

Examination of the precirculated Blake materials shows that he is interested only in the rule for S\textsubscript{2}, the subordinated or dependent clause, and makes no reference to the rule for the main clause S\textsubscript{1}. This choice is entirely arbitrary, and I fail to see any reason why S\textsubscript{1} is less worthy of attention than S\textsubscript{2}. If we are to eventually acquire some understanding of the functional principles behind the selection of particular triggering NPs as opposed to others, we must realise that the selection conventions are really choosing a pair of NPs. It is my belief that there are universal functional principles at work in forming each language’s rules for selecting the two triggering NPs, and that these principles can be discovered and appreciated only by looking at pairs of triggering NPs, rather than at individual NPs.

The second problem is that the language may have more than one transformation of this kind, applying to different kinds of constructions, and that the selection conventions will differ from one to another. English is such a language, since there is an Equi-NP Deletion rule applying to complement-phrase constructions, and a similar deletion rule applicable to gerundial clauses. The rule for determining the triggering NP in the main clause S\textsubscript{1} differs from the first rule to the second. Furthermore, it is possible to consider Relative-Clause Formation as another example of the rule type we are dealing with, and in this transformation the rule for choosing the triggering NP in both S\textsubscript{1} and S\textsubscript{2} differs from the corresponding rules for deletion.

Therefore, in order to provide a meaningful typological summary of how triggering NPs are chosen in a given language, the typology must be complicated. It must cover the choice of triggering NP in both the main and dependent clauses, and it must recognise that different transformations can choose triggering NPs differently.

On the assumption that we are able to typologise a number of languages on these criteria, we still have the question of how the languages should be compared to each other. Suppose language X has a transformation of the type we are interested in, applying to complement-phrase constructions, and that in language Y the only relevant transformation applies to relative constructions. We are likely to find that the rules choosing triggering NPs in X’s transformation are quite different from those in Y’s. On the basis of this evidence, are we really justified in saying that X and Y are fundamentally distinct linguistic types? I would answer no, since the transformations in question apply to different construction types (complement-phrase constructions in X, relatives in Y), and are therefore not directly comparable.

In surveys of five or six languages that I have some knowledge of (English, Chocotaw, Basque, Arabic, Dyirbal, Nunggubuyu, Turkish), I find that if we restrict our attention to one construction type at a time we find considerable uniformity among languages. In those languages with a well-defined adjoined or gerundial construction subject to a transformation of the type described above (English, Chocotaw, Basque, Turkish, Dyirbal), we find that the triggering NPs are chosen in the same way (IS or TS in both clauses), except that Dyirbal gives roughly equal priority to IS and TO in transitive clauses. Those languages with a well-defined complement-phrase construction type distinct from adjunctions (English, Basque, Turkish, possibly Nunggubuyu) choose triggering NPs in basically the same way in the relevant transformations applicable to these structures (triggering NP in S\textsubscript{1} is IS or TS, triggering NP in S\textsubscript{2} is chosen by a more complex rule sensitive to specific choices of main-clause verb and other factors). Finally, those languages which have such transformations applying to relative constructions formally distinct from adjunctions (English, Basque, Dyirbal, Turkish) show similar selection rules (triggering NP in main clause S\textsubscript{1} is the head noun, triggering NP in dependent clause S\textsubscript{2} is whichever NP is coreferential to the head).

In other words, it begins to look as though the relevant selecting triggering NPs are largely predictable on the basis of the construction types to which the transformations in question apply. The principal point on which languages can differ, and therefore the most suitable basis for a meaningful typology, is simply the range of syntactic constructions to which transformations of the type we are interested in are applicable.

Before we can offer generalisations with any certainty, it is necessary to obtain sketches of as many languages as possible describing how triggering NPs are chosen. In such typological sketches the following information is required: (a) what are the formally distinct construction types affected by the transformations in question? (Note that such concepts as ‘relative clause’ may mean different things in different languages, and may be inapplicable to some); (b) for each distinct transformation, how are the triggering NPs in both clauses chosen?
Some terminology which may prove useful:

**Triggering NP:** as defined above.

**Strict complex ID rule:** the type of transformation we have been discussing, such that the choice of transformational operation (P, Q, etc.) is rigorously determined by the coreferentiality or noncoreferentiality of particular cross-clause NP-pairs. 'ID rule' because triggered by referential identities, 'complex' because involving two-clause constructions, 'strict' because the triggering NPs are chosen in a rigorous fashion (unlike English Anaphoric Pronominalisation, for example, where the antecedent can be any of several NPs).

**Controlling clause:** the main clause in a strict complex ID rule, \(S_1\) in the schema shown earlier.

**Dependent clause:** the other clause (\(S_2\)) in such a rule.

**Controller:** the triggering NP in the controlling clause.

**Controller- and pivot-selection rules (or, selection rules):** the rules or conventions which determine which NP in the controlling clause will be the controller, and which NP in the dependent clause will be the pivot.

**Independent selection rules:** a controller-selection rule which operates solely on the basis of the internal structure of the controlling clause without taking the dependent clause into consideration; a pivot-selection rule operating solely on the basis of the internal structure of the dependent clause.

**One-ended scanning selection rule:** a controller-selection rule which scans the controlling clause to try to find an NP coreferential to an already-selected pivot; a pivot-selection rule which scans the dependent clause to try to find an NP coreferential to an already-selected controller.

**Two-ended scanning selection rule:** a rule which scans both clauses simultaneously trying to find a coreferential NP-pair to function as controller and pivot.

The three types of selection rules can be combined in the following ways for a given strict complex ID rule: (a) both controller- and pivot-selection are independent, so that the controller and pivot are chosen separately and only then compared to see if they are coreferential (example: English Equi-NP Deletion); (b) the controller is chosen by an independent rule, but the pivot is chosen by a one-ended scanning rule testing various dependent-clause NPs for coreferentiality to the already-selected controller (example: English Relative-Clause Formation, where the dependent clause is scanned for an NP coreferential to the head noun, which acts as controller); (c) the pivot is selected by an independent rule, but the controller is chosen by a one-ended scanning rule (I know of no examples, and this combination may be impossible in practice); (d) both controller and pivot are chosen by a single two-ended scanning rule (example: Dyirbal Topic-Chain Formation, which scans both clauses, examining NP-pairs like \(TS_1/TS_2\) and so forth for coreferentiality).

3. Dyirbal

Since I hope to give a fairly detailed exposition of Dyirbal topic-chain phenomena elsewhere, I will merely outline my approach to the problem here. I will assume that readers are familiar enough with Dixon's grammar (1972) to be able to follow the highly-condensed analysis which I will provide here.

The most important strict complex ID rule is Topic-Chain Formation (in which I include the gap-Transformation, the pura-Transformation, and so forth). Given a string of \(n\) clauses, the rule applies \(n-1\) times on one sequence of two clauses at a time. There is an initial \(S_1/S_2\) cycle, a second \(S_2/S_3\) cycle, etc. The controlling clause is the first on a given cycle, and the dependent clause is the second. Thus \(S_2\) is the dependent clause on the first cycle and the controlling clause on the second.

On any given cycle, controller- and pivot-selection is by a single two-ended scanning selection rule which attempts to find a coreferential cross-clause NP-pair. There are two constraints: (a) the controller and pivot must both be major NPs (IS, TS, TO); (b) if there are two appropriate coreferential pairs, the one involving the TO as controller is selected.

Condition (b) is operative only when both clauses are transitive. If \(TS_m = TS_{m+1}\) and \(TO_m = TO_{m+1}\), the latter is the controller-pivot pair since it includes \(TO_2\). If \(TS_m = TO_{m+1}\) and \(TO_m = TS_{m+1}\), the controller-pivot pair is the latter for the same reason.

We will attach the labels [+controller] and [+pivot] to the two NPs selected. If there are no such NPs (that is, if there are no coreferential cross-clause pairs of major NPs), then the transformation is inapplicable.

The actual transformational operations can be stated in three parts as follows: (a) if the controlling clause \(S_m\) is transitive and \(TS_m\) is marked [+controller], then \(S_m\) is optionally antipassivised, except that it cannot be antipassivised if it has been marked [+pivot] on the preceding cycle; (b) if the dependent clause \(S_{m+1}\) is transitive and \(TS_{m+1}\) is marked [+pivot] then \(S_{m+1}\) is obligatorily antipassivised; (c) if at this stage \(S_{m+1}\) is still in unpassivised form, then it has been selected as the controller, and the suffix -\(\text{pur}\) is added to the verb of \(S_{m+1}\).

I will attempt to justify this formalisation; for the present readers who do not wish to verify its validity by testing it on Dixon's data will have to take my word that it works.

In Relative-Clause Formation, the controller is the head noun (regardless of its grammatical function in its own clause) and the pivot is whichever major NP (IS, TS, TO) in the dependent clause is coreferential to it. The transformation works as follows: (a) if the dependent clause is transitive with its TS marked [+controller], then this clause is obligatorily antipassivised; (b) a relativising affix is added to the verb of the dependent clause; (c) a case ending agreeing with that of the head noun is added to the relativised verb.

Now, how do we typologise Dyirbal on the basis of this information? If we use the ergative/accusative syntactic typology, it seems to me that Dyirbal is by no means clearly ergative. There is not one single instance in any of the selection rules or transformations mentioned above where IS and TO are specifically associated to the exclusion of TS. The only points where IS is mentioned at all are in the conditions that controllers (except in relatives) and pivots must all be major NPs, but this includes TS as well.

Supporters of the claim that Dyirbal is significantly different from English typologically would do well to focus, not on doubtful surface equations like IS = TO involving IS, but rather on the relationship between TS and TO in transitive clauses. The point is basically the same as that made earlier in connection with morphological typologisation. Given that controllers and
 pivots must be in major cases, it follows automatically that IS will be the controller or pivot of an intransitive clause, and the only suspense which choice will be made in transitive clauses where there are two candidates.

In this light the question becomes this: does Dyirbal give priority to TS or TO in controller- and pivot-selection? It seems to be that the two are approximately equal in syntactic importance, so that while Dyirbal may not by typologically identical to English it is not a drastically different, polar type.

In pivot-selection there is no discrimination in favour of either TS or TO, and the sole criterion for being selected as pivot is coreferentiality with an NP in the controlling clause. However, in controller-selection TO does have some priority, since if there are two coreferential pairs, that involving the TO as controller is chosen. Still, the priority is not absolute, since the TS does become controller in at least a respectable instance—namely, those where it is coreferential to a major NP in the dependent clause while the TO is not.

There is also the fact that S' can be antipassivised in cycle m-1, where it functions as the dependent clause. When this happens, underlying TOh is denoted to a minor surface case, while underlying S, becomes surface IS, and therefore remains a major NP. On the following mth cycle, where S, is the controlling clause, the only possible controller is therefore the underlying TS, there are no converse situations where underlying TS, is denoted to a minor case. Therefore, while TOh has limited priority over TS in controller-selection on the mth cycle, this is only so if TOh has escaped demotion on the m-1th cycle. If we look at things in terms of underlying TS and TO categories, we find that even the limited priority for TO in controller-selection is eroded by this hidden factor.

The chief typological difference between Dyirbal and English, it seems to me, is not that categories like TS and TO are accorded vastly different degrees of syntactic importance, but rather that the English selection rules are of the independent type (except for pivot-selection in relatives), whereas the selection rule in Dyirbal Topic-Chain Formation is a two-ended scanning process. It is an automatic consequence of this mechanical difference in the form of the selection rules that English and Dyirbal will differ to some extent in choices of controller and pivot in particular utterances.

A typological summary of the Dyirbal phenomena: (a) Dyirbal has two strict complex ID rules, Topic-Chain Formation and Relative-Clause Formation; (b) in Topic-Chain Formation the controller and pivot are chosen by a two-ended scanning process restricted to major NPs (IS, TS, TO); (c) TO is granted apparent priority over TS in controller-selection when both are coreferential to dependent-clause major NPs, but this is counterbalanced by the removal of some potential TO controllers by restructuralings on preceding cycles; (d) in Relative-Clause Formation the controller is the head NP, and the pivot is a major NP in the dependent clause determined by a one-ended scanning process.

4. Nunggubuyu
The Nunggubuyu language of eastern Arnhem Land is extremely weak in strict complex ID rules. Whereas Dyirbal syntax and discourse structure are dominated by these rules, in Nunggubuyu it is difficult to find a single such rule. However, it appears that there is such a rule applying in the ‘to want’ construction with sentential complement.

The verb -gahbanda- ‘to want’ can be used as a simple transitive with nominal object.

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gahbanda: ahu- will
3MSG/3MSG want(Pres) 3MSG/3FSG kill(Pot)
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‘He wants him to kill her.’

When a sentential object is substituted for ‘honey,’ it shows up as a formally complete clause with its verb in the Pastoral form (the Potential subgoes future, imperative, and other senses). In the Nunggubuyu equivalents of ‘I want him to go’ and ‘He wants to go,’ the complement clause is formally indistinguishable from a simple sentence meaning ‘He will go’. In other words, there is no transformational restructuring of a clause subordinated to ‘to want’—no Equi-NP Deletion (what might appear to be Equi-NP Deletion is really the equivalent of English Pronominalisation, since when an independent NP is deleted there remains a pronominal element in the verb cross-referencing it), no Initive-Formation, no Subjunctive-Formation or the like.

Instead, the Nunggubuyu strict complex ID rule, Copy-Raising, affects the surface form of the containing (main) clause. -gahbanda- is a transitive verb, requiring a transitive pronominal prefix marking pronominal category of both subject and object. The subject is, of course, the ‘want’. When the complement is sentential, however, it is not clear what the surface object of ‘to want’ should be. It could either be a neutral third person object-maker referring to the dependent clause as a whole, or it could be a raised pronominal copy of one of the NPs in the dependent clause. As it turns out, Nunggubuyu shows both kinds of surface objects.

When the dependent clause is transitive, the surface object of -gahbanda- is a pronominal copy of the dependent-clause TS, provided this TS is not coreferential to the controlling-clause TS (the ‘want’). If the two TSs are coreferential, then the TO of the dependent clause is copy-raised and becomes the surface object of -gahbanda-.

Consider these two underlying representations, differing only in the referential relationship between the two TSs:

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He, wants [he will kill her]
He, wants [he will kill her]
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In the first example, the two TSs are noncoreferential, so the TO of the dependent clause is copy-raised, and the surface structure is this: He wants him, he will kill her. On the other hand, in the second example the two TSs are coreferential, so instead of the TS it is the TO which gets copy-raised, producing this structure: He wants her, he will kill her. The Nunggubuyu forms are:

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mu- gahbanda: ahu- will
3MSG/3MSG want(Pres) 3MSG/3FSG kill(Pot)
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‘He wants him to kill her.’
3MSg/3FSg

‘He wants to kill her.’

The two surface structures differ only in the choice of object-marker in the controlling clause. Whereas English distinguishes ‘He wants him to kill her’ from ‘He wants to kill her’ by applying Equi-NP Deletion in the dependent clause of the latter, Nunggubuyu distinguishes them by showing two different object-markers in the controlling clause. The transformational mechanisms are entirely different, but the ultimate results are the same in the sense that the same disambiguation of otherwise identical surface structures has been achieved in both languages.

When the dependent clause is intransitive, the IS is copy-raised unless it is coreferential to the controlling-clause TS. In the event that the two are coreferential, no NP can be copy-raised, so we get a ‘dummy’ object-marker in nonhuman class III.2, perhaps referring to the dependent clause as a whole. The two basic input structures are these:

\[\text{He wants} \quad \text{[he will go]}\]

\[\text{He wants} \quad \text{[he will go]}\]

In the first example, ‘he’ is copy-raised and the output is this: He wants him, he will go. In the second, the coreferential ‘he’, cannot be copy-raised, so we get this: He wants it (III.2), he will go. In Nunggubuyu:

\[\text{mu-} \quad \text{gāmbandī:} \quad \text{ani-} \quad \text{ya-ri:}\]

\[3MSg/3MSg \quad \text{want(Pres)} \quad 3MSg \quad \text{go(Pot)}\]

‘He wants him to go.’

\[\text{niw-} \quad \text{gāmbandī:} \quad \text{ani-} \quad \text{ya-ri:}\]

\[3MSg/III.2\]

‘He wants to go.’

It is possible to formalise the rule as follows: (a) the controller is the ‘wanter’ (the TS of the controlling clause); (b) the pivot is the IS or TS of the dependent clause; (c) if the controller and pivot are noncoreferential, the pivot is copy-raised as the object of ‘gāmbandī’; (d) if this fails, a dependent-clause TO is copy-raised if there is one; (e) if both of these fail, a dummy III.2 object-marker is provided.

It should be noted that in transitive dependent clauses, only the TS is really a pivot although either the TS or TO can be copy-raised. This is because the only NP-pair tested for coreferentiality at any stage is that consisting of the two TSs. Even when the TO is copy-raised, this is due to the referential relationship between the two TSs.

Nunggubuyu can therefore be typologised as follows: (a) there is a single strict complex ID rule, applying only to the complement-clause construction with ‘to want’; (b) the controller is the only nonsentential NP in the controlling clause, namely the ‘wanter’; (c) the pivot is the IS or TS of the dependent clause.

References
