Minimalism and a Meaning First View

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Abstract

[no abstract requested]

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1 Introduction

In this article, we take a look at Minimalism from a variant thereof that is based on a modification of one of its basic assumptions: the status of the central structure building operation Merge. Merge in Minimalism is understood as the central biological innovation underlying the faculty of language in humans. We have instead explore an approach where Merge is not part of language, but an operation of a language-independent, conceptual system (Sauerland and Alexiadou 2020), which we have called this the Meaning First Approach.

The Meaning First Approach, though it rejects a central tenet of Minimalism, is an exploration building on the insights of Minimalism and shares a lot of its properties. The Minimalist Program seeks to solve the central puzzle of language: how could such a uniquely complex system could have evolved in our species within what is in evolutionary terms a very brief time period? Minimalism has developed into an extraordinarily productive and rich research paradigm as the contributions in this volume no doubt attest. Minimalism also has generated a number of predictions that were then confirmed by later research, such as the copy theory of movement and the reducibility of many analyses to interface properties. The Meaning First Approach seeks to preserve these insights, even as it rejects the assumption of the centrality of Merge for language. At this point, our exploration of the Meaning First Approach is only at the beginning, and perhaps one of its initial benefits may be to promote discussion of the role of Merge within the intellectual bundle of assumptions that is the Minimalist Program.[1]

Our contribution first reviews the Meaning First Approach, highlighting differences with standard Minimalism. The we discuss the status of what in Minimalist analyses are purely syntactic properties in the Meaning First Approach. And thirdly, we sketch an Meaning First Approach to explaining human uniqueness.

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[1] Within Minimalism, architectures similar to MFA have been discussed by Bobaljik and Wurmbrand (2012), Csirmaz (2005), and others. Our proposal to locate Merge outside of language goes further than these existing proposals, but there is substantial overlap in the predictions.

2 The Meaning First Approach

The Meaning First Approach (MFA in the following) rests on several assumptions that are shared with Minimalism, but differs on two central assumptions: 1) that merge applies at the conceptual level creating complex conceptual representations and 2) that language provides a compression function that can map conceptual representations to an external realization of the type used in human communication. The second of these assumptions is a corollary to the first, but we feel is important to discuss. Before we discuss these two differences in a more detail, briefly consider a key assumption that the MFA adopts from standard minimalism: Both assume that language is closely related to recursive data structures that represent thoughts. The MFA also endorses that the role of the recursive structures in communication is only a secondary function, and that their primary function is thought (Everaert et al. 2015, and others). In fact, the initial motivation for the MFA in Sauerland (2018) derives from the observation that some constraints apply at the thought level independent of their realization in language. Thus, the MFA takes the thought-language relation to extend beyond constituency and include other aspects of *logicality of language* (Chierchia 2013).[2]

The first defining assumption of the MFA is that the operation building complex structures is not part of language, but applies in the conceptual system to form conceptual representations (CRs). Otherwise our operation Merge is akin to the Minimalist operation *Merge*:[3] Given a set P of primitives, we assume that the set of unordered binary tree structures over P is the set of all potential concepts C. In this perspective, Merge maps any two concepts, a and b, onto a single concept $a : b$, and is commutative (i.e. $a : b = b : a$). C can also be described as the commutative free magma over P. Of course, minimalist Merge is a recursive operation within language and its output is "interpreted at two interfaces, conceptual-intentional (C-I) and sensorimotor (SM)—the former yielding a 'language of thought' (LOT), perhaps the only such LOT." (Chomsky 2015). We identify the LOT of Fodor (2008) and Chomsky's with a subset of C that contains licit CRs (we discuss the efficiency constraint on LOT below).[4]

In difference to the Minimalist conception of Merge, we assume that CR-structures are primary and then mapped to an articulation. One immediate consequence is that the Meaning First Architecture assumes a dif-

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[2]Lerdahl and Jackendoff (1983) and Katz and Pesetsky (2011) discuss parallels between recursive structure building in language and music. Our view though differs: we claim that there is no structure building in language proper, while we take no stand on the origin of structure in music here.

[3]We use more abstract algebraic terms, rather than the concrete set-theoretic implementation of Merge of Chomsky's in order to side-step uncertainties the latter has given rise to for self-merge (Sauerland and Paul 2017) and for identity (see below).

[4]We do not use the term *LOT* since it suggests a suitability for communication we deny and our conception differs markedly from that of Fodor (2008).

ferent structure of grammar: Minimalism in all its current variants assumes the T-structure Chomsky describes above. The Meaning First Architecture assumes instead a straight arrow from the CR-structure to the articulation similarly to what was assumed in early generative grammar (Chomsky 1965, Lakoff 1971, McCawley 1995), though in difference to these views, CRs on our view are non-linguistic objects and can be much more complex than their articulations because of compression. A cyclic operation is equally compatible with both conceptions. Consider for example the complement clause in (1): On either the MFA or standard minimalism, a structure representing underlying the complement clause and its articulation *the climb will be easy* in one cycle. In a later cycle, a reference to the CR/LOT representation of the complement and its articulation are used to activate relevant aspects thereof. Furthermore Sauerland (2020) suggests that cyclic compression may also support complex thought: namely, a highly compressed verbal sequence of a complex thought may play a facilitating role in complex non-verbal processing, e.g. for theory of mind.

(1)   The girl thinks the climb will be easy.

A second consequence of the MFA is that while Minimalism allows uninterpretable or semantically vacuous elements to be among the basic units Merge operates upon, the MFA is more restrictive: Because the primitive concepts in P are language independent, they must have some semantic content. In practice this means that while Minimalism works with an interpretation function mapping syntactic entities to concepts, syntactic primitives do not exist in the MFA. The terminal nodes of the binary tree structures in P are semantic objects. Therefore no semantic evaluation function is assumed for simple CRs, and the value of complex CRs is determined by their parts and their structure. But simple CRs must be mapped to an articulated form by a articulation mechanism akin to lexical insertion of Halle and Marantz (1993).

Finally the primitives P divide up into logical primitives independent of experience and non-logical primitives derived from experience. For some primitives like the tenses or the degree concept, it is an empirical question whether they are logical or non-logical in our sense. The meaning of content words such as *tree* is generally decomposed into logical primitives such as **object** and **state** and a non-logical, root meaning TREE.[5] As we discuss in the following, the logical/non-logical division is reflected in language in multiple ways.

The second central assumption mentioned above, Compression, concerns to the mapping from CR to articulation. We illustrate the conception of the compressor by the means of the concrete example *We like linguistics*, though many of the details remain speculation.

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[5]Here and in the following, we use two different typefaces for the two types of primitives.

1. Truth Conditions p with intent I, for example:
   p = the set of all possible worlds where linguists including me and you like linguistics, I = I want us to add p to our shared beliefs

2. Generator: p is mapped to the optimal conceptual representation C that has those truth conditions. For our example the resulting representation is so complex that we introduce abbreviations to aid comprehension:[6]
   $C = \lambda w$ [**exists** [**present**(w) **and part** [*‘we’*] **and cause** λw [**exists** [*‘like’* **and** [**part** [*‘linguistics’*]]]]]],
   where ‘we’, ‘like’, and ‘linguistics’ abbreviate respectively the following:
   ‘we’ = [**max** [**exh** (**true**, **singular**) **and** [**author**(w) **plus exh**(**participant**(w), **author**(w))] **and object and animate and stable and** LINGUIST(w)]],
   ‘like’ = **stable and** LIKING(w), and
   ‘linguistics’ = **theme** [**max** [**singular and object and exh**(**true**, **animate**) **and stable and** LINGUISTICS(w)]]

3. Linearization: Linearize all nodes of C (the example is already presented in its linear order in the previous step)

4. Realization: Insert the C for every node all its possible direct realizations and form resulting candidate outputs. For example:[7]
   ”–”
   ”We like it”
   ”We do”
   ”We do like it”
   ”We like linguistics”
   ”We do like linguistics”
   ”The linguists like linguistics”
   ”We the linguists like linguistics”
   ”The linguists like the linguistics”, …

5. Compression: Select the shortest (or otherwise optimal) realization r of C that has sufficient likelihood of satisfying intent I for articulation. For example:
   r = ”We like linguistics.”
   Excluded because of low recoverability of I are: ”–”, ”We like it”, ”We do”, amd ”We do like it”. Excluded because of high effort are: ”The linguists like linguistics”, ”We the linguists like linguistics”, and ”The linguists like the linguistics”, and others.

We highlight two aspects of the MFA-mechanism (the Compressor) relating CRs to articulation: that is applies after the formation of a CR and can loose information the CR contains. The MFA is wedded to a realizational perspective where linear order and the phonological content of both lexical and functional concepts must be determined after a structure is formed, while Minimalism is compatible with many different options. Minimalist models for the PF-realization where linear order (Fox and Pesetsky 2005, and others) and phonological content (Halle and Marantz 1993) are determined late have nevertheless been widely adopted. The MFA builds on these conceptions . The second highlight, the information-theoretic aspect of compression builds further on Chomsky's insight that structure generation is not well adapted to be used in communication. The MFA assumes that articulation is constrained in a way that CRs are not: A CR is assumed to be a complex internal data structure that is entirely unsuited for communication: It not only lacks serial order and it may contain representational redundancies – elements that facilitate the internal, mental processing, but the presence of which is predictable for a fellow human from a partial representation of the CR structure. In communication, humans do their best to use their body to quickly share a CR with others by linearizing it and by not articulating any recoverable parts of it. Two examples of compression are cases NP-minimization and pronoun deletion. Schlenker (2005) points out that the full noun phrase *the linguist* in (2) can receive a bound interpretation if use of a possessive pronoun instead of the full noun phrase would result in an ambiguity. On our view, non-pronunciation of the NP would result in articulation of the pronoun (Sauerland 2008) and this non-pronunciation is obligatory unless pronunciation of the full NP avoids an ambiguity.

(2)   A linguist working on Binding Theory was so devoid of any moral sense that he forced {a physicist working on particles / *me} to hire **the linguist**'s girlfriend in his lab.

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[7]For the logical constants, we assume values that are similar to the lexical entries of related works in distributed morphology and semantics. Concretely, we assume in the order of occurrence: **exists** $= \lambda S\, S \neq \emptyset$, **and** $= \lambda S, T\ S \cap T$, **present**$(w) = \{e \mid e$ is in the present time of $w\}$, **part**$(x) = \{e \mid x$ takes part in $e\}$, **cause**$(p) = \{e \mid e$ causes $p\}$, **max** $= \lambda S\ \iota x \in S\ \forall y \in S\ y \sqsubseteq x$, **exh**$(a, b) = a \setminus b$, **singular** $= \{x \mid \text{atom}(x)\}$, **true** $= \{x \mid x = x\}$, **author**$(w) = \{x \mid x$ contains the center of $w\}$, **plus** $= \lambda x, y\ x \oplus y$, **participant**$(w) = \{x \mid x$ contains the center or the addressee of $w\}$, **object** $= \{x \mid x$ is an object$\}$, **animate** $= \{x \mid x$ is animate$\}$, and **stable** $= \{x \mid x$ is temporarily stable$\}$.

[7]We assume that the possible realizations are compositionally derived from more elementary realization mappings such as the following sketch: LINGUIST $\mapsto$ "linguist", "–", **exh**(**true**, **singular**) $\mapsto$ "-s", "-ren", "–", **author**(w) **plus exh**(**participant**(w), **author**(w)) $\mapsto$ "we", "they", "–", **max** $\mapsto$ "the", "it", "they", ..., "–", LIKING $\mapsto$ "like", "—", LINGUISTICS $\mapsto$ "linguistics", "—", and PRESENT $\mapsto$ "do", "—".

The second example comes from the Overt Pronoun Constraint of Montalbetti (1984). The constraint predicts, for example, that the overt pronoun *elias* in (3) cannot be interpreted as a bound variable, while the unpronounced pronoun can.[8] The effect of the Overt Pronoun Constraint can be captured as an effect of compression if non-pronunciation of a bound pronoun becomes obligatory in a language like Spanish when it is allowed and the bound interpretation has a high likelihood of being assigned to the null argument counterpart.

(3)   Muchos plomeros$_1$ creen que *pro*$_1$ / *elias$_1$ compraron un pulpo.
       many plumbers think that — / they bought a octopus
       'Many plumbers think they bought an octopus.' (Montalbetti 1984, p. 77-78)

Compression predicts ellipsis to be obligatory whenever it occurs. Obligatoriness is required for the correct predictions in (2) and (3), it seems at odds with most cases of ellipsis recognized by Minimalism such as comparative ellipsis in (4) (Lechner 2004 and others), where ellipsis is assumed to be optional. But even in Minimalism several varieties of obligatorily unpronounced material exists – traces, silent pronouns, silent operators, and incorporated heads. The MFA assumes that these unpronounce elements and the cases discussed above are the representative cases of ellipsis, and that optionality is only apparent in other cases. Subtle differences in emphasis, need for clarity, and other factors must account for the variation.

(4)   The table is taller than the door is (tall)/wide.

Other differences between Minimalism and the MFA proposal of Sauerland and Alexiadou (2020) are in our view orthogonal to the two central differences we discussed in this section. In particular this holds for the MFA assumption that a third interface between language and other cognitive system accounts for some aspects of socio-emotive meaning. Sauerland and Alexiadou (2020) assume that social and emotional signalling extends beyond humans and beyond language, but that this mechanism in humans can intrude in interesting ways upon the expression of logical thought by language. But should this turn out to be disconfirmed, the MFA could omit the third interface, just like Minimalist theory could incorporate a third interface – in fact, some work seems to be open to this possibility: "So construed, language is I-language (internal language), a state of the computational system of the mind/brain that generates structured expressions, each of which can be taken to be a set of instructions for the interface systems within which the faculty of language is embedded. There are *at least two* such interfaces:

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[8]Both sentences in (3) allow the 'coreferential' interpretation translated as *Many plumbers think that many plumbers bought an octopus.*

the systems of thought that use linguistic expressions for reasoning, inter-
pretation, organizing action, and other mental acts; and the sensorimotor
systems that externalize expressions in production and construct them from
sensory data in perception." (Chomsky 2007, emphasis ours)

3 Purely Syntactic Entities

Syntax is the origin of formal work in linguistics, and is the core component
of many grammatical frameworks. In the Minimalist Program, however, a
number of phenomena (for example, binding. scope, ellipsis) were seen to be
better accounted for as being properties of the semantics-syntax interface.
But for other phenomena, specifically movement, case and agreement, syn-
tax is seen as crucial, and the notion of a syntactic feature is linked to the
account of both. The MFA leaves only room for language-independent, con-
ceptual properties to enter structure formation. While the MFA can built
on some aspects of minimalist proposals, the MFA perspective requires a
rethinking of these phenomena in terms of conceptual structure building
and compression. Fully worked out solutions will take time, and we hint
at some directions we find interesting to pursue and we consider movement
first, then syntactic features, and finally case and agreement.

Movement: In early transformational grammar, movement transforma-
tions characterized a broad class of phenomena. But in minimalist analysis,
'movement' is a descriptive term not necessarily indicating a shared mecha-
nism. For example, 'head movement' in minimalism is frequently analyzed
differently from the core cases of phrasal movement (Chomsky 2015). We
will only consider a few cases of phrasal movement here. We attempt to cap-
ture overt movement on the MFA within the broader realm of compression
phenomena, along similar lines as pronominalization. Our account builds
on the minimalist insight that 'movement' involves multiple occurrences of
the same material as illustrated in (5):

(5)   Which boy did the girl like?
       [which boy] did the girl like [which boy]?

However standard Minimalism furthermore assumes that the two occur-
rences of *which boy* in (5) are identical in a special way – the represent
'copies' or a 'shared structure'. Minimalists distinguish the strict notion of
identity from a looser one that also applies to the two occurrences of *which
boy* in *Which boy did Ann like and which boy did Sue like?*. Drawing a dis-
tinction between strict and loose identity in this way is a theoretical choice
though, not a necessity. Similarly, we may say $1 = 1$ in a loose sense, but
$1 \neq 1$ in a strict sense since there are two distinct signs '1' on the paper. But
arithmetic as a system only contains the first notion of identity. If successful,

our account would allow a simplification of the Minimalist understanding of identity.

At this point, we cannot with confidence present a full conceptual representation of (5), but only a variant of the classical Karttunen (1977) analysis with the movement dependency analyzed as obligatory ellipsis of a definite description. We assume that the evaluation of CRs uses a mechanism akin to assignment sequences, i.e. a relation between places (represented by natural numbers) and entities, and that **in** n denotes the property of being in place n.[9] We assume that there is a presupposition accommodation mechanism **accommodate** that extends the local context by a single place-individual pairing. We furthermore assume that accommodated local contexts are projected across a conjunction. Since this is not the space to present a full system, we only spell out a syncategorematic interpretation rule for **accommodate** in a conjunction:

(6)   [**accommodate** R](f) **and** S
$$= \exists \{f' \supseteq f \colon \exists x \ r(f') = x \wedge \#(f' \setminus f) = 1\} \cap \{f' \mid \exists y \ s(f') = y\}$$

With this shorthand, the conceptual representation (7) containing two descriptions *the boy* has the desired value: the set of propositions that are potential answers to the question.

(7) λp [**accommodate** [**max** [BOY(w) **in** 1]] **and** [$p = \lambda w$ [**exists** [[**part max** GIRL(w)] **and** [**cause** λw **exists** [*'like'*(w) **and** [**part max** [BOY(w) **in** 1]]]]]]]]]

The second occurrence of **max** BOY must not be realized in (7) follows from compression. Note that since compression does not care about the recovery of a specific form of CR but just the semantic value, a CR where location index 2 was used instead of 1 would also be possible. To allow resumptive elements, compression further needs to account for exceptions to the non-realization of trace copies. Namely, in some complex structures it is blocked in English, and some languages must always realize traces as resumptive pronouns more generally.

The above accounts for A$'$-movement phenomena that are present in the conceptual structure. Adapting a proposal by Takahashi and Hulsey (2009), we propose that A-movement requires that the non-logical material be only present in the structurally higher position of the dependency as illustrated in (8), where *'be winning the game'* is left unanalyzed.

(8)   A couple seems to be winning the game.
    [[**accommodate** [**max** [COUPLE(w) **and object and in** 1]]] **and** [

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[9]The distinction by number indices is a commonly assumed, but is actually not needed for (5) and we are optimistic that these can be generally eliminated (see Sauerland 2007).

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215 SEEM(w) [[**part max** [**object and in** 1]] **and** *'be winning the game'*]
]]

Sentences that can be analyzed as A-movement furthermore can also often involve a different CR with total reconstruction. Following Sauerland and Elbourne (2002), we assume that total reconstruction involves a CR without
220 a dependency, and is analyzed as linearization not fully conforming to the conceptual constituency, i.e. PF-movement.

Syntactic Features: A syntactic feature in Minimalist syntax is a feature that is accessible syntax. For example, having an initial vowel or being edible are not syntactic features, while person, tense, case and agreement
225 are. The set of syntactic features in Minimalism is generally stipulated as a list. If lexical information such as an initial vowel are represented during syntactic structure building, it furthermore needs to be stipulated that no structure building operation can access the non-syntactic features. Morphological theories such as Distributed Morphology of Halle and Marantz (1993)
230 have proposed to eliminate the second stipulation by assuming instead that structure building applies prior to lexical insertion. But Distributed Morphology and related approaches do not answer the question why structure building should be selective about which features it can access.

The MFA addresses this question: structure building accesses only se-
235 mantic concepts, so it is predicted to be sensitive only to semantic properties of the items. Phonological properties like having an initial vowel are similarly excluded from structure building. But furthermore, non-logical semantic properties like being edible don't affect structure building. The division between concepts like **animate** and EDIBLE is difficult to understand
240 even on the MFA. First of all, we suggest that logical concepts shouldn't be only characterized by permutation invariance (van Benthem 1989), but as a core concepts being present in the mind independently of experience (Carey 2009, Spelke and Kinzler 2007). Our intuition then is that classifying objects as animate is mentally present to humans in this sense while
245 edibility arises from experience. The experience-based concepts furthermore typically vary substantially between individuals, though there are exceptions – (Sauerland and Alexiadou 2020) discuss the property of symmetry. For structure building, we propose that experience based concepts are not as accessible as logical concepts are. Though gaps remain in our understanding
250 at this point, the logical characterization of the notion of syntactic feature is more explanatory than the list provided by Minimalism. Some strands of Minimalism furthermore stipulate a linear order of the syntactic features in sequence. It remains to be seen whether alternative accounts e.g. in terms of entailment or likelihood may be possible.

We mentioned above that the account of logicality beyond mere constituency is a core motivation for the MFA. Logical properties of structure

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affect what structures can be formed. Meyer (2013, 2015) argues that her principle of efficiency blocks a structure if a more efficient structure is available to account for data like the following:

(9)   # Mary didn't study math or physics or both. (Meyer 2015)

Sauerland (2018) extends the efficiency analysis to different scopal structures, in particular reducing scope and binding economy of Fox (2000) to Meyer's efficiency. Sauerland (2018) furthermore suggests generalizations of Meyer's proposal to account for superiority phenomena, for restrictions on type changing morphemes, and also for ungrammatical analytic sentences as studies by Gajewski (2009), Chierchia (2013), Del Pinal (2019), and others.

Case and Agreement   Over the past 30 years, the analysis of Case and agreement has been central to work in the Minimalist program. We can't foresee at this point whether the MFA can be even remotely as fruitful in this domain of phenomena. What the MFA might provide insights on though is the decomposition of verbs and other predicates. Since case and agreement are frequently related to argument structure, the decomposition of argument structure may provides a starting point for understanding case and agreement.

Different ideas about the mereological entities and primitive concepts underlying argument structure are compatible with the MFA. We distinguish though between two conceptions of complex predicates: On a lexicalist analysis such as Montague grammar, a verb like *break* is analyzed as a semantic unit that would take two individuals as arguments in (10). On a decompositional analysis, the verb *break* in (10) is instead analyzed as consisting of at least a causative *make* part and a anticausative *break* part.

(10)   The woman broke her record.

Much recent work has empirically corroborated the decompositional view (Levin and Hovav 2011, Alexiadou et al. 2015). What though would block a lexicalist, binary predicate BREAK from being available? On the MFA though, we may expect that a) the inventory of logical primitives to be minimal and b) experience based predicates to be limited in type. Namely, both a) and b) would contribute to an efficient system where CRs are biuniquely identifiable with truth conditions. Aron Hirsch (p.c.) suggest that, taken together, a) and b) can be summarized as the principle (11) evidently favoring decomposition analyses.

(11)   Decompose if you can!

Since parts of the meaning of verbal concepts like causation, agency, and change-of-state are also present as primitives, then verbal decomposition is

forced. This is in line with the work of e.g., Levin and Hovav (2011) and
Alexiadou et al. (2015) among many others. Further evidence for obligatory
decomposition comes for example from adjectival antonyms (Rett 2014).

Beyond decomposition, the work on case and agreement by Bobaljik
(2008) may be promising starting point for a fuller account with the MFA. In
this contribution Bobaljik (2008) argues that not only morphological case,
as proposed in Marantz (1991), but also Agreement is orthogonal to the
basic syntactic licensing mechanisms that regulate the distribution of NPs.
Bobaljik (2008) is critical of analyses that motivate A-movement in terms of
feature checking as they seem circular. In recent literature arguments have
been brought to the fore that syntactic movement for EPP reasons, i.e. to
fulfill the requirement that the subject position must be filled in languages
such as English is misguided (McFadden and Sundaresan 2018). Rather the
factors that condition this seem to be phonological in nature.

4   Human Uniqueness

Especially since (Hauser et al. 2002), work in the Minimalist Program has
sought to address what Everaert et al. (2015) refer to as the *Evolutionary
puzzle*. The puzzle, as we see it, is posed by a mismatch between biology and
the geo-sciences. Biologically humans are in unremarkable by standard mea-
sures of the brain (Herculano-Houzel 2009, and others). But geo-scientists
have seen it fit to speak of the *Anthropozene* because of the enormous im-
pact of humanity on the planet (Crutzen 2002, and others). The answer to
the puzzle standard Minimalism (Chomsky 2013) provides is the evolution
of Merge in humans. Specifically, Merge may have only required a single
evolutionary change, and this step would have enabled simultaneously com-
plex language and thought to the new line of *homo*. One this view, Merge
provides a plausible answer to the evolutionary puzzle.

The terms of the Minimalist solution to the evolutionary puzzle are not
compatible with the MFA, since Merge would exist independent of language.
But we speculate that a similarly attractive solution could be given within
the MFA. First reconsider the tight link between complex thought struc-
tures and language standard Minimalism predicts. The link has received
some support: for example, Spelke (2003) proposes that only the compo-
sitional semantics of language makes complex concepts available. But as
far as we understand, recent work on animal cognition has shown many
unexpected abilities (e.g. Weir and Kacelnik 2006) and the field is equiv-
ocal on whether non-human animals can form complex thoughts (Andrews
2014). There are also debates concerning animals' ability to communicate
sequences with internal complex structure comparable to the sentences of
language (Schlenker et al. 2016, Sauerland 2016).

What alternative solution for the evolutionary puzzle would be compat-

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³¹⁵ ible with the MFA? If Merge has arisen independently of language and in species other than humans, other properties of language need to provide the answer for the evolutionary puzzle. Two possible candidates compatible with the MFA would be compression and linearization. The latter seems more plausible to us. Since linearization is a counterpart of Merge, but logi-
³²⁰ cally independent, linearization would address the evolutionary puzzle much the standard Minimalist answer does. If linearization is on the right track it might indicate that the two components of a non-linearized merged thought structure are contemporaneous in the mind and that breaking the temporal symmetry for articulation is more difficult than we intuitively appreciate.
³²⁵ In sum, we have argued that, while the MFA is not compatible standard Minimalist answer to the evolutionary puzzle, MFA-compatible alternatives are not wholly devoid of plausibility.

5   Conclusion

We have summarized and extended the Meaning First Approach (MFA)
³³⁰ (Sauerland and Alexiadou 2020), and highlighted some key differences to standard Minimalism: conceptual structure building, compression, the rejection of the T-structure, different accounts of movement, syntactic features, case and agreement, and finally of human uniqueness. Nevertheless we see a lot of common ground and expect that it will not be easy to discern between
³³⁵ the two views. One insight from our preliminary exploration of the Meaning First Approach is though the following: The significant consequences of changing essentially only one assumption of Minimalism – assuming that compression is necessitated by relocated merge to the conceptual system – shows how tightly woven an intellectual package Minimalism is, to its great
³⁴⁰ credit.

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