

# The alternating property in *Tukang Besi*: a product of coding resources and operator-variable dependencies

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The alternating property (Arka 2006) is a property in the grammar of a language that allows (grammatical) alternations in the expression of (core/required) arguments. As an organising property of grammar, this is particularly prevalent in Austronesian languages.

In this talk, we look at *Tukang Besi* (Donohue 1999), an Austronesian language of Indonesia which, with its use of phrase markers, is particularly explicit in terms of coding how it establishes through alternation its unambiguous core/required arguments. We present a formal modelling of the *Tukang Besi* data that allows us to see how the alternating property works by playing off particular limitations of the coding resources of the language, together with general properties of formal systems that establish relations with operator-variable dependencies.

Specifically, the formal modelling is framed in terms of Scope Control Theory or SCT. SCT is a small (6 operators) logical language that facilitates fine-grained management of operator-variable dependencies, allowing for binding name support, reuse and shifting. As a theory, SCT is interesting because it only allows for the establishment of dependencies along very restricted lines, that are argued in Butler (2007) to approximate the dependency structures available to natural languages. The constrained flexibility SCT allows makes it possible to pursue the idea that what it takes to establish an operator-variable dependency is a major force in constraining the shape of natural language grammars.

We'll end with some speculation about what would motivate a language to limit its coding resources. In a sense this is unexpected: in principle, linguistic code needn't be costly. But keeping to a restricted code base brings welcome consequences. Notably, it lets grammar keep the language tightly under control to ensure the absence of ambiguity in the coding of core arguments, and even facilitates a (limited) form of error detection (reflected by grammaticality intuitions). Moreover, we find that the specific form of restricted code *Tukang Besi* adopts gives the language an effective means of topic monitoring; and with this, a way to structure discourse.