

ASSESSING THE TYPOLOGICAL EVIDENCE FOR NEW GUINEA OCEANIC

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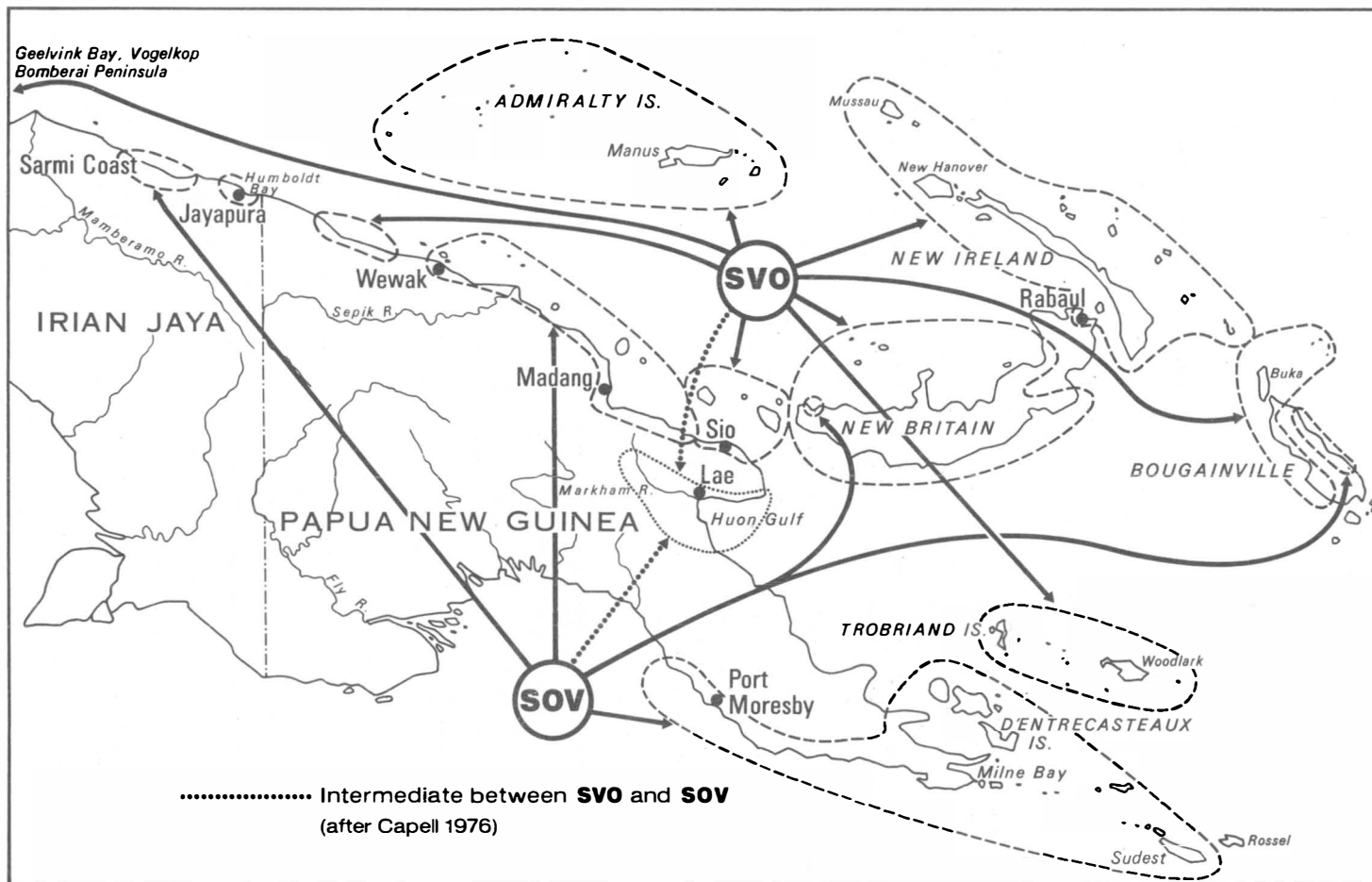
The Oceanic languages on or adjacent to the New Guinea mainland exhibit in common some striking typological innovations. They are the only group of languages in the Austronesian family that possess a significant number of features usually associated with OV word order. The unique typology of New Guinea Austronesian languages is almost certainly innovative and apparently results from contact with non-Austronesian languages on the New Guinea mainland, which are nearly universally OV.

The languages exhibiting the most markedly innovative traits are confined to the eastern half of the New Guinea mainland and adjacent offshore islands. The common Austronesian VO pattern is found elsewhere, in the area sometimes referred to as 'Island Melanesia' (New Britain, New Ireland, Manus, and elsewhere). The Morobe languages in the north-eastern part of the New Guinea mainland fall somewhere between these two extremes. The distribution of word order typologies in the Papua New Guinea area is summarised in Table 1 and on the accompanying map.

Table 1			
Distribution of word order types in Papua New Guinea			
Common Austronesian, Island Melanesia & elsewhere:			
VO	Prepositions	N + Gen	N + Adj
PNG Austronesian, Morobe Province:			
SVOV	Prepositions Postpositions Ambipositions	Gen + N	N + Adj
PNG Austronesian, elsewhere on the mainland:			
SOVV	Postpositions	Gen + N	N + Adj
Common Papuan (PNG non-Austronesian):			
SOV	Postpositions	Gen + N	N + Adj

Andrew Pawley and Lois Carrington, eds *Austronesian linguistics at the 15th Pacific Science Congress*, 19-30. Pacific Linguistics, C-88, 1985.

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Capell's typological classification of Austronesian languages in Papua New Guinea

For some time, researchers have hoped to establish that this typologically distinctive group is a genetic subgroup. The hypothesis is that some or all of the changes that distinguish these languages occurred only once in a language ancestral to all of them. This is now known as the New Guinea Oceanic hypothesis, and the hoped-for subgroup generally goes by the name 'New Guinea Oceanic'. (It is generally agreed that the languages in question belong in the Oceanic subgroup of the Austronesian language family.) But, so far, no solid basis for uniting the whole group has been found. Since I need to refer to the member languages of this group, I will continue to use this name. However, in my usage 'New Guinea Oceanic' labels a typological unit, not a genetic one.

Some of the weaknesses of the evidence for a genetic grouping follow:

(1) The lexicostatistical evidence indicates greater *disunity* among New Guinea Oceanic languages than among practically any other regional group of Austronesian languages (see Dyen 1965).

(2) The phonological evidence for a New Guinea Oceanic subgroup is limited to the merger of Proto-Oceanic *d and *R (Milke 1965:343; Pawley 1978:143). Since this merger has occurred in many other Oceanic languages, it is hardly a firm base for a subgroup.

(3) Lexical evidence is more abundant, but it is relatively weak evidence for methodological reasons. When we isolate a group of languages with uniquely shared vocabulary, we can rarely be sure that the items uniquely shared are actually innovations within the group. They may be retentions from a proto-language ancestral to languages outside as well as inside the group. Low-level reconstructions have a habit of rising to higher and higher levels as more evidence is brought to bear on them. Free-standing words are also notoriously easy to borrow, and old borrowings are not often easy to identify.

(4) Grammatical evidence is the only remaining hope of those who still see possibilities for a New Guinea Oceanic subgroup (see Chowning 1973:226; Milke 1965:346; Pawley 1978:134-141). Good grammatical evidence may yet turn up. However, there are two major weaknesses with most of the kinds of evidence available.

Some of the grammatical evidence either fails or is weakened because it simply lacks the proper distribution. Chowning (1973) and Pawley (1978) have already faulted most of Milke's (1965) grammatical evidence on distributional grounds. For instance, preposed genitives and reinforced possessives are too abundantly distributed. They are found in non-Oceanic Austronesian languages of New Guinea and eastern Indonesia as well as in strictly New Guinea Oceanic languages. Classificatory prefixes, on the other hand, are too sparsely distributed. They are absent in the languages of Central Papua and of Morobe Province. Pawley's (1978:138) favourite piece of grammatical evidence — the use of reflexes of Proto-Oceanic *i-ai as a locative postposition — can also be faulted on the same grounds. To my knowledge, no reflexes of *i-ai show up in languages west of Morobe Province. In its place, some languages west of Morobe show a generalised locative postposition that appears to derive from a postposed, possessed noun originally meaning 'inside'. (In Gedaged, this postposition takes the shape -lon; in Manam, -lo.)

The focus of this paper, however, is not the distribution of grammatical evidence, but rather the methodological problems posed by the typological nature of much of the potential grammatical evidence. The methodological problem arises as one attempts to reconstruct the means by which innovative morphology is acquired. Most of the innovative morphology that distinguishes

New Guinea Oceanic from other Oceanic languages results from the use of common Oceanic morphemes in innovative positions or innovative functions. To the extent that these positional and functional innovations are easily acquired and attributable to a change of environment, their usefulness as evidence of genetic affiliation diminishes. Features easily acquired are suspect because they can easily be borrowed and are apt to have changed more recently. Structural changes in response to a change of external environment are suspect because they are not unexpected and thus do not require heredity as an explanation. They tell more about environment than heredity. (Heredity, of course, may tell us a lot about much more ancient environmental adaptation.)

When Oceanic languages first arrived in the New Guinea area, they left an environment in which VO word order was the norm. They encountered a new environment in which OV word order was the norm. The grosser aspects of OV word order acquired by all New Guinea Oceanic languages do not suffice to prove that all share a common ancestor apart from other Oceanic languages. Nor does the innovative morphology that derives in unsurprising fashion from those grosser word-order innovations. The crucial elements in subgrouping are the more surprising and unexplainable innovations.

In some ways, the uniqueness of the New Guinea Oceanic languages within the Austronesian family is analogous to the uniqueness of marine mammals within the class of mammals. It is a mistake, for instance, to argue for a close genetic relationship between whales, on the one hand, and sea lions, on the other, just because both have adapted in similar ways to an environment radically different from the usual mammalian surroundings. Cetaceans and pinnipeds are united by certain shared differences from the common run of mammals. Both groups lack coarse, outer body hair, have flippers instead of external limbs, and are streamlined for swimming. But these shared traits are important for typological, not genetic, classification. The characteristics most crucial for determining the heritage of creatures like whales and sea lions are those that are hardest to predict. Whales, for instance, propel themselves with what used to be their tails and steer with what used to be their forelegs. Sea lions propel themselves with their erstwhile forelegs and steer with their former hindlegs. This indicates that protocetaceans and protopinnipeds were somewhat different creatures when each began adapting to a marine environment.

To take another example from mammalian biology, hairiness and size do not provide crucial evidence in determining genetic affiliation. One need only think of the enormous variation within the dog species. In historical and comparative linguistics, word order does not provide crucial evidence in subgrouping. The order of words in a language (that is, the order of relatively contentful, free morphemes) is relatively easy to tamper with and the limits of variation are quite narrow. One syntactic category may either precede or follow another syntactic category. (The only other option — infixing one word within another — is quite abnormal.) Chances are good, then, that unrelated languages with similar syntactic categories will share many similarities of word order. Japanese, Korean, and Finnish, for instance, share many word-order traits with Indic and Dravidian languages. Thus the well-attested innovations in word order shared by many New Guinea Oceanic languages are not very powerful evidence for subgrouping, especially when these word-order innovations look like adaptations to the word order usually encountered in the non-Austronesian languages of New Guinea.

Unlike word-order innovations, shared innovations in grammatical morphology are usually considered the next best thing to shared phonological innovations as a basis for subgrouping. The position of grammatical morphemes (that is, of relatively contentless, bound morphemes) is relatively immutable. Moreover, grammatical morphemes are prone to exhibit certain peculiarities of form and function that make the presence of similar forms performing similar functions in separate languages a striking fact. The presence of a causative prefix with a shape derivable from *pa- or *paka- in so many Austronesian languages is just such a striking fact. Table 2 lists examples of this prefix in widely distributed languages. Chances are good that languages exhibiting such similarities shared a period of common development and derive from a common ancestor.

Table 2	
Austronesian causatives	
RUKAI, Formosa (Li 1973:70)	
'a-'acay	kuani taraalu' sa babuy
<i>cause-die</i>	<i>that hunter ART boar</i>
	<i>that hunter killed a boar</i>
ILOKANO, the Philippines (Lawrence Reid, p.c.)	
im-pa-kan	na diay baboy
<i>GF-cause-eat</i>	<i>3s that pig</i>
	<i>he fed the pig</i>
MALAGASY, Madagascar (Simeon Rajaona, p.c.)	
n-amp-anasa	ny lamba aho
<i>PAST-cause-wash</i>	<i>the clothes 1s</i>
	<i>I had the clothes washed</i>
ROVIANA, the Solomon Islands (Todd 1978:1039)	
va-mate-a	sa si keke boko pa inevana
<i>cause-die-3s</i>	<i>3s PART a pig for feast</i>
	<i>he killed a pig for the feast</i>
BAUAN, Fiji (Apenisa Seduadua, p.c.)	
eratou vaka-mate-a	na vuaka
<i>3p cause-die-3s</i>	<i>ART pig</i>
	<i>they killed the pig</i>
HAWAIIAN, the Hawaiian Islands (Bill Wilson, p.c.)	
ho'o-make	lākou i ka pua'a
<i>cause-die</i>	<i>3p OBJ ART pig</i>
	<i>they killed the pig</i>

But what happens when separate but related languages sharing a similar stock of morphemes and a similar grammar begin to rearrange their word order in similar ways in response to similar pressures? Relatively contentful, free morphemes will begin to appear in innovative positions. These initial changes will be externally motivated and perhaps rather abruptly and disruptively accomplished. Over time, some of the rearranged morphemes will evolve into relatively contentless, bound morphemes performing functions required by the new word order. Grammatical morphemes already in useful positions may take on additional duties required by the new word order. This second phase of change will be internally motivated and probably much more gradual. During this stage, the innovations are assimilated and nativised. Eventually, chances are good that the shared innovations in word order will produce shared innovations in grammatical morphology. The languages in the same environment will thus show common morphological innovations without being especially closely related to each other. The shared morphological innovations will be the by-products of changes which do *not* constitute good evidence of genetic affiliation. The development of a new word order will be relatively easily accomplished and will be based on external linguistic models. The development of various corollaries of the new word order will be based partly on external models, and partly on internal requirements for efficient parsing. The tendency for words performing grammatical functions to lose content and freedom over time is perhaps one of the gradual sorts of erosion that all languages are subject to.

The history of the classificatory prefixes of many New Guinea Oceanic languages illustrates the derivation of 'good' morphological evidence from 'bad' syntactic evidence.

In 1943, Capell listed sets of verbal prefixes from the Austronesian languages of South-East Papua. These prefixes are now called 'classificatory' because they classify into a limited number of categories the manner in which an action is performed (action by hitting, cutting, holding, etc.). The prefixes often occur attached to noun and adjective roots as well as verb roots. Some of the prefixes are transparently related to full verbs in the same language (to hit, to cut, to hold, etc.). In such cases, the classificatory prefix constructions resemble straightforward verbal compounds. Other prefixes have so little semantic content that their original meanings are irrecoverable without comparative evidence. The role of the almost contentless prefixes in many languages is hard to separate from that of the common Austronesian causative prefix. Table 3 compares the role of the inherited causative prefix in Hawaiian with the role of some of the innovative causative constructions in New Guinea Oceanic languages.

In 1965, Milke pointed out correspondences between certain classificatory prefixes in Gedaged and certain ones in South-East Papuan languages. He proposed that the classificatory prefixes were a morphological innovation providing evidence for a New Guinea Oceanic subgroup. However, since there are no such prefixes in the Morobe Province languages in the middle of the north coast, nor in the Central Province languages on the south coast, this piece of evidence lacks the proper distribution to tie together all the New Guinea Oceanic languages.

Some Hawaiian and New Guinea Oceanic causative constructions	
HAWAIIAN	ho'o-hana (<i>work</i>) to employ, cause to work
WEDAUI	rau-karäi (<i>work</i>) to set (s.o.) to work
HAWAIIAN	ho'o-helele'i (<i>falling</i>) to scatter, sow
WEDAUI	ravi-awawari (<i>falling</i>) to sow broadcast
HAWAIIAN	ho'o-hua (<i>fruit</i>) to bear fruit
NUMBAMI	-ambi ano (<i>fruit</i>) to bear fruit
HAWAIIAN	ho'o-huli (<i>turn over</i>) to turn, change, convert
IWAL	-amb nalili (<i>turned around</i>) to turn (s.t.) around
HAWAIIAN	ho'o-loli (<i>turn, change</i>) to change, amend
NUMBAMI	-ambi lele (<i>turned</i>) to translate
HAWAIIAN	ho'o-luli (<i>shake</i>) to rock (s.o.); to sway
WEDAUI	ravi-dagudagu (<i>restless</i>) to shake, disturb
HAWAIIAN	ho'o-make (<i>die</i>) to kill, let die
MANAM	rau-mate (<i>die</i>) to kill
HAWAIIAN	ho'o-piha (<i>full</i>) to fill
TUBETUBE	ro-karapowani (<i>full</i>) to fill
HAWAIIAN	ho'o-pi'i (<i>ascend</i>) to cause to rise
GEDAGED	bi-sa (<i>ascend</i>) to lift up, raise
HAWAIIAN	ho'o-puka (<i>perforation</i>) to make a hole or opening
NUMBAMI	-so bozoka (<i>punctured</i>) to make a hole or opening

There are no classificatory prefixes in the VO languages of Morobe Province. But there are main verbs which play a role similar to that of the prefixes. These main verbs cooccur with verbal, nominal, and adjectival roots whose semantics resemble those of the verbs, nouns, and adjectives occurring with classificatory prefixes in the OV languages. Some of the morphemes involved are cognate as well. (The forms meaning *to hit* and *to cut* have widely distributed cognates.) Table 4 shows some VO constructions in Morobe Province languages which correspond to OV constructions in languages in other parts of Papua New Guinea.

Table 4						
Reflexes of the serial causative in New Guinea Oceanic languages						
*	S	V _t	O	V _i	(Switch S)	<i>they hit pig die</i>
*	S	V _t	O	V _t	(Same S)	<i>they hit pig kill/cause-die</i>
The VO languages:						
	S	V	O	V	GITUA (Switch S)	ti-rap ngaya mate 3p-hit pig 3s-die
	S	V	O	R	NUMBAMI (fr Same S)	ti-lapa bolo uni 3p-hit pig dead
The OV languages:						
	S	O	V	V	KAIRIRU (Switch S)	bur rro-un-i a-myat pig 3p-hit-3s 3s-die
	S	O	V-V		GEDAGED (fr Same S)	boz du-punu-fun-i pig 3-p-shoot-kill-3s
	S	O	clas-V		MANAM (fr Switch S)	boro di-rau-mate-i pig 3p-hit-die-3s
	S	O	clas-V		IDUNA (fr Same S)	bawe hi-lu-ve-'alika-na pig 3p-*hit-cause-die-3s

There are thus innovative causative constructions in both VO and OV languages which resemble each other in the semantics of the components involved, in the order in which the components occur, and, in many cases, in the shapes of the individual morphemes as well. Moreover, the two groups of innovative causatives (OV and VO) are in complementary distribution in Papua New Guinea, and both differ from the causative pattern commonly found in Oceanic languages elsewhere. These circumstances seem to justify the reconstruction of a single ancestral pattern that will account for both the VO and OV constructions. A central element of this pattern, the SVOV serial causative, is reconstructed in Table 4.

Two types of SVOV serial causative are widely reconstructible. In the Same Subject type, both verbs are transitive and both have the same subject and object. In the Switch Subject type, the second verb is intransitive, and the object of the first verb is the subject of the second. In both constructions, the first verb describes a manner of action and the second a resulting state. Table 5 shows that reflexes of both types can be reconstructed in the same language.

Reflexes of the serial causative are found in a much larger proportion of New Guinea Oceanic languages than the classificatory prefixes are. (They are still lacking in the OV languages of Central Province.) The classificatory prefixes are just one of the various reflexes of the serial causative. But, although the parent construction has a better distribution, it is a much weaker kind of evidence. The classificatory prefixes used to look like an arbitrary

Table 5	
Reflexes of two types of serial causative in Manam	
SWITCH SUBJECT: * S s-V-o O=S s-V yields S O s-V-V-o	(di) boro di-rau-mate-i 3p pig 3p-hit-die-3s <i>they killed the pig</i>
The second verb is intransitive:	boro i-mate pig 3s-die <i>the pig died/is dead</i>
SAME SUBJECT: * S s-V-o O s-V-o yields S O s-V-V-o	(ŋai) 'ai i-zan-sere'-i 3s wood 3s-punch-split <i>he split the stick (end-on)</i>
The second verb is transitive:	(ŋai) 'ai i-sere'-i 3s wood 3s-split-3s <i>he split the wood</i>

morphological innovation until they were tied into the larger pattern. They did not correspond directly to structures in neighbouring non-Austronesian languages. The serial causative, on the other hand, is a word-order innovation which could have come about in a relatively short period of time. Moreover, it appears to be a direct adaptation to the OV word order of the non-Austronesian languages. Table 6 shows how SVOV serial causatives can be parsed ambiguously depending on whether VO or OV word order is considered the norm, and on whether the construction is thought to consist of one clause or two. The meaning remains the same no matter how the structure is parsed syntactically. I suspect that the use of this syntactically (but not semantically) ambiguous construction may have been one of the first steps on the path toward OV word order.

Table 6		
Parsing options for SVOV serial causatives		
	Compatible with SVO	Compatible with SOV
Two clauses:		
Switch Subject	S V O ## V _i	S V ## S V _i
Same Subject	S V O ## V _t	S V ## O V _t
One clause	S V _{main} O V _{sub}	S V _{sub} O V _{main}

It appears that speakers of New Guinea Oceanic languages at some point considered both verbs to occur in a single clause since in most languages either the manner verb or the result verb has lost its verbal status and become a member of a more restricted grammatical paradigm. Table 7 shows this development. To me, this suggests that the serial causative was, from its inception, essentially one clause with a verb in both medial and final position.

Table 7	
Different resolutions for two verbs in one clause	
The VO Solution, adopted by Numbami and other VO languages:	
S V _{manner} O V _{result}	becomes S V _{main} O Result
The OV Solution, adopted by Manam and other OV languages:	
S V _{manner} O V _{result}	becomes S O Manner-V _{main}

The initial development of the serial causative need not have taken place in only one ancestral language. It could have arisen independently whenever individual Austronesian languages came under pressure to move toward the OV word order of their Papuan neighbour languages. It is the type of change that can be accomplished relatively easily and abruptly. The gradual conversion of that innovative two-verb syntactic construction into a one-verb clause containing innovative morphology or grammatical classes no doubt took a much longer time to accomplish. But it too needs no unique genetic explanation. The tendency for new syntax to produce new morphology over time must exert constant, even if not absolute, pressure on every language.

Unfortunately for the New Guinea Oceanic hypothesis, much of the grammatical evidence available to support it is weak for the same reason the serial causative and its end-products are weak evidence for subgrouping. In order to subgroup New Guinea Oceanic languages, we need to identify those morphological innovations which show that a particular group of languages chose one set of options instead of other possible alternatives in response to similar environmental pressures. It is not enough to show that all acquired certain general traits of OV word order and their various morphological end-products. In order to unify the whole group, we need to show that, although different alternatives were available, all chose at least one set of options in common. In response to generalised external pressure to create a locative postposition, for instance, we need to show that all chose one means rather than another to create one (say, the recruitment of the anaphoric locative pronoun *i-ai rather than the semantic extension of a common postposed locational noun like 'inside'). If all the possible alternatives that we can identify are equally distributed throughout the group we want to unify, then chances would seem greater that individual languages chose from the same 'universal' set of alternatives independently. It would be very helpful to have a control group of languages which chose a different set of options when faced with environmental pressures similar to those facing New Guinea Oceanic languages. Until we find such a control group,

or at least until we otherwise filter out innovations which are broadly predictable from changes in the external environment or from universal principles of language change, 'New Guinea Oceanic' will have to remain a typological rather than a genetic label.

NOTE

I wish to thank Frank Lichtenberk for reading this paper on my behalf at the 15th Pacific Science Congress. I also wish to thank George Grace for profitable discussions and Andy Pawley for detailed comments on the written version. This paper elaborates on some of the implications of the evidence cited in my dissertation (Bradshaw 1982). All the data I cite are from that work.

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