

The Agreement Hierarchy revisited: The typology of controllers

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Abstract

The Agreement Hierarchy consists of four principal target positions: attributive, predicate, relative pronoun and anaphoric personal pronoun. It constrains the distribution of alternative agreements, in that the likelihood of agreement with greater semantic justification increases monotonically as we move rightwards along the hierarchy. The Agreement Hierarchy covers a wide range of disparate data, and continues to figure regularly in work on theoretical syntax. Since the hierarchy was first proposed, typology has moved on. This means that to remain fit for the purposes for which it is currently used, the hierarchy needs an overhaul. The typology of agreement controllers is the area where the need is most urgent; this is therefore our focus. The canonical typology of controllers is shown to have two dimensions: lexeme to phrase, and local to extraneous (the latter involving honorific agreement, associative agreement, back agreement and “pancake sentences”). These two dimensions are amply illustrated. Finally, interactions between the different types of agreement controller are investigated, since these prove revealing for the typology. Besides making progress on the typology of agreement, the paper contributes to typology more generally, in incorporating insights from other typological disciplines.

Keywords: Agreement hierarchy, agreement controllers, Canonical Typology, extraneous agreement, syntax

1. Introduction

The Agreement Hierarchy accounts for many patterns of agreement in numerous languages, and appears often in theoretical research into syntax. Typology has not stood still since the hierarchy was proposed, and so to remain useful it needs revisiting. I therefore lay out the Agreement Hierarchy and its basic constraint (§2), and justify briefly why we should rework it (§3). I then tackle the typology of agreement controllers,

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since this is the area where most progress has been made, and the need for revisiting is greatest. I outline the typology of controllers in §4. Next I justify and illustrate the two dimensions of this typology: lexeme to phrase in §5, and local to extraneous in §6. Then I move on to interactions between the different agreement constructions, and these prove revealing for the typology (§7). The progress made on the typology of agreement controllers is reviewed in §8.¹

2. The Agreement Hierarchy and its constraint

The Agreement Hierarchy comprises four main target positions (Corbett 1979):

- (1) attributive > predicate > relative pronoun > personal pronoun

The constraint is this (Corbett 2006: 207):

For any controller that permits alternative agreements, as we move rightwards along the Agreement Hierarchy, the likelihood of agreement with greater semantic justification will increase monotonically (that is, with no intervening decrease).

The constraint was originally stated in terms of syntactic vs semantic agreement, and this is a convenient shorthand. It became clear that we need a broader formulation, for two reasons: (i) sometimes there are more than two types of agreement, and (ii) even when there are only two, it is not necessarily the case that one straightforwardly reflects semantics and the other does not (Corbett 1983: 82–83).

We start with a familiar type of example, from the web:

- (2) ... *my family are coming for Thanksgiving, long drive for them* ...

Some would say *is coming*. We might conclude that *family* can take singular or plural agreement. However, the example is more interesting than that, since the pronoun choices are different. Fewer would say *long drive for it*. And if we take an example with attributive agreement, it is *this family* not **these family*. Thus *family* is a hybrid; that is, instead of taking consistent agreement, the agreement it controls depends on the type of

¹ I follow the Leipzig Glossing Rules <https://www.eva.mpg.de/lingua/resources/glossing-rules.php>; [] indicates information that can be inferred from the use of the bare stem; < > marks infixation; () is for inherent, non-overt feature values; this latter is not used for hybrids since they do not have a single value; bold is used as a flag to draw attention to relevant characteristics of examples. Abbreviations are the Leipzig ones with additions: 1, 2, 3: first, second, third person, ACC: accusative, COMP: complementizer, COP: copula, DAT: dative, DEF: definite, DEM: demonstrative, DIM: diminutive, F: feminine, GEN: genitive, INDF: indefinite, INF: infinitive, INS: instrumental, LOC: locative, M: masculine, N: neuter, NEG: negative, NOM: nominative, PASS: passive, PL: plural, POSS: possessive, PRS: present, PST: past, PTCP: participle, REFL: reflexive, REL: relative, SG: singular.

target. The choice of agreement is constrained syntactically, according to the Agreement Hierarchy.²

The constraint applies at corpus level. That is to say, if a controller allows alternative agreements, the proportion of those with greater semantic justification will increase as we move rightwards along the hierarchy. Thus, for instance, while we find proportionally more instances of *the family ... they* (versus *it*) than of *the family have...* (versus *has*), the constraint does not rule out specific combinations at sentence level (Corbett 1979: 221). However, some languages do have such sentence level constraints, typically involving attributive and predicate; these are always aligned to the constraint above, and they represent a tightening of it.³

The English example has been well researched. As noted, in attributive position, we find only singular agreement, but in the remaining Agreement Hierarchy positions we find both singular and plural agreement, though not with equal frequency. Levin (2001) investigated agreement with 26 such nouns, including *family* and *committee*. He used the Longman Spoken American Corpus (LSAC), with five million words, and the ten-million-word section of the British National Corpus (BNC) devoted to spoken language (see Table 1).

In spoken American English, there is indeed a monotonic increase in the use of the plural, the form with greater semantic justification, as we move rightwards along the hierarchy. The figures for spoken British English fit the constraint of the Agreement Hierarchy equally well. The two varieties show interestingly different results; British English shows considerably higher plural agreement in the predicate (the target most often discussed), but not with the other two targets. The key point, however, is that both substantial sets of data accord fully with the hierarchy.

² The Agreement Hierarchy makes no claim about which items will be agreement targets. It applies “to the extent possible”, that is to the agreeing targets in a language. An example often cited is German *Mädchen* ‘girl’, a hybrid with agreement options in the personal pronoun. In Modern German, predicates do not inflect for gender, hence the hierarchy offers no prediction for that target. The Agreement Hierarchy constrains the distribution of agreement options, not the inventory of agreement targets (a point made clear in Siemund & Dolberg 2011: 528–529, see also Berg 2020: 554). In other words, it is a constraint on syntax rather than on morphology. Now in German the restriction is general: no predicate adjective agrees. However, there can be more specific restrictions too: agreement, or lack of it, can be tied to individual items, as in Archi (Chumakina & Bond 2016: 111–114). There is, nevertheless, interesting quantitative work on the degree of agreement found in the four Agreement Hierarchy positions, as in Birkenes, Fleischer & Leser-Cronau (2020).

³ Thus given a controller which allows a choice of agreement in both attributive and predicate positions, the Agreement Hierarchy constraint specifies that the agreement with greater semantic justification will be more likely in predicate position. Some languages tighten this restriction to be a constraint at sentence level, such that if there is semantically justified agreement in attributive position then an agreeing predicate must also show semantically justified agreement. Russian provides such an example of this sentence-level constraint (Lyutikova 2015: 56 and references there). When conflicting agreements co-occur (for instance, one type in attributive position and another with greater semantic justification in the predicate), this is often called “mixed agreement” (as in Wechsler 2011, for instance).

Table 1: *Committee nouns in spoken American English and British English (Levin 2001: 109)*

	verb		relative pronoun ¹		personal pronoun	
	n	% PLURAL	n	% PLURAL	n	% PLURAL
LSAC	524	9	43	74	239	94
BNC	2086	32	277	58	607	72

¹The relative pronoun does not mark number. Levin confirmed that singular verbs are normally found with *which*, and plural with *who*. He then counted relative pronouns as singular or plural following this criterion, rather than establishing their number from the verb. Since relative *that* allows greater choice he included predicates of *that* within the predicate count. These decisions blur the picture a little, but Levin gives explicit information to allow others to recalculate and reinterpret his results (2001: 32–33, 55–60).

A less familiar example is Middle Welsh (12th century to around end 15th), specifically lexical hybrids, including *teulu* ‘family’ and some more bellicose groupings (see Table 2). The data come from Dedio (2015: 32), and are presented in Nurmio (2019: 50).⁴

Since the numbers are small, I give the number of plural agreements and the total (plural/total). Despite these low numbers, the picture is clear: each individual hybrid shows a pattern in accord with the hierarchy. There is potentially a choice in attributive position, unlike in English; plural (semantically justified) agreement is possible even here. At the other end of the hierarchy, all examples of the personal pronoun show plural agreement. Thus these hybrids offer a neat contrast to the English hybrids (the Middle Welsh hybrids take plural agreement even more readily). An initial survey of Modern Welsh shows a decline in semantically justified agreement, with a substantial number of singular pronouns with certain hybrids (Nurmio 2019: 51: see also pp. 165–167 on mass nouns).

⁴ See Dedio 2015 for the groupings of targets; two typos in Nurmio (2019: 50), in the line for *peddyd* ‘infantry(man), foot soldier(s)’, are corrected here from Dedio p. 32. Further examples of predicate agreement can be found in Plein (2018: 296–311).

Table 2: Plural agreement with lexical hybrids in Middle Welsh (adapted from Dedio 2015: 32 and Nurmio 2019: 50)

		target			
		attributive	predicate	relative pronoun	personal pronoun
controller	<i>byddin</i> ‘army, host’	0% (0/11)	0% (0/5)	–	100% (6/6)
	<i>cenedl</i> ‘nation, tribe, generation’	0% (0/41)	14% (1/7)	50% (3/6)	100% (9/9)
	<i>cymethydd</i> ‘company, band, troop’	–	0% (0/1)	–	100% (1/1)
	<i>gwerin</i> ‘people, folk, troop’	50% (1/2)	–	–	100% (1/1)
	<i>llu</i> ‘host, large number, army’	0% (0/23)	0% (0/12)	60% (3/5)	100% (5/5)
	<i>lluydd</i> ‘host, throng, army’	0% (0/2)	–	–	–
	<i>nifer</i> ‘number; host, troop’	4% (1/24)	11% (1/9)	32% (6/19)	100% (8/8)
	<i>peddyd</i> ‘infantry(man), foot soldier(s)’	–	0% (0/1)	100% (2/2)	–
	<i>pobl</i> ‘(a) people’	3% (1/34)	29% (2/7)	50% (1/2)	100% (8/8)
	<i>teulu</i> ‘family, tribe, household’	–	0% (0/4)	100% (2/2)	100% (5/5)
	<i>tylwyth</i> ‘family, kinsfolk, household’	–	0% (0/1)	–	100% (1/1)
	Total plural	2% (3/137)	9% (4/47)	53% (19/36)	100% (44/44)

3. Why revisit?

Revisiting the hierarchy makes sense for three reasons: it is currently used extensively (§3.1), it accounts for a wide range of data (§3.2), and recent developments in typology suggest the need for an update (§3.3).

3.1 Place in current debates

Since Barlow (1991) highlighted the problems that the Agreement Hierarchy causes for formal theories of syntax, the hierarchy has remained a live issue. Two topics are especially relevant. First there is the basic point that one and the same controller can induce different feature values on agreement targets (including within the same structure); and second there is the challenging place of the relative pronoun (a problem often skirted around). Particularly careful discussions include Wechsler & Zlatić (2003) and Enger (2013). More recently, Landau (2016) sets out the remarkable idiosyncrasies of the Hebrew noun *be'alim* ‘owner(s)’; he proposes a configurational adaptation of the

concord-index distinction,⁵ and shows how various agreements observed fit within the constraints of the Agreement Hierarchy. Smith (2017) returns to the ever-demanding problem of English *committee* and similar nouns; he reviews interesting semantic effects, and investigates how the agreement properties of these nouns may be handled within minimalist syntax; in Smith (2021) he covers a wider range of examples. Hristov (2021) takes an LFG perspective. Wurmbrand (2017) adopts a dual feature approach to the issues raised by the Agreement Hierarchy and brings in interesting data from deep ellipsis, where semantically justified agreement is strongly favoured. Sigurdsson (2019) takes a novel approach to gender, within a broad minimalist perspective, while keeping the challenge of the Agreement Hierarchy in mind, and Cabredo Hofherr (2020) sets it in the context of a general overview of agreement. Multi-valuation, that is the situation where one probe (target) agrees with multiple goals (controllers), is the focus of Shen (2019); he finds three types of language out of a theoretically possible four, and from this typological pattern he argues that multi-valuation is constrained by the Agreement Hierarchy. An (2020) is an ambitious work on agreement involving coordination structures, concentrating on French; besides the typological part, most relevant to this paper, the thesis combines formal syntax, detailed corpus work on contemporary French, experiments (acceptability judgements and self-paced reading) and computational modelling (including comparison of different models). A special collection in *Glossa*, “New perspectives on the NP/ DP debate” included two papers which called on evidence from hybrids, relating to the Agreement Hierarchy, namely Salzmann (2020: 43–40) and Bruening (2020: 7–11). The hybrids in question there are split hybrids (discussed in §5.1 below), which have become a popular topic; see Corbett (2015: 205–207), Despić (2017), Puškar (2018), and Franks (2020: 448–464).

3.2 Data coverage

The data are highly varied, particularly in the range of controllers, whether lexical hybrids (like *family*) or constructional mismatches (conjoined structures for instance), and in the difference in the oppositions (collectivity, social gender, politeness, and so on). Summaries of the range of data accommodated are given in Corbett (2006: 213–227) and Croft (2013: 99–103). Controllers will be our focus in the main sections of the paper.

There have been studies involving the hierarchy on a **range of languages**. Indo-European languages figure large, since agreement mismatches are something that attracts attention where there is a tradition combining grammar-writing and detailed work on texts. But the net is widening as shown, for instance, by Sagna (2019) on Eegimaa (Banjal), Di Garbo (2020) on Cushitic languages, and earlier by Corbett & Mtenje (1987: 9–14) on Chichewa, Corbett (1991: 252–256), based on Wald (1975), on thirty Bantu languages of coastal Kenya and northern Tanzania, discussed further in Van de Velde (2022), as well as Mosel & Hovdhaugen (1992: 91, 443) on Samoan, and Terrill

⁵ For discussion of the relation of the Agreement Hierarchy to concord and index agreement see Wechsler (2011: 1024–1028).

(2003: 142–144) on Lavukaleve. Not all these sources provide information on all four hierarchy positions. Other **language-specific studies** include Dutch (Audring 2009), French (Sleeman & Ihsane 2016, and An 2020 as already noted, An & Abeillé 2022), German (Fahlbusch & Nübling 2014), German bilingual acquisition (Binanzer 2017), Icelandic (Thorvaldsdóttir 2019), Italian (Thornton 2020), Russian (van Helden 1993: 985–993, Matushansky 2013) and Swedish (Källström 1993: 263–265, Andersson 2000: 553–554). A particular focus has been Serbo-Croat⁶ (Leko 2010, Pišković 2011: 136–146), Murphy, Puškar & Guzmán Naranjo (2018); the work on split hybrids referred to earlier is primarily on Serbo-Croat. These language-specific studies involve various lexical hybrids and, less frequently, constructional mismatches (such as conjoined phrases). For work on **dialects**, I note Nübling, Busley & Drenda (2013) and Busley & Fritzing (2021) on female names in German dialects, Enger & Corbett (2012) on the Nordreisa dialect of Norwegian, and Fleischer & Widmer (2016) on the development of a significant hybrid and the geographical distribution of its agreements in dialects of Old Frisian. **Corpus work** represents a natural use of the Agreement Hierarchy, as shown by the detailed comparison of varieties of English in Levin (2001), and by Leko's (2000) analysis of a Serbo-Croat corpus. Work on **diachrony** has achieved a great deal. Jürg Fleischer and colleagues at Marburg, working on several languages, have shown how the constraint of the Agreement Hierarchy has operated over long time periods with change sometimes moving “to and fro”, up and down the hierarchy, rather than moving in a single direction, as in Fleischer (2012), Birkenes, Chroni & Fleischer (2014), Birkenes & Sommer (2015), Fleischer, Rieken & Widmer (2015) and Birkenes & Fleischer (2022). Karatsareas (2014) investigates developments in Asia Minor Greek,⁷ Igartua (2004, 2006) analyses Old Russian, and Nurmio (2019) the diachrony of Welsh, as reviewed in §2; for Romance languages, Caro Reina & Nowak (2019) discuss change involving Spanish city names, and Loporcaro (2018) includes intriguing developments across the Romance family. In a wide-ranging study of 179 Northwestern Bantu languages, Di Garbo & Verkerk (2022) show how animacy effects can interact with the Agreement Hierarchy. A recent departure has been the use of the hierarchy in investigating the language of **heritage speakers**; see Laleko (2018), and Krueger (2021) on Russian, and Alexiadou, Rizou, Tsokanos & Karkaletsou (2021) on Greek. We find Agreement Hierarchy effects even in **novel use**: Knoblock (2022) documents a new slur in political discourse, Enger (2015) discusses an ongoing change in Norwegian Bokmål, and Corbett (1981) documents a one-off hybrid in the work of a single author. Finally, references on **psycholinguistics** include Bock et al. (2006), Schremm, Horne & Roll (2016), and Acuña-Fariña (2018).

⁶ In accord with the 2017 “Deklaracija o zajedničkom jeziku” (<http://jezicinacionalizmi.com/deklaracija/>), I treat Serbo-Croat (hbs) as a pluricentric language, like English or German, with four standards: Bosnian (bos), Croatian (hrv), Montenegrin (cnr), and Serbian (srp); in ISO terms it is a macrolanguage. See Corbett & Browne (2018) for a linguistic outline, Bailyn (2010) for an experimental translation study of the degree of difference of two of the standards, and Bugarski (2012, 2019 and references there) for the complex issues of sociolinguistic background and language status.

⁷ And for data from New Testament Greek see Janse (2020: 49–51).

3.3 Matching the progress in typology

Given how the Agreement Hierarchy figures in current research, it should be fit for purpose in typological terms. It was proposed in the days of “hunter gatherer” typology, when finding and justifying a typological hierarchy was sufficient. We are now more demanding, asking that we provide a full underpinning for a typology. That is, we examine and justify the criteria on which a typology is based, and relate them to the underlying attributes of the domain, as argued for in Round & Corbett (2020). This idea, known in other typological disciplines, is proving valuable in linguistic typology too; it is what Lazarsfeld (1937) termed *substruction*. The original Agreement Hierarchy paper did provide justification for the four hierarchy positions (Corbett 1979: 216–217); thus while the target types were justified, less was said about the controller types. Added to this, the range of controller types covered has expanded surprisingly over the intervening years. Hence the need to update the typology, taking advantage of the new insights from other disciplines.

The interactions noted in §3.1 between theoretical syntax and typology are highly promising. But syntacticians are working with a dated typology: they deserve better. An upgraded typology should make their work easier, but also encourage them to scale up their analyses (which have tended to concentrate on lexical hybrids) to a fuller range of controllers.

4. The typology of controllers

The key to our typology is a secure baseline from which we can measure. Such a baseline, or canon, is a guiding idea in Canonical Typology. This is laid out in Round & Corbett (2020); essential references can be found there, and a substantial and expanding bibliography is available.⁸ The canon is where we calibrate from, just as we measure length from zero metres, and temperature from zero kelvins. The canon is not what is frequent, functional, unmarked, or prototypical. No value-judgement is attached: zero metres is not a good length for a typical object, and zero kelvins is not a desirable temperature, but each is a good point to measure from. And just as when we try to understand the physical world, we pull apart length, temperature and other measures, so in typology we make progress by disentangling different dimensions. In the case of the Agreement Hierarchy and agreement controllers, the canonical approach works well, as we shall see.

We start from the canonical noun. For any canonical part of speech, the semantic, syntactic, and morphological behaviours line up perfectly; specifically, a canonical noun would denote an entity, head a nominal phrase, and take the inflectional morphology appropriate in the given language (Corbett 2013: 52). Let us now move to canonical agreement. A general principle is this:

Principle I: Canonical agreement is redundant rather than informative.
(Corbett 2006: 11).

⁸ The Canonical Typology bibliography can be consulted at tiny.cc/ctbib.

This principle covers most of what we shall need. The controller will be fully and uniquely specified in featural terms, whether the feature values are lexically specified or selected. All agreement targets will match that feature specification. The agreement will be redundant, since all targets provide only the same information as that available from the controller. In this canonical system, there would be no hybrid agreement (since then the target would provide additional information, and agreement would not be redundant). Recall that what is canonical is the point from which we agree to measure. This simple and recognizable baseline allows us to calibrate the examples we are interested in. There are numerous instances of agreement which are canonical; these are the less interesting ones, as compared with those we shall analyse. (For fuller details see Corbett 2006: 8–27, and Corbett & Fedden 2016.) We come to the canonical phrase in §5.2.

The Agreement Hierarchy fits readily into a canonical view: we can view the positions on the hierarchy as increasingly less canonical targets (Corbett 2006: 21–23). Attributive modifiers are syntactically closest, and most canonical, while personal pronouns are least canonical; indeed some do not recognize them as agreement targets at all, though this is hard to reconcile with the fact that we find examples of fully syntactic agreement of the personal pronoun (see Corbett 2006: 22); this issue is discussed further in §5.1. Thus agreement targets are increasingly non-canonical targets as we move rightwards along the Agreement Hierarchy.⁹

Consider now the agreement controllers involved in hybrid agreement (such as *family*). These do not take the same agreement specification for all targets; they are not “consistent” in this respect, and hence they are non-canonical (Corbett 2006: 11–12, 163–165). As with targets, agreement controllers can be non-canonical to different degrees. We take canonical controllers as the baseline to work from. That allows us to calibrate the divergences from it; these are laid out schematically in Table 3.

We first go through the structure of Table 3, and then treat the shaded cells which are key for the Agreement Hierarchy in more detail in §5. The cells represent landmarks only, they are convenient points on the dimensions of the typology; it is essential to bear in mind that these dimensions are gradient.

The structure of controllers is one dimension; it ranges from lexemes (nouns) down to phrases (NP/DP). In the other dimension, running left to right, we look at the controller feature values. Nouns like *cup* and phrases like *the cup* are canonical in terms of their feature values: these are fully consistent internally, and they are also fully consistent externally. This means that their feature specifications do not give rise to different types of agreement: they show canonical agreement (as indicated in the row below).

Next there are controllers which are internally less canonical, in that they have – potentially – conflicting factors. These are in the column headed “select”, which indicates that of the possible values, one is selected. For instance, Russian *djadja* ‘uncle’ denotes a male, and “should” be masculine. On the other hand, it inflects

⁹ Targets and controllers are different in nature, hence their canonicity is measured according to different criteria.

Table 3: Schema of controller types with examples

		controller feature values			
		canonical (factors align)	non-canonical (factors conflict)		
			select	compute	extraneous
controller structure	noun	<i>cup</i> → SG	Russian <i>djadja</i> ‘uncle’ → M	Middle Welsh collectives → SG/PL	Norwegian “pancake sentences” → own/default values
	NP/DP	<i>the cup</i> → SG	<i>the winner of the prizes</i> → SG	<i>this girl and boy are ...</i> → SG/PL	
agreement		canonical		canonical / non-canonical (informative)	
information		local			extraneous

according to an inflection class whose members are mainly feminine. This conflict is decided lexeme-internally in favour of the lexical semantics: masculine is selected; all agreements are masculine, and there are no Agreement Hierarchy effects. Thus, while *djadja* ‘uncle’ is internally less than fully canonical, externally its agreement is canonical. Hence the header “select”: there are different possibilities, but one is selected, and this gives rise to canonical agreement. Moving from nouns to nominal phrases, we find a similar situation with complex phrases like *the winner of the prizes*. There are two competing phrases, and the issue is still “select”. Agreement is determined by the head, *the winner*, and there are no Agreement Hierarchy effects.¹⁰ Hence the items in the “select” column are internally less canonical than those to the left, but they still take canonical agreement.

The next column, headed “compute”, brings us into core Agreement Hierarchy territory. Here we have controllers which have conflicting factors, and this conflict is not simply resolved in favour of one outcome; rather the different values can play a role in agreement (subject to the Agreement Hierarchy). We saw examples from Middle Welsh (Table 2). They involved number; we find comparable examples with gender.¹¹ For instance, Russian *vrač* ‘(woman) doctor’ is a classic hybrid. It inflects according to an inflection class whose members are mainly masculine, but it can denote a female. Here there is no unique outcome: we find both masculine and feminine agreement, constrained by the Agreement Hierarchy. Feminine agreement, which has greater semantic justification, is prevalent to the right of the hierarchy (see Corbett 1983: 30–39,

¹⁰ Instances where the dependent competes to control agreement are discussed in §5.3.

¹¹ More than one feature may be involved. For instance, with conjoined phrases both gender and number may be in play. Since we concentrate on controllers, it makes sense to treat individual features when possible.

1991: 231–232 and references there, for detailed data). There are analogous examples involving phrases, such as those of the type *girl and boy*. Here the phrase is both singular (there are only singular conjuncts) and plural (it denotes a plurality). Again the feature value must be computed, and we find both outcomes, as in: *this girl and boy are likely to win*. We observe Agreement Hierarchy effects: plural agreement is increasingly likely as we move rightwards along the hierarchy. The items in the “compute” column are less canonical controllers than those in the columns to the left, since they may take non-canonical (informative) agreement. However, like those to the left, the information required (bottom row of Table 3) can still be local to the controller.

It might be expected that we would have covered the ground, but there are particularly interesting further possibilities. In the column headed “extraneous” we consider examples where there is some additional factor that cannot be read off the featural specification of the particular lexeme or phrase. Such instances can be illustrated from “pancake sentences”, named after this example:

Norwegian (nor, Bokmål/Nynorsk): “pancake sentence”

- (3) *Pannekake-r er god-t.*
 pancake-PL COP good-SG.N
 ‘Pancakes is good.’ (‘Eating pancakes is good.’) (Faarlund 1977: 240)

We have the plural *pannekaker* ‘pancakes’, but the predicate is the default, the neuter singular.¹² The source of the agreement is not to be found straightforwardly in the controller, but is in some sense extraneous to it. The examples of extraneous agreement (pancake sentences and other constructions discussed in §7) can apply to all the controllers to the left in Table 3. They could therefore be lodged on a third dimension in the table. The simpler representation in the table makes the point that they are furthest from canonical agreement, in that they do not redundantly match the information from an agreement controller.

Pancake sentences have been intensively researched; see Haugen & Enger (2019) for recent work, and Åkerblom (2020) for a survey of the considerable literature. Attention has been largely focused on predicate agreement, but note that there is an Agreement Hierarchy effect (Corbett 2006: 223–224). Example (4) is comparable to (3):

Norwegian (Bokmål nob): pancake sentence

- (4) *Nystekt-e pannekake-r er god-t.*
 new.fried-PL pancake-PL COP good-SG.N
 ‘Newly-fried pancakes is good.’ (‘Eating newly-fried pancakes is good.’)
 (Enger 2004: 20)

¹² Note that predicative adjectives take the indefinite form; this will not be glossed separately.

The attributive modifier in (4) agrees normally. In (5) the complementizer *som* introducing a relative clause does not inflect, but a predicative adjective in the clause allows us to infer its feature specification as neuter singular:

Norwegian (Bokmål): pancake sentence

- (5) *Narkotika, som er grusom-t for både misbruker-e og*
 Narcotic(M)[SG], COMP COP awful-SG.N for both addict-PL and
pårørende, de-t skulle aldri vær-t oppfunn-et.
 relatives.spouses, it-SG.N should never be-PST.PTCP invent-PST.PTCP
 ‘Drugs, which is awful for both addicts and those close to them, – it should never
 have been invented.’ (Hans-Olav Enger, personal communication)

The complementizer *som* controls neuter agreement on *grusomt* ‘awful’, while the antecedent is masculine singular. The personal pronoun *det* ‘it’ is also neuter singular. Taking examples (3)–(5) together, we have normal agreement in attributive position and default agreement in all other Agreement Hierarchy positions. We take the analysis further in §7.4 below. For now, the key point about these examples is that they are characterized as needing access to information extraneous to the controller (bottom row of Table 3).

We have now considered an example from each cell in Table 3. If we look again at the row labelled “agreement” in Table 3, we see that canonical agreement, strictly following the controller’s features, is found with the first two types of controller: those where there is no internal conflict, and also those where there is a potential conflict but one that is decided always in one way. For the other two types, there is the possibility of more canonical or less canonical agreement. While canonical agreement is redundant, reflecting information that is available elsewhere, less canonical agreement is informative. For instance, with the Russian example of *vrač* ‘(woman) doctor’, we find masculine and feminine agreement; feminine agreement makes clear that it is indeed a woman involved. In pancake sentences (3), the neuter singular agreement signals the construction. Finally, the “information” row in Table 3 distinguishes those situations where the featural information required for agreement is available locally, that is within the controller phrase (including that of the component lexical items), as opposed to those where the information is external (extraneous).

Having seen the overall scheme, we now take a more detailed look at the dimensions of our typology. Table 4 takes the key parts of Table 3, to provide a road map for the next sections.

Table 4 shows the two dimensions of our typology. These are best understood as canonical criteria (or scales). We can anchor these criteria in the notion of the canonical hybrid:

A canonical hybrid is a single noun whose internal mismatch is sufficient to account for the inconsistency in the agreement it controls.

This is a common technique in Canonical Typology. We define canonical noun and, when we calibrate from that point, hybrids are clearly non-canonical, since they do not

Table 4: Two dimensions diverging from canonical hybrids

		information source local (compute) >> extraneous	
structure phrase << lexeme	noun	§5.1 Lexical hybrids e.g. Middle Welsh collectives	§6 Extraneous overrides e.g. Norwegian pancake sentences
	NP/DP	§5.2 Constructional mismatches e.g. <i>this girl and boy are ...</i>	

take consistent agreement. We may then define canonical hybrid, as above, and recalibrate from there. Table 4 suggests how we should calibrate the examples we find, moving away from the canonical hybrid along two dimensions.¹³ The three types in the table are given for illustration, as salient points on the dimensions. In §5 we consider examples with “local” information, that is, examples where the agreement can be computed from information local to the controller; as we go down the column, these examples allow us to demonstrate the criterion concerned with the structure of the controller, running from lexeme (the canonical hybrid) to phrase. We then justify the horizontal dimension, where the information available in the controller runs from local (as in the canonical hybrid) to extraneous, in §6.

5. The dimension lexeme-phrase

Lexical hybrids and constructional mismatches have been discussed previously as two main types of controller which induce agreement effects subject to the Agreement Hierarchy (e.g. Corbett 2006: 213–224). While this is a convenient summary, these groupings run into each other, as we shall see. We can move forward by seeing them in terms of a dimension: lexeme-phrase. The dimension is anchored in the canonical lexical hybrid and runs towards increasingly extended phrases. With canonical lexical hybrids, the source of the agreement choice can be unambiguously located in the lexical entry for the hybrid. As we move in the direction of constructions which are increasingly free (in the sense that they are not constrained to include particular lexemes), we shall see that secondary elements in the phrase become more and more necessary, and that these have a growing influence on the agreement. We start with situations where the source of the agreement choice is in the lexical entry for particular hybrids (§5.1) and move through to extended phrases (§5.2).

¹³ The basic constraint of the Agreement Hierarchy in §2 allows ready operationalization: we specify and count examples in a corpus, as in Table 2, and in several further instances reported in §3.2.

5.1 Lexical hybrids

Lexical hybrids have been relatively well researched. As noted earlier, lists of hybrids from various languages can be found in Corbett (2006: 213–220) and Croft (2013: 99–103). The question why some nouns are hybrids while other nouns with a potential mismatch have a single gender (like Russian *djadja* ‘uncle’ in Table 3) is discussed in Corbett (2015), though it deserves further attention. With lexical hybrids we find conflicting motivations for their feature specification (for instance, *committee* is singular in form and denotes a unit, but it also denotes a plurality of individuals) and this conflict is not resolved uniquely in favour of one outcome. Besides form–meaning mismatches, we also find meaning–meaning mismatches (Corbett 2006: 161–165) and form–form mismatches (Corbett 2022: 81–82).

In §2 we saw a familiar and an unfamiliar set of hybrids. As a further illustration consider the Russian noun *para* ‘couple’:

Russian (Bunin, *Gospodin iz San-Francisko* ‘The Man from San Francisco’ 1915)

- (6) ... *by-l-a izjaščn-aja vľjublenn-aja par-a*,
 be-PST-SG.F elegant-SG.F.NOM loving-SG.F.NOM couple(F)-SG.NOM
za kotor-oj vs-e s ľjubopytstv-om sledi-l-i
 after REL-SG.F.INS all-PL.NOM with curiosity-SG.INS follow-PST-PL
i kotor-aja ne skryva-l-a svo-ego sčastj-a ...
 and REL-SG.F.NOM NEG hide-PST.SG.F own-SG.N.GEN happiness-SG.GEN
 ‘there was an elegant loving couple, who everyone watched with curiosity and
 who did not hide their happiness ...’

Here we see feminine singular attributive modifiers (*izjaščnaja* ‘elegant’ and *vľjublennaja* ‘loving’), a feminine singular predicate (*byla* ‘was’), and two feminine singular relative pronouns. What makes *para* ‘couple, pair’ a hybrid is that the personal pronoun will be plural:¹⁴

Russian (V. V. Lorčėnkov, *Bezdna* ‘The Abyss’, 2013)

- (7) *Par-a tancu-et, oni kruž-at-sja na kanat-e ...*
 couple(F)-SG.NOM dance-3SG 3PL.NOM circle-3PL-REFL on rope-SG.LOC
 ‘The couple dances, they spin on a tightrope, ...’ (Russian National Corpus)

With this hybrid, we find the form with greater semantic justification, the plural, just in the personal pronoun.

We now take all lexical hybrids together as a group and consider the range of variation. A first obvious way in which lexical hybrids vary is in how numerous they are. Russian *para* ‘couple’ is unique: there is no other noun in the language which behaves exactly as it does, though there are a handful of partly similar nouns. And Hebrew *be’alim* ‘owner(s)’

¹⁴ All my examples follow the pattern of (6) and (7). However, Kholodilova (2015: 77) notes an unusual instance of a plural relative pronoun, which thus also fits within the constraint of the hierarchy.

is unique (Landau 2016).¹⁵ At the other extreme there are many *committee* nouns in English, which are number hybrids, and Russian has many nouns of profession denoting females, which are gender hybrids. Why does it matter how many lexemes are involved? When we have a unique exception, then there is no issue about labelling it as such. However, the larger the number of such items becomes, the greater the possibility that we should review the feature system, a point we return to shortly.

A second type of variation is the extent to which agreement with greater semantic justification is found. At one extreme we find examples like German *Mädchen* ‘girl’, where semantically justified agreement (feminine) is found just in the personal pronoun (along with syntactic neuter agreement). At the other extreme, with Russian *vrač* ‘(woman) doctor’, we find feminine agreement right into the attributive modifier (along with masculine). Thus both these extremes (personal pronouns and attributive modifiers) are part of our story, since there are examples, in both positions, of the choice between two types of agreement. Neither attributive modifiers nor personal pronouns are in principle impervious to semantically justified agreement nor indeed to strict syntactic agreement.

Putting together these two sorts of variability (how numerous the hybrids are and the extent to which agreement with greater semantic justification is accepted), it is important to stress that groups of hybrids which appear similar typically have slightly different properties when examined carefully. We may talk of *committee*-nouns, and there is extensive evidence that they follow the Agreement Hierarchy (summarized in Corbett 2006: 211–213). But they turn out to show individual differences; we see this in Table 5, where data on predicate agreement is collated for four different nouns of this type.

We see differences between varieties of English and between spoken and written language; cross-cutting all this, the four hybrids differ considerably. There is a categorical choice of feature value (singular or plural), and we are concerned with the complex distribution of this discrete choice.¹⁶ The way forward is to link the agreement choice to the lexical semantics of the controller; this is shown for the comparable situation in Dutch (Joosten et al. 2007, discussed in Corbett 2015: 196–198). This point applies generally beyond Dutch: whenever apparent groups of hybrids have been carefully investigated, it has been established that they vary lexeme by lexeme, as in Corbett (1991: 183–184) on Russian, and Birkenes et al. (2014) on German (17th–19th centuries).

The third type of variation is rather different, being structural in nature. If we take the familiar *committee* type of hybrid, we see that it is a hybrid in the singular only. When plural, it is like any other noun. This is a direct consequence of the feature system of English: once a noun is plural, there are no further options available. Similarly, with

¹⁵ Serbo-Croat *deca* ‘children’ is also unique (Corbett 2023), though there are a few largely similar nouns. There is even idiosyncratic use by the Russian writer Gogol’ of a particular controller (*značitel’noe lico* ‘important person’), which still follows the hierarchy (Corbett 1981).

¹⁶ Proposing an additional number value (such as ‘corporate’) for nouns like *committee* will not work. The value ‘corporate’ would simply indicate a distribution of singular vs plural, in accord with the Agreement Hierarchy, while varying lexeme by lexeme. It would be just a label for a problem (Corbett 2007).

Table 5: Predicate agreement with four lexical hybrids in four varieties of English

variety	American		Australian		New Zealand		American		British		British	
	NYT		SMH		DOM/EVP		LSAC		CBA		Independent	
source	n	%PL	n	%PL	n	%PL	n	%PL	n	%PL	n	%PL
total, % PL	191	0	345	0	100	0	27	4	3282	4	365	5
government	149	0	123	5	100	1	27	4	281	9	137	9
committee	154	1	161	7	100	7	28	11	656	32	145	37
team	162	4	118	16	100	41	117	5	848	40	173	37
family												

Sources: the data from NYT (*New York Times*), SMH (*Sydney Morning Herald*), LSAC (Longman Spoken American Corpus, five million words), Independent and British National Corpus (BNC, ten million word section on spoken language) are from Levin (2001: 166-169); data on New Zealand English, from the newspapers *Dominion* and *Evening Post*, come from Hundt (1998: 82), who counted 100 examples for each item; CBA indicates data from the British English component of the Cobuild Bank of English, some five million words from newspapers, magazines and ephemera, also including spoken language (Depraetere 2003: 110-111).

Russian *vrač* ‘(female) doctor’; it is a hybrid in the singular (masculine vs feminine), but in Russian gender is not distinguished in the plural, and so the agreement behaviour of *vrač* ‘(female) doctor’ when plural cannot be distinguished from that of a normal noun.

There is another possibility, however: we can imagine languages with feature systems that would allow for full hybrids, for example, a language in which all gender values are distinguished across the number values. And what we find is both possibilities: there are full hybrids, and split hybrids.

An example of a **full hybrid** is Old High German *wīb* ‘woman, wife’, which takes both neuter and feminine agreement (in the plural, over time, masculine and feminine fell together in some targets, while retaining an opposition with the neuter). Another is Modern Icelandic *lögga* ‘(male) cop’, which takes feminine and masculine agreements in both singular and plural (see Corbett 2015: 200–204 for examples and sources for both). Sagna (2019: 600–602) gives details of the Eegimaa full hybrid *bájur* ‘young woman’.

In contrast, we also find **split hybrids**. These are nouns which are hybrids for a part of their paradigm, where the split is not an automatic consequence of the feature system. Thus Serbo-Croat has three gender values, realized in both singular and plural. And it has a substantial number of nouns which are hybrids in the plural, but not in the singular. The feature system would allow for them to be hybrids in the singular too, but they do not take the opportunity. An example is *gazda* ‘landlord, boss’, which takes masculine agreements when singular, and feminine and masculine agreements when plural (Corbett 2006: 215–216). Other examples include Old Church Slavonic *sluga* ‘servant’ and similar nouns (Huntley 1989: 23, 1993: 135–136, Corbett 2015: 205–206) where the split is between singular (not hybrid) and dual and plural (gender hybrid), and several examples in Eegimaa (Sagna 2019: 602–607). While most split hybrids have a motivated split (typically between singular and plural), there are others where the part of the paradigm for which they are hybrid represents a smaller, unmotivated segment of their paradigm. Examples here are: *mamma* ‘mum’ in the Nordreisa dialect of Norwegian, with gender values which differ according to definiteness (Enger & Corbett 2012); Polish *reka* ‘hand’, with alternative forms and associated gender values in the locative singular; and Old Frisian *wif* ‘woman, wife’, with alternative gender values in the genitive and dative singular (Fleischer & Widmer 2016). For discussion of the significance of the Polish and Old Frisian data see Corbett (2022). Split hybrids form part of the more general typology of external splits (Corbett 2023).

5.2 Constructional mismatches

We continue moving down the dimension lexeme–phrase, and reach the point where the local environment in which the feature value(s) can be calculated extends beyond the lexeme to the phrase, including phrases which are complex. The canonical phrase has a unique head. The head properties align (alignment of properties is a general canonical typology principle). That is, the head is head in all respects: it is the semantic, syntactic and morphological head. More technically, Bond & Corbett (2017) suggest that canonical heads are maximally exo-determining and maximally self-determining; conversely canonical dependents are minimally exo-determining and minimally self-determining.

It follows that a canonical phrase would not give rise to agreement options. This canonical approach allows us to treat headedness as a gradient notion (Bárány, Bond & Nikolaeva 2019: 31, and references there).

All this means that there can be competition within the complex nominal phrases for controlling agreement. We are moving increasingly far from the situation where a given lexeme (a canonical lexical hybrid) is the sole source of the agreement option. However, the source of the agreement option is still local, in that the information to be computed is to be found within the controller (which may be a complex nominal phrase). As the dependent becomes “less dependent”, and the head-dependent relation becomes more balanced, the importance of any individual lexeme is diminished. Thus we move, stage by stage, from individual hybrids at the lower end of this dimension, to conjoined nominal phrases, which are somewhat unconstrained in terms of the lexemes involved and relatively balanced in terms of headedness (different syntactic frameworks grapple with this variously).

5.3 The dimension lexeme-phrase in detail

We have been descending the “Compute” column in Table 4, moving down the dimension lexeme vs phrase. This dimension runs from the canonical hybrid noun at one end (where the lexical entry provides sufficient information for the computation) to free constructions at the other (where computation has to go beyond individual lexemes). At the furthest point, conjoined phrases can, in principle, involve any nouns. And the conjoined phrase can have properties which are not found in any of the conjuncts. Between these two extremes, lexical hybrid and free construction, we find a range of interesting possibilities. Some of these were introduced in §5.1 and §5.2. They are ranged in order in Table 6, and are discussed briefly below.

The baseline, or starting point, is the **unique hybrid noun** (type 1), the canonical hybrid noun defined in §4. Here there is no alternative to locating the problematic combination of agreement in the lexical entry of the noun. As we move away from this baseline, the role of individual lexemes decreases while that of the construction increases. A first step in that direction brings us to a **set of similar hybrids** (type 2). An example is English *committee* nouns; recall, however, that these hybrid nouns have similar but not identical behaviours (as we saw in Table 5). Another well-studied example is the large group of nouns in Russian denoting professions, when used of women (noted in §4).

Let us move on to **reduced quantitative nouns** (type 3), which are key to understanding this dimension of the typology, since they straddle the lexeme-phrase boundary. These are examples like English *the majority (of the patients)* (see Leclercq & Depraetere 2018 and Fernández-Pena 2020 on English, and Corbett 2006: 219 for data from other languages).¹⁷ We find singular and plural agreement, both when a dependent phrase such as *of the patients* is present, and when there is no dependent phrase. Since

¹⁷ The construction is sometimes called collective, sometimes partitive; both terms cover a disparate range of phenomena, many of which are not directly relevant here.

Table 6: The dimension lexeme to phrase

	type	example	reference
↑ lexical hybrid ↓	1. unique or virtually unique hybrid	Russian <i>para</i> ‘couple’; Hebrew <i>be’alim</i> ‘owner(s)’	§5.1 above; Landau (2016)
	2. set of similar hybrids	English <i>committee</i> nouns; Russian female professional nouns	§5.1 above; §4 above
	3. reduced quantitative noun	<i>the majority (of the patients)</i> , various languages	Leclercq & Depraetere (2018)
	4. reduced qualitative noun / headedness mismatch	French <i>ton phénomène de fille</i> ‘your amazing daughter’	Hulk & Tellier (1999), Corbett (2006: 222–223)
— free construction ↓	5. restricted numeral phrases	Serbo-Croat phrases with lower numerals	Corbett (2006: 208–209)
	6. comitative phrases	Russian <i>otec s mater’ju</i> ‘father with mother’	Corbett (2010: 12)
	7. conjoined phrases	<i>Mary and John, table and chair</i>	Corbett (2006: 168–170, 179–181, 220–221, 238–263)

majority can take plural agreement even without a dependent, this suggests that the lexical semantics of this noun is sufficient – it is a lexical hybrid. But when we find plural agreement with the full phrase (and here it is more likely), we may attribute this semantically justified agreement to the presence of the plural dependent phrase. This suggests that we have a headedness mismatch, with the dependent phrase taking on some head properties. Both interpretations are right: *majority* (and similar nouns) imply a quantified dependent; their lexical semantic content is reduced. Hence such phrases bridge between lexical hybrids and constructions (where the dependent takes on some head properties). In a comparable way, Birkenes & Sommer (2015) document the diachrony of agreement with nouns like ‘crowd’, ‘multitude’ and ‘people’ in Ancient Greek and German, and the role of the Agreement Hierarchy in the development. The relevant point here is that, in their corpora, plural agreement with such nouns is much more likely when there is a dependent plural phrase. Here again, therefore, nouns that we might take to be simple lexical hybrids can be seen as being part of a constructional mismatch.

While reduced quantitative nouns are better known, reduction is found also with **reduced qualitative nouns / headedness mismatches** (type 4). These are expressions like French *ton phénomène de fille* ‘your phenomenon of a daughter’ (‘your phenomenal daughter’), which show a mismatch between the syntactic head *ton phénomène*, which is masculine, and the semantic head *fille*, which is feminine.

Agreements follow the Agreement Hierarchy, being masculine within the nominal phrase and feminine outside; see Hulk & Tellier (1999) for data from Italian and Spanish, as well as French, and Corbett (2006: 222–223) for the link to the Agreement Hierarchy.¹⁸ We are clearly in the realm of constructions, since the dependent phrase is now necessary, and yet the reduced head nouns which can be involved are drawn from a limited set.¹⁹

This direction is taken even further in our next example, **restricted numeral phrases** (type 5). In Serbo-Croat there is a remnant agreement form (a survival from the dual) which competes with the masculine plural, in a way constrained by the Agreement Hierarchy. This is found in constructions consisting of the numerals *dva* ‘two’, *tri* ‘three’ and *četiri* ‘four’, and a quantified masculine noun. Thus thousands of nouns can be involved, provided they are of masculine gender, and the construction is limited by the numerals which can be involved (Corbett 2006: 208–209, and references there).

Comitative phrases (type 6), like Russian *otec s mater'ju* ‘father with mother’, ‘father and mother’ consist structurally of a head phrase and a dependent phrase, though they are often equivalent to a coordinate expression. The dependent phrase takes some head-like properties, and this is seen in the fact that we frequently find plural agreement, even though there is no plural element in the controller, as in this example:

Russian (comitative phrase) (Ljudmila Petruševskaja, *Svoj krug*, 1987)

- (8) ... *moj otec s mater'-ju vospityva-l-i ego* ...
 my[SG.M.NOM] father(M)[SG.NOM] with mother-SG.INS raise-PST-PL 3SG.M.ACC

‘my father and mother raised him’ (Russian National Corpus)

Here we see a singular attributive modifier, though plurals are found here too, and a plural predicate (more rarely the singular is found); in the remaining Agreement Hierarchy positions we expect plural agreement.²⁰

¹⁸ With English nouns which are semantically bleached, like *kind* and *sort*, agreement with the dependent is possible: *these kind of people*. Here agreement with greater semantic justification reaches attributive position.

¹⁹ Even this restriction may be relaxed, giving rise to attraction (in the modern sense), as in plural agreement with phrases like *the key of the cabinets*. The phenomenon has been extensively studied by psycholinguists; see Corbett (2006: 279–281) and Acuña-Fariña (2012) for some key references, and for the syntactic conclusions to be drawn from those psycholinguistic experiments.

²⁰ Comitatives are less well documented than most of the other controller types in our list; the summary claim that: “comitative phrases (*Ivan s Mašej* ‘Ivan with Masha’) behave broadly similarly in Russian with respect to agreement, except that overall they show lower proportions of semantic agreement” (Corbett 2006: 221) needs fuller justification. There is a small-scale comparison of comitative phrases with ordinary conjoined noun phrases in predicate agreement in Corbett (2010: 12). More generally, if all other factors (notably animacy and word order) are held constant, then comparing the ratios of semantically justified agreement in different constructions may be an aid in analysing the differences in structure.

Comitatives are restricted in that they may be limited by the particular dependency marker (the preposition *s* ‘with’ in the case of Russian), and the fact that animates are involved. They shade into ordinary conjoined expressions in various ways. Some languages share a marker for ‘and’ and ‘with’, as in Bantu languages like Chichewa (*nya*) where *ndi* covers both (Corbett & Mtenje 1987: 27, 35–36). Palancar (2012: 267–278) gives details of the fine gradation from comitative through to coordinative conjunction. Note too Qafar (*aar*) conjoined noun phrases, where there is a choice between default agreement (feminine singular) or resolution (plural). Conjuncts stand in the absolutive (rather than the nominative) and so cannot control normal agreement; the appearance of the feminine singular may be analysed as agreement with the nearest conjunct which, being in the absolutive, gives rise to the default (for the argumentation and examples see Hayward & Corbett 1988; Corbett 2000: 203–206).

Finally we come to **conjoined phrases** (type 7): these are phrases with a coordinating conjunction. The literature is substantial here: see, for example, Thorvaldsdóttir (2019), An (2020), and references there. Agreements vary considerably from language to language, but when we have full data these are in accord with the Agreement Hierarchy (see for instance Corbett 1983: 158–159, 2006: 220–221 on Russian). Conjoined phrases are a free construction, in that in principle any nouns can be conjoined, thus *Mary and her rose* is fully grammatical. In reality, however, conjoined noun phrases almost always involve nouns of the same semantic type (all animate or all inanimate). Even here, in this construction exhibiting the greatest degree of freedom, we find a degree of restriction.

We have seen that this dimension runs from unique or virtually unique hybrid noun (the canonical hybrid), right through to an (almost) fully free construction. We moved from types where the mismatch which gives rise to alternative agreements could be located squarely on the lexical entry of a hybrid through to those where a dependent phrase was the source of one of the conflicting values. We saw numerous intermediate points, with agreements in accord with the Agreement Hierarchy; for some points we have luxuriant detail, sometimes the data are sparser. Note that this dimension concerns the *source* of the mismatch; the proportion of semantically justified agreement varies across and within the types (as we saw clearly in Table 5). We now switch, in §6, to the other dimension, local vs extraneous (we switch from “down” to “across” in Table 4).

6. The dimension local-extraneous

The instances discussed in §5 involve a mismatch located within the controller, whether this is a lexical hybrid or a construction with an internal mismatch (such as conjoined phrases). All those examples, and indeed the simpler examples to the left in Table 3, can be characterized as “local”, since the information required for agreement is available locally. These are to be contrasted with instances where the information is at least in part extraneous to the controller – rather it is “imported” from outside. This dimension, local vs extraneous, involves going across the columns in Table 4. The key point is that we are dealing with a dimension whose baseline is examples where the issue is firmly located in the controller and which runs through examples where agreement is determined to

an increasing degree by extraneous factors. In §4 we considered Norwegian pancake sentences, and I include a reminder here:

Norwegian (nor, Bokmål/Nynorsk: pancake sentence

(9)=(3) *Pannekake-r er god-t.*

pancake-PL COP good-SG.N

‘Pancakes is good.’ (‘Eating pancakes is good.’) (Faarlund 1977: 240)

The key point is that determining the agreement in (9) involves more information than is to be found in the feature specification of the controller. (Of course, as a mechanism to account for the agreements, some may add a feature to the controller; that does not change the point that such examples require something extraneous to the normal lexical entry.) These are certainly examples of agreement which are less canonical. While arranging the examples in Table 4 in two columns, “compute” versus “extraneous”, is a helpful starting-point, we should keep in mind that we are dealing with a gradient scale here. We have the canonical hybrid as our baseline, and various phenomena which are increasingly distant from this point; they become less and less canonical as the degree to which they are determined by the controller decreases. That is, for a canonical hybrid the information contained in the lexical entry is sufficient; examples become less canonical as the contribution of extraneous information in determining agreement increases.

Since this dimension of variation is less familiar, I give four different illustrations of agreement involving extraneous factors. These are all situations in which the feature value realized on the agreement target is not directly available within the controller. Agreement is usurped by some additional, extraneous feature value. A sign of this is that the constructions discussed here are most readily recognized precisely by their agreement.

6.1 Associative agreement

Here we consider the Talitsk dialect of Russian (from Bogdanov 1968; his transcription is transliterated):

Russian (Talitsk dialect): associative agreement

(10) *Góš-a pr'ijéxa-l'-i*

Goša-SG.NOM arrive-PST-PL

‘Goša (and his family) have arrived’ (literally: Goša have arrived) (Bogdanov 1968: 71)

This was uttered when Goša (diminutive form for the name Egor) drove up with his wife and family. There is no special marking on the noun itself; it is in the nominative singular. (Hence this is not a morphological associative, for which see Corbett 2000: 101–111, and see Ackema & Neeleman 2018: 90–98 for discussion of the relations between morphological and syntactic associatives.) It is the plural verb which shows, by agreement, that this is an associative. The implied associates are family members, or co-workers. Bogdanov’s examples of controllers are typically singular nouns, but the third person singular pronoun also occurs; Bogdanov is careful to give

contrasting examples to show that outside this construction the controller nouns are normal, in that they control normal singular agreement there. He also clearly delineates this construction from agreement with collectives and polite plurals (1968: 68–70).

As (11) shows, attributive modifiers are singular:

Russian (Talitsk dialect): associative agreement

- (11) *moj brat tam tož-a žy-l'-i*
 my[SG.M.NOM] brother(M)[SG.NOM] there also live-PST-PL
 ‘my brother (and his family) also lived there’ (Bogdanov 1968: 69)

Bogdanov gives no examples with relative pronouns, but personal pronouns are plural:

Russian (Talitsk dialect): associative agreement

- (12) *Pra Kužm-u my šypka ab'is'n'i-t' tož-a n'e mož-ym,*
 About Kužma-ACC.SG 1PL.NOM much explain-INF also NEG can-1PL
paš'imu on'i n'e p'iš-ut vam.
 why 3PL.NOM NEG write-3PL 2PL.DAT
 ‘About Kužma we also can’t explain much, why they don’t write to you.’
 (Bogdanov 1968: 71)

The distribution in (10) and (11) and (12) shows singular (syntactic) agreement in attributive position and semantic (plural) agreement in the other positions for which we have information. This distribution conforms to the constraint of the Agreement Hierarchy.

Skitova (1989) documents the same phenomenon in speakers born in different locations but from the same wider area, and now living in Perm'.²¹ She points to plural agreement of the predicate, as here:

Russian (Perm' area): associative agreement

- (13) *Svet-a uexa-l-i*
 Sveta-SG.NOM leave-PST-PL
 ‘Sveta (and her husband) have left’ (literally: Sveta have left) (Skitova 1989: 131)

The intended referent in such examples could be established by asking the consultants; here it was Sveta and her husband. In examples where there is a modifier within the nominal phrase it is singular. Other targets are not discussed, but there is one example with a pronoun target, and that is in the plural (1989: 131). Thus the examples given are to this extent consistent with the hierarchy. Skitova points out that in this construction her examples normally have a personal name as subject (as in (13)), sometimes a kin term; there is one example with *sosedka* ‘(female) neighbour’ and one with *odin* ‘one’. This suggests how we should calibrate such examples. The construction is used primarily where the addressee can reconstruct the associates intended; these are of course extraneous to the controller, but are not totally dissociated from it.

²¹ The phenomenon is also reported much further east, in the dialects of the middle reaches of the River Ob (Ivancova 2016: 9); I am grateful to Evgeniya Renkovskaja for this reference.

Cross-linguistically, there are relatively few established examples of associative agreement, while associative marking on nouns is common. Nevertheless, associative agreement has been reported in Maltese (Fabri 1993: 276–278; Corbett 2000: 191n13), Plains Cree (Daniel & Moravcsik 2013, citing Ahenakew & Wolfart 1992: 373), and the Mayan languages K'ichee' and Tzotzil (Palancar 2012: 296–297).

6.2 Honorific reference

A second type of extraneous agreement is the use of plural agreement for honorific reference:

Russian (19th century): honorific agreement (Turgenev *Nakanune* ch. 30, 1860)

- (14) *Papen'k-a gnevaj-ut-sja*
 father.DIM-SG.NOM rage-3PL-REFL
 '(Your) father is angry' (literally 'are angry')

In (14), a maid is addressing her mistress; she is referring to the latter's father, to whom she should show respect; she does this by using the plural verb form. This usage is found particularly in the nineteenth century, but with many instances, increasingly ironic or sarcastic, in the twentieth. This construction is to be distinguished from the more familiar construction in which a plural pronoun (Russian *vy*, French *vous*) is used of a single referent for politeness (with ensuing agreement problems, Corbett 2006: 230–233, and references there). In (14) it is the use of the plural verb which signals respect. We cannot treat this as a property of the noun *papen'ka* 'father', which is a normal noun (or rather a diminutive), which normally takes straightforward masculine singular agreement. It is the need to show respect which gives rise to the plural agreement, in predicate position (and Agreement Hierarchy positions further to the right). The plural agreement signals politeness, and this is imported from outside the nominal phrase, in the sense that the noun heading the phrase is not "honorific", and the phrase it heads is not plural. Besides plural agreement in the predicate, we also find plural in the relative pronoun (rare examples) and in the personal pronoun. However, attributive modifiers are singular, which gives a pattern in accord with the Agreement Hierarchy (Corbett 1983: 24–25).²²

The Russian honorific usage has a surprising restriction:

One of the characteristics that make this honorific plural interesting from a typological point of view is that it is primarily used for respected persons the

²² In case it might be thought that "of course" attributive agreement will be singular, note that in Chichewa we find plural agreement even in the attributive agreement with the noun, for honorific effect (Corbett & Mtenje 1987: 9–10n3). All the agreement targets take plural agreement – there is no Agreement Hierarchy effect (though when politeness might be expected a singular predicate nominal is less bad than a singular elsewhere). The fact that all targets take the plural is significant because most examples of extraneous agreement identified so far divide the agreements between attributives and all other targets. Chichewa shows that this need not be the case: extraneous agreement can penetrate the nominal phrase.

speaker has an in-group relationship with: if there is too much “horizontal distance” it is not used.

Houtzagers (2018: 1).

This observation may be unexpected (we might anticipate that an honorific construction would be used precisely with more distant people). However, example (14) fits with it well, since the maid shows respect to those in the household, with whom she does indeed have an in-group relationship.

This construction is not particularly common. It is found elsewhere in Slavonic (Houtzagers 2018). It was found in German (Findreng 1988; Simon 2003: 103–104); elsewhere it is reported in Persian (Hahm 2010: 198), and in Turkish (Kornfilt 1997: 289). The construction is discussed further in §7.2 below.

The two constructions covered so far are distant from canonical to a similar degree. Each requires extraneous information. That is, in both there is information about the referent that goes beyond what is available in the lexical entry: either the referent is to include associates, or the referent merits honorific treatment. The two constructions are similar in that the referent relates to nouns denoting humans; in this sense they are more restricted than the next examples, where different types of phrase can in principle be involved.

6.3 Back agreement

Good evidence for back agreement is found in Latin; classicists use the terms “assimilation” or “attraction” but these terms cover further phenomena and so I will use “back agreement” (see Pinkster 2015: 1278). Back agreement is found in copula constructions, if agreement is controlled by the “wrong” element, the nominal predicate. This is not something that can be attributed to the particular controller.

Latin (Terence): back agreement

- (15) *Amant-ium ir-ae amor-is integrati-o est.*
 lover-PL.GEN quarrel-PL.NOM love-SG.GEN renewal-SG.NOM COP.PRS.3SG
 ‘The quarrels of lovers are the renewal of love.’ (literally ‘is the renewal of love’)
 (Kennedy 1955: 117)

In (15), the predicate noun *integratio* ‘renewal’, which is singular, usurps the place of the usual controller (the subject) and the copula verb *est* ‘is’ is singular. We may find a similar effect with the relative pronoun:

Latin (Livy): back agreement

- (16) *Theb-ae, quod Boeoti-ae caput est.*
 Thebes(F)-PL.NOM REL.SG.N.NOM Boeotia-SG.GEN capital(N)[SG.NOM] COP.PRS.3SG
 ‘Thebes, which is the capital of Boeotia.’ (Kennedy 1955: 156)

Here the relative pronoun *quod* is neuter singular, even though its antecedent is feminine plural. The source of this agreement is the nominal predicate, *Boeotiae caput* ‘capital of Boeotia’ headed by the neuter singular *caput* ‘capital’. Finally, in (17) the anaphoric pronoun regularly agrees with the nominal predicate (here *vera pietas* ‘true piety’):

Latin: back agreement

- (17) *Ea ver-a est pietas*
 that.SG.F true-SG.F.NOM COP.PRS.3SG piety(F).SG.NOM
 ‘That is true piety.’ (Mountford 1938: 64)

Textbooks suggest a clear picture. They do not discuss the attributive, which normally shows strict syntactic agreement. For the other hierarchy positions, they state that a copular verb may agree with a nominal predicate (15); the relative frequently does so (16) and the anaphoric pronoun normally does (17). This distribution follows the Agreement Hierarchy. The picture is more nuanced than the textbooks suggest; see Pinkster (2015: 1261–1262, 1278–1282) for numerous examples and discussion.

This competition between agreement controllers is non-canonical (Corbett 2006: 18–19). In the canonical situation the agreement target has no choice of controller. In back agreement it is “trigger-happy”, to use Comrie’s nice term (2003), the non-canonical situation. Back agreement is documented in Russian (Corbett 1986: 1002–1003; Padučeva & Uspenskij 1997), German (Dammel 2015: 289–290) and Tsakhur (Kibrik 1999: 442–444). We discuss Czech in §7.5.

6.4 Pancake sentences

Our final construction is “pancake sentences” (introduced in §4 above). These are less restricted than back agreement. Haugen & Enger (2019: 540) point out that the subjects in pancake sentences are usually low on the animacy hierarchy; however, other types are possible, as this example shows:

Norwegian (Nynorsk nno): pancake sentence²³

- (18) *Ein ny utanriksminister ville ikkje ver-e så dum-t.*
 INDF.SG.M new[INDF.SG.M/F] foreign.secretary would NEG be-INF so stupid-SG.N
 ‘A new foreign secretary would not be a bad idea.’ (Faarlund 1977: 251)

while *utanriksminister* ‘foreign secretary’ is animate, subjects like those in (18) are “interpreted as unbounded participants in virtual, ungrounded processes” (Haugen & Enger 2019: 571–572); it is ‘having a new foreign secretary’ which is being evaluated. Wechsler (2013) talks of logical metonymy in the sense of Pustejovsky (1995). Example (18) is the pancake sentence variant; the alternative, in which the adjective agrees (*dum*, the singular, common gender form), would be insulting.

²³ Following a comparable Swedish example in Wellander (1949: 201–202).

In a sense, the agreement makes the construction; we recognize the construction by the agreement, since there is no morphological marker on the controller. However, there are also covert pancake sentences (cf. Faarlund 1977: 251). Consider this example

Norwegian (Bokmål): covert pancake sentence

- (19) *Dette bild-et hadde vær-t fin-t.*
 DEM.SG.N picture-DEF.SG.N²⁴ had be-PST.PTCP fine-SG.N
 ‘This picture would have been fine.’ (Hans-Olav Enger, p. c. 28.01.2021)

We have a neuter singular noun *bilde* ‘picture’, with neuter singular agreement, and hence a “normal” sentence. This would be fully appropriate with a continuation such as ‘... were it not for the weak painting of the faces’. However, according to Hans-Olav Enger, it could also have a pancake sentence interpretation. Imagine two gallery curators, looking at part of an exhibition that they are not satisfied with; one points to a different painting and utters (19); in other words, it would have been fine to have this picture hanging on the wall, instead of what is there. Thus (19), with neuter singular agreement, may be, but need not be, a covert pancake sentence. That is, the same semantic effect can be obtained even when the morphology does not make the distinction.

The two are distinguished as soon as we switch to the plural:

Norwegian (Bokmål): normal sentence

- (20) *Disse bild-ene hadde vær-t fin-e.*
 DEM.PL picture-DEF.PL had be-PST.PTCP fine-PL
 ‘These pictures would have been fine.’ (were it not for the weak painting of the faces)
 (Hans-Olav Enger, p. c. 10.08.2021)

Example (20) has normal agreement, and a normal interpretation. Contrast this with (21):

Norwegian (Bokmål): pancake sentence

- (21) *Disse bild-ene hadde vær-t fin-t.*
 DEM.PL picture-DEF.PL had be-PST.PTCP fine-SG.N
 ‘These pictures would have been fine.’ (to put on this wall instead)
 (Hans-Olav Enger, p. c. 10.08.2021)

Example (21) shows singular agreement, it is a pancake sentence, indicating that the (extraneous) notion of positioning the pictures has been imported here.

While the languages of Scandinavia are well-known for pancake sentences, these are more widely found. There is evidence for them in Lithuanian (Ambrasas et al. 1997: 136, 645).²⁵ They have been noted in Latin and the Romance languages,

²⁴ A case can be made for the segmentation *bilde-t* too.

²⁵ Thanks to Peter Arkadiev for pointing me to this reference.

for which see Loporcaro (2018) on Latin (2018: 23–24), Sursilvan (2018: 77), Asturian (2018: 169–170, 192) and Northern Castilian (2018: 169).

6.5 Reviewing the dimension local-extraneous

Currently we can justify the dimension local-extraneous. However, the picture is sketchy, since there are still relatively few well-documented accounts of extraneous factors in agreement. We are dealing with a scale, in that even the examples in this section show extraneous factors to varying degrees. Both associative agreement (§6.1) and honorific agreement (§6.2) involve extraneous information, but this is restricted in that the controller still has a role: these two constructions involve nouns denoting humans. For associative agreement, this is typically a personal name or a kin term. With honorific agreement, any noun denoting a human is in principle available, even a diminutive. Thus the associative and the honorific constructions are comparable: each occurs with a range of nouns, and in practice this is a limited range. Back agreement (§6.3) is not limited to nouns denoting humans. It shades into our last construction, pancake sentences (§6.4), in examples like (22):

(22) *Drugs is a problem.*

Here we indeed have a pancake sentence (it is drugs and the connected situation that is a problem), but such examples in English are more readily acceptable when there is a singular predicate nominal (where back agreement can come into play).

Pancake sentences are the examples where the link to the controller is weakest (the effect of extraneous information is greatest). Analyses vary: there are traditions where featural solutions are generally preferred (and so discussion centres on the significance of the neuter gender value), and those where the first resort is a structural account (the apparent subject is assigned a different syntactic position); see Haugen & Enger (2019: 535–537) for discussion. So pancake sentences involve a good deal that is extraneous to the controller. We see this in the quote from Haugen & Enger (2019: 571–572) repeated here, that the controllers are “interpreted as unbounded participants in virtual, ungrounded processes”, which is far from the interpretation of normal phrases. And yet, while pancake sentences are possible with a range of types of nominal, there are preferred choices: thus the most frequent type of pancake sentence has a deverbal noun as subject (Haugen & Enger 2019: 548). This means that the agreement controller retains a role – the information provided by the agreement is not necessarily entirely extraneous.

While there are differences between the four examples in this section, which help to substantiate the dimension local-extraneous, this dimension is less well documented than the lexeme-phrase dimension. This is largely because of the lack of examples of the more extreme instances of extraneous agreement, as in this section. Furthermore, these tend not to occur in the same language (or in the same variety, as with the examples from Russian and Russian dialects); this means that we cannot readily test one against the other (while in the other dimension there are many languages which

allow us to compare, for instance, lexical hybrids and conjoined nominal phrases). When we look at the less extreme cases, lexical hybrids can have their agreement influenced by partly extraneous factors. Take, for instance, German *Mädchen* ‘girl’; there are good reasons, within the lexical entry, for both neuter and feminine agreement to be available, and this is what we find. However, the choice is influenced by extraneous factors, such as the age of the girl (Braun & Haig 2010). In such instances it is an ongoing challenge to separate out the impact of local vs extraneous factors. While we cannot yet fill out the full range of possibilities in this part of the typology, there is an interesting way forward here: another way of understanding these dimensions is to analyse what happens when constructions involve interacting properties, as we see in §7.

7. Interactions

We now investigate possible interactions between the construction types so far analysed independently. The pattern which we shall observe is clear: lexical constructions are overridden by phrasal ones, local is overridden by extraneous. In other words, as we move away from the canonical lexical hybrid, in either dimension (lexeme-phrase, or local-extraneous), the further away (the less canonical) overrides the other. Graphically that means that in Tables 3 and 4 we can move downwards or rightwards, or both. We shall take examples which are suitably distinct along the scales, rather than attempting to cover every possibility.

7.1 Lexical hybrids and conjoined phrases (§5.1 + §5.2)

What will happen if we conjoin a hybrid (with an ordinary noun or other hybrid) so that we have a conjoined phrase? One possibility is resolution, of number and (in some languages) gender (Corbett 2006: 238–253). In this case conjoining “wins out”. That is, the one further down the scale lexeme-phrase wins out. There is an interesting effect here, which is significant for the typology of gender resolution systems. Consider the French hybrid *sentinelle* ‘sentry’. Its agreements, except sometimes of the personal pronoun, are claimed to be feminine, even though reference is most often to a male. What will be the effect of conjoining it (denoting a male) with a regular feminine? The basic rule for French resolution was believed to be straightforwardly syntactic, that is, referring to the syntactic gender values of the conjuncts:

if all conjuncts are feminine, agreement is feminine;
and otherwise agreement is masculine.

These syntactic rules cover the great majority of examples. But now consider this example, where traditional roles were assumed; the data and judgements

are from Wechsler & Zlatić (2003), who point out that there is “cross-speaker variation”:

French

- (23) *La sentinelle et sa femme ont été pris*
 DEF.F.SG sentry and 3SG.POSS.SG.F wife(F) have.3PL be.PST.PTCP
pris / **pris-es* *en* *otage*.
 take.PST.PTCP.PASS[M]²⁶ / take.PST.PTCP.PASS-F.PL in hostage.
 ‘The sentry and his wife have been taken hostage.’ (Wechsler & Zlatić 2003: 177)

This is a significant point, as we shall see. Wechsler & Zlatić cite Farkas & Zec (1995), working on Romanian, as precursors, though the observation was made earlier by Megaard (1976: 95). Wechsler & Zlatić drew out the full importance of such examples in their discussion (2003: 171–196).²⁷

Example (23) shows that even languages like French, which appear to have straightforward syntactic rules of gender resolution (like those given before the example), actually need semantic rules: the semantics of *sentinelle* ‘sentry’ cannot be ignored in gender resolution. We say, rather, that gender resolution always has a semantic component, which makes it follow the language’s gender assignment system closely. For assigning feature values to conjoined structures, semantic factors are always at least as important as they are for lexical items. For a full account see Corbett (2006: 258–263).

For our main concern here, examples like (23) demonstrate that lexical hybrids are overridden by conjoining, which serves as an instance of constructional mismatches. Thus the item further from the canonical hybrid, along the lexeme–phrase dimension wins out over the other.

7.2 Lexical hybrids and honorific agreement (§5.1 + §6.2)

We next look at an interaction in the other dimension, between lexical hybrids and agreement involving extraneous information, namely honorificity. In 1722 Peter the Great of Russia instituted the Table of Ranks (Comrie, Stone & Polinsky 1996: 274–275). Little could he know how this would contribute to a linguistic gem. For the different ranks in society, the table specified the appropriate title. These titles were abstract nouns, which in

²⁶ In this instance the form does not distinguish masculine singular and masculine plural. The finite verb shows it is plural.

²⁷ Wechsler (2008) might appear to be a follow-up, but it was delayed in publication and is an earlier work; chapter 8 of Wechsler & Zlatić (2003) is a “slight reworking” of it (Wechsler & Zlatić 2003: viii). Similar examples from Agnone (Molise) and Verbicaro (Calabria), with consistently masculine agreement, are reported in Loporcaro et al. (2018). For a comparable example from Icelandic, see Thorvaldsdóttir (2019: 2, 6).

other use would be neuter (e.g. *prevosxoditel'stvo* 'excellency'); there were additional titles for royalty, aristocracy and clerics, including the feminine title *svetlost'* 'grace'. These titles were used with a possessive pronoun for address; however, they were sometimes integrated into the syntax, both for addressing the individual and when referring to her/him. The examples are infrequent, but Russia in the nineteenth century produced many wonderful (often long) novels, and so we do find instances (see Berger 2002: 23 for a picture of the distribution, though not of the agreements). These titles are interesting hybrids: within the nominal phrase they take the gender of the source abstract noun, thus we find neuter singular with *prevosxoditel'stvo* 'excellency', as illustrated in (24):

Russian (A. S. Puškin *Kapitanskaja dočka* 1836)

- (24) ... *vaš-e prevosxoditel'stv-o ne zaby-l-o* ...
 your-SG.N excellency-SG.NOM NEG forget-PST-SG.N
 '...your Excellency did not forget ...'

In the predicate, we find neuter singular agreement (as in (24)); we also find masculine singular (for males) and feminine singular (for females). The latter is shown in (25):

Russian (V. V. Krestovskij, *Panurgovo stado* (1869)

- (25) *Ee*²⁸ *prevosxoditel'stv-o žela-l-a, čtoby*
 her excellency-SG.NOM wish-PST-SG.F that ...
 'Her Excellency wished that' (Russian National Corpus)

Examples with a relative pronoun are rare; here is an example (with a different title), and it shows the semantically justified feminine agreement:

Russian (D. S. Merežkovskij, *Petr i Aleksej* 1905)

- (26) ... *ee vysočestv-o, kotor-aja s každy-m dn-em*
 her highness-SG.NOM REL-SG.NOM.F with each-SG.INS day-SG.INS
okazyva-et mne vse bol's-uju družb-u ...
 show-3SG 1SG.DAT all greater-SG.ACC.F friendship-(F)-SG.ACC
 '... her Highness, who with each day shows me ever greater friendship ...'
 (Russian National Corpus)

The personal pronoun is masculine or feminine, depending on the person referred to (see Corbett 1983: 24 for an example).

²⁸ *Ee* is originally the genitive form of the third singular pronoun feminine. It functions here as a possessive pronoun, but does not inflect for number, gender and case like the first and second person possessive pronouns.

The key point is that in appropriate circumstances, these hybrids could occur in the honorific plural agreement construction discussed earlier (§6.2), giving rise to plural agreement:

Russian (A. I. Kuprin, *Junkera* 1932)

- (27) ... *ego prevosxoditel'stv-o izvolj-at vas ožida-t' v gostin-oj*
 his excellency-SG.NOM deign-3PL 2PL.ACC await-INF in guest-SG.LOC.F
 komnat-e
 room(F)-SG-LOC
 'His Excellency deigns (literally 'deign') to await you in the drawing room.'

While the example is from the 20th century, it is from an autobiographical novel based on Kuprin's military training in the late 19th century. It fits with Houtzagers' point (see §7.2) about the plural being used for "respected persons the speaker has an in-group relationship with", since the speaker here is the batman. The important linguistic point is that the honorific plural wins out in (27) over the normal agreements possible for the hybrid title which we saw in (24) and (25).

As noted earlier, relative pronouns modifying honorific titles are rare. But the personal pronoun is found, with a title as its antecedent, and then it can be plural:

Russian (B. A. Sadovskoj, *Lebedinye kliky* 1911)

- (28) *Ix²⁹ prevosxoditel'stv-o prikaza-l-i doloži-t', čto oni ožidaj-ut.*
 their excellency-SG.NOM order-PST-PL report-INF COMP 3PL.NOM wait-3PL
 'His Excellency ordered (me) to report that he is (literally 'they are') waiting.'
 (Russian National Corpus)

We thus find honorific agreement following the Agreement Hierarchy, and overriding lexical hybrids. And this is an instance of interaction in the local-extraneous dimension, with the extraneous winning out over the local.

7.3 Lexical hybrids and pancake sentences (§5.1 + §6.4)

This type is similar to the last one, in involving two items differing along the local-extraneous dimension. This override is possible in Norwegian. First, example (29) establishes that we are dealing with a hybrid:

Norwegian (Bokmål): hybrid noun

- (29) *En ny regjering hadde ikke vær-t*
 INDF.SG.M new[INDF.SG.M/F] government(M) had NEG be-PST.PTCP
så dum / så dum-m-e
så stupid[SG.M/F] / so stupid-PL
 'A new government would not be so stupid.' (Hans-Olav Enger, p. c. 19.02.2021)

²⁹ Like *ee* 'her', *ix* is originally a genitive third person pronoun, functioning as an uninflecting possessive pronoun. It is plural, used here for additional politeness ('their Excellency'), even obsequiousness, still of one person.

We see that in the predicate *regjering* ‘government’ can take singular or plural agreement (the latter showing greater semantic justification). Thus *regjering* ‘government’ is a hybrid. Whichever of these two agreements is chosen, (29) has the direct reading and is quite rude. Now contrast (30):

Norwegian (Bokmål): pancake sentence

- (30) *En ny regjering hadde ikke vært så dum-t.*
 IND.F.SG.M new[IND.F.SG.M/F] government(M) had NEG be-PST.PTCP
 so stupid-SG.N

‘A new government would not be so stupid.’ (‘Having a new government would not be such a bad idea.’) (Hans-Olav Enger, p. c. 19.02.2021)

Here the reading is less direct: it is the idea of having a different government which is not so stupid. And the key point about example (31) is that the pancake sentence overrides the hybrid, as shown by the neuter singular agreement.³⁰ Again we have interaction in the local-extraneous dimension, and the extraneous (the more distant from the baseline of canonical hybrid) winning out over the local.

7.4 Conjoined phrases and pancake sentences (§5.2 + §7.4)

We now look at the interaction of a construction a long way from canonical on the lexeme–phrase dimension with one that is far from canonical on the local–extraneous dimension. A clear instance of this combination would be conjoined nominal phrases in a pancake sentence. This is fine in Norwegian, with the pancake sentence dominating, which leads to neuter singular agreement:

Norwegian (Bokmål)

- (31) *Magnus Carlsen og Bobby Fischer hadde vært super-t.*
 Magnus Carlsen and Bobby Fischer had be-PST.PTCP super-SG.N
 ‘Magnus Carlsen and Bobby Fischer would have been wonderful.’

(Hans-Olav Enger, p.c. 18.01.2020)

The interpretation is that having them together, for a match, would have been wonderful. For two textual examples of this type from 19th century Nynorsk, see Haugen & Enger

³⁰ A referee asks whether the situation could be otherwise, since the pancake reading depends on the agreement. Logically it could be different: we saw in (19) that there can be covert pancake sentences, where the semantic effect obtains independently of a unique agreement marker. Hence it would be possible for agreement with hybrid nouns to override the form required for pancake sentences. The fact that we do not find this logically possible outcome is rather, I suggest, a result of the relative generality of the two types of agreement.

(2019: 564, 567), and for a modern instance Enger (2004: 10). Such examples sound reasonable in English.³¹

English (constructed)

(32) *Messi, Neymar and Mbappe is daunting for any defence.*

Here is a textual example, with back agreement as an additional possible interaction:

English (Sam Dean, Telegraph, 7 August 2021)

(33) *Messi, Neymar and Mbappe is a fantasy football strikeforce – but can Mauricio Pochettino make it work?*

<https://www.telegraph.co.uk/football/2021/08/07/messi-neymar-mbappe-fantasy-football-strikeforce-can-mauricio/>

Further examples of the interaction of conjoining and pancake sentences can be found in Asturian conjoined infinitive phrases (Loporcaro 2018: 190–191), and in Icelandic (Thorvaldssdóttir 2019: 3).

Other combinations are possible, as example (34) suggests:

English (constructed)

(34) *After consulting her diary for next Monday, Rachel decides that her reading group, who enjoy long discussions, and her family, who are very demanding, is simply too much for one afternoon, so she postpones the family's visit.*

Here we have hybrid nouns (*group* and *family*), which are conjoined, within a pancake construction. The pancake construction dominates. Interesting, then, we have instances which are distant from our baseline in both dimensions, and it is the extraneous factor which wins out.

7.5 Conjoined phrases and back agreement (§5.2 + §6.3)

Given the interest of the last example, it is worth checking for a similar combination. We can find the interaction of conjoining and back agreement, this time in Czech. The examples, given by Vanek (1970: 53), are remarkable, so I have checked them with different speakers over the years; see also Panevová (1991: 326–327):

Czech(ces): conjoining and back agreement

(35) *jedna a dvě jsou tři*

one and two COP.3PL three

‘one and two are (make) three’ (Vanek 1970: 53)

³¹ Also (i) Pancakes and turnips is just not worth trying.

- (36) *jedna a tři jsou čtyři*
 one and three COP.3PL four
 ‘one and three are four’ (Vanek 1970: 53)

- (37) *dvě a tři je pět*
 two and three COP.3SG five
 ‘two and three are five’ (Vanek 1970: 53)

- (38) *tři a tři je šest*
 three and three COP.3SG six
 ‘three and three are six’ (Vanek 1970: 53)

Agreement varies according to the numeral in the predicate (to the right). If it is ‘two’, ‘three’ or ‘four’, then the copula takes plural agreement, while if it is ‘five’ or above, then the singular is found. Slavonic numerals typically have morphological and syntactic differences between ‘two’, ‘three’, ‘four’ and higher numerals, and so it is here. We can show that the numeral in question is part of the predicate, using the predicative instrumental and subject-raising as tests (Corbett 1986: 1002–1003). The important thing for present purposes is that back agreement here takes precedence over agreement with the conjoined noun phrases. Again the interaction is distant from our baseline in both dimensions, and the extraneous factor wins out.

7.6 What we learn from the different types of override

The overrides of different types present a coherent picture. If we combine two possibilities, along either dimension (lexeme–phrase, or local–extraneous), it is the possibility further from a canonical hybrid (and therefore also from a canonical noun) which overrides the other. It is easy to visualize the effect: the overriding possibility is always downwards or rightwards from the one that is overridden (in Tables 3 and 4). If the interaction is different on *both* dimensions, then extraneous takes precedence. Once established, this pattern fits with our expectations about syntax, and it provides additional motivation for the typology laid out in Table 3.

We saw instances where the relevant agreement was covert, so we should ask whether we can be sure that the effect is indeed as claimed. While for a particular example we may not be able to say which of the possible agreements is dominating, we can typically change a non-essential value and establish the pattern through overt agreement (see the discussion of (19) and (20) in §6.4). And in the pattern which overrides, we find agreement with a greater degree of semantic justification, but that is another story.

8. Conclusions and prospects

The Agreement Hierarchy generalizations were pointed out some years ago (Corbett 1979). Understanding them is an ongoing challenge. The hierarchy appears regularly in

contemporary syntactic analyses and hence deserves a new typological underpinning. One part of that has been achieved, namely an underpinning of the typology of agreement controllers which induce agreement alternatives, subject to the Agreement Hierarchy. And these alternatives are integrated into a more general typology of splits in Corbett (2023).

The hierarchy has already led to a cycle of measurement and greater understanding, as discussed for typology more generally by Round & Corbett (2020); the new underpinning is intended to stimulate further progress in this way. The original claims concerning the Agreement Hierarchy were supported by some statistical data, but since that first publication a wealth of fine statistical data has appeared in support, from a range of studies, notably Levin (2001) and the results from the Marburg project (Fleischer 2012; Birkenes, Chroni & Fleischer 2014; Birkenes & Sommer 2015; Birkenes & Fleischer 2022). We also noted above the evidence from Middle Welsh in §2, and a fuller list of sources was given in §3.2. Now that we have a clearer typology of controllers, we can operationalize the new dimensions, and measure our primary data to provide independent justification for these dimensions. For example, the dimension lexeme–phrase (§5) runs from lexical hybrids, where the agreement options are inherent in the specific lexical item, to constructions, where the specific lexical items have a limited role, and the dependent phrase is increasingly important. This implies that if we measure how often given lexemes occur with Agreement Hierarchy effects, as we move down this dimension, we shall find a steady decline. Thus, for our French example of a constructional mismatch (§5.3), *ton phénomène de fille* ‘your amazing daughter’, which is masculine within the nominal phrase and feminine outside it, we predict that the option is available only in this construction; if we count examples of *phénomène* ‘phenomenon’ outside this construction, we shall find that it is simply masculine, for all agreement targets. Furthermore, if we examine the nouns in conjoined nominal phrases, we expect to find a wide range of nouns involved; this is a free construction, not requiring specific nouns. Or consider the other dimension local–extraneous (§6). If the effect is fully extraneous, we would expect a free choice of items involved. We do not expect Russian *papen'ka* ‘father (diminutive)’, which we saw with extraneous honorific agreement (§6.2), to be tied to this construction, rather we expect it to occur in “normal” use, with simple masculine singular agreement.³² And yet things are not so simple: there are nouns denoting relationships, which are more likely to appear in this construction than others (for examples, the titles discussed in §7.2). Even Norwegian pancake sentences, which are in principle fully extraneous to the particular noun involved, are in fact more likely with some types of noun than others (Haugen & Enger 2019: 540). All of which shows that this horizontal dimension is also a gradient scale. Investigating this properly will take innovative corpus work. Similarly, we may investigate the two dimensions through work with consultants. This too needs to be particularly skilled, since speakers are often aware

³² And indeed, there are four other instances of *papen'ka* in Turgenev’s novel *Nakanune* with normal singular agreement. It is used just once by the maid, with plural agreement as we have seen. *Mamen'ka* occurs only on the occasion when the maid uses it.

of agreement issues, and valid judgements are harder to obtain than with some other parts of syntax.

I noted earlier that the Agreement Hierarchy figures in recent discussions within theoretical syntax, and that the original account has become dated for that purpose (§3.1). I hope that this version, with its new underpinning, will be of interest and value to those working in syntax. In particular, it may extend the range of agreement controllers which they investigate. The general conclusion for linguistic typology is that we can continue to benefit from advances in related typological disciplines; our canonical approach demonstrates that linguistics is normal (social) science (Round & Corbett 2020; Spike 2020 and Himmelmann 2022).

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