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Why agent prominence persists even under challenging conditions

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The agent of an event – the one who is performing the action – plays a central role in human cognition and in linguistic structure. Critically, the privileged role of the agent is argued to be a general phenomenon, relevant for all languages. However, in this paper, we zoom in on typological patterns that deviate from the typologically prevalent way of coding agent prominence. We focus on languages in which agents may not be marked as default and on languages that do not exhibit a general preference for placing the agent argument in sentence-initial position, namely Tima (a split ergative language) and Totoli (a language with a symmetrical voice system). Totoli also does not have a preference for linking agents to subject functions. Here we shed new light on how agent prominence is reflected in these typologically diverse languages. Furthermore, by bringing together typological studies, corpus work, and elicitation data, as well as evidence from psycholinguistic and neurophysiological studies, we conclude that agents maintain a privileged status across languages, even if typological features seem to suggest otherwise. More generally, we propose that cross-linguistic comparison – especially considering data from highly diverse languages – offers key insights into which aspects of agent prominence interact with language-specific properties and how a concept of a general agent prominence still remains universally applicable.

1 Introduction

"Who did what to whom?" This question is central to almost any event happening around us. However, most of the time, we are interested in the "who" rather than the "whom". That is, a large body of research shows that the agent of an event (or alternatively the actor or instigator) is privileged in human cognition (e.g., Spelke & Kinzler 2007; Carey 2009/2011; Cohn & Paczynski 2013; Galazka & Nyström 2016). For instance, agents are rapidly recognized in event scenes (Dobel et al. 2007), tend to attract more visual attention than patients (Webb et al. 2010; Cohn & Paczynski 2013), and are already preferentially looked at by young infants (e.g., Johnson 2003; Galazka & Nyström 2016). These findings suggest that the preference for agents is central to human cognition (and maybe even present in our ancestors, the great apes; see, e.g., Wilson et al. 2022). Critically, the privileged role of agents does not seem to be restricted to general cognition but is likewise reflected in the structure of human language (e.g., Greenberg 1963; Dryer 2013; Himmelmann & Primus 2015). For instance, when it comes to linguistic argument structure, it has been claimed that languages universally privilege "agentive arguments over non-agentive ones as a default in the linguistic expression of events" (Himmelmann & Primus 2015: 53; see also, e.g., Bornkessel-Schlesewsky & Schlesewsky 2009; 2016 for related claims). Typologically, this privileged treatment of agents is reflected in a number of ways. In most languages, the highest ranked grammatical function in terms of a syntactic hierarchy (e.g., the grammatical subject in many languages) receives the default case with the weakest marking (i.e., it is usually unmarked) and tends to be interpreted as an agent argument.[1] By contrast, more complex marking tends to be used when an agent interpretation is not applicable to a noun (e.g., Bickel 2011: 4). Furthermore, in most languages, agents tend to be placed first in terms of constituent order, while deviations from this pattern require special contexts (e.g., Dryer 2013; Napoli & Sutton-Spence 2014). For instance, discourse hierarchy may exercise influence on the choice of a construction, in that given arguments are prioritized, and thus combat agent prominence. (In-)animacy may also interfere with other prominence hierarchies.

Nevertheless, taken together, agents seem to hold a special status in linguistic structure, possibly reflecting the prominent role of agents in human cognition (see, e.g., Wilson et al. 2022). Critically, however, while the patterns outlined may hold true for the majority of languages, they do not apply to all languages or to all subsystems therein. Rather, some typological patterns

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[1] Throughout this paper, markedness is understood in terms of the presence or absence of linguistic material. This refers chiefly to morphological marking (we will deal with case marking, focus marking and voice marking on both nominal and verbal forms), but also includes prosodic marking (e.g., tonal marking).

For the sake of clarity, with regard to word order, we avoid using the term *unmarked* and *marked* patterns to refer to those patterns that conform to or deviate from the information-structurally neutral word orders. For these, we reserve the terms *basic* and *non-basic* word orders.

seem to run counter to these observed cross-linguistic tendencies. The goal of the present paper is to take a closer look at these deviations. Such deviations arise, for instance, when the agent argument is not (morphosyntactically) presented in the simplest possible way, when the agent is not linked to the subject function, or when the agent argument does not occur in sentence-initial position. These deviations raise the question of whether and how the privileged role of agents may be realized in typologically diverse languages. Indeed, it has been claimed that "[…] we find evidence for this inherent prominence of agents *in all languages*, regardless of their system(s) of morphosyntactic grammatical relation marking" (Himmelmann & Primus 2015: 48, italics added). More specifically, what has been proposed to be universal is the 'agent-first preference', which is defined as "the preference to place agents before all other roles or to interpret the first argument phrase as the agent in case of ambiguity" (Himmelmann & Primus 2015: 50). Furthermore, it has been argued that the agent is inherently more apt to become the centre of attention (e.g., Cohn & Paczynski 2013; Himmelmann & Primus 2015). Himmelmann & Primus (2015: 42) define 'attentional centre' as the "focalization or concentration of consciousness on one object or train of thought among several simultaneously possible ones" and 'a-centre' as its "linguistic correspondent", meaning that linguistic structures – once conventionalized – come to influence attentional centring. Critically, the proposal entails that – by default – the agent is the centre of attention, a claim that can be tested empirically (e.g., by neuro- and psycholinguistic methods; see, e.g., Himmelmann & Primus 2015: 40). This inherent prominence of the agent argument and the fact that it is the attentional centre is crucial to our understanding of agent prominence in grammar. In this paper, we assume that the agent is inherently prominent in that it receives more attention than other roles without bearing a special coding that makes it more salient. The higher prominence of the agent with respect to other arguments also translates into further phenomena, such as the fact that it tends to be the most accessible entity in discourse, to be referred to by unstressed pronouns or zero forms, to be a good discourse topic, etc. (see von Heusinger & Schumacher 2019 on how prominent entities serve as attractors for grammatical operations). Certainly, as proposed by Himmelmann & Primus (2015), prominence relations are dynamic and the prominence status of an argument may shift. Languages have different ways of signalling these shifts and lending prominence to other arguments. The crucial point here, however, is that agents generally do not need this prominence boosting by means of linguistic marking, as they are inherently prominent.

Although Himmelmann & Primus (2015) do indeed claim that the agent occupies a special status within role relations and linguistic structuring, their original definition of role prominence leaves some space for variability. The critical question is whether the narrower notion of agent prominence is assumed to be the underlying structuring principle or whether role prominence is assumed to be a more general principle that would allow for language-specific variation, i.e., that either every language is governed by the agent prominence principle or that languages that

follow the agent prominence principle represent only a subset of all the existing languages which happen to have been investigated so far.

In this paper, we take the claim of agent prominence as a universal phenomenon pertaining to all languages (see, e.g., Bickel et al. 2015: 4) and put it to the test by adding and discussing new findings from typologically diverse languages. Notably, the goal is not to provide an exhaustive sample representative of the world's languages in order to prove or falsify claims of universality. Rather, we seek to review and incorporate findings from languages with patterns of word order and morphosyntactic marking which seem to run counter to the cross-linguistic tendencies outlined above. For this, we specifically zoom in on two languages: Tima (Niger-Congo, Sudan) and Totoli (Austronesian, Indonesia). Tima makes use of a split ergative system in which the agent argument does not always receive the weakest (morphosyntactic) marking but instead receives a special (ergative) marking. The ergative marking, in turn, goes hand in hand with a transitive construction that does not place the agent first, hence deviating from the typologically prevalent way of coding agent prominence. Other deviating patterns come from Totoli, a language with a symmetrical voice system. Totoli exhibits a basic transitive construction in which the agent is not linked to the syntactic function of the subject by default, hence running counter to typological patterns where the agent argument tends to correspond to the highest grammatical role (namely the subject). Totoli also has basic word order patterns where the agent does not precede the other arguments, providing yet another deviation from typologically dominant patterns.

In the following, we will outline each of these patterns in more detail to yield more clarity on how agent prominence is reflected in these typologically diverse languages. In addition to providing novel examples and acceptability judgements obtained from fieldwork on Tima and Totoli, we take a synoptic approach by combining perspectives that are usually not considered together. To this end, we will review and discuss findings from extant typological studies, corpus work and language elicitation, and, in addition, we will show that the agent prominence account is in line with evidence from pertinent psycholinguistic and neurophysiological research. By targeting the potential universality of agent prominence, our paper speaks to broader questions concerning the interrelation between language and non-linguistic cognition: How is the privileged role of agents captured by the specific features of a language, and how do language-specific properties interact with the general principle of agent prominence? If it can be shown that it is reasonable to assume a general principle of agent prominence even when typological features of a language seem to disfavour such a preference, this would provide some evidence of a potentially universal bias, putatively rooted in human event cognition having evolved to detect agents (see, e.g., Wilson et al. 2022).

To foreshadow some of our key observations: We find evidence in favour of a general prominence of agents in typologically diverse languages. Furthermore, we observe that agent

prominence also reveals itself in areas of grammar that are not usually considered when debating the privileged status of agents. Most centrally, we showcase how a more fine-grained understanding of the agent role improves the study of agent prominence. While an exhaustive definition of the agent role is difficult (if not impossible – see, e.g., Rissman & Majid 2019), a multidimensional role concept, as for instance proposed by Dowty (1991), proves useful for explaining particular phenomena. According to Dowty, two superordinate proto-role concepts, Proto-Agent and Proto-Patient, margin the entire scale of particular semantic roles. They are supposed to be defined by a semantic accumulation of basic role properties (features) that are conceptualized as a limited set of possible role entailments. The sum of all agent role properties defines the upper end of the spectrum, i.e., the Proto-Agent role. Conversely, the sum of all patient role features (Dowty 1991) or, according to Primus (1999), the lack of any agent property, constitutes the Proto-Patient role at the lower end of the scale. Dowty assumes, then, that any predicate semantically entails a particular amount of role features and assigns them to its argument(s) in a compositional way. Depending on its argument structure and its role semantics, a particular predicate allocates more or less Proto-Agent and/or Proto-Patient features to its argument(s). In accordance with the Argument Selection Principle (Dowty 1991: 576), with a two-place predicate (transitive) the argument that is assigned with the largest number of agent features is to be realized as the grammatical subject. Correspondingly, the second argument accumulates a higher number of patient features and will be the direct object. In a nutshell, the Proto-Agent is characterized by features such as volition, causation, sentience and autonomous movement, and is thus defined as the role that accumulates the highest number of consistent Proto-Agent features. Crucially, we present observations that support the claim of agent prominence, as it can be shown that the impact of agentivity on the accessibility of a broad range of sentence structures seems to correlate with the amount of particular Proto-Agent features an argument of the predicate receives. This suggests that these phenomena can be captured in an adequate way by assuming a multidimensional understanding of the agent role and that, in turn, such a multidimensional role concept is appropriate when discussing agent prominence.

The paper is structured as follows. We will first, in Section 2, look at ergative systems by outlining the challenge of ergativity for agent prominence (2.1), and then zoom in more closely on Tima (Niger-Congo, Sudan), a language with a split ergative system (2.2). In the next step, we turn to Totoli (Austronesian, Indonesia), a language with a symmetrical voice system (Section 3) and highlight the challenges this system provides for the proposed agent prominence (3.1). We then discuss and illustrate findings that still speak in favour of agent prominence (3.2). Section 4 reviews recent psycholinguistic and neurophysiological studies, first (4.1) considering languages with split ergative systems in order to relate them to the Tima findings, and second (4.2) languages with symmetrical voice systems that are pertinent to the Totoli data. Finally,

Section 4.3 discusses key issues of agent prominence in detail and points to open questions and future research directions, followed by a brief conclusion (Section 5).

2 Ergative systems

2.1 (Split) ergativity and agent prominence

The first deviation from the typologically prevalent pattern of coding agent prominence comes from ergative languages, of which Tima, discussed in 2.2, serves as an example. Ergative systems differ from nominative-accusative systems in which the sole argument of an intransitive sentence (S) and the agent-like argument (A) of a transitive sentence are assigned the same case (nominative), while the more patient-like argument (O) is marked differently (accusative). By contrast, in an ergative system S and O are coded by the same morphological case (absolutive), while A is assigned a distinct case (ergative).[2] This situation is schematized in **Figure 1**, illustrating accusative and ergative alignment systems.
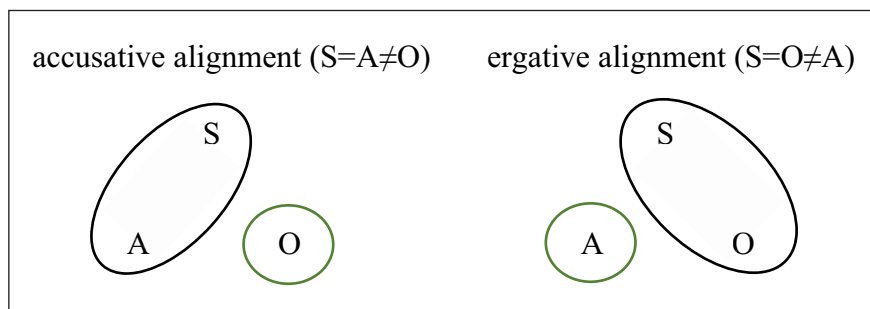

Figure 1: Accusative and ergative alignment.

It should be noted that languages differ in how exactly they express ergative alignment (i.e., how exactly they apply morphological and tonal case marking, verb agreement patterns, etc.; see, e.g., Comrie 2013; Stoll & Bavin 2013). Furthermore, in most ergative languages, the ergative alignment is not exceptionless but rather confined to certain subsystems of grammar. That is, "[m]ost morphologically ergative languages [...] show what is referred to as 'split'

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[2] We use the abbreviations suggested by Dixon (1994: 6, and in earlier publications; see also Dunn & Meakins 2023): S – intransitive subject; A – transitive subject, and O – transitive object. Other authors prefer P instead of O and others again use different capitals (for an overview, see Dixon 1994: 6). For symmetrical voice languages, however, these abbreviations cannot be applied in the same way. The subject and the object of a transitive clause in these languages do not always map to the agent and the patient semantic roles respectively. Both the subject and the object functions may be fulfilled either by an agent or a patient argument. Therefore, the section on symmetrical voice languages (3) will use the abbreviations S and O in strictly syntactic terms (i.e. to refer to subject and object regardless of their semantic role) and A and P to refer to the semantic roles of agent and patient without implying any syntactic function.

ergativity, where different referring expressions (e.g. nouns, pronouns) pattern according to an ergative or accusative system, depending on their person and animacy features […]" (Dunn & Meakins 2023: 217, referring to Australian languages with ergative alignment systems). Such splits may correlate with grammatical conditions, e.g., word order (as is the case in Tima, Niger-Congo) or TAM (as in Gujarati and Hindi, both Indo-Iranian), or by verb type (as with intransitive verbs in Basque, linguistic isolate). Other languages "exhibit 'optional' ergativity where the use of the ergative marker is variable, but its non-use does not affect the grammatical role of A, […]" (Dunn & Meakins 2023: 217).[3] Cross-linguistically, ergative systems of alignment appear to be dispreferred (Nichols 1992; Bickel et al. 2015). For instance, Bickel and colleagues found that most languages in their sample tend to prefer a case system that treats S and A alike (accusative alignment) (Bickel et al. 2015: 2). However, even though rare, ergative alignment seems to entail a different notion of agent prominence compared to nominative alignment (e.g., Dowty 1991). This is because the association between agent and patient roles and grammatical relations (or morphosyntactic marking) has been argued to be reversed in languages with an ergative system (Dowty 1991: 582). That is, languages with an ergative system differ from languages with a nominative/accusative system in how they correlate proto-roles (agent vs. patient) and morphosyntactic marking (or even grammatical relations), resulting in an inverse relationship between the two. Unlike in languages with a nominative/accusative system, ergative systems mark the agents of transitive and intransitive sentences differently and even align the intransitive S with the O (patient) rather than with A. Conversely, the agent of a transitive event (A) receives a special marking which sets it apart from S.[4] Given the opposite directions of correlating agents and morphosyntactic marking, this may result in different interpretations of the agent category in speakers of (split) ergative languages compared to languages with nominative/accusative systems. To illustrate this idea, take language comprehension as an example. Since the grammatical subject in many nominative/accusative languages receives the default case with the weakest marking, speakers commonly tend to interpret such a default or base form as an agent argument (e.g., Bickel et

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[3] We will not discuss in detail the terminology concerning 'split' and 'optional' ergativity. Instead, the interested reader is referred to the recently published typological survey on optional and alternating case marking by Chappell & Verstraete (2019) for further reading on different types of differential case marking; see also McGregor (2010) on a discussion of optional ergative case marking systems.

[4] As has been rightly pointed out by one of the reviewers, "we might expect marking to make something more prominent and therefore expect greater marking on agents to reflect their prominence (as in ergative languages, for example)". As our investigation of Tima revealed, the ergative construction serves two functions. The first is to background the agent and to move the patient into the attentional centre (as discussed in 2.2). Second, as our discourse analysis shows, the ergative construction is the favourite choice in order to re-introduce an agent at the start of a new referential chain after a boundary. In that case, the agent will indeed become prominent further on in discourse. Certain cues and their clustering help to differentiate the two functions (for details see Compensis et al. under review; see also Schneider-Blum et al. 2022).

al. 2015). However, since, in languages with (split) ergative systems, agents receive a special (ergative) case marker but patients receive the default case with the weakest marking, speakers of these languages may be encouraged to interpret unmarked noun phrases as patients, rather than agents (see, e.g., Bickel et al. 2015, for this argument). In other words, the default interpretation of base forms (or unmarked forms) as agents may be attenuated in languages with a (split) ergative system, thereby potentially casting doubt on the notion of agent prominence as defined above.

Although some typological and neurophysiological studies have touched upon the role of ergativity in agent prominence (e.g., de Hoop & Narashimhan 2008; Bickel et al. 2015), it is still far from clear whether and how agent prominence may be realized in languages with such systems. To shed more light on this issue, we will zoom in on Tima, a language with a split ergative system (which we will describe in more detail in the following section). We employ picture-based elicitation to make the agent or patient visually more or less prominent (e.g., by manipulating the affectedness of the patient, by varying animacy, and by occluding the agent so that it is only partly visible). This fine-grained manipulation of agent and patient properties provides insights into how ergative marking is applied in response to agentivity features and likewise offers a test case for whether the notion of agent prominence can be upheld in a language with a (split) ergative system.

2.2 Split ergativity in Tima

Tima, investigated by a number of scholars from Germany and Sudan since 2006 (following a pilot study by Dimmendaal conducted between 2002 and 2004, published in 2009) is one of the three languages of the Katloid group.[5] They belong with greatest probability to the Niger-Congo phylum (Dimmendaal 2018; 2023; for a more doubtful view see Güldemann 2018). Tima makes use of a split ergative system which provides speakers with the option to choose a transitive construction that does (example (1)) or does not (example (2)) place the agent first. In the former case, neither agent nor patient receives any marking, while in the ergative construction in (2), the agent is morphologically marked. This means, in more detail, that we find a homorganic nasal precliticized to the agent noun phrase. The ergative marker $N=$ is homonymous with the nominal instrumental marker in Tima. We follow Casaretto et al. (2020: 119), who argue that "the ergative construction developed from an active construction that introduced a cause by means of the instrumental preposition". (For more details see Section 4.3 in Casaretto et al. 2020.)

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[5] Publications which focus on ergative marking in Tima are: Dimmendaal 2010; Casaretto et al. 2020; Schneider-Blum & Hellwig 2018; Schneider-Blum 2023. The Tima data used in this study were collected by author GSB between 2007 and 2022.

(1)   C-íbóónìn   ám-pùrùúr   ì-ʈúk.
          SG-girl   3PRF-stir   PL-porridge
          A   V   O
          'The girl has stirred the porridge.' (20211226_02)

(2)   Ì-ʈúk   ám-pùrùúr ɲ̀ = c-íbóónìn.[6]
          PL-porridge 3PRF-stir   ERG = SG-girl
          O   V   AERG
          'The girl has stirred the porridge.' (20211226_02)

Example (3) has a preverbal intransitive subject which is not ergative-marked. Under restricted circumstances, the subject of an intransitive clause may also appear after the verb. In this case the intransitive subject is also ergative-marked, but the verb needs to be derived for instrumental marking as well (see example (11)).

(3)   Íídì   àn-tʌ̀ʌn.
          water   3PRF-boil
          S   V
          'The water is boiling.' (22.09.07-123)

Table 1 presents an overview of the marking of arguments in correlation with word order. As will be discussed below, additional word orders (not included in the table) are possible when focus marking is involved.

WORD ORDER	INTRANSITIVE SUBJECT	TRANSITIVE SUBJECT	OBJECT
SV	unmarked	n/a	n/a
VINSS	**marked**	n/a	n/a
AVO	n/a	unmarked	unmarked
OVA	n/a	**marked**	unmarked

Table 1: Marking of arguments.

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[6] Note that we are not dealing with voice alternation. The Tima verbs in both transitive constructions, i.e., constructions according to the ergative and the accusative alignment, are identical and show no sign of passive derivation. Also, Tima does in fact have a verbal passive-marking option, homonymous with and related to causative marking (as shown in Schneider-Blum 2022; Veit 2023). A passive construction in Tima has only one participant, i.e., the undergoer in subject function, and mentioning the agent is not allowed.

    Y-ɛ́ɛ̀h   àɲ-címcím-ə̀k = à = ʈáŋ.
    PL-sorghum   3PRF-gather:RDP-CAUS/PASS = SOUR = LOC3P
    'The sorghum has been gathered.' (20211227_03)

To sum up, ergative marking in Tima closely correlates with word order: whenever the subject is not in sentence-initial position, it is obligatorily marked. In this sense, one may consider Tima as exhibiting split ergativity. Speakers "have a choice whether to present a proposition in the form of, e.g., AVO […] (without case marking of the agent), […], or OVA$_{\text{ERG}}$ (with case marking of the agent) […]. That is, from this perspective, these languages can alternatively be characterized as having optional ergativity […]" (Casaretto et al. 2020: 112). Irrespective of the chosen perspective, the situation poses a potential challenge for agent prominence. First, it involves a deviation from the basic word order AVO (with object-first OVA order) and, second, the agent bears case marking while the patient does not.

Having reviewed the marking options of nominal arguments, specifically of S/A and O, we will now take a look at the verb. In general, the verb carries information referring to the main arguments. This consists, to begin with, of a prefix which shows agreement in number and person for S/A. In the case of the third person singular vs. plural, this prefix is not differentiated, however. That is, if both A and O are third person, as in (1) and (2), the assignment of the prefix *ám-* to the argument in either preverbal or postverbal position can only be made by analogy with examples with 1st or 2nd person participants, as here it becomes clear which argument is cross-referenced on the verb. Consider examples (4a) and (4b), the former illustrating an unmarked construction, the latter an ergative construction. We not only find the prefix *cém-* indexing 1SG agent in both sentences, but also the non-ergative pronominal enclitic *=dá* in (4a) and the ergative pronominal enclitic *=ná* in (4b) cross-referencing the agent as well. For third person subjects, no such enclitic exists. If appropriate, third person pronouns for 3SG and 3PL are used. These pronouns and proper names behave like nouns with regard to ergative marking. Pronominals referring to 1SG, 2SG, 1PL (INCL/EXCL) and 2PL are instead encliticized to the verb. Due to syncretism, the difference between ergative and non-ergative encliticized forms is only recognizable with 1SG (see Dimmendaal 2010: 235), as in (4).

(4)   a.   Cém-pàràà!áŋ=ꞌdá   kì`ráŋ.
            1SG:PRF-clean:SOUR:LOC3P=1SG   SG:field
            V=A   O
            'I've cleaned the field (it is clean now)' (20180130_22)

      b.   Kìꞌráŋ   cém-pàràà!àŋ=ná.
            SG:field   1SG:PRF-clean:SOUR:LOC3P=ERG1SG
            O   V=Aerg
            'I've cleaned the field (it is clean now)' (20180130_22)

Under the circumstances described, the question arises as to whether the agent in Tima is still more prominent than other arguments, as claimed above. To be able to answer this question, we first searched comparable Tima data sets regarding the frequency of constructions and the conditions

of their occurrence. The data taken into consideration comes partly from text recordings, partly from the usage of photo stimuli, and partly from utterances we elicited with the help of the questionnaire on information structure developed by Skopeteas et al. (2006), especially Task 3 (described on page 39ff. of the manual). Several variables, such as the givenness, animacy and identifiability of the agent, are considered to provide insights into the choice of construction.

The following observations let us speak in favour of agent prominence. First of all, transitive sentences in elicitation contexts almost exclusively have AVO word order. We considered 100 sentences elicited with picture stimuli (source: Skopeteas et al. 2006, Task 1), as well as photos taken in the Tima area, all displaying transitive events, e.g., the stimulus used for example (7), or photos like the one used as a stimulus for (5). Of these stimuli, 98 were described with clauses having AVO(Obl) word order, whereas only two have OVAerg word order (see example (13) as one of these two). (These results resemble the proportions between the many sentences elicited through translation, which we did not include in this context to avoid false numbers regarding the basic word order when counting translation equivalents.)

Furthermore, and most decisively, interpreting the first of two participants of a Tima sentence as the patient is not possible when both participants are unmarked. Not surprisingly, the first-mentioned participant is interpreted as A when O is lower on the animacy hierarchy than A, as in (5); *ìɽínkìk* 'sorghum beer' as the agent is, of course, also pragmatically excluded.

 Stimulus for (5)

(5)   C-ídʌ́kɔ̀ɔ́=lì   mɔ́ɔ̀k   ìɽínkìk   ɲ=k-ɔ̀lbíl.
SG-person=FOC.SG   drink   sorghum.beer   INS=SG-bowl
A   V   O   Obl
'The *person* is drinking sorghum beer out of a bowl.' (20190207_03)

Consider then (6) with two human participants, a 'woman' and a 'man', either of whom could pragmatically be A or O. However, the only possible correct reading is that 'the woman has hit the man', thus following an agent-first interpretation.

(6)   K-ʌhúnén   á-hɔ́ɔ́   wɔ̀ɽʈɔ́máádɔ̀h.
SG-woman   3PRF-hit   SG:man
A   V   O
'The woman has hit the man. (*The man has hit the woman.)' (28.01.07-22a.wav)

As these examples illustrate, word order is decisive concerning the interpretation of participants as agent vs. patient. Thus, we are dealing here with a case of word order freezing which, as described by Himmelmann & Primus (2015: 52), "[…] refers to the fact that in the absence of other clues (such as case, agreement, animacy, and context/intonation), it is the word order which straightforwardly determines the interpretation of verbal arguments in an ambiguous sentence". This concerns comprehension, as exemplified with (6), but also sentence production, as demonstrated by elicitation work with picture stimuli, exemplified in (7).

STIMULUS FOR (7)[7]

(7) Cí'bʌ́ kúúnèn=lì ú-kúhùr-ì-ìŋ cí'bʌ́ kɔ́-máá'dɔ́h á=tʊ̀ʔàŋ.
     child SG:female=FOC.SG P-push-TR-VENT child SG-male SOUR=high
     A V O OBL

'A *girl* pushed a boy down.' (lit.: 'a *female child* pushed a male child from high';
* 'A boy pushed a girl down.') (20190212_05)

Crucially, when the A argument is prominent in a number of different dimensions, including having features of proto-agentivity (such as being highly agentive, animate), speakers select the non-ergative construction, thus displaying an agent-first bias. That is, if shown picture stimuli with an identifiable A acting on O, it is exclusively the AVO construction that is chosen. This holds true when both A and O are animate, as in (7), and thus of "equal rank in animacy" (Himmelmann & Primus 2015: 52), and also when A ranks higher on the animacy hierarchy, as in (5).

To sum up briefly and concisely, the AVO construction in Tima is considered basic when taking into account frequency of word order in elicitation contexts, including having a default and exclusively agent-first interpretation with unmarked A and O.

By contrast, if we look at longer chunks of discourse, the picture that emerges regarding the frequency of word order is less clear. In ten narratives consisting of 851 clauses, we find 344 transitive clauses; see **Table 2** for an overview of intransitive and transitive clauses, including information about the overtness of S/A and P arguments. Note that the ergative argument needs to be overtly expressed, i.e., it cannot be reduced to zero as is possible with other arguments in

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[7] The stimuli for (7), (8), and (9) originate from Skopeteas et al. (2006).

Tima (non-ergative-marked S/A, O, BEN or INS). As we can see in **Table 2**, still more than half (54%) of the A arguments are not overt. By comparison, 38% of the P arguments are covert. Conversely, we find only 46% overt A arguments in transitive clauses, but 62% overt P arguments.

		S/A OVERT	S/A ZERO	P OVERT	P ZERO
all clauses	851	463	388	212	132
intransitive clauses (incl. imperatives)	507	306	201		
transitive clauses (incl. imperatives)	344	157	187	212	132

Table 2: Overt vs. covert S/A/P.

The transitive clauses are those that are relevant if we want to compare how many clauses exhibit AVO word order as opposed to OVAERG word order. Since, depending on the context, Tima allows for zero S/A and O, only 157 out of 344 clauses have an overt A argument realized as a full noun phrase or a pronoun. Of these 157 overt A arguments, 91 are preverbal A arguments as opposed to 66 postverbal AERG arguments. That is, roughly 42% of the transitive clauses with overt A have the ergative construction. Considering all transitive clauses (i.e., including those with zero A), the ergative construction occurs in 19% of the clauses. While an evaluation of the conditioning factors of this distribution is still pending, our findings from stimulus-based work reveal several factors playing a role in determining which word order is preferred. One of them is illustrated in (8), in which the same event as in (7) is described but by using the OVAERG construction instead of the AVO construction. The contextual difference lies in the identifiability of the agent (compare the stimulus pictures). While the human stimulus agent is uniquely identifiable in (7), in (8) it is backgrounded, to the effect that one cannot identify the agent.

STIMULUS FOR (8)

(8) Kɨ̀címbɐ́rí=lí   ú-kùhùr-í-íŋ   ɲ̀=cí⁺dʌ́kɔ́ɔ́   á=tʊ̀ʔàŋ, …
    small.child=FOC.SG   P-push-TR-VENT   ERG=person   SOUR=high
    O   V   AERG   OBL
    'Somebody pushed a *small child*, …' (20190212_05)

The same construction occurred when the speaker was asked to describe photos taken in the area in which the agent was not entirely visible or recognizable; compare, for instance, example (9), with OVAᴇʀɢOʙʟ word order, to example (5) above, displaying AVOOʙʟ word order.

ꜱᴛɪᴍᴜʟᴜꜱ ꜰᴏʀ (9)

(9) K-ɔ̀lbíl=lí   ŋánʌ̀ʌ̀k ɲ̀=cídʌ́kɔ̀ɔ́   ì=yʌ̀-dʌ̀wún   ìɽ́ínkɪ̀k=yáŋ.
     ꜱɢ-bowl=ꜰᴏᴄ.ꜱɢ hold:ᴀᴘ ᴇʀɢ=person ᴅɪʀ=ʟᴏᴄ-hand sorghum.beer=ʟᴏᴄ3ᴘ
     O   V   Aᴇʀɢ   Oʙʟ
     'Somebody holds a *bowl* with sorghum beer in his hands.' (20190207_03)

Thus, while AVO is chosen if the agent is clearly identifiable, word order (together with ergative case marking) changes as a function of this property. Once the agent is no longer identifiable (or if it is backgrounded), the OVAᴇʀɢ construction is chosen to reflect the increased prominence of O as opposed to A. In other words, and more generally speaking, AVO (in line with an agent-first preference) seems to be used as the default, while OVAᴇʀɢ is used to accommodate the fact that O becomes more prominent than A.

In addition to the simple AVO and OVAᴇʀɢ constructions, the stimulus-based work brought forth a third option for coding a transitive event, i.e., the decomposition of the event into two (or more) sub-events, as illustrated with (10) and (11). This option is chosen when the agent is inanimate/non-human while the patient is human, i.e., when the agent is lower on the animacy scale but when both participants are identifiable. The human patient is mentioned first in an intransitive clause and is thereby made the attentional centre, and then the agent is introduced in the following clause as an ergative-marked participant. Thus, if A is inherently less and O inherently more agentive, the speaker tends to, but does not necessarily have to, choose O as the more prominent argument.

ꜱᴛɪᴍᴜʟᴜꜱ ꜰᴏʀ (10)

(10) Cí⁺bʌ́ kúúnén   nà   cíbʌ̀ kɘ̀-máádɘ̀h ɲ̀cɛ̀-n-dúwà   í-hɛ́bùk ɘ̀=pàrnà;
      child ꜱɢ:female with child ꜱɢ-male   3ɪᴘꜰᴠ-ᴘ-stand ᴘʟ-chat ᴅɪʀ=wild

      ŋ̀kɔ̀   díyʌ́ŋ-áá   ɲ̀=kúú nà   kúrááŋ;
      ᴄᴏᴘ.ꜱɢ go:ᴠᴇɴᴛ-ɪɴꜱ ᴇʀɢ=dog with cat

ə-ʈəlúmʈík-áá   ìhìnʌ́,   kúú ə-kálə́m cìbʌ=nʌ   kúúnén=í
P-surprise:CAUS-INS PRON3PL dog P-bite   child=DEM.PROX SG:female=SEL

wʌ kúràáŋ ə-kálə́m cìbʌ=nʌ   kə́-máádə́h=í.
and cat   P- bite   child=DEM.PROX SG-male=SEL

'A girl (lit. female child) and a boy (lit. male child) were standing in a wide place chatting; (that's why) a dog came and a cat; they surprised them, the dog bit the girl and the cat bit the boy.' (20170108_31)

Note that in almost all responses to stimuli with human patients and non-human agents, the patient is not overtly expressed in the later transitive construction. Thus, (11) is a more typical example of non-prominent agents. We reflect the fact that P is not overt by bracketing the pronoun 'him' in the English translation, and regard the expression of P with zero as indicating the attentional prominence of P. The overtness of P in (10) may thus be due to the fact that two agents as well as two patients are contrasted. Further research needs to be carried out before a final verdict can be made.

Note also that in Tima, any causer, be they animate or inanimate, can easily take the agent role. Thus, language-specifically, causation is one of the main features mentioned by Dowty (1991) that is used to build up agency. Sentences like 'the knife cut me' or 'the rope/stone downed me' are common in Tima.

 STIMULUS FOR (11)

(11)   Cí'dʌ́kɔ́ɔ́='lí   hə́làk   ìnʌ́hì,   ŋ̀kɔ̀
       person family=FOC.SG   stay:AP on.ground COP
       S   V   OBL

       kí'dík-íŋ-áá=yáŋ   ŋ̀=gàzáázá á=tʊ̀ʔàŋ,   púú-yáá ì=yáàh.
       fall-VENT-INS=LOC3P ERG=bottle SOUR=high hit-INS   DIR=LOC:head
       V INS   S ERG   OBL   V   OBL

       '*Somebody* is sitting on the ground, when a bottle fell down on him hitting (him) on the head.' (20190212_05)

It is worth mentioning that information structure also plays a role with regard to sentence structure in Tima. Specifically, as shown by Schneider-Blum (2023: 105), "[t]he information structural notion of givenness interacts with the two parameters of agent-identifiability and animacy". In an elicitation context involving two subsequently presented pictures with either A or P shown in the first picture, we find that given A always leads to the AVO construction in the following clause, while the connection between given P and OVA ERG word order is less tight (see

Schneider-Blum & Hellwig 2018; Schneider-Blum 2023). This latter, unclear correlation of given P with the ergative construction can be explained in terms of the assumptions speakers make. When being confronted with the first picture, they assign prominence to the only participant, i.e., they make it the attentional centre. Prominence is associated with agency. When, in the second picture, this same participant turns out to be not A but P, the speakers are caught in conflict: Should they keep their focus of attention on the previously established participant (now P), or should they make the newly presented A more prominent? Thus, the speaker has to choose between given prominence and inherent A prominence and the choice results in the two different constructions. Preliminary results (see Schneider-Blum 2023: 99) show that given P leads more often than not to an ergative construction (out of 35 second clauses, 25 have a postverbal ergative-marked agent, while 10 have AVO word order).

To put it concisely, in Tima, the sentence-initial position is reserved for the most prominent / prominent-made participant (labelled as 'topical constituent' in Casaretto et al. 2020, and as 'attentional centre' in Schneider-Blum 2023). The prominence of O correlates, as described, with the alternation of the constituent order from AVO to OVAᴇʀɢ.

Taking focus marking into account, further alternations (which we show in turn) are possible, namely AꜰᴏᴄVO, AOꜰᴏᴄV, OꜰᴏᴄVAᴇʀɢ and OAᴇʀɢ.ꜰᴏᴄV. In a nutshell, focus marking always occurs after wh-questions, be they explicit or assumed by the speaker, as well as in correction contexts (see Becker & Schneider-Blum 2020). Like ergative marking, focus marking also interacts with word order in that a focus-marked constituent is invariably in the preverbal position, although it is not necessarily sentence-initial. With regard to AꜰᴏᴄVO, then, A is maximally prominent, since it is not only the attentional centre but additionally receives focus marking, thereby highlighting A (see example (7) above). With AOꜰᴏᴄV, as displayed in (12), A also occupies the a-centre, but O is relatively more prominent due to focus marking than it would be without focus marking in AVO order.

sᴛɪᴍᴜʟᴜs ꜰᴏʀ (12)

(12) Kλhúnén = ꜜnʌ́   túpúk = ꜜnʌ́   ìhɔ̀nɔ́k = ɛ́   ú-kɔ́ɽɔ̀m.
     woman = ᴅᴇᴍ.ᴘʀᴏx   bow:ᴄᴀᴜs = ᴅᴇᴍ.ᴘʀᴏx   sesame = ꜰᴏᴄ.ᴘʟ   P-cut
     A   Oꜰᴏᴄ   V
     'This bent-over standing woman is cutting *sesame*.' (20190207_07)

Considering OFOCVAERG worder, as exemplified with (13), we find O maximally prominent, being in the a-centre and focus-marked. Answering the question 'What do you see?', the speaker assigned the 'roof' more prominence than the agent, correlating with the former being visually foregrounded, i.e., more prominent, than the agent (although the agent is identifiable). The visual foregrounding of O thus goes together with the linguistic foregrounding of O. This is a good example to show that the speaker does indeed have a choice regarding who/what to assign (more) prominence to and that the form of the utterance is based on the speaker's assessment of the situation.

 STIMULUS FOR (13)

(13) Dɔ́lá   ú = kúdùŋkúdúŋ = ꜛlí   ú-kɔ̀yɔ̀   ɲ̀ = kìbὲέy = ꜛná.
     roof   DIR = granary = FOC.SG   P-make   ERG = person = DEM.PROX
     OFOC   V   AERG
     'This person is making the *roof a granary*.' (20190207_06)

The most complex situation is found with OAERG.FOCV, as in (14), since ergative-marked A additionally receives focus marking. In that case, the rule that focus-marked constituents have to be preverbal overrides the default rule that ergative-marked constituents occur postverbally.

(14) Cìbóónín   ɲ̀ = kóló = ꜛwʎ   kʎlúk.
     girl   ERG = shame = FOC   eat
     O   AERG.FOC   V
     'The girl is ashamed.' (literal translation: '*shame* eats the girl') (06.04.09_05-15)

To sum up: The ergative construction makes a shift in prominence from A to O possible. Focus marking of a constituent contributes to its prominence status and allows for a more fine-grained scaling of prominence. The Tima data definitely show that prominence cannot be equated to focus-marking or contrast, because both inherently prominent (considering the animacy hierarchy, for example) and less-prominent entities can receive focus marking, suggesting that these parameters can be dissociated. The close connection between word order and ergative marking does not allow us to assign the triggering factors to one or the other, i.e., we must necessarily relate the conditions to both marking strategies. Information structural factors do have an influence on whether or not to choose the ergative construction. Thus, the findings for Tima are in line with the generalization made by Dunn & Meakins (2023: 224) that "all optional ergative languages have in common […] the interaction of information structure and the (non) appearance of ergative marking".

The examples showed that the (visual) backgrounding of the agent as well as an agent's lower animacy status and the givenness of the patient run counter to the expectation of the agent being mentioned first. Nevertheless, even for Tima we argue that these are explainable deviations from the default. Consequently, Tima appears to adhere to the cross-linguistic principle in that agents tend to be placed first (under the condition that they exhibit certain Proto-Agent features, of which animacy is but one, and that discourse factors are minimalized), while deviations from this pattern arise under special contexts (e.g., Dryer 2013; Napoli & Sutton-Spence 2014). When comparing the frequency of occurrences of AVO word order and OVAERG constructions in elicitation contexts as opposed to occurrences in narratives, this points in the same direction, i.e., the need for special conditions that lead to the use of the ergative construction.

3 Totoli and other symmetrical voice systems
3.1 Symmetrical voice systems and agent prominence

The second challenge to the cross-linguistic validity of agent prominence is illustrated by means of Totoli (Western Austronesian, Indonesia), a language with a symmetrical voice system. Symmetrical voice (also known in the literature as Austronesian alignment or the Philippine focus system) is specific to a number of western Austronesian languages, including languages from Indonesia, the Philippines, Taiwan and Madagascar (Himmelmann 2005; Riesberg 2014; Chen & McDonnell 2019). These languages exhibit at least two different voices, called here actor voice and undergoer voice, which are equally transitive and equally morphologically marked on the verb.[8] As illustrated in example (15a) from Totoli, in the actor voice, the subject has the semantic role of actor, whereas the other core argument (the non-subject) has the semantic role of undergoer. The undergoer voice, exemplified in (15b), shows the opposite alignment: the subject function is assigned to the undergoer argument, whereas the non-subject argument has the role of actor. Each voice predicate is obligatorily marked by a different set of voice-mood affixes: in the examples at hand, the actor voice is marked by the actor-voice prefix *noN-* and the undergoer voice construction is marked by the prefix *ni-*. These affixes mark voice and mood at the same time. That is, each voice can come in two different moods (realis and non-realis). This can be represented in the paradigm in **Table 3**. The same table shows that Totoli exhibits two different undergoer voices (called here UV1 and UV2). Lexical roots are determined for one or the other and there does not seem to be a semantic difference between the two.

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[8] Following a large body of literature on symmetrical voice, we use the term *undergoer voice* to subsume all voices in which different types of patient-like roles are the subject of the construction. *Undergoer* thus includes, for instance, patients, themes and beneficiaries. Some languages (e.g., Philippine languages) exhibit different undergoer voices for different semantic types of undergoers, but not all symmetrical voice languages do so (for instance, Totoli).

(15)   Totoli

    a.   Jui   nomotak   niug.
         Jui   noN-botak   niug
         PN   AV.RLS-split coconut
         A   V   P
         S   V   O
         'Jui split a/the coconut.' (UV_RLS_IRR_for_APPL_verbs.004)

    b.   Niug   ana   nibotak   Jui.
         niug   ana   ni-botak   Jui
         coconut MED RLS.UV-split PN
         P   V   A
         S   V   O
         'Jui sliced that coconut.' (UV_RLS_IRR_for_APPL_verbs.004)

	NON-REALIS	REALIS
ACTOR VOICE	*mo-/mog-/moN-*	*no-/nog-/noN-*
UNDERGOER VOICE 1	*Ø (bare root)*	*ni-*
UNDERGOER VOICE 2	*-i*	*ni- -an*

Table 3: Totoli voice-mood paradigm for dynamic verbs.

The symmetrical voice system differs significantly from the (asymmetrical) voice system found in European languages and many other languages of the world in three main regards.[9] First, the two systems differ with regard to transitivity. In an active-passive alternation like the one in (16), the active construction is transitive (it has the two core arguments *the coconut* and *Jui*), while the passive construction is intransitive (the agent is oblique and, moreover, can be omitted). By contrast, as shown in (15), both the actor and the undergoer voice are transitive; i.e., both *Jui* and *the coconut* are core arguments in (15a), as well as in (15b). Second, asymmetrical and symmetrical systems differ with regard to morphological marking. The English active-passive alternation in (16) is asymmetrical in that the active verb is morphologically unmarked, whereas the passive verb is marked with the verb *be* and the past participle form. In contrast, both constructions in (15a) and (15b) are marked for voice: the actor voice predicate is marked with the actor voice prefix *noN-* and the undergoer voice predicate takes the undergoer voice prefix *ni-*.

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[9] While this discussion is focused on the difference between symmetrical alternations and active/passive alternations, we also consider symmetrical alternations to be different from active/antipassive alternations. For a detailed argumentation against an ergative analysis of symmetrical voice languages, see Section 2.6.2. in Riesberg (2014).

(16)   English
      a.   Jui split the coconut.
      b.   The coconut was split by Jui.

Third, and most importantly for the current argumentation, asymmetrical and symmetrical voice alternations differ with respect to usage. In languages like English, the use of a passive construction is not a neutral choice: passive voices are typically less frequent than active voices and are used only under certain conditions (for instance, when the undergoer argument has a lower information value or a higher level of activation than the actor; see, e.g., Biber et al. 1999: 938–943). Otherwise, when actor and undergoer are equal with regard to the relevant parameters at a specific point in discourse (e.g., animacy, topicality, givenness, etc.), there is a default preference for the active construction. This is a case in point for the higher prominence status of the agent with regard to the patient (or any other role), as the least morphologically marked and most frequent construction is the one which assigns the subject function to the agent.

In symmetrical voice languages, by contrast, there is no such distribution between actor and undergoer voices. Neither of the two voices is more basic or less marked than the other: that is, both are equally morphologically marked on the verb and identical in terms of transitivity (no argument is demoted). In terms of frequency, symmetrical alternations also contrast with asymmetrical alternations because constructions in which the agent is subject are not significantly more frequent than constructions with undergoer subjects. In fact, in Totoli, the corpus frequency of undergoer voice constructions (70%) is higher than for the actor voice (30%), and this holds true across different genres and text types.[10] Similar distributions are reported also for a corpus of Tondano (North Sulawesi, Indonesia; Brickell 2014). In corpora of other symmetrical voice languages, the percentages of actor and undergoer voices are often relatively close to a 50/50 distribution (see Pastika 1999 for Balinese, Quick 2005 for Pendau and McDonnell 2016 for Besemah).

Languages with symmetrical voice systems deviate from the notion of agent prominence in that there is no default syntactic alignment of agents with the subject function. Transitive constructions in which the undergoer argument is linked to the subject function (i.e., an undergoer voice) are as morphologically marked and as frequent or even more frequent than those with an actor voice.

This also has consequences with respect to the agent-first principle. As mentioned above, if agents had a prominent syntactic status, one would not only expect them to be linked to the most prominent syntactic function (i.e., the subject) but also for them to occur in the most prominent position within the sentence (i.e., clause-initially). These two predictions align in languages

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[10] This corpus contains 27 texts (2:50h of speech) recorded between 2006 and 2018, partially collected by author MB. MB was also involved in the annotation of the corpus.

which tend to link agents to the subject function and exhibit a basic word order pattern in which the subject precedes all other arguments. However, in symmetrical voice languages, a subject-initial word order does not always imply an agent-initial word order and vice versa. As can be seen in the undergoer voice in (15b) above, PVA orders are allowed in Totoli. In fact, Riesberg et al. (2019: 528–539) show that it is also common for other symmetrical voice languages to allow for both basic word order patterns, those in which agents precede patients and those in which patients precede agents. In this regard, then, symmetrical voice languages also seem to violate the agent-first principle.

3.2 Agent prominence persists, even in symmetrical voice systems

Totoli and other symmetrical voice languages thus seem to be in confrontation with the universality of agent prominence. They do not link the subject function to agent arguments by default and they exhibit basic word order patterns that do not follow the agent-first principle. Nevertheless, this does not necessarily entail that agent prominence does not play a role in the organization of the grammar of such languages. The hypothesis put forward by Himmelmann & Primus (2015) and Riesberg & Primus (2015) that agents will receive more prominence than other semantic roles in linguistic structures does not dictate how this prominence is linguistically realized. That is, there can be variation in the way in which languages conventionalize agent prominence in grammar. First, the hypothesis does not imply that the linking of semantic roles to syntactic functions is the only area of grammar where the prominence of the agent is made visible. And second, it does not imply that the linking of semantic roles to syntactic functions always responds to the semantic hierarchical ordering of the arguments. This is made particularly explicit in Riesberg & Primus (2015: 552), who note that "the linking of the privileged syntactic argument (PSA) to patient does not predict that the grammar of the respective language is patient-oriented" and that "systems of grammatical relations reflect a number of different factors, of which position on the semantic role hierarchy – or, as we would rather have it, agent prominence – is but one".

In fact, symmetrical voice languages provide evidence for agent prominence beyond the alignment of semantic roles and syntactic functions. In the following, we support this argumentation with our own data which illustrate two distinct morphosyntactic phenomena in Totoli: word order variation (3.2.1) and causative and limited control morphology (3.2.2).

3.2.1 Evidence from word order

As mentioned above, Totoli exhibits both agent-first word order patterns and patterns in which the agent does not precede the other core arguments. This is exemplified in the constructions in (17). These two patterns are available both in the actor voice and in the undergoer voice. In one of the patterns, the subject precedes the verbal phrase, as shown in the actor voice in (17a) and in the undergoer voice in (17c). In the other pattern, exemplified by (17b) and (17d), the

subject follows the verbal predicate and the non-subject argument. The language thus exhibits two agent-first orderings (the SVO actor voice construction in (17a) and the VOS undergoer voice construction in (17d)) and two non-agent-first orders (the VOS actor voice construction in (17b) and the SVO undergoer voice construction in (17c)). This is summarized in **Table 4**. An important aspect here is that both orders in each of the voices are *basic* word orders in the sense that they do not seem to give any particular information-structural emphasis to any of the constituents and are realized in a neutral prosodic pattern.

(17)   Totoli

    a.   ACTOR VOICE

       I   Hasna no-boli gula   elam.

       HON PN   AV-buy sugar red

             A   V   P

             S   V   O

       'Hasna bought red sugar.' (word order.002)

    b.   ACTOR VOICE

       No-boli gula   elam i   Hasna.

       AV-buy sugar red   HON PN

       V   P   A

       V   O   S

       'Hasna bought red sugar.' (constructed)

    c.   UNDERGOER VOICE

       Alpukat   googooti   tau.

       alpukat   RDP2-goot-i   tau

       avocado RDP2-carry-UV2 person

       P   V   A

       S   V   O

       'The person is carrying avocados.' (RDP2.006)

    d.   UNDERGOER VOICE

       Googooti   tau   alpukat.

       RDP2-goot-i   tau   alpukat

       RDP2-carry-UV2 person avocado

       V   A   P

       V   O   S

       'The person is carrying avocados.' (RDP2.006)

However, despite agent-first and non-agent-first orders being possible, there is evidence in the language that the agent-initial one seems to be preferred. First, in Totoli this preference is

observed in the corpus frequency of each word order. In the corpus of Totoli, of a total of 322 transitive clauses, 71% of all actor voice constructions have an SVO order (thus AVP) and only 29% are VOS (i.e., VPA). By contrast, 75% of the undergoer voice constructions exhibit a VOS word order (i.e., VAP) and only 25% of the undergoer voice clauses have an SVO (i.e., PVA) order. That is, regardless of voice, speakers tend to produce agent-first orders. Importantly, in addressing the proportions of non-agent-first word orders, Riesberg et al. (under review) show that the choice between the different word order patterns in the undergoer voice seems to be influenced by the relative prominence status of the patient (subject) and the agent (object). That is, as shown for Tima, it is not only the (lack of) agentivity but also other properties of the arguments (such as animacy, humanness, topicality and argument realization) that may play a role in the ordering of the patient and the agent.

	AGENT-FIRST WORD ORDERS	NON-AGENT-FIRST WORD ORDERS
ACTOR VOICE	**agent** verb patient	verb patient **agent**
	S V O	V O S
UNDERGOER VOICE	verb **agent** patient	patient verb **agent**
	V O S	S V O

Table 4: Totoli basic word orders.

Besides voice-marked constructions, further evidence for an agent-first preference comes from nominalization constructions. Nominalized forms are not marked for voice and show both verbal and nominal characteristics. Just like voice-marked predicates, they can take arguments but, unlike in verbal forms, none of the arguments is marked as subject. Given the lack of a subject, these constructions take neither the actor nor the patient as a pivot. However, even in this case we observe an agent bias, as the order of arguments in a nominalization seems to be fixed and only allows the agent to precede the patient. While Riesberg et al. (2019: 539) report this for Philippine languages, there is no claim so far with regard to languages from Indonesia. In Indonesian languages, the arguments of nominalizations are realized differently from those in Philippine languages, as the latter are marked for case and the former are not (see Bardají 2024). The Totoli data that we elicited, however, suggests that an agent-first bias in the ordering of arguments in a nominalization also holds for Indonesian languages. Consider, for instance, the Totoli nominalization *ponnipu* 'the harvest' in (18a), where the agent *i amangku* 'my father' precedes the patient *cingkeh* 'cloves'. Example (18b) shows that if the noun phrase *i amangku* is placed after the undergoer, it is no longer interpreted as the agent but as the possessor of the undergoer argument (i.e., 'my father's cloves').

(18) Totoli

a. Bulan januari waktu ponnipu i amangku cingkeh.
bulan januari waktu poN-RDP1-tipu i amang=ku cingkeh
month January time NMZ-RDP1-pick HON father=1SG.GEN clove
    V(nominalized) A P
'January is the time for my father's harvest of cloves.' (Nominalisations.05)

b. Bulan januari waktu ponnipu cingkeh i amangku.
bulan januari waktu poN-RDP1-tipu cingkeh i amang=ku
month January time NMZ-RDP1-pick clove HON father=1SG.GEN
    V(nominalized) P possessor
'January is the time for the harvest of my father's cloves.' (Nominalisations.05)

The data from Totoli can be supported by similar findings reported in studies on other western Austronesian languages which suggest that our argumentation can be generalized to the whole group of western Austronesian symmetrical voice languages. Riesberg et al. (2019) show that variation in the word order patterns of western Austronesian symmetrical voice languages reveals an agent-first bias. That is, whenever languages allow for word orders that deviate from the common or basic patterns described above, the agent argument precedes the other semantic roles. Importantly, the review does not find any innovation in the languages in the sample that results in an undergoer-first order. For instance, languages might reduce the number of basic orders by forbidding actor voice orders in which the agent does not come first. Alternatively, languages might develop new word order patterns. This results in different innovations: for example, a VSO order in the actor voice (=VAP), as exemplified in (19), or an obligatory cross-referencing of sentence-final agents right after the verb (i.e., *le* '3PL'), as shown in (20). Crucially, regardless of the strategy used, in all innovated orders the agent precedes the patient.

(19) Kelabit (as cited in Riesberg et al. 2019: 538)
Ne-kuman la'ih sineh buaq kaber.
PFV-AV:eat man DEM fruit pineapple
V A P
V S O
'The man ate pineapple.' (Hemmings 2016: 448)

(20) Tboli (as cited in Riesberg et al. 2019: 532)
Smakay le ówóng yó kem ngà.
<m>sakay le ówóng yó kem ngà
<AV>ride 3PL aeroplane that PL child
V A P A
V O S
'The children rode (in) that aeroplane.' (Forsberg 1992: 63)

Further evidence in this line pertains to experimental studies in Tagalog. In this language, an agent-first preference was observed in a series of sentence production experiments by Sauppe and colleagues (2013) and Garcia and colleagues (2018). Sauppe and colleagues (2013) show that the preferred construction for adult speakers of Tagalog is the undergoer voice agent-initial word order (VAP). In addition, Garcia and colleagues (2018) report that, while adult speakers only show an agent-initial preference in the undergoer voice, children prefer agent-initial sentences in both undergoer and actor voice constructions.

3.2.2 Limited control and causative morphology

The second feature that supports our overall argumentation for agent prominence in symmetrical voice languages relates to the way in which Totoli marks two Proto-Agent properties on verbal predicates: control and causation. This piece of evidence has already been pointed out by Riesberg & Primus (2015), but this section expands on their ideas and observations with new elicited data (especially with regard to the formation of causatives). The claims on limited control most probably also hold for most western Austronesian languages (see Dell 1983; Himmelmann 2004; Bardají et al. 2022). However, it still remains to be investigated whether the facts that concern the expression of causation in Totoli can also be generalized to the whole group of western Austronesian languages.

Totoli makes a morphological distinction within dynamic predicates between events that are unspecified with regard to control and events in which the agent argument lacks full control over the unfolding of the situation (see Bardají et al. 2022 for further details). This difference is morphologically marked on the verbal predicate: the two types of predicates are marked by a different set of voice-mood affixes. Events unspecified for control are marked by dynamic voice morphology, whereas limited control events are affixed by so-called *potentive* morphology (glossed as POT). This is exemplified by the actor voice constructions in (21), formed with the root *bagu'* 'hit'. In (21a), the verb is marked by the dynamic actor voice prefix *noN-* and is therefore unspecified for control. By contrast, in (21b), the root *bagu'* takes the potentive prefix *no-ko-* and the resulting predicate expresses an action performed with limited control, in this case, the event in which the subject accidentally hits the Haji.

(21)   Totoli
    a. Isia namagu'   i   aku.
        Isia noN-bagu'   i   aku
        3SG AV.RLS-hit HON 1SG
        'She hit me.' (paradigms_IRR_RLS_AV_UV.002)

    b. Isia nakabagu'   i   haji.
        Isia **no-ko-**bagu'   i   haji.
        3SG **AV.RLS-POT-**hit HON Haji
        'She accidentally hit the Haji.' (paradigms_IRR_RLS_AV_UV.002)

The same morphological distinction is also made in the undergoer voice. This is shown in (22) with the root *taip* 'slice', which is unspecified for control when it takes dynamic morphology (22a), but marked for limited control when it takes potentive morphology (22b). What is important here is that verbal morphology in the limited control predicate *nikataipan* in (22b) not only signals the semantic role of the subject (i.e., the undergoer) but also a property of the agent (limited control). Thus, the undergoer voice of such constructions makes clear that limited control morphology is sensitive to a feature of the agent argument, because it is used even when the agent is not the subject of the construction. This in turn suggests that this phenomenon is not related to grammatical relations since, otherwise, limited control morphology (the prefix *ko-* in combination with voice affixes) would only be expected when actors are subjects (i.e., only in actor voice constructions).

(22) Totoli
    a. Ni-taip   inang=ku   taipang.
        RLS.UV-slice   mother=1SG.GEN   mango
        'My mother sliced the mango.' (constructed)

    b. Nikataipan   inangku   taipang.
        ni-ko-taip-an   inang=ku   taipang
        RLS.UV-**POT**-slice-UV2   mother=1SG.GEN   mango
        'My mother accidentally sliced the mango.' (potentive.011)

In addition to limited control, Proto-Agent features are also relevant for the expression of causation. Totoli exhibits three main ways of deriving predicates with causative semantics: by means of the causative prefix *po-* in combination with dynamic voice morphology, as illustrated in (23a); by means of applicative dynamic morphology, as in (23b); and by means of stative transitive morphology, as shown in (23c). The main difference between the three types of causative forms is that the construction with the causative prefix and the one with applicative morphology are used when the causee is a volitional agent, whereas the third option is used when the causee is non-volitional (i.e., a cause or stimulus rather than an agent).[11] Consider, for instance, the agent arguments in (23). The agents of the causative construction marked with *po-* and the one derived with applicative morphology are animate agents acting volitionally: *i mponu* 'the turtle' in (23a) and *tau* 'person' in (23b). By contrast, the cause of the disappearance of the leaves in (23c) is the non-volitional inanimate argument *angin* 'the wind'. Note also that a volitional animate causee like *aku* '1SG' is ungrammatical in a stative predicate such as (23d).

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[11] The differences between the causative form with *po-* and the causative form with applicative morphology are so far unclear.

(23) Totoli

a. I   mponu   ＜me＞[12]   mpalanyapmoko   bakina.
    i   pomponu   mo-**po**-lanyap＝mo＝ko   baki＝na
    HON   turtle   AV-**CAUS**-dissappeared＝CPL＝AND   head＝3SG.GEN
    'The turtle hides its head (i.e., makes its head disappear).' (lifestory_TS-IA.293)

b. Seisei   tingana ta   magalingan   baki   bau   ia.
    sei   sei   tingana tau   mog-aling-**an**   baki   bau   ia
    HON   who? QUOT   person   AV-disappear-**APPL1**   head   fish   PROX
    'Whoever will remove the head of this fish.' (podok_langgat.268)

c. Angin makaaling   laeng dei   puun kayu   ia.
    angin **mo-ko**-aling   laeng dei   puun kayu   ia
    wind   **AV-ST**-disappear   leaf   LOC   tree   wood   PROX
    'The wind removes the leaves on this tree.' (MBF_ST_POT_2019.008)

d. *Aku   makaaling   motor.
    aku   **mo-ko**-aling   motor
    1SG.GEN **AV-ST**-disappear   motorcycle
    For: 'I hide the motorcycle / I make the motorcycle disappear.'

This distinction clearly relates to the properties of the agent argument but, again, is not restricted to the actor voice. As shown in (24), the same applies in the undergoer voice, where the agent argument is not the subject of the construction. If the causee is a volitional agent, the causative undergoer voice construction is formed either with the causative prefix *po-*, as in (24a), or with applicative morphology, as in (24b). By contrast, an undergoer voice causative without a volitional agent is expressed by means of a stative predicate. This is exemplified in (24c) by the non-subject agent *mata ondo* 'the sun'. The elicited form in (24d) shows that a volitional agent would be ungrammatical in this type of construction. Thus, even in the case of causatives, the morphological distinction that is sensitive to agent features is maintained throughout the voices irrespective of the syntactic function of the agent. This, together with the facts on limited control constructions, shows that a multidimensional concept of the agent which goes beyond grammatical relations and takes into account its different properties is helpful in detecting signatures of the agent's privileged role.

(24) Totoli

a. Ogo   i-**po**-init   inang＝ku.
    water   RLS.UV-**CAUS**-hot   mother＝1SG.GEN
    'My mother heated up some water.' (STAT_trans_intrans.011)

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[12] Segments between ＜ ＞ indicate false starts.

    b. Dandangean ia   init-**i**   pomoo.
        pan   PROX hot-**APPL2** first
        '(We) heat up this pan first.' (making_ambaa_siote.0652-0655)

    c. Boko = na   ni-**ko**-itom-an   mata ondo.
        skin = 3SG.GEN RLS.UV-**ST**-black-UV2 sun   day
        'The sun blackened his skin.' (PARADIGMS_IRR_RLS_AV_UV.005)

    d. *Buok = ku   ni-**ko**-itom-an   Radna.
        hair = 1SG.GEN RLS.UV-**ST**-black-UV2 PN
        For: 'Radna dyed my hair black.'

4 Discussion

In the previous paragraphs, we have highlighted potential challenges for the notion of agent prominence from a cross-linguistic perspective. Specifically, our focus was on instances in which the agent is not the default in terms of grammatical marking, and on cases in which the agent does not take up the subject role or the sentence-initial position. To this end, we investigated Tima and Totoli, two languages that differ fundamentally in their grammatical systems: Tima follows a split ergative system, Totoli belongs to the group of languages with symmetrical voice systems. We showed that even for these languages, there is still evidence for a privileged status of the agent. Our observations with respect to Tima and Totoli can be backed up by psycho- and neurolinguistic research that investigates such languages from the processing perspective (both language comprehension and production), as will be discussed next.

4.1 Psycholinguistic and neurophysiological studies on split ergative languages

As outlined in the Tima section, we find evidence for agent prominence and an agent-first bias. Formerly, it has been argued for ergative languages that the agent role seems to be outranked by the patient role in terms of its prominence status because these languages follow an S/O-alignment (e.g., Dowty 1991: 582). Furthermore, because ergative case marking is restricted to agents, speakers of ergative languages may be encouraged to interpret unmarked NPs as patients, rather than as agents.

However, there is neurophysiological evidence indicating an agent-first preference in split ergative languages like Hindi, which uses ergative marking in the perfective aspect (e.g., Choudhary 2011; Bickel et al. 2015). Specifically, it has been proposed for Hindi that "when readers or listeners encounter a base-form noun phrase (NP) in a sentence [...], the processing system first assumes that this NP refers to the S argument [...] or to the A argument of a transitive verb [...]". (Bickel et al. 2015: 2). To test this proposal, Bickel and colleagues investigated how speakers of Hindi comprehended unmarked (nominative) sentence-initial NPs in comparison to accusative-marked sentence-initial NPs in an ERP study. Sentence-initial NPs were inanimate, since in Hindi accusative case marking of the syntactic object is optional for

inanimate NPs. Hence, a sentence-initial inanimate NP that is left unmarked is then ambiguous between subject (S/A argument) and object (P argument) interpretation. By contrast, a sentence-initial accusative unambiguously identifies the P argument. If Hindi follows an agent-first preference for incremental argument interpretation, then sentence-initial unmarked (and hence ambiguous) NPs are assumed to receive the S/A interpretation and a subsequent disambiguation towards a P reading will lead to enhanced processing costs. Contrary to this, if Hindi follows an undergoer-first strategy in the case of an unmarked sentence-initial NP, no disambiguation costs are predicted, compared with sentence-initial accusatives, since a sentence-initial argument would receive an undergoer interpretation by default. Indeed, Bickel and colleagues found evidence in favour of the first hypothesis. Specifically, for conditions with sentence-initial base-form NPs, in contrast to sentence-initial accusatives, Hindi speakers showed an increased neurophysiological response (N400 and late positive shift) at the position of the subsequent transitive verb that identifies the previous NP as the P-argument. Thus, even though in Hindi initial base-form NPs can turn out to be patients (OVS structures), speakers of Hindi nevertheless seem to interpret an initial base-form NP as the S or A argument, similar to speakers of other languages that do not use ergative marking (see, e.g., Haupt et al. 2008 for German). These findings are in line with the assumption of a general agent-first bias across languages (for converging evidence see also Isasi-Isasmendi et al. 2024 for Basque, another language with ergative case marking).

However, some caveats deserve to be mentioned: First, ergative case marking in Hindi is restricted to the perfective aspect. Given the restricted use of ergative alignment, speakers of Hindi may interpret ambiguous noun phrases in line with the nominative-accusative pattern they frequently encounter in non-perfective contexts. This scenario is even more likely since all of the Hindi-speaking participants were also fluent in English, a language devoid of ergative case marking. Thus, an agent-first preference in Hindi might result from a default interpretation strategy in which nominative-accusative alignment is assumed. Second, pertinent ERP literature on processing of split ergative languages makes a subtle but important distinction between the default preference for nominative-accusative alignment (S/A-alignment) and an agent-first interpretation strategy. In particular, Bornkessel-Schlesewsky and colleagues (2008), as well as Bickel et al. (2015), interpret their ERP findings as evidence for a general preference for nominative-accusative alignment. However, Choudhary (2011) reports ERP data that demonstrate processing costs for sentence-initial ergatives compared with sentence-initial nominatives. Although ergative morphology on the sentence-initial NP would unambiguously call for agent interpretation and therefore satisfy the agent-first preference, initial ergatives were found to elicit a late positivity relative to sentence-initial nominatives in an auditory ERP experiment. Experiment 2 replicates this finding in the visual modality. Thus, these data suggest that morphological markedness (i.e., ergative case marking) in sentence-initial position leads to additional processing costs compared to unmarked forms.

Interestingly, this is in line with the argumentation in Himmelmann & Primus (2015), who assume that, in a transitive argument relation, the most prominent argument is morphologically unmarked, precedes other arguments and receives the agent role. However, they do not point out how these factors (i.e., markedness, constituent position, role assignment) might interact. The ERP literature, as well as our observations from Tima, favour the assumption that argument prominence can be captured as an integrating function of multiple information types. The data on Hindi seem to support the view that linear precedence and unmarked morphology are both crucial for computing argument prominence, whereas a sentence-initial ergative "lacks" unmarked morphology.

While the agent-first bias has mainly been discussed as a processing mechanism operative during language comprehension (e.g., Bornkessel-Schlesewsky & Schlesewsky 2009; Bickel et al. 2015), some additional insights about agent prominence can be obtained when focusing on sentence planning during the production of ergative languages (e.g., Sauppe et al. 2021; Egurtzegi et al. 2022). Since these studies often use eye-tracking, they provide information about whether agents can be considered attentional centres (i.e., whether they attract initial visual attention, as argued by Himmelmann & Primus 2015; for experimental evidence, see, e.g., Cohn & Paczynski 2013). Indeed, Sauppe and colleagues (2021) found that when speakers of Hindi were asked to describe visual scenes depicting transitive events, speakers initially looked towards the agent more often, thus likely reflecting an agent-first bias. The same early attention towards the agent has been confirmed for Basque, another language with ergative case marking (see, e.g., Egurtzegi et al. 2022; see also Isasi-Isasmendi et al. 2023 for Basque speakers' early attention towards the agent character during event apprehension).

Taken together, there is converging evidence to suggest that even if languages do not align S and A, as is the case for (split) ergative languages, speakers of these languages still tend to interpret an ambiguous (i.e., unmarked) first noun phrase as the agent argument. A similar bias has been observed during production experiments with ergative languages, supporting the notion that an agent-first preference may span both language comprehension and language production (i.e., sentence planning) and occurs regardless of a language's means of morphosyntactic encoding (in line with the proposals by Himmelmann & Primus 2015; see also Bornkessel-Schlesewsky & Schlesewsky 2009; Bickel et al. 2015). Though similar psycholinguistic studies cannot currently be conducted for Tima, we can assume with reasonable certainty that they would produce comparable results.

4.2 Psycholinguistic and neurophysiological studies on symmetrical voice languages

While psycholinguistic evidence on language processing in languages with symmetrical voice systems is relatively sparse, recently there has been an increased interest in studying sentence

processing in typologically diverse languages. Most central to the notion of an agent-first preference is a recent neurophysiological study conducted by Sauppe and colleagues (2023) examining language comprehension in speakers of Äiwoo, a language belonging to the Oceanic branch of the Austronesian language family (Ross & Næss 2007). Äiwoo is argued to have a symmetrical voice system (Næss 2015; 2021) and, most critically, the default word order is SVO, including in the undergoer voice, in which SVO means PVA. Given that the undergoer voice is the more frequent voice in this language (Sauppe et al. 2023: 7), Äiwoo shows a default patient-first order (even for human agents), which arguably poses a challenge to the notion of an agent-first preference. In reflection of this patient-first order, Sauppe and colleagues found that speakers of Äiwoo preferentially interpreted role-ambiguous non-human nouns (such as *stone*) as patients, which led to an increased N400 when the verb disambiguated the noun toward an agent role in a clause. Critically, however, for human referents, Sauppe and colleagues (2023) observed the opposite effect. That is, Äiwoo speakers preferentially interpreted role-ambiguous human nouns as agents, hence resulting in an increased N400 effect when the verb disambiguated the noun toward a patient role. Together, these results suggest that an agent-first bias can be overridden by speakers' long-term experience with word order, as is the case for non-human referents. However, when the referent exhibits properties of a prototypical agent (i.e., when the referent is human and comprises features such as volition, sentience, and control; see, e.g., Dowty 1991), the agent-first preference persists even in speakers of a language like Äiwoo that preferentially places patients before agents. These findings provide evidence that prototypical agents do indeed trigger an agent-first preference, even if typological features of a language work against this. Specifically, an agent-first preference seems to persist even if a language exhibits a basic transitive construction in which the agent is not obligatorily linked to the syntactic function of subject (symmetrical voice system) and even if a language has a basic word order pattern in which the patient precedes the agent.

As mentioned above, although the agent-first principle may be more central to language comprehension, there appears to be complimentary evidence from sentence planning in symmetrical voice languages (e.g., Sauppe et al. 2013). That is, regardless of the word order that was eventually produced, speakers of Tagalog tended to first fixate on the agent character in a depicted event scene, suggesting that the agent remains the attentional centre even for speakers of symmetrical voice languages.

4.3 Evaluating the notion of agent prominence more closely

While the challenges posed by split ergative languages and by symmetrical voice languages are very different in nature – the former concerning syntactic alignment and the markedness of arguments, the latter, word order and the mapping of syntactic functions to semantic roles – there are a number of commonalities in these findings.

First, we see that in (split) ergative systems the most common word order pattern is represented by the preference for putting an unmarked argument at the beginning of the sentence. In contrast to this, the use of ergative constructions is much more restricted. Thus, ergative systems in general and ergative constructions in particular are less common than the nominative-accusative pattern. Within most ergative languages, ergative-marked constructions are used only under specific conditions. Furthermore, we see that although Tima and symmetrical voice languages allow both agent-first and non-agent-first word orders, the orders in which the agent precedes the patient are preferred. In elicitation contexts – i.e., when the influence of discourse factors is reduced to a minimum – speakers of Tima almost exclusively produce AVP ($\triangleq$ AVO) orders. As for symmetrical voice languages, corpora from languages like Totoli and Tagalog show that AVP/VAP orders are used to a much greater proportion than PVA/VPA orders. Thus, although available, constructions in which the agent receives more morphological marking and does not precede the other roles are dispreferred.

A critical case in point might be Äiwoo, which has been observed to use the PVA pattern (undergoer voice) more frequently than the AVP pattern (see 4.2 above). However, behavioural and neurophysiological evidence indicates that an (unmarked) agent-initial word order induces lower processing costs despite the higher frequency of usage of PVA (cf. Sauppe et al. 2023) and points to the agent-first preference as an underlying processing strategy. As the data from Äiwoo show a three-level difference in ERPs according to the animacy scale (humans > animals > inanimate objects), we argue that a multi-dimensional approach to semantic roles in terms of basic role properties (see Dowty 1991) can capture these differences: Human referents can take over the full set of agent features while animate non-humans (animals) are excluded from some role features (volition/control) while keeping others (causation, sentience, independent movement). Inanimate objects, in contrast, are excluded from having most of the agent features (volition/control, sentience, independent movement). The ERP patterns from Sauppe et al. (2023) seem to reflect this three-level distinction, but they also exhibit a qualitative distinction between humans and animals/inanimates. At the level of morphosyntactic encoding, the limited control and causative constructions of western Austronesian symmetrical voice languages indicate that agent prominence plays a role beyond grammatical relations, since agent features (in this case, control and volition) are morphologically marked on the predicate even when the agent is not the subject of the construction. With regard to ergative languages, we did not tackle the topic of optional ergativity without word order change and its relation to agentivity. As summarized in Dunn & Meakins (2023: 224), in some Australian languages, the absence versus presence of the ergative marking might correlate with characteristics of the agent such as intention, animacy, the expectedness of a particular referent being an agent, etc. It remains to be investigated, however, whether the patterns in languages with such types of split ergativity conform to the universal prominence of agents that we observed in the languages reported in this

paper. Finally, concerning word order, the Tima data show that the loss of Proto-Agent features and discourse- or context-related features (animacy, givenness and/or identifiability) that make an agent prominent correlate with the choice of a non-agent-first order.

This latter point goes hand in hand with a further issue. Grammatical structures are uttered in a context – discourse – which is dynamic by definition. As discourse unfolds, the prominence status of arguments shifts (Himmelmann & Primus 2015; von Heusinger & Schumacher 2019). Thus, while we argue for a universal principle of agent prominence that is based on fundamentals of human cognition, we observe that the way in which this prominence is manifested in language use will be influenced by a number of discourse factors. The prominence status of an agent in a particular clause is relative to the prominence status of the other arguments at a particular point in discourse. The role of factors such as information structure and the competition between arguments constitute a complexity which we have not elaborated on in the context of this paper. However, while we acknowledge that discourse-related factors certainly modulate the linguistic prominence given to an agent in a specific context, this does not necessarily provide counter-evidence to the assumption of a more general (or universal) concept of agent prominence. As shown for instance in Tima, some discourse contexts involve a situation in which the patient argument outranks the agent in terms of prominent features (such as animacy and identifiability). It is to be expected that such contexts facilitate grammatical structures that deviate from the agent-centred ones (e.g., a patient-initial word order). By contrast, when arguments are of equal rank, the claim is that the agent is given privileged treatment. Even when this privileged status of agents is not apparent in the grammatical organization of a clause, psycholinguistic and neurophysiological studies add evidence in favour of agent prominence. The fact that both speakers of ergative languages and speakers of symmetrical voice languages show a preference (in terms of ease of processing) for agent-first constructions supports the transversality and the cross-linguistic character of the agent-first bias.

With respect to the work on Äiwoo (Sauppe et al. 2023), the crucial question arises as to whether individual language experience can indeed affect or shape fundamental language principles like agent prominence. By broadening the scope of psycholinguistic studies to typologically diverse languages – especially those that seem to de-emphasize the importance of the agent – we can gain important insights into which aspects of agent prominence may indeed be universal and which ones are shaped by the particular features of a language.

5 Conclusion

We argue that a cross-linguistic perspective – especially encompassing languages that differ in terms of specific typological features – is vital to dissociate language-specific from potentially universal traces of agent prominence. A key finding from putting together the different pieces of evidence in the present paper is the multi-perspectivity that is required for a better understanding

of agent prominence. Although the agent role appears to be less than or equally prominent to the patient role in the structure of the languages addressed (or subsystems therein), the centrality of agents may become evident in other areas of the grammar or even beyond the linguistic expression of events, such as in sentence processing and sentence production. Most centrally, we find that agent prominence persists even when typological patterns seem to speak against it, suggesting that agent prominence is indeed a guiding principle, potentially relevant for all languages.

Abbreviations

1	1st person	LV	locative voice
2	2nd person	MED	medial (demonstrative)
3	3rd person	NMZ	nominalizer
< >	false start	NOM	nominative
AND	andative	P	person marker
AP	antipassive	PFV	perfective
APPL	applicative	PL	plural
AV	actor voice	PN	proper name
CAUS	causative	POT	potentive
COP	copula	PRF	perfect
CPL	completive	PROX	proximal (demonstrative)
CV	conveyance voice	PV	patient voice
DEM	demonstrative	QUOT	quotative
DIR	directional	RDP	reduplication
EP	epenthetic element	RLS	realis
ERG	ergative	SG	singular
FOC	focus	ST	stative
GEN	genitive	SOUR	source
HON	honorific	TR	transitivizer
INS	instrumental	VENT	ventive
LOC	locative	UV	undergoer voice

Competing interests

The authors have no competing interests to declare.

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