Externalization in the Minimalist Program

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Externalization of syntactic structure has been one of the main topics in the minimalist program (Chomsky 2013 et seq.). However, the mechanism of externalization has not been much discussed. In this talk, I will discuss the phenomena ascribed to externalization and propose some specific mechanisms of externalization.

1. "The head directionality parameter" at externalization

Chomsky (2012: 55) claims that the head parameter is an externalization parameter. Syntax makes a set without linear order (like an Alexander Calder mobile in the air) by combining two syntactic objects. I have argued that the head directionality (head-initial/head-final) is set according to the unmarked stress location in a constituent in the language (Tokizaki 2011, 2019, Tokizaki and Kuwana 2013). I argue that a syntactic structure must be externalized with prosody including stress and juncture. Following Cinque (1993), I assume that the main stress is assigned to the most deeply embedded element in a constituent. In a constituent consisting of a head X and its complement YP, the main stress is to be assigned to the complement rather than the head, {X, **YP**} (a stressed constituent is in bold). The head is a non-branching X^0 category while the complement is generally a branching phrase containing the most deeply embedded element in the structure. This structure can be externalized/ linearized as head-initial (1a) or head-final (1b):

(1) a. X **YP**
b. **YP** X

The head-initial order (1a) is selected in a language with final stress (e.g., French); the head-final order (1b) is selected in a language with initial stress (e.g., German).

We need to consider languages with disharmonic word orders, i.e., languages with both head-initial and head-final orders. I argue that the orders correspond to different stress locations in different constituents. For example, English has head-initial order in most phrases with final stress (NSR) and head-final order in compounds with initial stress (CSR). I also argue that languages tend to have head-final order with initial stress in smaller constituents such as compounds, and head-initial order with final stress in larger constituents such as verb phrases. This leads to an alternative explanation for the rare combination of orders (e.g., P-NP & NP-V) to the Final-Over-Final Constraint (Biberauer et al. 2014, Sheehan et al. 2017).

2. "Head movement" at externalization

Chomsky (2001) argues that head movement is not a syntactic operation but an operation in PF. Chomsky (2021) proposes an operation Amalgamate at externalization, but its mechanism is not clear. Tokizaki (2023) argues that head does not move in PF or at externalization, and that its effect on word order is derived by Transfer in the derivation. For example, "T to C movement" for Subject-Aux Inversion can be derived by Transferring VP, the complement of T, and externalize T' (consisting of T and the empty VP) and the subject in this order as shown in (2), where pronounced words are in bold.

(2) a. {TP you {T' can {VP *swim in winter*}} (externalize VP)
b. [TP [T' **can** [VP *swim in winter*]] **you**] **swim in winter** [PF]

Similarly, "V to T movement" for the V-Adv order can be derived by Transferring the object and externalize V' (consisting of V and the empty object) and the adverb in this order as in (3).

(3) a. {Jean {VP souvent {V' embrasse *Marie*}}} (externalize the object of V)
Jean often kisses Marie
b. [Jean [VP [V' **embrasse** *Marie*] **souvent**]] **Marie** [PF]

The order V-Adv in (3b) matches the final stress in French (*embrasse* ***souvent***).

3. "Language change" as the change in externalization caused by phonological changes

Chomsky (2020: 28) mentions that language change is just externalization. I argue that syntax is universal and invariable while externalization is language-particular and variable. I will present an analysis of some word-order changes in English including OV/VO to VO, and Adv-V/V-Adv through V-Adv to Adv-V. I argue that these order changes are caused by the changes of stress patterns in English. The shift of stress location in phrases and (compound) words is shown in (4), where stressed items are in bold and the dominant pattern is underscored.

(4)

	OE	ME	EME
phrases:	[**A** B]/[A **B**]	[A **B**]	[A **B**]
(compound) words:	[**a** b]	[**a** b]/[a **b**]	[**a** b]/[a **b**]
order of V and O:	**O**V/V**O**	V**O**	V**O**
order of V and Adv:	**Adv**-V/V-**Adv**	V-**Adv**	**Adv**-V/V-**Adv**

The parallel changes in stress and word order support the idea that language changes are the changes in externalization.

4. "Box" and externalization

Chomsky (2024) argues that there is no *wh*-movement by internal MERGE and that cross-linguistic variations are due to externalization. A *wh*-phrase is internal-Merged to the phase edge as being put in a "box" separated from the ongoing derivation, but is accessible to the derivation at later phase levels for interpretation at the interfaces. I propose that at externalization, the phonological features of *wh*-phrase in a box are "cut off" from the rest of the structure and can be placed in the most prominent position, which might be different in languages. In most languages including English, the clause-initial position is most prominent. In some languages including Japanese, *wh*-phrase in situ is prominent because it has pitch accent **H**L.. (e.g., ***na****ni,* ***do****re,* ***i****tu*), which can be emphasized easily by raising pitch. I will explore the correlation between in-situ *wh* and pitch/tone accent in the world's languages.

Selected References

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Revisiting Antecedent-Contained Clausal Argument Ellipsis

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Ellipsis has been a central focus of inquiry in the generative tradition because of its direct relevance to the Poverty of the Stimulus argument: The very fact that it is silent makes it challenging for children to acquire its properties associated with underlying structures and mechanisms as well as its crosslinguistic divergence. As for the latter, VP-ellipsis for instance is quite freely available in English but not so in other languages (see, e.g., Aelbrecht & Harwood 2018). Sluicing, another well-studied ellipsis phenomena, shows that superficially similar constructions may have different underlying structures (see, e.g., Vicente 2018). Similarly, null arguments, in particular null objects, have been received at least two ways of treatment: One argues that they result from as a by-product of *verb-stranding VP-ellipsis* (VVPE; see Otani & Whitman 1991, Goldberg 2005, Funakoshi 2016, Abe 2025, a.o. for Japanese) while the other postulates the operation called *Argument Ellipsis*, which directly elides arguments (AE; Oku 1998, Takahashi 2008, 2016, Takita 2010, Sakamoto 2020, a.o.).

Given this background, this talk reexamines what Takita (2018) calls *Antecedent-Contained Clausal Argument Ellipsis* (ACCAE; see also Takahashi 2024). Although Takita (2018) takes it as a strong argument for AE, Abe (2025) points out a flaw in his argument. Hence, I first attempt to overcome the problem, providing a better argument for the ellipsis-based analysis of ACCAE. Based on this new argument, I then refine the findings and their analysis in Takita (2024, to appear).

One concrete example of ACCAE is given in (1a), where the CP within the adverbial clause is missing (indicated by Δ), seemingly derived by ellipsis with the whole matrix CP being as its antecedent. Compare it with the baseline example in (1b), which contains the overt version of the CP.

(1) a. Taroo$_1$-wa [$_{Adv}$ Hanako$_2$-ga [$_{CP}$ Δ] itta atode] zibun$_1$-o hometa
T.-Top H.-Nom said after self-Acc praised
'Taroo$_1$ praised himself$_1$ after Hanako$_2$ said Δ (Δ = that he praised himself$_1$/*herself$_2$).'

b. Taroo$_1$-wa [$_{Adv}$ Hanako$_2$-ga [$_{CP}$ kare-ga zibun$_{1/2}$-o hometa to] itta atode] zibun$_1$-o hometa
T.-Top H.-Nom he-Nom self-Acc praised C said after self-Acc praised
'Taroo$_1$ praised himself$_1$ after Hanako$_2$ said [$_{CP}$ that he praised himself$_1$/herself$_2$].'

The point is that since there is no VP containing the matrix CP by definition, if the null CP in (1a) is truly derived by ellipsis, it cannot be obtained by VVPE but must make recourse to AE.

Takita (2018) observes that although the reflexive *zibun* 'self' within the embedded CP in the baseline example (1b) can be bound by either the matrix subject *Taroo* or the embedded subject *Hanako*, it can be bound only by *Taroo* once the CP is rendered unpronounced as in (1a). Following Takahashi (2013), Takita (2018) argues that this observation can be captured in terms of the parallelism constraint on ellipsis (Fiengo & May 1994), taking it as evidence for the idea that ACCAE does involve ellipsis. Recently, however, Abe (2025) points out that this argument has a problem since the reading (1a) allows is a *strict* but not *sloppy* reading, which does not necessarily arise from ellipsis. If ACCAE did not involve ellipsis, Takita's (2018) argument for AE would lose its force.

In order to overcome this problem, the first half of this talk shows that the null CP in ACCAE allows extraction out of it (cf. Sakamoto 2020). (2a) is the baseline example, where the embedded

clause within the adverbial clause has the form of cleft. What is important is the fact that the CP-subject of the cleft contains the trace of the focused PP *kono heya-kara* 'from this room'. The grammaticality of (2b) suggests that the CP that should contain a position associated with the focused PP can be missing, which in turn strongly indicates that it involves ellipsis.

(2) Taroo-wa [$_{Adv}$ Hanako-ga [{a. [$_{CP}$ kare-ga t_1 detekuru no]-wa / b. [$_{CP}$ Δ]} [$_{PP}$ kono
T.-Top H.-Nom he-Nom come.out C-Top this
heya-kara]$_1$ da to] keesatu-ni tuuhoosita atode] soko-kara detekita
room-from is C police-Dat notified after there-from came.out
'Taroo came out from there [after Hanako notified the police [that it is [$_{PP}$ from this room]$_1$
{a. [$_{CP}$ that he would come out t_1] / b. [$_{CP}$ Δ]}]].'

Utilizing this kind of extraction data, the latter half of the talk updates Takita's (2024, to appear) observations concerning finiteness and force mismatches in ACCAE. One such example is given in (3). (3a) is the baseline example where the CP-subject of the cleft (CP_1) further embeds an infinitive CP (CP_2), whose verb is in the imperative form, and the focused PP is extracted from this imperative CP. As shown in (3b), the null CP (CP_3) still allows extraction without affecting the grammaticality.

(3) Taroo-wa [$_{Adv}$ Hanako-ga [[$_{CP1}$ *pro* kare-ni {a. [$_{CP2}$ PRO t_1 detekoi to] / b. [$_{CP3}$ Δ]}
T.-Top H.-Nom he-Dat come.out.Imp C
meireisita no]-wa [$_{PP}$ kono heya-kara]$_1$ da to] syoogensita atode] soko-kara detekita
ordered C-Top this room-from is C testified after there-from came.out
'Taroo came out from there [after Hanako testified [that it is [$_{PP}$ from this room]$_1$ [$_{CP1}$ that she ordered him {a. [$_{CP2}$ PRO to come out t_1] / b. [$_{CP3}$ Δ]}]]].'

Notice that the missing CP_3 should be an infinitive and imperative clause, while its antecedent (i.e. the matrix clause) is finite and declarative, as the embedding verb *meireisita* 'order' cannot take the CP identical to the matrix clause as its complement (**[$_{CP}$ ... detekita to] meireisita* 'ordered [that (he) came out …]'). Hence, the ellipsis in question should be able to ignore the mismatch concerning finiteness and force. In fact, (2b) also involves a similar mismatch as the tense of the ellipsis site should be non-past while that of the antecedent is past.

I argue that this kind of mismatch is in fact predicted to be possible under Takita's (2025) "smaller-is-better" approach to ellipsis, where a constituent that is smaller than usually assumed can serve as an ellipsis site (e.g. vP instead of CP), which takes another constituent of the same size as its antecedent. It is also pointed out that this analysis allows us to resolve another potential issue of Takita (2018) concerning the attachment site of the adverbial clause containing the ellipsis site, offering a further argument for the AE-based approach to null arguments.

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'Cannot Compare': Varieties of Negative Comparative Expressions in Japanese and English

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Introduction: The Japanese negative comparative expression *kurabe mono-ni nara-nai* 'cannot be compared' has several features that are not present in ordinary comparatives. First, its meaning is ambiguous regarding whether, in terms of a scale, subject x is much higher or much lower than object y. Example (1) conveys that Siberia (=subject) has a much higher degree of coldness than Hokkaido (=object), which leads to a "much more" reading:

(1) Samu-sa-ni kanshite-wa Siberia-wa Hokkaido-to-wa kurabe mono-ni {nara-nai
cold-NMLZ-to regarding-TOP Siberia-TOP Hokkaido-with-TOP compare thing-to become-NEG
/??nar-u}.
/become-NON.PST
'lit. Regarding coldness, Siberia cannot be compared to Hokkaido.' (= Siberia is much colder than Hokkaido.)

In contrast, example (2) conveys that Taro (=subject) has a much lower degree of strength than professional players (=object), resulting in a "much less" reading:

(2) Taro-wa (ama-de tsuyoi-to i-ttemo) puro-no senshu-to-wa kurabe
Taro-TOP amateur-in strong-that say-even.if professional-GEN player-with-TOP compare
mono-ni {nara-nai /??nar-u}.
thing-to become-NEG /become-NON.PST
'lit. Even though Taro is a strong amateur, he cannot be compared to professional players.'
(= Taro is much less stronger than professional players.)

Second, the expression is polarity-sensitive in that it must appear with negation. The positive counterpart of (1) and (2) sound unnatural.

What is the exact meaning of *kurabe mono-ni nara-nai*? By what mechanism do the "much more" and "much less" readings in the sentence appear? Why is it that *kurabe mono-ni nar-u* must appear with negation? Is this phenomenon cross-linguistically general? The goal of this talk to answer these questions and try to provide a new perspective for the variation of comparatives.

Analysis: As for the meaning of the *kurabe mono-ni nara-nai*, I will argue that these two kinds of interpretation can be derived from the interaction with negation and the notion of "category". I define the meaning of *kurabe mono-ni naru* (without negation) as follows (The underlined part is a presupposition):

(3) $[\![\text{kurabe mono-ni naru}]\!] = \lambda y \lambda x \lambda S$: $\underline{x \text{ and } y \in \text{CC}_S}$. x and $y \in \text{CAT}_C \wedge$ can-be-compared(x, y) in terms of S

The category CAT_C is a contextually determined set of individuals who are classified as belonging to the same category (or status) according to the speaker's criteria. CC_S refers to the comparison class associated with a scale S, consisting of individuals that can be compared along that scale. CAT_C is a subset of CC_S. *Kurabe mono-ni naru* (without negation) presupposes that a target x and standard y are members of the same CC_S and denotes that (i) the target x and standard y belong to the same category CAT_C and (ii) x can be compared to y in terms of the scale S.

By adding negation, the sentence conveys that it is not the case that the target x and the standard y belong to the same category and can be compared in terms of the scale S, which gives rise to ambiguity.

(4) Presupposition: Siberia and Hokkaido are a member of CC_{cold}.
At-issue: ¬[Siberia and Hokkaido ∈ CAT_C ∧ can-be-compared(Siberia, Hokkaido) in terms of the "cold" scale]

(5) Presupposition: Taro and professional players are a member of CC_{strong}.
At-issue: ¬[Taro and professional players ∈ CAT_C ∧ can-be-compared(Taro, professional players) in terms of the "strong" scale]

If *x* and *y* do not belong to the same category, this means that one of them lies outside the category (although they are in the same comparison class). This, in turn, implies that a large gap exists between *x* and *y*. Theoretically, ambiguity arises when either *x* is significantly higher on the scale or *y* is significantly higher. However, contextual information and world knowledge usually resolve this ambiguity. In (1), since Siberia is north of Hokkaido, we obtain a much-more reading, whereas in (2), since Taro is being compared to professional players, we obtain a much-less reading.

Polarity sensitivity: Why is it that the positive statement without *nai* 'not' sounds odd? I consider the positive sentence odd because it violates Grice's (1975) maxim of quantity: Make your contribution as informative as required (for the current purposes of the exchange). If we want to determine the relative relationship, the information that *x* and *y* can be compared is not informative.

Variation of negative comparative expressions: While there are various negative comparative expressions besides *kurabe mono-ni nara-nai*, some of them do not give rise to semantic ambiguity. For example, the English expression *cannot compare* allows only a "much-less" interpretation:

(6) Taro's office cannot compare with the chair professor's office.
(= Taro's office is much smaller than the chair professor's office.)("Much less" reading)

In contrast, Japanese *hi-de-wa nai* has only a "much more" interpretation:

(7) Siberia-no samu-sa-wa Hokkaido-no hi-de-wa nai.
Siberia-GEN cold-NMLZ-TOP Hokkaido-GEN comparison-PRED-TOP NEG
'The cold in Sakhalin cannot be compared to Hokkaido.' (= Siberia is much colder than Hokkaido.) ("Much more" reading)

I will argue that the above conventionality can be explained by assuming that *cannot compare* presupposes that the standard is significantly higher than a contextual standard and *hi-de-wa nai* presupposes that the target is significantly higher than a contextual standard.

Conclusion and discussion: Negative comparative expressions such as *kurabe mono-ni nara-nai* 'cannot compare' indicate that the target and the standard do not belong to the same category and convey a significant difference between them. They differ from explicit emphatic comparative sentences, which are formed by combining an intensified adverb such as *much* with comparative morphology. Numerous studies have examined the meaning and variation of comparative constructions (e.g., Stassen 1985; Beck et al. 2004; Kennedy 2007; Hohaus and Bochnak 2020). However, to the best of my knowledge, this particular type of comparative sentence has not been discussed. This paper argues that natural language exhibits a previously unrecognized type of inequality comparison, namely a subjective, category-based comparison.

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