A short history of Agree

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1 Introduction

Agreement has come to occupy a central role in contemporary syntactic theory, as it is what drives syntactic derivations. In the beginning of the generative enterprise, though, agreement was barely taken into account, possibly because early Generative Grammar was developed on the basis of English, a morphologically rather poor language, and also as grammar was conceived rather differently from today.

In what follows, I will draw a short history of agreement, starting from the transformational era roughly until Agree (Chomsky 2000, 2001). This overview has the aim to show the different implementations of the basic intuitions on agreement over the years, and how Agree has developed to take the form we know today. It will be evident how different ideas that have been considered prominent in different periods have converged into the present model, and also that some concepts never changed.

This overview will stop at the moment in which the "modern" formulation of Agree emerges, whereby this operation becomes the engine of syntactic computation. After this shift, roughly corresponding to (?) to Chomsky (2001), generative syntax has witnessed an explosion of works on agreement. Specifically, the locus of agreement Ackema and Neeleman (2003), Bobaljik (2008), D'Alessandro and Roberts (2008) Benmamoun et al. (2009), (Arregi and Nevins, 2012); its direction (Boeckx and Niinuma (2004), Holmberg and Hróarsdóttir (2003), Bošković (2007) and more recently Zeijlstra (2012), Preminger (2013) Wurmbrand (2012, 2014), Bjorkman and Zeijlstra (2019); Polinsky and Preminger (2019)) and the timing of agreement with respect to other syntactic operations (Boeckx and Niinuma (2004), Holmberg and Hróarsdóttir (2003)) have become a matter of intense debate. For reasons of space, I will not go into that debate. The reader is referred to (Preminger, 2021) for that.

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2 Agreement as a rule. Transformational Grammar

Agree is a syntactic operation taking place between a probe P and a goal G between which a Matching relation holds. This is the definition of Agree given in Chomsky (2000: 122):

- (1) "The phi-set we can think of as a probe that seeks a goal, namely, "matching" features that establish agreement. [...] Matching is a relation that holds of a probe P and a goal G. Not every matching pair induces Agree. To do so, G must (at least) be in the domain D(P) of P and satisfy locality conditions. The simplest assumptions for the probe-goal system are [...]:
 - a. Matching is feature identity.
 - b. D(P) is the sister of P.
 - c. Locality reduces to "closest c-command" "

This is a brief outline of the developments that have brought to the formulation in (1). In this vignette I will only discuss argumental agreement leaving adjectival agreement, or concord (Baker, 2008), aside.

2.1 Agreement as a rule

One of the key concepts at the basis of every theory of agreement is that agreement is some sort of relationship between two or more elements. In *Syntactic Structures*, Chomsky (1957) conceives agreement as a rewrite rule, rewriting for instance the morpheme representing verbal inflection as \neg s in the context NP_{sing}, and as \emptyset elsewhere. The inflectional morpheme is inserted directly into the verbal complex depending on the subject specification. No copy is involved, but simply the transformation of a category into another (an affix into its morphological specification) (see (Harbour et al., 2008) for an extensive discussion).

In Chomsky (1957), auxiliaries are already treated separately from main verbs, since they are targeted by different transformational rules. This observation, which for the moment seems irrelevant, will come to play a crucial role in the theory of agreement later on, when the discussion around the Infl/AGR heads starts. Auxiliaries are treated as in (2):

- (2) We can state the occurrence of auxiliaries in declarative sentences by adding to the grammar the following rules:
 - a. Verb \rightarrow Aux + V
 - b. $[V] \rightarrow \text{hit}$, take, walk, read, etc.
 - c. $Aux \rightarrow C$ (M) (have+en) (be+ing) (be+en).
 - d. $[M] \rightarrow will$, can, may, shall, must

Around the same time, in his 1966 article Paul Postal proposes an analysis of pronouns as underlying determiners (Postal, 1966). To describe pronouns/determiners he makes use of features, and to determine which pronoun will be selected in a sentence he proposes an ARTICLE ATTACHMENT rule which basically consists in the copy of a subset of the features of the noun. Due to space limitations it is not possible to reproduce the whole argument here; however, it should be noticed that Postal (1966) proposes a sort of predecessor of anaphor and pronominal binding via Agree (an idea that has returned, for instance, in Rooryck and Wyngaerd (2011)); that he considers agreement as a rule that operates on features rather than morphemes; that he conceptualizes pronouns as a subset of the features of nouns, very much like articles (an intuition which is very similar to that exploited by Roberts (2010) for subject clitics). While Postal does not consider argumental agreement, his idea of working with copies of features will be one of the key ideas of agreement in the Minimalist Program (Chomsky, 1995).

Chomsky (1965) also moves almost entirely to a feature-based agreement system; he discusses agreement rules, which he considers as expansion rules. According to Chomsky (1965: 187), "rules of agreement clearly belong to the transformational component (cf. in this connection, Postal, 1964a pp. 43f.) [(Postal, 1964)], and these rules add to Phrase-markers specified features that enter into particular formatives, dominating their phonological matrices." An example of agreement rule is formulated as follows:

(3) Article
$$\rightarrow \begin{bmatrix} \alpha \text{ Gender} \\ \beta \text{ Number} \\ \gamma \text{ Case} \end{bmatrix} / \dots \begin{bmatrix} +N \\ \alpha \text{ Gender} \\ \beta \text{ Number} \\ \gamma \text{ Case} \end{bmatrix}$$
where Article ... N is an NP Chomsky (1965: 187)

Chomsky also states that "This formative, so categorized, would be converted to [the phonological string] by rules of the phonology" (Chomsky 1965:188). The phonological realization of a "formative", i.e. a set of morphemes, takes place after the agreement rule applies, which of course reminds us of post-syntactic morphological insertion (Halle and Marantz, 1993).

The important bit to take home for contemporary theories of agreement is that Chomsky, like Postal, starts conceptualizing agreement as a rule copying unordered features into a matrix. Furthermore, Chomsky (1965: 188) states that "Formally, rules of agreement [...] are quite analogous to the rules of assimilation of the phonological component.". This interesting idea will be developed further by Nevins (2010), who analyses agreement as some sort of feature spreading in contexts of vowel harmony.

One more observation by Chomsky in Aspects will be almost completely neglected during the Government and Binding period but will reappear with the Minimalist Program occupying a key position in the theory of agreement. Chomsky (1965: 192) observes the difference that exists between the English example in (4) and its translation into French (5) as far as copula deletion is concerned:

- (4) These men are more clever than Mary
- (5) Ces hommes sont plus intelligents que Marie Chomsky (1965: 193)

Assuming that deletion takes place under identity, Chomsky notices that the copula as well as the adjective in the elided site in (5) do not share the same inflection as in those of the matrix sentence. In order to justify ellipsis he speculates that "In particular, it seems from such examples as these that the features added to a formative by agreement transformations are not part of the formative in the same sense as those which are inherent to it or as those which it assumes as it enters a Phrase-marker." (Chomsky 1965:193)

In other words, he argues that those features that are "added" via agreement have a different status than those that come with the phrase marker. Many years have passed, and the way we would express this concept is by saying that the features that enter the derivation with a value are interpretable; those that enter a derivation without a value (and therefore need to be evaluated via Agree, in syntax) are uninterpretable. His conclusion is that "[...] a formative, in other words, is to be regarded as a pair of sets of features, one member of the pair consisting of features that are inherent to the lexical entry or the position of lexical insertion, the second member of the pair consisting of features added by transformation. Only the first set is considered in determining legitimacy of deletion in the manner previously described. Second, what is involved in determining legitimacy of deletion is not identity but rather nondistinctness in the sense of distinctive feature theory." (Chomsky, 1965: 194). We will return to this later on, in section 4.1.5.

3 Agreement as a relation. The Government and Binding era

The Lectures on Government and Binding (GB) (Chomsky, 1981) introduced a shift in the paradigm and in the way of conceptualizing dependencies, which were seen more as structural relations than as operations. Within the GB framework many key generalizations were formalized, radically changing agreement from the simple COPY+ADJOIN operation that was at work in Phrase Structure Rules (PSR) (Chomsky, 1957).

Starting from subject-verb agreement, one of the most important factors is the introduction of the idea that Nominative case is assigned to the external argument/subject by the INFL head. The INFL head, which already existed in PSR under the name Aux, has a much more refined definition in GB. In Chomsky (1981: 52) we find the following rewrite rule:

(6) (4) $S \rightarrow NP INFL VP$

where INFL can have the values [\pm Tense]. Chomsky goes on specifying that if INFL is finite:

(7) "(5) "it will furthermore have the features person, gender and number; call this complex AGR ("agreement"). The element AGR is basically nominal in character; we might consider it to be identical with PRO and thus to have the features [+N, -V]. If so, then we may revise the theory of government, taking AGR to be the governing element which assigns Case in INFL. Since [+N, -V] is not generally a Case-assigner, we must extend the theory of Case so that [+N, -V, + INFL] is a Case-assigner along with [-N], regarding [INFL] as basically "verbal", if we take AGR to be nominal. INFL governs the subject if it contains AGR, then assigning nominative Case by virtue of the feature [+INFL]. It now follows that the only governors are categories of the form X0 in the X-bar system (where X = [±N, ±V]). Subjects are nominative when they agree with the matrix verb – technically, with its inflection." (Chomsky, 1981: 52)

The quote in (7) contains the "leap forward" for the theory of subject-verb agreement. The key ingredients for understanding it are Case, Government, and AGR. As we stated above, syntactic Case in Chomsky (1981) is a structural notion: Nominative case is for instance associated to a specific position in the syntactic structure (Spec-INFL). The subject needs to occupy that position to receive Case (we will return to the Spec-head relation later on). Case and agreement are, in this system, strictly interdependent.

3.1 Agreement in a Spec-head configuration

We have seen, in the previous section, that Government is a key notion in GB. In particular, the part of government that is now almost completely disregarded in the MP but was crucial for many relations during GB was the Spec-head relation, under which agreement was believed to take place. The origin of this concept lies in Kayne's work (Kayne, 1989) on participial agreement in French and Italian. Kayne considers the following agreement alternation:

- (8) a. Paul a repeint les chaises
 Paul has painted-SG.M the chairs-PL.F
 'Paul has painted the chairs' (Kayne, 2000: 25)
 - b. *Paul a repeintes les chaises
- (9) Paul les a repeintes
 Paul them-PL.F has painted-PL.F
 'Paul repainted them'

The agreement alternation we see in (8a)-(9) is quite straightforward: whenever the DP object is postverbal, it will not agree with the past participle. In fact, this agreement is ungrammatical, as shown in (8b). If the object has moved and appears somewhere before the participle, it will agree with it. Kayne concludes that there is a correlation between movement and agreement. Specifically, he proposes that participial agreement stems from the movement of the object

into the specifier of an AGR projection. The participle moves to this AGR head in languages like French and Italian; there, it enters a Spec-head relation with the object, resulting in agreement between the participle and the moved object. Initially, Kayne only discusses the lower AGR projection, the one connected with the object. However, the idea that a specific syntactic configuration is the only configuration in which agreement can take place was very appealing for the GB framework. Therefore, Spec-head was immediately extended to all kinds of agreement (including intra-DP agreement, see Koopman (1987)).

The general structure necessary for argumental agreement, until early Minimalism, is the following:

(10)
$$\begin{array}{cccc}
 & \operatorname{Agr}_{s} P \\
 & \operatorname{Agr}_{s} & \operatorname{I/TP} \\
 & \operatorname{I/T'} \\
 & \operatorname{I} & (\operatorname{NegP}) \\
 & \operatorname{Neg} & \operatorname{Agr}_{o} P \\
 & \operatorname{Agr}_{o} & \operatorname{VP}
\end{array}$$

Agreement takes place uniquely in a Spec-head configuration. The higher AGR and the lower AGR have become AGRS (for the subject) and AGRO (for the object) respectively.

While Kayne capitalized on the clitic nature of the moved object to justify obligatory movement out of the VP for the object, movement for the subject was linked to the Extended Projection Principle, which was formulated in many ways, but which was basically a requirement for the Spec-IP (former INFL, later T) to be filled (Williams (1980), Chomsky (1981), Chomsky (1982), Rothstein (1983), Lasnik (2001) and many others). If Spec, IP was to be filled independently, and if I had to be split into I proper and AGR, movement of the subject to AGR was an obligatory requirement, for subject agreement. This requirement was linked to finite verb agreement with the subject, as well as to Nominative case assignment (the I head governs the NP subject).

Chomsky (1981: 259) proposes that:

- (11) "the mechanism for assigning nominative Case under agreement. This mechanism actually has two components:
 - a. AGR is coindexed with the NP it governs [...]
 - b. nominative Case is assigned to (or checked for) the NP governed by AGR"

While Nominative was assigned under government and in a Spec-head configuration, Accusative was still assigned to the complement of the V head (still under government, but not in a Spec position). In (1995, Chapter 2), Chomsky proposes that Accusative assignment also takes place in a Spec-head configuration, hence that the object must move to Spec, AgrO in order to receive Case. This movement can take place overtly or covertly, at LF.

4 Agreement as an operation. The Minimalist Program

Argumental agreement in the GB framework was considered more or less a resolved issue. The advent of the Minimalist Program (Chomsky 1995, MP henceforth) brought about many complications to the idea of agreement as a Spec-head relation. Several assumptions onto which Spec-head agreement was built no longer held, the MP switched from a representational system with filters and intra-syntactic modules, like D-structure and S-structure, each of which was the locus for specific syntactic operations to apply or for specific filters to apply, to a simplified, heavily derivational and operation-driven system.

In the MP, the two levels of syntactic representation are unified into one, there is no such thing as a dependency relation being established at a specific level (say, theta-role assignment, or Case assignment). Everything happens at one level, in one module, which is now called Narrow Syntax. The minimalist structure is derivational in nature, and the only "filters" are those imposed at the interface by legibility conditions. The guiding principle for this new program, which is now almost 30 years old, is the principle of Full Interpretation (FI), whereby 'a syntactic expression must be legible at the interfaces with SM and CI', where SM is the sensory-motor system (which goes by PF as in old times), and CI is the conceptual-intentional system, also known as LF. In Chapter 4 of the Minimalist Program, Chomsky discusses the AGR heads based on the MP assumptions.

4.1 What we need to know about the early Minimalist Program to understand agreement

In early MP, the structure assumed is the one represented in (10). In Chapter 3 of the MP monograph, Chomsky (1995) adopts the AGRS and AGRO projections, endorsing Pollock and Kayne's proposals as well as Koopman's (1987), according to which Spec-head agreement is the only possible configuration for agreement, and crucially links argumental agreement to Case assignment. In the same volume, one chapter later, Chomsky discusses the ontology of AGR against the Minimalist framework. Many of the assumptions on phrase structure that were valid in Chapter 3, when the two AGR heads were adopted, are no longer valid in Chapter 4.

Chomsky starts by claiming that economy principles should be considered for a theory with a minimalist design. Specifically, he states that: "it seems that economy principles of the kind explored in early work play a significant role in accounting for properties of language. With a proper formulation of such principles, it may be possible to move toward the minimalist design: a theory of language that takes a linguistic expression to be nothing other than a formal object that satisfies the interface conditions in the optimal way." (Chomsky, 1995: 157).

Agreement should also be conceived as a last resort, economy-driven operation. This is not always straightforward, as we will see below. Two ingredients are necessary to be able to follow the development of the argument: the first is the selection of a LEXICAL ARRAY, lexical items selected all at once (through an operation dubbed Satisfy, which will be abandoned right away) and which will enter the syntactic derivation. The syntactic derivation will take place in the syntactic component (so no D-structure or S-structure needed). The second key concept is LEGIBILITY of a syntactic derivation at the interface with PF and LF. A syntactic derivation can CONVERGE or CRASH at the interface, where convergence is determined by "independent inspection of the interface levels" (Chomsky, 1995: 171). Given the principles of economy driving computation, the "most economical convergent derivation" will be chosen in case there is more than one convergent derivation (Chomsky, 1995: 201).

Chapter 4 is where everything starts. Until Chapter 3, all was still being made on full morphemes. Chapter 4 takes a huge leap forward (or perhaps back) and considers syntactic operations as based entirely on features. Features enter the derivation as interpretable or uninterpretable (at the interfaces). A mechanism is necessary to ensure that uninterpretable features disappear from the derivation before the interface is reached. Elimination of uninterpretable features takes place through CHECKING. Uninterpretable features are checked against interpretable ones, and are consequently eliminated from the syntactic derivation.

4.1.1 Merge, Move, Procrastinate

For what concerns agreement, one particular statement in Chapter 4 contains in nuce several concepts which will be discussed and adopted in different forms by formal linguistics in the following years. There are only two possible operations in the CHL (computational system of Human Language): Merge and Move. Move is a Last Resort operation, as it is costly. Given a syntactic element α , and a target K c-commanding α , α can move only for the following reasons:

- (12) α can target K only if:
 - a. a feature of α is checked by the operation
 - b. a feature of either α or K is checked by the operation

c. the operation is a necessary step toward some later operation in which a feature of α will be checked (adapted from (Chomsky, 1995: 257))

This first definition of the conditions under which movement applies is quite central for the subsequent debate on agreement. There are several key concepts in this definition that need to be underlined here. The first is the question whether moves together with its feature or not. There are at least two conceptual alternatives:

- 1. α , a syntactic item, moves together with the feature on α that needs checking (pied-piping)
- 2. the feature that needs checking moves, while α stays behind (stranding).

In the beginning of Chapter 4, Chomsky chooses for option 1, rejecting it later on in the same chapter. The issue of detaching features from their host is not at all an obvious one. The lexical morphological tradition up to GB considers morphemes as units, endowed with different sorts of features. Morphemes are listed in the lexicon with their phonological, semantic and syntactic specification. This means that they are, in principle, syntactic atoms, and that they enter the syntactic derivation as basic units. This concept was not under debate, for instance, in the Generalized Verb Movement approach (Belletti, 1990), and was in fact the bottom assumption of Baker's Mirror Principle (Baker, 1985).

4.1.2 Weak and strong features

One of the guiding principles in Early MP is Procrastinate: move is more costly than merge, so movement should not happen if not absolutely necessary. However, we do see movement. This is solved by Chomsky by introducing the concept of strong features, which require "immediate" checking and result in movement; weak features also exist, but they are visible at PF (according to Chomsky (1993), see also Lasnik (1999)), and later at LF (Chomsky, 1995) therefore do not require overt movement in syntax. The option selected from (12b) is that of satisfying the "needs" of K.

4.1.3 Delete and Erase

Checking uninterpretable features, we have been assuming, has the consequence of deleting them before the interface with LF and PF is reached. The derivation will otherwise crash. Consider now case marking, or verbal inflection, both happening via agreement. So far we have been assuming that uninterpretable features on T are deleted before the interface is reached, so that only interpretable features are passed on to the two submodules. We do see, however, verbal inflection on the verb, which is the result of ϕ -checking against the subject. How can PF know about these inflectional features, if they are deleted in the syntax? In the same way, we do see Case marking on pronouns in English,

as a result of uninterpretable Case checking on the DP against the dedicated Case head. Furthermore, if the features on AGR are deleted, we would send to LF an "empty", ill-formed item.

There are at least a couple of solutions to the deletion problem. The first solution is starting off with fully inflected items in the Numeration (i.e. going back to working with morphemes, not with features). The second solution is to draw a distinction between *deleting* and *erasing* features; this is the option chosen by Chomsky. Deletion is for checking purposes, and it is so that uninterpretable features are brought to check against interpretable ones, underlying syntactic operations. Deleted features can however stay in syntax and be Spelled-Out to PF and LF. When features must disappear from syntax they will be deleted and then *erased* (recall also section 2.1 for a similar discussion, in very distant times).

4.1.4 Agr

What about the AGR heads? With the new strong vs weak feature system, they can be done away with, first and foremost as they would only consist of uninterpretable ϕ -features, and would hence have no semantic contribution. According to Chomsky: 'We have considered four functional categories: T, C, D, and Agr. The first three have Interpretable features providing "instructions" at either or both interface levels. Agr does not; it consists of -Interpretable formal features only. We therefore have fairly direct evidence from interface relations about T, C, and D, but not Agr. Unlike the other functional categories, Agr is present only for theory-internal reasons' (Chomsky, 1995: 321)

We could simply add a strong D feature on v to obtain the AGRO effect and a strong D feature on T to obtain the AGRS effect (i.e. to have the object and the subject to overtly move to their specifiers). When a strong feature is present, it will trigger, as we saw, overt movement. Imagine a situation in which T has a strong uninterpretable D feature, which Attracts the first available element with an interpretable D feature, namely the external argument. The external argument raises overtly to Spec, T, carrying along a number of other features: its interpretable ϕ -features, and its uninterpretable Case feature. These features move to Spec,T with their host as FREE RIDERS. Case is hence a free rider, not what triggers movement. ϕ -agreement is also sometimes a free rider, in the case of a strong D feature (which is nothing else than an EPP, a movement-triggering feature).

Observe then that movement and agreement start being, in this view, independent. One can be parasitic on the other, but one does not trigger the other, as we have assumed for Nominative assignment in Spec, T and for participial agreement (following Kayne's analysis). What is necessary is that there is Match of one feature between two elements, and that the feature on what we have been calling K attracts α overtly: the rest will follow as free riders. As an example, take for instance subject-verb agreement in French/Italian. Recall that T in French/Italian has a strong V feature, attracting the verb.

Take a sentence like:

(13) Gianni dorme John.3sg.nom sleeps.3sg 'John sleeps'

Gianni is first-merged in Spec-vP, where it receives its external θ -role. Dorme, being a verb, bears an interpretable V-feature. T enters the derivation with the following feature asset:

- an uninterpretable V feature
- an uninterpretable D feature
- uninterpretable ϕ -features (person, number)
- interpretable Case (Nominative)
- tense/aspect/mood features

T is what we have so far called the target, K. The uninterpretable V-feature on T needs to be checked. The operation Move takes the verb in V (what we so far have called α) and Moves it to T (V-to-T movement). The verb checks the uninterpretable V-feature on T. This feature gets deleted (but possibly not erased). The uninterpretable D-feature on T also needs checking; it is a strong feature, so the subject is attracted to Spec, T by it. Move takes α (the subject) and moves it to Spec, T. At this point the whole DP subject has moved, piedpiping unvalued features. What happens to them?

- Uninterpretable ([u] henceforth) Case ([u]Case) on the subject is checked against [i]Case=Nominative on T as a free rider and deleted.
- $[\mathbf{u}]\phi$ on T are checked against $[\mathbf{i}]\phi$ on the subject as free riders

Agreement is now checking of interpretable features against uninterpretable ones. It is now totally disconnected from movement.

4.1.5 Match and Agree

As we have seen, feature checking is taken at first to involve pied-piping of the feature host. In principle, however, it is not unthinkable to move a feature while leaving its host stranded. The two positions can be reconciled by assuming that strong features trigger pied-piping, while weak features don't. If a feature can participate in checking on its own, and if movement of the entire host is not necessary, why not think of a system where checking takes place "at a distance"?

In *Minimalist Inquiries* Chomsky (2000) takes the extra step of finally dissociating agreement from movement also formally, through the formulation of Agree. On listing imperfections, Chomsky wonders whether agreement and movement are really needed in the system, and whether one should be reduced to the other. The need of a strong feature to be checked is reinterpreted as the need of an uninterpretable feature to be made interpretable. Interpretability is

not an absolute property: a feature can be interpretable on nouns but not on verbs. Agreement features are in fact of this kind: they are uninterpretable on T but interpretable on DPs; while Chomsky claims that agreement and movement can and optimally should be reduced one to the other, he keeps the features responsible for the two operations (namely ϕ -features and EPP, which is now a movement-triggering feature) separate.

Uninterpretable features must be eliminated for the derivation to be able to converge at LF; however, they can remain legible at PF. The operation Agree, to eliminate uninterpretable features from narrow syntax, piggy-backs on Match, which is defined as in (1).

The Core Functional Categories (CFC: C, T, v) are thus introduced in the syntax with a set of uninterpretable ϕ -features (the nominal features [gender], [number], [person]) which must be deleted. Agree takes place between a Probe, with uninterpretable features, and a Goal, with interpretable features (very much like Attract). Differently from Attract, Agree does not require movement, and features can be checked long-distance. In MI, Chomsky introduces a new concept of uninterpretability, which is linked to absence of a value: if a feature is not specified, or *unvalued* it will not be readable at the interface, and the derivation will crash.

Uninterpretable ϕ -features enter the derivation unvalued, and they need to get valued before the interface is reached (recall once again that this is not a new idea! Cf. 2.1). They must be valued in narrow syntax. Uninterpretability for a feature corresponds to being unvalued, while interpretability to being valued. As stated above, interpretability is not an absolute characteristic of a feature, but it depends on which element hosts the features: ϕ -features are interpretable on nouns, uninterpretable on verbs. More specifically, ϕ -features are interpretable on DPs, uninterpretable on CFCs.

In Derivation by Phase (Chomsky, 2001), keeps the operation Agree in the same form, while slightly changing the Matching from "feature identity" to "non-distinctness", i.e. feature identity independently of value (cf., once again, 2.1).

In substance, ϕ -Agree consists in dimension Matching under c-command with subsequent copy of the feature values. This idea of "copying" values is not very different from the system proposed by Postal (1966), though it is applied to a totally different domain; terminological differences aside, the basic idea of agreement as copying material from one element to another has returned to be the old one, after a parenthesis in which agreement was a by-product of a specific syntactic configuration. The only substantial difference between Agree and Postal's system lies in the fact that Agree, taking place between a Probe bearing uninterpretable features and a Goal bearing interpretable ones, must be in a c-command relation.

What has reappeared from the old times, after many years of absence, is the idea that features have different values, and that these values can be copied from one item to another one. In a sense, we are back to the Jakobsonian based models of agreement also because movement is no longer required for agreement to take place. A mere closest c-command relation is now necessary between Probe and Goal, and Agree can take place. Furthermore, the concept of Q morphemes, as introduced by Halle and Marantz (1993), has brought back the idea that features are the key items on which syntax works rather than lexical items. Features are probes, they are active or inactive, they drive computation. The wave of lexicalist vs "abstract" feature-driven computation seems to have been resolved in favor of features.

Now that the gist of the operation Agree is in place, let us look at it more thoroughly. Agree is a syntactic operation, which takes place between two syntactic elements, usually a head and a phrase. It is not an external, extrinsic operation as Move was conceived: Move was the operation which took an element and displaced it. Agree is an operation that happens, takes place between a Probe and a Goal. It does not "operate on" anything: it happens to syntactic components. This is a further step towards a no-look ahead model for syntactic computation. The fact that syntactic "blindness" has become more central is underlined by Chomsky's remark on the switch from Attract to Agree: 'Reinterpretation of Attract in terms of Agree eliminates the need to introduce "checking domains". That is a step forward. the notion is complex, and furthermore unnatural in minimalist terms: feature checking should involve features, nothing more, and there is no simpler relation than identity. More importantly, the notion is irrelevant for the core cases: elements merge in checking domains for reasons independent of feature checking; and feature checking takes place without dislocation to a checking domain'. Chomsky (2000: 126)

In order for a Goal to be visible for Agree, it must be active, i.e. some of its features must be unvalued. Both in MI and in DbP the "visibility" feature is considered to be case.

5 Agreement as sharing

One more conceptualization of agreement deserves mentioning here: agreement as sharing. So far, we have considered Agree in its "standard" formulation, which involves Matching of valued-unvalued features (from a probe searching a goal) and then Copy of feature values into the feature matrix of the probe. According to some linguists, however, this copy operation is not necessary, and we should rather talk about feature SHARING. Copying values into different feature matrices implies the presence of two instances of the same element. In some cases, however, the correct formulation of what happens when Agree takes place is sharing features, not copying them. According to the feature sharing approach, one feature is linked to several elements, and Agree is establishing this link.

Frampton and Gutmann (2000) propose a mechanism of feature sharing which can overcome some of the issues that arise with an Agree-based system, like the timing problem in expletive constructions. According to them, agreement in a sentence like (14) is problematic from a timing point of view. In

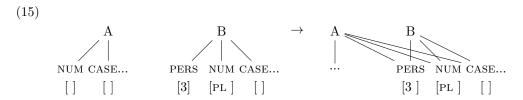
particular, when the expletive is merged, the probe T will be completely inert, hence it will not be able for *there* to value its unvalued feature (Frampton and Gutmann do not consider the possibility that there could be itself a probe, adopting the strict formulation that only heads can be probes). The derivation of takes place in three steps:

(14) There are women in the room

- 1. T be women in the room $\begin{array}{ccc} \text{PER}[\] & \text{PER}[3] \\ \text{NUM}[\] & \text{num}[\text{PL}] \\ & \text{CASE}\ [\] \end{array}$

(Frampton and Gutmann, 2000: 3)

At stage 3, after agreement has taken place, T is silent. There, however, still needs valuation of its person feature. Given that T is no longer a probe, T cannot have its feature valued. According to Frampton and Gutmann, it is best to represent agreement instead as feature sharing, where features are linked to values, as in the following scheme:



In (14), there is COALESCENCE of unvalued person feature between the expletive and T. These feature attract (in Frampton and Gutmann's terminology, which we would call probe) the valued features on *women* and coalesce with them. Frampton & Gutmann specify that features have coalesced, hence only two have remained. Case marking is only ϕ -feature sharing with a Case assigner. In this model, thus, the anomaly of a Case feature is resolved without further ado.

More accounts have been proposed to capture agreement in the last years. For an overview of feature geometric-based agreement, the reader is referred to Preminger (2021).

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