

Another Typology of Relatives

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Another typology of relatives

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There are three main areas of investigation that have been pursued so far by typologically-oriented studies of relativization.¹ First, there are studies on word order, which have shown us that the position of the relative clause before or after the head noun is correlated with general word-order type to an impressive degree. Second, studies of formal devices for relativization have given us an array of notions such as deletion, pronominalization, and correlative constructions. In this second area we have almost no clear correlations between language type and relative clause type; the only exception is that verb-final word order and relativization by deletion are known to be correlated. Third, we have an account of the constraints on relativization, for instance the accessibility hierarchy and its interaction with promotion operations.

These questions and their answers have resulted in important advances in linguistics. However, there are certain aspects of relativization which they inherently neglect, and which are important to a cross-linguistic understanding of relativization. First, two of the three areas of investigation just enumerated -- word order relative to the head and constraints on the syntactic function of the relativized noun in the relative clause -- cannot say anything at all about the relative construction known variously as 'headless' or 'internally headed'.² This is because the word-order inquiries focus on the position of the relative clause in relation to its head, while headless relatives have no external head in terms of which their ordering can be described; and accessibility strategies are not required to recover the syntactic function of an internal head since it is overt. (The literature on accessibility focuses entirely on headed relatives: for instance, Keenan & Comrie 1977, 1979 are aware of headless relatives but illustrate accessibility cut-off points only for headed ones.) The headless type is hence ignored in all implicational typologies, and to the best of my knowledge there has been no attempt to predict its occurrence. A second problem is that prediction of one aspect of relative structure from one typological factor -- for instance, positioning from word order (Hawkins 1983), cutoff point in the accessibility hierarchy from object-promotion rules (Givon 1979: Ch.4), deletion from OV typology -- is accurate but narrowly focused. These findings, for instance, do not point out the fundamental resemblance of Japanese relativization by deletion to English relativization by pronominalization, and of Navajo headless

relativization by deletion to Tewa relativization by deletion; much less do they account for the Japanese-English similarities and the Navajo-Tewa similarities by reference to the overall morphosyntactic type of the languages concerned.

The present paper tries to remedy both of these faults. It gives a taxonomy that organically includes headless relatives and it provides for their distribution on typological grounds. It attempts to integrate relativization strategies with overall type, in that it deals with several conditioning factors and several kinds of relativization. It offers an account in terms of what Hawkins 1983 calls cross-categorial harmony (the notion, though not the term, is based on Greenberg 1963): the tendency for structures at one level or in one area of grammar to be parallel to or otherwise implied by structures elsewhere in the same grammar. Specifically, this paper describes the extent to which cross-categorial harmony predicts relativization strategies, and it establishes some intersecting factors which account for departures from cross-categorial harmony.

In one respect this paper departs from most of the recent literature. Linguistics in the last several decades has established a number of important abstract principles governing language structure and cross-linguistic regularities: these include markedness, implicational universals, hierarchization, covariation, and cross-categorial harmony. Some linguists regard such principles as adequate for the description of linguistic phenomena, and separate the question of their explanation from their use in linguistic description (e.g. Greenberg 1963, Silverstein 1976, 1981). The majority regard their explanation as an integral part of linguistic description; works taking this approach include Givón 1979:Ch. 5 (where the interaction of accessibility and promotion rules is described as functioning to increase topicality), Hopper & Thompson 1980 (where the interaction of a set of hierarchical variables is itself viewed as a category with its origin in discourse function), Comrie 1981:25-6, 156 (where accessibility constraints on relativization are attributed to difficulties of processing low-accessibility relatives), and perhaps Hawkins 1983 (where the existence of cross-categorial harmony is attributed to its ability to simplify grammars, specifically their serialization rules). The present paper follows the former trend, showing what cross-categorial harmony does and does not account for without asking about its psychological or functional motivation. The analysis given here will be functional only in the sense in which Silverstein (1976, 1981) uses that term, namely in the mathematical sense: it analyzes one aspect of relativization as a dependent variable and several others as independent variables, showing that the dependent and independent variables covary.

The following sections discuss various relativization strategies

according to the type and location of markers of relativization, an approach suggested by Zaliznjak & Padučeva 1975. There are two things that must be marked in a relative construction: the identity of one clause as the relative clause and the other as the main clause; and the identity of one main-clause and one relative-clause NP as relative nouns. I will distinguish between clause-affecting and noun-affecting strategies accordingly. The next few sections discuss noun-affecting strategies; clause-affecting strategies are discussed toward the end.

Relativization by deletion. The contrast of headless to headed relatives almost singlehandedly captures the primary typological distinction to be employed in this paper. (1) shows a headless relative from Navajo.³

(1) Navajo (Platero 1974:10)

[	ééçhã'í	maa'iitsoh	bishxash -	éé]	∅	nahaɬ'in
dog	wolf	3-Perf-3-bitten	REL			IMP-3-bark
'The dog that was bitten by the wolf is barking'						

For arguments that the relative noun 'dog' is in the relative clause see Platero 1974:204-5. The distinctive property of (1) is that the relative clause has its full valence while the main clause has incomplete valence, lacking the actant coreferential to the relative noun. That incomplete valence is symbolized with a zero in (1), although this may be regarded as just a graphic convenience. It is intended to capture the empirical fact of full vs. incomplete valence without requiring commitment to theoretical notions such as upwards Equi, pro, PRO, etc.

(1) contains two formal markers which identify it as a relative construction. One is the relative suffix on the relative-clause verb, which will be mentioned below. The other is the deletion of one copy of the relative noun. This section is concerned with the deletion, which is noun-affecting. Taking the incomplete valence, or the zero, as a marker of relativization, we see that that marker appears in the main clause. The relative clause, which has full valence, contains no noun-affecting relativization marker.

(2) is a relative construction from Chechen, a language of the North Central Caucasus.

(2)	[	∅	suona	a:xça	della]	k'ant	a:rave:lira
			me-DAT	money-NOM	having-given	boy-NOM	went out
	'The boy who gave me money went out'						

Again we have relativization marked by a zero, or incomplete valence, in one of the clauses. This time the zero is in the

In the Chechen example, the grammatical relations are signaled only by the cases on the nouns; there is no verbal agreement. In the Abkhaz example, the grammatical relations are signaled only by the verbal prefixes; the nouns are caseless. The same contrast is exhibited at other levels of grammar: for instance, in adpositional phrases and in subordination. It can also be used to characterize whole languages: a dependent-marking language is one which, like Chechen or Japanese or most of Indo-European, uses predominantly dependent-marking patterns throughout its grammar. A head-marking language is one which, like Abkhaz or Navajo or Mayan, uses predominantly head-marking patterns.

The rest of this paper will deal with the relation of morphological marking patterns at the clause level to relativization strategies.

(1) and (2) illustrate the essential correlation between relative type and morphological marking of clauses: Navajo is a head-marking language, and the relative construction of (1) is marked by a zero in the main clause. Since in dependency terms the relative clause is a dependent of the main clause, and the main clause (or more precisely its verb) is head of the sentence, we can call the Navajo relative construction a head-marked one, in that the marker of relativization -- the zero -- appears in the main clause. In contrast, Chechen is a dependent-marking language (as shown in (3) and (4)); and its relative construction, where the zero which marks relativization appears in the relative clause, is dependent-marked. The claim that marking patterns at the clause level and in relativization are parallel is a statement of cross-categorial harmony.

The picture is not quite this simple, however. It is not the case that all and only head-marking languages use the Navajo pattern and all and only dependent-marking languages use the Chechen pattern. One complexity is provided by the fact that several languages tolerate both head-marked and dependent-marked relativization by deletion. Navajo, for example, also permits (5); at least one dialect of Chechen also tolerates examples like (6); Japanese allows both dependent-marked (7a) and head-marked (7b). In each instance, the preferred relativization type is that following from cross-categorial harmony: in dependent-marking Japanese and Chechen the head-marked relatives are stylistically unusual; in head-marking Navajo the dependent-marked pattern is disfavored.

(5) Navajo (Platero 1974:10)

[	∅	ma'iitsoh	bishxash	-	ᶆᶆ	]	lééchaᶆ'í	nahaᶆ'in
		wolf	3-PERF-3-bitten	REL			dog	bark
		'the dog that the wolf bit is barking'						

nominalized and case-marked, and it bears the case that would have been borne by the main-clause copy of the relative noun, had that noun been in the main clause. Thus both (8) and (9) have relative verbs marked for the locative actant required by the main verb. This gives the main clause of (8) or (9) a very different look from that of (1): in (8) and (9) we cannot speak of incomplete valence, since both subject and locative slots of the main verb are filled. Rather, we would have to speak of 'abnormal valence' or some such, to capture the fact that the understood locative is not the whole embedded clause but one of its actants.

Now, the type shown in (8) and (9) is analogous to that shown in (1) except for one morphological fact: the language of (8) has cases, and hence the relative verb can be case-marked. The type of (8)-(9) can occur only in languages having cases. The type of (1) is the only possibility for languages having no cases; it can also be used, as in (7a), in languages which have cases but happen not to use a nominalized form as their relative verb. That is, (8)-(9) and (1) prove to be in complementary distinction, once we take into account the part of speech of the relative verb and the grammatical categories available to the language. Hence (1) and (8) are contextual variants of a single relative type, head-marked relativization by deletion.

(10) shows the distribution of major relativization strategies among the three clause patterns. For the two polar clause types, there is a strong correlation between clause marking and relativization: head-marked clauses clearly imply head-marked relativization, and dependent-marked clauses very strongly imply dependent-marked relativization. Double-marked clauses are fairly evenly split in their relativization types.

Further generalizations can be made if we inspect the exceptions. One exception among the dependent-marking languages, Hopi, is known to be under areal influence from other languages of the Southwest (Gorbet 1977), which have headless relatives because they are head-marking. Furthermore, the close sister languages of Hopi use dependent-marked relativization. The other exception is Kaititj, an Arandic language of Australia. Hale 1976:104 regards the Kaititj headless relatives as a functionally motivated diachronic development from the pan-Australian adjoined type (discussed below). Since nothing is known about areal aspects of relativization in this region, I will leave Kaititj unexplained. All other dependent-marking languages and families -- and they are widespread and numerous -- follow cross-categorial harmony in using dependent-marked deletion. These facts show that cross-categorial harmony is a strong determiner of grammatical form, and exceptions to it are isolated. They also show that we must recognize areal influence as a second

(10) Relativization by deletion: Typology

Language	Type	Cross-categorical harmony violations
<u>Head-marked clause</u>		
Navajo	H (also D)	
Lakhota	H	
Abkhaz	D	*
Adyghe	H	*
Washo	H	
Mayan family	D	*
Bantu family	D	*
<u>Double-marked clause</u>		
Quechuan family	H; also D	
Yuman family	H	
Tonkawa	[H]	
Basque	D	
Uralic (eastern)	D	
Burushaski	[D]	
Hurrian	D	
<u>Dependent-marked clause</u>		
Hopi	H	*
other Uto-Aztecan	D	
Dyirbal	D	
Kaititj	H	*
Japanese	D (also H)	
Chechen	D (also H)	
other Northeast		
Caucasian	D	
Turkic family	D	
Tungusic family	D	
Uralic (western)	D	

Legend: D = dependent-marked pattern

H = head-marked pattern

[] The language has this type, but sources do not indicate whether it is the primary type.

() Non-primary strategy.

* Exception to cross-categorical harmony.

factor, in addition to cross-categorial harmony, that determines relativization strategies.

Among the head-marking languages, the fact that Abkhaz has dependent-marked relatives while closely related Adyghe has head-marked relatives is not obviously due to areal influence. And borrowing can hardly account for the systematic use of dependent-marked relativization throughout the Mayan and Bantu families. It must be, rather, that dependent-marked relativization is in itself universally somewhat favored over head-marked relativization. Thus there are more instances of dependent-marked relativization among head-marking languages than there are instances of head-marked relativization among dependent-marking languages.

For the double-marking languages, a surprising correlation emerges: those in the New World use head-marked relativization, while those in the Old World use dependent-marked relativization. (This factor appears not to be relevant for head-marking languages.) Geography in itself is not a direct causal factor here. Languages of the New World in general display a much stronger propensity toward head-marking patterns than do languages of the Old World (Nichols 1984), and relativization is just one manifestation of that tendency. This may ultimately prove to be just a special case of the areal-influence factor, but until that is demonstrated I will treat it as a separate condition.

Deletion and pronominalization in head-marked clauses. In head-marked clauses, particularly in consistently head-marking languages, it is often difficult to distinguish deletion from pronominalization. This is because languages with head-marked clauses tend either to use zero anaphora or to treat independent NP's as optional clause constituents, defining grammatical relations on the verb and its affixes instead. Therefore it is difficult to decide whether an instance of incomplete valence represents relativizing deletion, anaphoric deletion, or the optional nature of independent NP's. It is also difficult to decide whether a verbal affix should be regarded as an agreement marker or as a pronominal element bearing a grammatical relation. An example from Lakhota:

(11) Lakhota (Rood 1973:79, 81)

[wičháša	wā	šúkawakhá	wā	imákičú	kɨ	hé]	wálašáka	he?
man	a	horse	a	he-takes-it-	DET		you-see-him	Q
				from-me				

'Did you see the man who took my horse?'

The question is whether the third person singular affix on the verb represents pronominalization or simply agreement with a main-clause

zero. Such questions require close language-specific argumentation and cannot be answered in a survey like this paper. (For examples of such argumentation see Platero 1974 and Van Valin 1984. Givón 1979: Ch. 4 refers to deletion in head-marked clauses as a verb-coding strategy of relativization, which he regards as distinct from both deletion and pronominalization.) Presumably, more detailed information on these matters and on the finiteness of the relative-clause verb will allow more accurate prediction of dependent-marking relativization in head-marking languages. For this survey all such debatable types are classified as deletion.

Pronominalization. The great majority of pronominal strategies, regardless of language type, are dependent-marking. An example is the relative pronouns of modern Indo-European languages, which are in the relative clause. The rare head-marked type is found in Tanoan, represented by Hopi Tewa in (12).

(12) Hopi Tewa (Gorbet 1977: 272)

[he'i sen c'a:ndi w:bap'o mansu' - n] 'i dokumq
 that man yesterday wine 3>3-drink DS 3sg 1>3-bought
 'I bought the wine which that man drank yesterday'

The pronoun in the main clause of (12) is not a special relative pronoun but an ordinary anaphoric pronoun. Tewa is a consistently head-marking language, so its use of head-marked relativization by pronominalization follows cross-categorial harmony.

Head-marked relativization by pronominalization is not impossible for dependent-marking languages: a number of older Indo-European languages exhibit occasional instances of head-marking relativization by pronominalization (Zaliznjak & Padučeva 1975). But these are always minor, stylistically marked constructions limited to high style. An example:

(13) Latin (Ovid Ep. (Heroides) 14.11)

aut illo iugulet, [quem non bene tradidit ensem]
 or that-ABL may-cut which-ACC not well gave sword-ACC
 'or he may cut (my) throat with that sword which he falsely gave
 (me)'

In (13), the relative noun 'sword' appears in the case required by the relative clause, where 'sword' is direct object. In the main clause we have a pronoun in the case used for instrumental adverbials. (13) is thus syntactically analogous to (12). Examples of this type are traditionally said to involve incorporation of the relative noun into the relative clause.

In summary, relativization by pronominalization -- whether the

pronoun is a special relative pronoun or an ordinary anaphoric one -- occurs in its head-marked form as a primary relativization strategy only in head-marking languages (but by no means in all of them). Dependent-marked pronominalization occurs in languages of all types. Evidently, pronominalization in itself strongly favors dependent marking, and this should be regarded as an independent factor determining relativization strategy.

Marking of the head noun. In a number of languages, a relative noun in the main clause is marked as having a relative clause, usually by a special article or a specialized use of an article. For this paper I have not surveyed this phenomenon systematically.

Clause-affecting strategies. A common clause-affecting strategy is the marking of the relative verb as relative, nonfinite, nominalized, or the like. This is a dependent-marking pattern, since it affects the verb of the relative clause. It is common in relativization by deletion, regardless of language type and relativization type: hence it appears in the head-marked relativization by deletion of Navajo shown in (1), in its dependent-marked variant in (5), in both variants of Chechen (2, 6) and Japanese (7), and in the head-marked relativization of Mojave (8-9).

Another clause-affecting strategy is the introduction or closure of a relative clause with a complementizer or article. This is found in some Mayan languages and in Lakhota (see (11)).

Both of the foregoing strategies are dependent-marking. (14) shows a head-marking strategy that may be clause-affecting. The example is from Arabic, a double-marking language.

(14) Arabic (Zaliznjak & Padučeva 1975:55)

ǧā'a	lfallāḥāni	llaḍāni	[	ra'aytu-humā	bil'amsi]
came	farmers-NOM-DU	REL-NOM-DU	I-saw	them-DU	yesterday
'The two farmers I saw yesterday came'					

(13) has a form of the relative marker allaḍī, arguably in the main clause, as shown by its case and number agreement with the relative noun in the main clause. This is the only evidence we have for its clause membership; intonation suggests that it belongs with the relative clause (Zaliznjak & Padučeva 1975). This is the only arguable example of a head-marked clause-affecting strategy I have found, and it is safe to conclude that clause-affecting relativization inherently favors dependent marking and disfavors head marking. (Note that in (14) there is also pronominalization, in a dependent-marked pattern.)

Recoverability in head-marked relativization. In dependent-marked relativization involving zeroes, recovering the syntactic

function of the deleted noun can present problems, since the primary -- and often the only -- marker of syntactic function is case, which obviously cannot appear when the noun that would bear it is absent. The literature on accessibility deals precisely with this problem, showing that constraints on the syntactic function of the zero help narrow down the range of possible interpretations the relative clause can receive. Head-marked relativization does not have the problem of recovering the function of the relative noun in the relative clause, since that clause is intact. Nor is there any difficulty in recovering the syntactic function of the main-clause zero: the syntactic function is marked on the verb in head-marking languages. In head-marked relativization of the Yuman type, there is no recoverability problem because there is no zero in the main clause.

What does present problems in head-marked relativization is determining which NP of the relative clause is the relative noun. (For discussion and a survey of earlier literature see Jacobsen 1981.) That is, head-marked relativization by deletion presents problems in determining reference and coreference. Although a complete account of disambiguating strategies is beyond the scope of this paper, some of the ways languages have of indicating which noun is relativized can be listed here. Washo (Jacobsen 1981) uses a combination of switch reference, accessibility restrictions, and indexing of subject vs. non-subject functions to monitor coreference and hence indicate which noun is head. Languages of the Yuman family employ a prefix on the relative verb -- the k^w shown in (8) -- to indicate that the relative-clause subject is the relative noun. (The problem of recoverability in the Yuman constructions is discussed in Gorbet 1973 and Munro 1976:187ff.) Hopi uses switch reference (Gorbet 1977). Navajo relies heavily on word order (Platero 1974:210-11n). Although accessibility constraints have not been documented in head-marking languages, they must exist: if, for instance, relativization is limited to subjects, then the hearer knows that, no matter what the structure of the relative clause, its subject is the relative noun. Two other possibilities are directly marking the relative noun itself and using gender agreement to establish coreference. All of these devices are employed elsewhere by head-marking languages to keep track of participant reference, a problem which is not unique to relative constructions in such languages.

Platero 1974:205 shows that the head-marked Navajo construction is preferred, despite its ambiguity, over the unambiguous dependent-marked alternative. This means that the structural principle of cross-categorial harmony is in this instance a stronger determinant of grammatical form than is the functional goal of disambiguation.

Non-embedded relatives. This paper has dealt only with the kinds of relativization that involve embedding and/or complex NP's.

The so-called 'correlative' construction, which involves a pronominal element in each clause and deletion in (usually) the second, does not create an NP and has a much looser link between the two clauses. It seems to favor the head-marking pattern, although this generalization is tentative. An example is (15).

(15) Gujarati (Masica 1972:199)

[je dhobii maarii saathe aavyo] te Ø DaakTarno
 which washerman my with came that doctor's
 bhaaii che
 brother is

'The washerman who came with me is the doctor's brother'

The relative noun *dhobii* 'washerman' is in the relative clause. This is a head-marked pattern, although the absence of the relative noun in the main clause may be simply an incidental effect of left-to-right anaphoric reduction.

Similar to (15) is the adjoined relative clause discussed in Hale 1976, which uses either pronominalization or deletion. The relative noun is intact in whichever clause comes first, and deletion or pronominalization takes place in whichever clause follows (Hale 1976:91). Since relative clauses usually follow main clauses (86), deletion or pronominalization is usually in the relative clause, i.e. dependent-marked; but with preposed relatives it is head-marked. The head-marked or dependent-marked character thus follows from left-to-right reduction, not from cross-categorial harmony.

Conclusions. (16) displays the above generalizations in terms of covarying dependent and independent variables. It graphically illustrates the following generalizations: Pronominalization

(16) Factors determining treatment of relative noun

Dependent variable:

Treatment of relative noun: Head-marked > dependent-marked

Independent variables (determining factors):

Relativization strategy: zero > pronominalization
 noun-affecting > clause-affecting
 Clause marking: head > double > dependent
 Hemisphere: New World > Old World
 Areal influence, borrowing: (no ordering)

[The symbol > marks direction of covariance.]

strategies favor dependent-marking patterns, relative to deletion strategies. Clause-affecting strategies likewise favor dependent-marking patterns. Head-marking clause morphology favors head-marking relativization (cross-categorical harmony). Languages of the New World are most likely to have head-marked relativization. And areal influence enters in as a wild card which can distort typologically motivated patterns more or less at random.

(17) tabulates the implications that exist between clause marking type and relativization type. It is not the case that clause marking type straightforwardly predicts relativization type or vice versa. Not only are factors other than cross-categorical harmony at play; in addition, even cross-categorical harmony does not make predictions in a single direction. Rather, the predictability is split in its directionality: for the dependent-marking patterns, clause marking type implies relativization type; while for the head-marking patterns, relativization type implies clause marking type. This statement captures the fact that dependent-marked relativization is found in languages of all types, while head-marked relativization is almost never used as a primary strategy in dependent-marking languages (the sole exceptions are Hopi, known to be under areal influence, and Kaititj, unexplained). This fact is itself due to the overall preferred status of dependent-marked relativization. Incorporating that overall preference into a prediction based on cross-categorical harmony results in a prediction whose directionality varies with the morphological marking type of the phenomena described.

(17) Predictions of cross-categorical harmony

Dependent-marked clause	dependent-marked relativization
Head-marked relativization	head-marked clause

In conclusion, then, there is a good degree of cross-categorical harmony between relativization type and other structural factors. Relativization cannot be mechanically predicted from clause morphology alone; but there is a high degree of correlation. The choice of particular strategies such as deletion vs. pronominalization does not follow from clause marking, but the choice of headless vs. headed types clearly does. (This conclusion supports the suggestion of Jacobsen 1983:183n20, that the explanation for headless relatives in North America is not areal but typological). Non-correlation can be explained by other, also systematic, factors, and by areal influence, which is not systematic.

Appendix: Data sources for languages surveyed

Abkhaz	Hewitt 1979
Adyghe	Jakovlev & Ašxamaf 1941:108ff.
Arabic	Zaliznjak & Padučeva 1976; Orin Gensler, p.c.
Bantu family	Givón 1972; Givón 1979:Ch. 4
Basque	de Rijk 1972
Burushaski	Klimov & Èdel'man 1970:93-4
Chechen	*
Dyirbal	Dixon 1972:99-105
Hopi	Gorbet 1977; David Shaul, p.c.
Hurrian	Lehmann 1979:92-3
Japanese	Kuroda 1976; Kuno 1973:234
Kaititj	Hale 1976:98ff.
Lakhota	Rood 1973; Robert D. Van Valin, Jr., p.c.
Mayan family	Dayley 1981:518ff.; Du Bois 1981:252-3; Craig 1977:191ff; Jon Dayley, Jack Du Bois, and Tom Larsen, p.c.
Navajo	Platero 1974
Northeast Caucasian	*; e.g. Kibrik 1977:299ff.
Quechuan family	David Weber, p.c.; Cole 1982:49ff.
Tewa	Gorbet 1977; David Shaul, p.c.
Tonkawa	Jacobsen 1981
Tungusic family	*; e.g. Avrorin 1968:140, 145-6
Turkic family	*; e.g. Lewis 1967:259
Uralic (eastern)	*; Teresčenko 1973:299-300
Uralic (western)	*; e.g. Karlsson 1972
Uto-Aztecian	Heath 1972; David Shaul, p.c.
Washo	Jacobsen 1981
Yuman family	Munro 1976:187ff.; Gorbet 1977, 1973; Langdon 1977:266; Larry Gorbet and Pamela Munro, p.c.

* Languages I am personally acquainted with. Information comes from a combination of field work, text work, and grammar sources.

[Sources cited give information on relative clause types only. For sources of information on clause-marking patterns see Nichols 1984.]

Footnotes

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2 The term headless is also sometimes applied to relatives meaning 'the one who', 'that which', 'whoever', etc., in constructions where (as in English whoever) the understood pronominal head merges with a relative pronoun. Constructions of this type are not discussed in this paper, and the term headless will be used, rather than the longer internally headed, to refer to constructions like (1).

3 Abbreviations: NOMinative, ACCusative, ABLative (and likewise for other case names); RELativizer, DETerminer, IMPerfect, FINite, Q = question particle; DS = different-subject marker. Brackets and zeroes in examples are usually my additions. The analysis they reflect never contradicts that of the source cited.

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