Table 6.5: Grammaticality in the unrestricted type with LH-2

situation	lexical entries		containment	deleted	surfacing
	LH-2	RP			
$K_{INT} = K_{EXT}$	α, β	α, β	form	RP	LH_{EXT}
$K_{INT} > K_{EXT}$	α, β	α, γ	no	none	*
$K_{INT} < K_{EXT}$	α, β	α, β	form	RP	LH_{EXT}

Focusing on the second possible light head, languages of the unrestricted type have a lexical entry that spells out phi and case features and a lexical entry that spells out the features X and REL and crucially not a lexical entry that provides a different spellout for only the feature REL. Headless relatives in this language are grammatical in all situations: when the internal and the external case match, when the internal case is more complex and when the external case is more complex. The second possible light head only derives the correct result for the first and the last situation but not for the second one. In the first and last situation, the relative pronoun is (at some point of the derivation) formally contained in the light head, the relative pronoun is deleted, and the light head is the surface element.[18] In the second situation, the relative pronoun is at no point in the derivation formally contained in the light head, and none of the elements is deleted.

6.3 Summary

In summing up this chapter, I return to the metaphor with the committee that I introduced in Chapter 4. I wrote that first case competition takes place, in which a more complex case wins over a less complex case. This case competition can now be reformulated into a more general mechanism, namely containment. A more complex case contains a less complex case.

Subsequently, I noted that there is a committee that can either approve the winning case or not approve it. In Chapter 4 I wrote that the approval happens based on where the winning case comes from: from inside of the relative clause (internal) or from outside of the relative clause (external). I argued in this chapter that headless relatives are derived from light-headed relatives. The light head bears that external case and the relative pronoun bears the internal case. The 'approval' of an internal or external case relies on the same mechanism as case competition, namely containment. If the light head is (structurally) contained in the relative pronoun, the light head can be deleted. Then the light head with its external case is deleted, and the relative pronoun with its internal case surfaces. This

[18] This means that in the first situation the headless relative can be derived from a light-headed relative with the first possible light head or with the second possible light head. In Chapter 9 I return to this matter.

is what corresponds to the internal case 'being allowed to surface'. If the relative pronoun is (formally) contained in the light head, the relative pronoun can be deleted. Then the relative pronoun with its internal case is deleted, and the light head with its external case surfaces. This is what corresponds to the external case 'being allowed to surface'.

In other words, the grammaticality of a headless relative depends on containment. What is being compared is the internal syntax of the light head and the relative pronoun, which both bear their own case. Case is special in that it can differ from sentence to sentence within a language. Therefore, the grammaticality of a sentence can differ within a language depending on the internal and external case. The part of the light head and relative pronoun that does not involve case features is stable within a language. Therefore, whether the internal or external case is 'allowed to surface' does not differ within a language.

The source of variation between languages is the different lexical entries that languages have. The parameters introduced in Chapter 4 and repeated in the introduction of the chapter can be reformulated as in Figure 6.20.

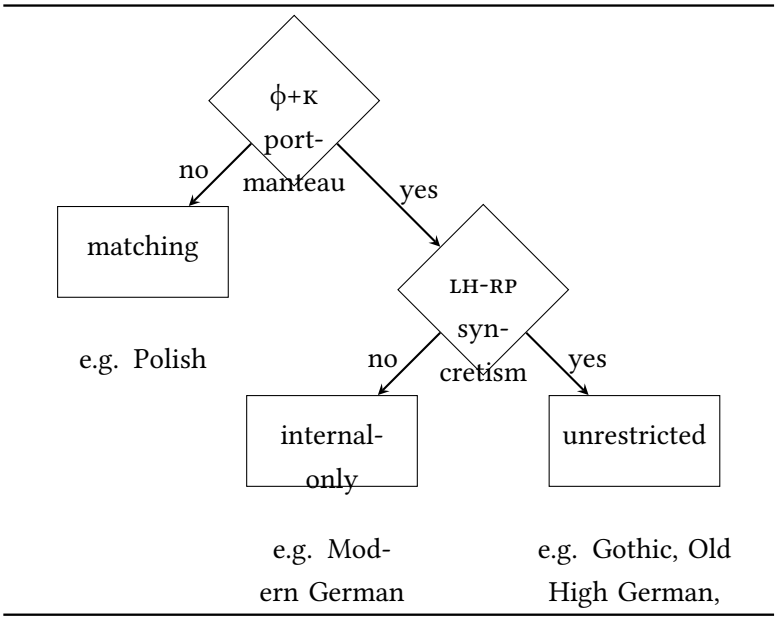

Figure 6.20: Different lexical entries generate three language types

The first parameter distinguishes the matching type of language from the internal-only and the unrestricted type of languages. The internal-only and unrestricted type of languages have a portmanteau that spells out these two features. The matching type of language does not have that, but it has two separate lexical entries for the phi and case features. The second parameter distinguishes the internal-only type of language from the unrestricted type of language. The unrestricted type of language has a light head that is syncretic with the relative pronoun. The internal-only type of language does not have such a syncretism.

This system excludes the external-only type. An external-only type would be a language type in which the relative pronoun can be deleted, but the light head cannot be deleted. In my proposal, an element can be deleted if it is structurally or formally contained in the other element. First consider only structural containment, leaving formal containment aside for now. Every language has two possible light heads. The first possible light head contains one feature less than the relative pronoun, and the second possible light head contains one feature more than the relative pronoun. Since the first possible light head contains one feature less than the relative pronoun, it can never structurally contain the relative pronoun, and the relative pronoun can never be deleted. However, the second possible light head contains one more feature than the relative pronoun, so it can structurally contain the relative pronoun, and the relative pronoun can be deleted. Nevertheless, this does not make a language of the external-only type. There is still the relative pronoun that contains all features of the first possible light head, so it can structurally contain the first possible light head, and the light head can be deleted. As such, the language is of the unrestricted type.[19]

Now consider also formal containment. Remember that an external-only type of language is a language in which the relative pronoun can be deleted, but the light head cannot be deleted. In Figure 6.16, I showed a situation in which the light head is syncretic with the relative pronoun, which I repeat here in Figure 6.21.

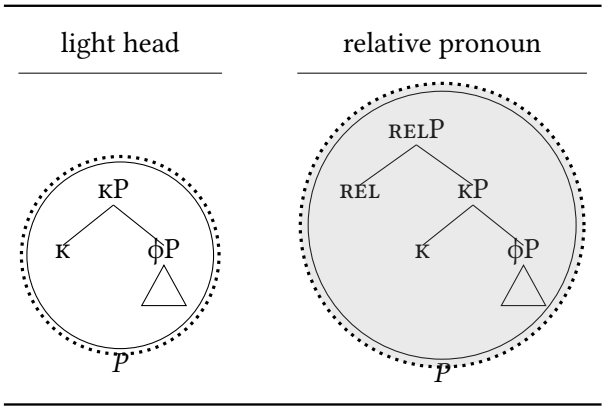

Figure 6.21: Syncretism between LH and RP (repeated)

In Figure 6.21, the relative pronoun is formally contained in the light head, and the relative pronoun can be deleted. Note here that the internal and external case need to be identical too. Only then the two forms are fully syncretic, and deletion can take place. As I explained at the of Section 6.2.3, this is a situation that appears when the internal and external cases match, but also when the external case is more complex. In a derivation with a more complex external case, there is always a stage in which the internal and external case match, since the external case features are the last features to be merged with the light

[19]This reasoning holds for languages in which light heads and relative pronouns are monomorphemic.

head. When the internal case is more complex, the light head cannot be deleted by formal containment. There is no stage in the derivation in which the internal and external case match and the light head and the relative pronoun are fully syncretic. However, consider Figure 6.21 again. Although the light head cannot be deleted by formal containment, it can be deleted by structural containment. The light head is still formally contained in the relative pronoun.[20]

In this dissertation I describe different language types in case competition in headless relatives. In my account, the different language types are a result of a comparison of the light head and the relative pronoun in the language. The larger syntactic context in which this takes place should be kept stable across languages. The operation that deletes the light head or the relative pronoun is the same for all language types. Therefore, the larger syntactic structure and the deletion operation do not play a central role in the account.

At the end of Chapter 9, the larger syntactic structure of headless relatives enters the discussion when I account for how an external case can win the case competition. There I show where in the larger syntax the (different) light heads are situated and that deletion takes place under c-command. Deletion is optional and takes place either based on structural containment or based on formal containment (or both). Both types of containment are available at the same stage of the derivation, since spellout in Nanosyntax takes place after each instance of merge.

To conclude, in this chapter I introduced the assumptions that headless relatives are derived from light-headed relatives and that relative pronouns partly overlap in feature content with the light heads. A headless relative is grammatical when either the light head or the relative pronoun is structurally or formally contained in the other element. This set of assumptions derives that only the most complex case can surface and that there is no language of the external-only type.

[20] Again, this reasoning is restricted to light heads and relative pronouns that are monomorphemic.