(1) independent evidence for crosslinguistic differences

10.1 Vogel 2002

The first account I discuss is Vogel 2002, which is embedded in optimality theory. In his analysis, crosslinguitic differences arise because languages order certain constraints differently.

Vogel (2002) assumes that languages have competing constructions: a headless relative construction with the relative pronoun appearing in the internal case, a headless relative construction with the relative pronoun appearing in the external case, a correlative construction and a headless relative construction with a resumptive pronoun. What sets the headless relative constructions apart is that there is only a single element (the relative pronoun) that can realize case. In the other two constructions, there are two elements that can do so: the relative pronoun and the head in the main clause or the resumptive pronoun. Which construction wins in which situation depends on the ordering of particular constraints. Because languages order these constraints differently, it differs per language which construction wins in which situation.

In what follows, I describe how Vogel's (2002) account captures the difference between internal-only languages such as Modern German and unrestricted languages such as Gothic. These languages only differ in situations in which the external case wins the case competition: in unrestricted languages this is grammatical, and in internal-only languages it is not. Comparing unrestricted and internal-only languages in terms of constraints, two of them differ in terms of ranking. A constraint that is ranked higher in unrestricted languages compared to internal-only languages is INTEGRITY-$\odot$-LF. This constraint says that in the meaning of headless relatives, there is only a single, and not two, representations of the relative pronoun or the relative clause as a whole, so there should also only be a single, and not two, phonological representations. Ranking this constraint high ensures ruling out correlatives and resumptives. This is what is required for an unrestricted type of language: whichever two cases compete in a case competition, the winner always surfaces in a grammatical headless relative. A constraint that is ranked lower in unrestricted languages compared to internal-only languages is IDENT(CASE)-LF-PF-$^2_{\text{CP}}$. This constraint is violated when the relative pronoun appears in the external case, which reflects the disadvantage of the external case winning the case competition. This is exactly the situation in which unrestricted languages differ from internal-only languages. Since the constraint is ranked highly in internal-only languages, the external case is not allowed to surface when it wins the competition and a correlative construction is used instead. On the other hand, since the constraint is ranked lower in unrestricted languages, the headless relative construction is used when the external case wins the case competition.

Also by ordering constraints differently, the difference between matching languages

such Polish and internal-only languages such as Modern German can be modeled.[1] These languages types differ only in situations in which the internal case wins the case competition: in internal-only languages this is grammatical, and in matching languages it is not. In matching languages, two constraints are ordered higher than they are in internal-only languages, namely the ones called MATRIX INTEGRATION and REALIZE CASE. MATRIX INTEGRATION is violated when a constituent contains no indication about how it it integrated in its clause. This is exactly what happens when the internal case is allowed to win the case competition: there is no indication of how the external case, i.e. the case from the matrix clause, is integrated in its clause. Since this constraint is ranked highly in matching languages, the headless relative with the internal case winning is ruled out gets more violations than a light-headed relative, so the latter one appears. Since the constraint is ranked not as highly in internal-only languages, the headless relative with the internal case winning is the best candidate, and this construction appears. The other constraint that is ranked low in internal-only languages is the constraint REALIZE CASE. If the internal case wins in an internal-only language, the relative pronoun surfaces in the internal case, and the external case is not realized. The constraint is ranked highly in matching languages, which is why this type of language prefers a light-headed relative clause in such a context.

Vogel does not only cover the language types this dissertation also covers, but also a few other types: (i) languages without any headless relatives, such as Hindi, (ii) languages with headless relatives and resumptive pronouns, such as Modern Greek, and (iii) always-external language, for which he gives Icelandic as an example. In this dissertation I do not provide an account for these language types: at this point I do not even have a way to distinguish between languages like Modern Greek and Icelandic, which I both called always-external (see Chapter **??**. Vogel (2002) captures all of these language types, only by ordering the constraints in his set differently.

However, a downside to Vogel's (2002) analysis is it overgenerates: he predicts the existence of language types that he has not encountered yet. The first of them is the external-only type of language. I have not encountered such a language yet either, and I even predict (at least if the light head is monomorphemic) that it does not exist. The two other language types are: (1) the opposite of Modern Greek, in which a resumptive pronoun is inserted when the external case is more complex than the internal case, and (2) a language in which resumptive pronouns are always used. Ideally, a theory should generate the patterns that are attested and not the ones that are not. With predicting the existence of this languages but not having found them, Future research needs to show whether such languages does exist. If they does not, the account in Vogel (2002) needs to be modified in such a way that it includes the unattested languages. If the languages do

[1] Vogel 2002 actually describes different variants of Modern German. The variant that is an internal-only language and that I call Modern German in this dissertation is what he calls German B.

exist, I need a way to include these language types in my analysis.

A second point is the constraints in this account are proposed for the comparison between headless relatives, headless relatives with resumptive pronouns and correlatives. There is no independent evidence in the language, from for instance another construction or from the morphology of a language, that indicates how the constraints should be ordered. In this dissertation, the grammaticality of a headless relative follows from the morphological structure of the relative pronoun and the (extra) light head in a particular language. Vogel's (2002) account could be made stronger if there is independent evidence from other places in the language that supports first of all the existence and then the ordering of constraints as they are proposed.

What does not fit in Vogel's 2002 optimality account is the case facts. He argues that case hierarchies are language-particular and that they are determined in a separate module of the grammar. In the account in this dissertation, it is all part of the same system. Also for a language in which the case scale does not play a role, such as Polish, the case is represented in the same way. For the other languages that I discussed, case is represented in the syntax in the same way. However, the empirical scope of Vogel's (2002) account is bigger, and it remains to be seen whether extending the account in this dissertation goes without modifying the case representation in any way.[2]

10.2 Himmelreich 2017

The second account I discuss is the one by Himmelreich (2017). Crucial in this account is the role of the operation Agree. Crosslinguistic differences arise from differences in how languages agree.

Just as Vogel (2001) and this dissertation, Himmelreich (2017) assumes that there is some sort of case hierarchy. In Himmelreich's (2017) account, cases are represented as features can that bear sets of case feature values. Nominative case bears only {nom}, accusative bears {nom,acc}, and dative bears {nom,acc,dat}.

In terms of the larger syntactic structure of headless relatives, Himmelreich (2017) assumes that two elements are involved in case competition: the relative pronoun and a phonologically empty head in the main clause. Crucial in this account is the operation Agree. In all languages, there are three agree relations: (1) between the functional projection associated with the predicate in the relative clause and the relative pronoun (X_{INT} and RP in (1)), (2) between the functional projection associated with the predicate in the main clause and the phonologically empty element (X_{EXT} and Ø in (1)) and (3) between relative pronoun and the phonologically empty element (RP and Ø in (1)).

[2] At this point I can already see one example in which the case representation might need to be modified. In footnote (25) in Section 4.3 I briefly mentioned Finnish as possibly also being an internal-only type of language. Finnish has cases such as partitive and elative, which the other languages discussed in this dissertation do not have.