Alignment in eastern Neo-Aramaic languages from a typological perspective

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2. CLAUSE STRUCTURE AND ALIGNMENT TYPOLOGY

Alignment typology seeks to capture variation in clause structure by comparing the way arguments are treated in core grammatical functions. Alignment is first and foremost a property of constructions and not of a language as a whole (Comrie 1989:114; cf. Croft 2001:168; Haig 2008). This perspective of form-meaning pairings allows us to capture the complexity and variation within and across languages in terms of core argument groupings. Following a brief introduction to such a constructional approach of grammar (Section 2.1), this chapter will discuss the basic alignment types mainly within the model of Comrie (1989; cf. Dixon 1994) and Andrews (2007) but it will also draw on major typological studies of alignment. Taking this appraoach, it will outline the following five major distinctions in clause structure:

(1) **grammatical relations**: subject, object, others
(2) **grammatical functions**: S, A, P, T, R, OBL
(3) **pragmatic functions**: topic, comment, focus, others
(4) **semantic roles**: agent, patient, theme, recipient, experiencer etc.
(5) **grammatical cases**: nominative, accusative, dative, ergative, etc.

The core grammatical functions S, A, P, T and R are sometimes also termed 'syntactic roles' in the literature in order to distinguish them from semantic roles. They are the key (comparative) concepts for the typology of alignment. The term 'case roles' will be avoided because of ambiguity with grammatical case declensions. Which of these grammatical functions are treated in the same way in the morphology or syntax determines the alignment type. Strictly speaking, as we will see, they are not fully equivalent to grammatical relations or semantic roles but there is a certain degree of overlap. Constructions and, hence, alignment types can co-vary or be constrained depending on different grammatical factors. Constructional splits are generally conditioned by verb-related properties (Ssection 2.3.) such as tense and aspect and argument-related properties Section 2.4.) such as animacy. This chapter concludes with a discussion of larger surveys of alignment in languages across the globe. This provides us with the typological tools needed to capture the microvariation in alignment patterns in Eastern Neo-Aramaic languages.

Functional typologists adopt (sometimes universal) functional explanations for why certain patterns are favored cross-lingustically (e.g. Givón 1979, 1990, 1995, 2001; Foley and Van Valin 1984; Langacker 1987, 1991a-b; Croft 2001). It

is a common assumption among such typologists, for instance, that the cross-linguistic variation is largely not random but due to general cognitive principles and an iconic relationship existing between the speaker's experience and the constructions they choose (e.g. Givón 1985b). What is more in line with speakers' experience is easier to process, and, because they are easier to process, constructions that maximally correspond with speakers' experience are preferred over others. A few of these functional motivations will be reviewed. Yet, there are numerous other factors that contribute to preferences in alignment typology. Apart from language-particular factors, the historical development of the source construction and areal factors concerning replications or transfers from one language to another are pertinent. They may be equally or even more germane to why alignment varies or is manifested in this way in a given language (e.g. Creissels 2008). Bickel (2008), Bickel et al. (2015) and the contributions to the special issue on hierarchies in alignment in *Linguistics* 54/3 (Haude and Witzlack-Makarevich 2016) are examples of recent studies and surveys that argue that functional typological generalizations have been overstated and historical and area-specific factors have more explanatory scope and power. None of the generalizations made in this monograph, therefore, are intended to be taken as universally true (i.e. inferences of universals about human language).

2.1. Construction Grammar

A few scholars (e.g. Doron and Khan 2012) have approached Neo-Aramaic from a generativist perspective of phrase structure. Since this may lead to different interpretations of the data, I should point out that, throughout this monograph, constructions are taken in the broadest and most common sense as form-meaning combinations at all possible levels of abstraction, ranging from word formation patterns to contextual pragmatic inferences of word order. From a constructional perspective (among others, Goldberg 1995; Croft 2001; Booij 2010, 2013), lexical and rule-based components of grammar are part of the same spectrum and can freely interact. On this view, syntactic structure is not an autonomous, complete and closed sentence-generating system but a part of a larger total process of pairing form and meaning. Constructions themselves are viewed as integrated wholes and independent units of grammatical meaning.

To illustrate, consider, for instance, example (6) below, taken from a Neo-Aramaic dialect spoken by the Jews of Koy Sanjaq in NE Iraq:

(6) *waxt=ile* *pel-Ø*
time=it$_{M}$.is SBJ:fall-he
'He is about to fall.' (Mutzafi 2004a:249)

The word *waxt* meaning 'time' is combined with the enclitic copula *ile* meaning 'he/it$_{M}$ is' and would independently mean 'It is time'. The main verb immediately following this is in the subjunctive and inflected for the subject: *pel-Ø* 'that he fall(s), might fall'. The configuration of these specific word forms constitutes a construction that expresses the proximative. The proximative refers to a state of affairs just prior to the beginning of an event, much like English expressions such as *be about to happen*, *on the verge of*, and *on the point of happening* (Noorlander 2017). This proximative construction cannot be derived immediately from the individual parts, which, in (6), would literally entail 'It is time (that) he might fall'. It is only the combination of *waxt*, the copula *ile* and the subjunctive that would give this proximative reading.

This approach allows syntactic structures to be both lexically restricted and rule-governed to different degrees. It also recognizes some arbitrariness in linguistic forms, such that even morphology void of content is meaningful in light of the whole (e.g. Booij 2010, 2013). Consider, for example, the following similar proximative construction in the Neo-Aramaic dialects of the Jews of Zakho in NW Iraq. The word form *waxta* combines with a subjunctive and expresses the proximative, e.g. *waxta māyəs-Ø* 'He may die any moment' (Sabar 2002: 154). In this case, there is no additional copula *ile* as in (6) above but it is the additional final *-a* that makes *waxt* a proximative marker; without it, it would simply mean 'time'. Moreover, there is no other context where the addition of this vowel would give rise to a proximative meaning[29]. The element *-a* can, therefore, only make sense considering the construction in its entirety.

A specific grammatical pattern may thus arise in a conflux of divergent processes that may involve more directly or indirectly features such as internal variability, semantic compositionality, structural arrangement, syntactic flexibility, idiomaticity, discourse setting, usage constraints and so on. Form and meaning are, thus, both taken in a broad sense. As constructions are assumed to be holistic and multilayered in nature, any subset of the speakers' linguistic system

[29] It should be noted that the *-a* of *waxta* possibly reflects the Kurmanji (Northern Kurdish) copula *=e* in *wext=e* pronounced /waxt=a/ 'lit. time=it.is', which was replicated as a fixed expression *waxta* 'almost' into Neo-Aramaic. Nonetheless, the final *-a* in *waxta* does not convey any meaning by itself and is not used as a copula in Neo-Aramaic as it is in Kurdish.

and their social-communicative context may be engaged in constructional variation and innovations. While remaining a considerably complex linguistic unit, speakers can adjust or expand its usage and reshape its architecture, having the full potential of leading a life of its own within a single speech community such as Neo-Aramaic.

The variation of alignment in Neo-Aramaic is inextricably bound to the 'life span' of a specific combination of a particular inflectional base (*qṭil-*) as well as a particular set of person forms or the preposition *l-*. We can study the variation (and evolution) in the syntactic and semantic features of this construction, while its main lexical and morphological properties remain largely the same. This would not be possible in a theory where morphology is only a surface phenomenon. Construction grammar provides a framework that is linked with particular constructional morphology and its usage.

2.2. The Core Functions of Arguments and Basic Alignment Types

Following Comrie (1978, 1984) and Andrews (2007), a distinction will be made between core and non-core arguments. The core grammatical functions labelled S, A and P as well as T and R, which are, respectively, reminiscent of (but not identical to) the notion 'subject' and the semantic roles 'agent', 'patient', 'theme' and 'recipient'. These labels practically represent arguments of similar semantics and morphosyntax in the broad sense rather than the narrow sense. They are adapted to cover language-specific conventional marking of arguments beyond the primary clauses that instantiate them. The core functions A and P are defined by both their semantic and constructional prototypes, so that they, by definition, occur in a primary transitive construction (such as *The cat killed the mouse*). Thus, they are not to be conflated with the agent and patient of a passive voice construction.

These grammatical functions, also known as syntactic roles, can also be assigned pragmatic functions such as topic and comment. In communicating who did what to whom, speakers also make distinctions in the information flow and express what they consider more or less important to the conversation. Andrews (2007) differentiates further between grammatical functions and grammatical relations. Grammatical relations such as 'subject' and 'object' pertain to higher levels of abstraction and rule-based principles of grammar. The 'subject' is a structural, primitive ingredient that accumulates several primary semantic, pragmatic, coding and syntactic properties. The grammatical functions such as the S, A and P can be considered a 'subject', when the significant grammatical

processes of sentence structure specifically apply to them. Such more abstract syntactic properties are commonly known as behavioral-and-control properties against coding strategies such as nominal and verbal morphology. In examining shared and unshared properties, grammatical functions can align or not align with each other. Typologists discern several distinct types of morphological alignment such as accusative and ergative where shared coding properties align specific arguments with the S. In syntactic alignment, the shared behavioral respectively syntactic properties may also point to a particular grouping of the A or P with the S. Such syntactic properties will be largely left out of the discussion and special attention is given to the morphological alignment types.

2.2.1. Grammatical Functions: S, A, P, T and R

Alignment typology presupposes a major classification of verbs in terms of basic combinability with slots to be filled by (pro)nominals called arguments representing the main participants entailed by the clause. Verbal constructions generally comprise up to three core arguments and are classified accordingly as intransitive involving one argument and transitive involving two or more. The latter is further divided into monotransitive and ditransitive constructions. Monotransitive verbs such as 'break' involve one argument, the object, in addition to the subject, typically the patient affected by an agent. Ditransitive verbs such as 'give' involve two additional arguments, one generally called 'recipient' representing the goal, receiver or addressee and the other generally called the 'theme' representing the gift.

Typologists generally presuppose a qualitative core of primary transitive verbs. Primary transitive verbs express physical causation such as 'break' and 'kill', i.e. those verbs where the agent acts in such a way that the patient is most obviously and definitvely affected (Tsunoda 1985:387). Following Comrie (1978; 1984) and Andrews (2007), alignment patterns will be described by means of the grammatical functions S, A and P (or O)[30]. (7) offers a simple definition in terms of semantic properties and the primary syntactic function following Comrie (1984).

(7) **Definitions of S, A and P** (following Comrie 1984)

[30] S, A and P are similar but not necessarily equivalent to S, A and O in Dixon (1994) and Bickel (2011), see Haspelmath (2011a). Compare also X, Y and Z in Lazard (1994, 1998) and A for actor and U for undergoer in Foley and Van Valin (1984).

- **S** represents "the single argument of an intransitive predicate" (Comrie 1989:110), such as *He* in (9a) below, and this argument is, therefore, by definition its subject;
- **A** stands for the agent, the actor (cf. Latin *agens* 'one who acts') in a primary transitive construction such as the subject *I* of the transitive verb 'kill' in (9b) below;
- **P** is the label for the patient, the undergoing (cf. Latin *patiens* 'one who undergoes') or affected participant in a primary transitive construction such as the object *him* of 'kill' in (9b).

Subsequent, similar approaches also include accordingly the R for the most recipient-like argument and the T for the most theme-like argument in ditransitive constructions (e.g. Croft 1990, 2001; Siewierska 2003; Andrews 2007; Haspelmath 2005a)[31]:

(8) **Definitions of T and R**

- **T** stands for 'theme', the argument which is most like some entity that is transferred from one entity or location to another in a ditransitive construction such as *the book* in (9c) below;
- **R** stands for 'recipient', the argument that is most like the receiver or ultimate goal of the transfer such as *to me* in (9c) below.

(9)

a.	[S]	[V]				(intransitive)
	He	*died*.				
	SUBJECT					
b.	[A]	[V]	[P]			(monotransitive)
	I	*killed*	*him*.			
	AGENT		PATIENT			
c.	[A]	[V]	[T]	[R]		(ditransitive)
	Jane	*gave*	*the book*	*to me*.		
	AGENT		THEME	RECIPIENT		

In a purely lexical sense, transitive verbs would contain an endless number of semantic roles that are realized as their two arguments. If 'eat' implies an eater and something or someone eaten, then 'frighten' implies a frightener and something or somebody frightened, and 'know' implies a knower and so on.

[31] The R corresponds with G for 'goal' in other functional-typological approaches like Croft (1990:102).

Linguistically, it makes perfect sense to reduce such as semantic roles to a few general grammatical functions, since languages tend to systematize the way they realize arguments (Andrews 2007). In purely semantic terms, the A argument is defined according to what degree it is semantically like a typical agent and P to what extent it is semantically like a typical patient (or unlike a typical agent). Yet, somewhat confusingly, the terms 'A' and 'P' do not represent the merely semantic, participant roles of 'agent' and 'patient'. A and P stand for primary syntactic functions defined by both their semantic role and grammatical function. In other words, agents and patients are typically associated with but not a necessary condition for specific coding and syntactic properties (Comrie 1989:111).

In this approach, the core grammatical functions (S, A, P, T, R) are not presupposed to operate differently on a deep or surface level of the sentence. Superficial alignment types are not subsumed under a deeper alignment type. There are semantic prototypes associated with primary transitive actions that correlate with the morphological and syntactic properties of a model construction in which they occur[32]. S, A, and P are neither simply semantic roles nor simply syntactic functions; rather they both have a semantic and constructional basis. S, A and P are functions that minimally occur in the primary, i.e. most typical, transitive clause that also defines them semantically. When A and P are lacking, the clause is not considered transitive.

In Comrie's view, there are no deep or logical arguments A and P that surface or lexicalize differently in, for example, passivization. In a passive construction like *The woman was hit by the man* represented in (10b) below, the core argument *the woman* is in fact considered to be the S, while *the man* introduced using a *by*-phrase is understood to be oblique (Comrie 1989:114). This means that the A and P only occur in (10a) but not in (10b).

		[A]	[V]	[P]	
(10)	a.	*The man*	*hit*	*the woman.*	(active)
		AGENT	TRANSITIVE	PATIENT	
		[S]	[V+PASS]	[OBL]	
	b.	*The woman*	*was hit*	(*by the man*).	(passive)
		PATIENT	INTRANSITIVE	AGENT	

[32] See Haspelmath (2011a) for a comparison of Comrie's approach with other approaches toward alignment.

The patient in the P-function of (10a) corresponds the S-function of a passive voice construction, while the agent, if expressed, in the A-function corresponds with the oblique (i.e. non-core) argument (= OBL). I use the term oblique argument here in the same sense as Andrews (2007; cf. Keenan and Comrie 1977:66) to refer to an argument specified by the verb ut expressed differently from the core grammatical functions S, A and P. This is different from adjuncts which are always considered oblique but have a more adverbial function (such as *on Monday* in *The woman was hit on Monday*).

This might seem confusing to some readers at first face value, because, from a purely semantic role perspective*, the woman* would still be considered the patient and the oblique argument or prepositional phrase *by the man* expresses the agent. In this model of clause structure, however, a passive construction like (10b) may give insight into the treatment of the S in the language in question or into the semantic identity of agents and patients in a language but it is not considered a key example of how a language treats the A and P.

Conversely, the antipassive is an intransitive construction where the agent is expressed like the S, the patient is omitted or possibly expressed as OBL, and the verb may have a special marker (Comrie 1978:361- 362, Cooreman 1994:50). An illustrative example is given below from Dyirbal, an Australian language. Like the passive, its functions and restrictions differ from language to language but as a construction it is largely uniform. Although semantically transitive, it is morphosyntactically intransitive and, therefore, lacks an A and P. The A of the transitive clause in the Dyirbal example is treated similarly to the S of the verb in the antipassive construction in (11b) The antipassive as such is the mirror image of the passive in making the patient rather than the agent is less salient and the activity more central, respectively, identifiable (e.g. Cooreman 1994).

(11) **Dyirbal** (Australia, North Queensland; Comrie 1978:358, 360, 348, glossing slightly simplified, original source cited therein)

	[P]	[A]	[V]	(active)
	PATIENT	AGENT	TRANSITIVE	
a.	*Balam wud^{y}u*	*baŋgul yaṛaŋgu*	*d^{y}aŋga-n^{y}u*	
	fruit-ABS	man-ERG	eat-TENSE	

'The man eats fruit.'

	[S]	([OBL])	[V+ANTIP]	(antipassive)
	AGENT	PATIENT	INTRANSITIVE	
b.	*Bayi yaṛa*	(*bagum wudʸu-gu*)	*dʸaŋgay-mari-nʸu*	
	man-ABS	fruit-DAT	eat-REFL-TENSE	

'The man eats (fruit).'

Thus, both passive and antipassive are semantically transitive but typically morphosyntactically intransitive. The passive decreases the valency and downplays the agent to the periphery as omissible (A vs. OBL), while the patient becomes the subject of an intransitive construction (P vs. S). This operation is also commonly known as a type of detransitivization, since the passive comprises an intransitive valence pattern. The reverse is known as transitivization where the valence increases and the verbal construction becomes a transitive valence pattern.

Naturally, languages may categorize verbs and systematize semantic roles differently. S, A and P are grammatical functions meant to be heuristic tools to describe, compare and capture language as well as construction-specific morphosyntactic groupings of arguments that are expressed in a more systematic fashion. Verbs denoting mental causation such as 'frighten' and mental states such as 'see' and 'like' tend to follow the same coding strategies as primary transitives, even though semantically speaking their subject and object are respectively not an agent and patient. In a comparable way, primary ditransitive verbs generally include verbs of physical transfer such as 'give', 'sell', and 'bring' where a giver causes an item to come into possession of an animate receiver and certain verbs of mental transfer such as 'tell', 'show' and 'teach' that, cross-linguistically, tend to follow the same pattern (Malchukov et al. 2010b).

Similarly, languages differ to what degree certain properties are relevant to the agent's and patient's involvement in the event are also conventionalized in the grammatical structure. Some languages have specific constructions to express events where the agent acts unintentionally, for example, differently from where the agents acts intentionally (e.g. DeLancey 1984, 1987; Croft 1991:168; Kittilä 2005; Fauconnier 2011b, 2012). Such unintentional interpretations, however, are generally contributed by the anticausative verb with an intransitive valence pattern typically denoting a spontaneous and, thus, uncontrolled event (e.g. Haspelmath 1993a; Kittilä 2005; Shibatani 2006; Fauconnier 2011b, 2012). Moreover, in many cases, the intentionality is not directly relevant to the clause structure of a language (compare English *John broke his leg* where the intentionality is ambiguous; Andrews 2007; Fauconnier 2012:94-100). Similar-

ly, partial or complete affectedness of the patient can be grammatically significant in languages favoring an intransitive construction for the less affected patient (e.g. Hopper and Thompson 1980; Tsunoda 1981, 1985; Dowty 1991) but this is by no means a necessary requirement such as the transitive verb *hit* in English (Andrews 2007).

One should note, however, that the concept for a primary construction appears to apply much less so to constructions in which T and R occur. Languages may not have an obvious primary ditransitive construction at all (Malchukov et al. 2010b:2). Moreover, recently, Haude and Zúñiga (2016) argue that languages may have more than one basic transitive construction depending on discourse-pragmatic factors. Consequently, this makes it difficult to typify such alignment patterns. Also Neo-Aramaic languages, as we will see, make use of several transitive constructions that could be characterized as basic depending on various factors.

In the end, transitive clauses, by definition, include the A and P. When A and P are lacking, the clause is considered intransitive, so that one of the arguments is considered S-like (and/or something else, i.e. OBL). Although the A and P are defined and identified on the basis of primary transitive situation, the functions and morphosyntax correlating with the A and P often include verb classes otherwise not characterized as typically transitive (Comrie 1989:111; Andrews 2007). Languages differ in what respect they allow the syntactic functions A and P to include arguments that do not instantiate the semantic features attributed to an agent and patient. Consequently, the A and P defined by a subclass of verbs can be extended to describe the same conventionalized clause structure of other verbal classes in those languages, although they are semantically distinct from the agent and patient (Comrie ibid.).

2.2.2. Pragmatic Functions: Topic and Focus

Pragmatically speaking, a sentence contains a main clausal topic referent, i.e. what is being talked about in the discourse. Hence, the remaining elements are called the comment, as they offer information about the topic. This topic referent, once introduced, is familiar to the listener. When topic referents are the same across clauses, we speak in terms of topic continuity. In a sentence such as *Mary is going to bed, because she is tired, Mary* is the topic and this is continued by *she* in the next clause, the referent being known/identifiable to the listener through the immediate context. Languages typically express the topic by means of anaphora (such as *she*) and sometimes even by means of topicalization con-

structions, especially in the case of a switch of topic referent (such as the *as for* X-phrase in English, e.g. *As for John—, he, too, is tired*).

Focus, like topic, is another functional category in the information structure analysis of the discourse. Simply put, focus highlights some piece of information that somehow stands out because it is not presupposed but asserted while the remainder expresses what is presupposed to be familiar to the listener (Givón 1979, 1995; Lambrecht 1994). A focal referent is most clearly represented by Mary in cleft constructions like *It is Mary who stole my beer (and not John)*. A focal argument typically expresses unexpected, new information, and may be contrasted with an alternative identity.

2.2.3. Coding and Behavioral Properties

Following the semantic and constructional definition of grammatical functions, we proceed with the manifestation of arguments. This is generally subdivided into coding and behavioral properties in typological studies (after Keenan 1976). Coding properties define the morphological expression of arguments in a language. Behavioral properties (also known as behavior-and-control properties) are (language-specific) syntactic constructions that may be preferred, respectively, disfavored for particular functions (S, A, P etc.) and are relevant to the determination of syntactic alignment types.

This monograph is mainly concerned with coding strategies and, thus, only morphological alignment, as in many languages of the world such syntactic processes are relevant only to the S and A. These coding strategies generally involve (i) and (ii) but also sometimes (iii) below:

(i) case-marking;
(ii) agreement
(iii) word order.

This monograph concentrates on the coding properties in terms of (i) case-marking and (ii) agreement which are further explained below[33]. Word order is generally also subsumed under coding properties and can be a contributing factor to argument discrimination in transitive constructions. It may also be

[33] The terminology and accompanying ideas vary in typological literature. Nichols (1986, 1992) distinguishes between head- and dependent-marking respectively, Andrews (2007) between NP-marking and cross-referencing, and more recent typological literature such as Malchukov et al. (2010a) between flagging and indexing.

considered a behavioral property instead (Haspelmath 2010)[34], especially when a language has flexible word order and the relative position of arguments primarily hinges on discourse properties rather than role semantics irrespective of ergative or accusative morphology (Givón 1995:255-256). Moreover, various other constituents could affect argument placement in more complex constructions. Indeed, it will be argued in §2.2.5 that word order potentially leads to ambiguity and, hence, will only be considered if the argument's position relative to the verb is distinctive enough (as in, for example, English).

Case-marking and agreement are ultimately functionally equivalent as syntactic role signals and may even overlap (Siewierska and Bakker 2009; Kibrik 2012) but there appear to be differences, even in their relationship to word order. Siewierska and Bakker (2009:296-299) indicate that word order is geared toward information processing in discourse and correlates more strongly with case-marking than with agreement. For instance, arguments placed consistently before the verb (e.g. A-P-V) are more likely to be distinguished through case-marking than those consistently placed at either side of the verb (e.g. A-V-P, P-V-A). The obvious reason that Siewierska and Bakker give for this is that the linearization of arguments in verb-final constructions contributes much less to role discrimination than distinct case-marking.

2.2.3.1. Case-Marking

Case-marking is the morphological indication of grammatical functions by manipulating or adding an affix or adposition to the form of the nominal argument itself. Case-marking (cf. Comrie 2005:398), thus, subsumes not only affixal case declensions (e.g. Arabic NOM *ʾal-walad-u*, ACC *ʾal-walad-a*, etc. Latin NOM *domin-us*, ACC *domin-um* etc.) but also adpositional marking through, for instance, pre- or postpositions or particles (e.g. Hebrew accusative/differential object marker *ʾet*, Spanish object marker *a*). Case-marking typically also includes oblique arguments and adjuncts (such as locative and temporal expressions).

2.2.3.2. Agreement

In alignment typology, agreement involves the co-referencing the person, number and/or gender features of an argument in the clause. Agreement is typically though certainly not necessarily confined to core grammatical functions (cf.

[34] One may consider, for instance, the potential for word order shifts in interrogative, relative and passive clauses which are syntactic processes typologists subsume under behavioral properties.

Corbett 2006). Corbett (2003, 2006) distinguishes between controller and target. The controller is the element, in our case an nominal coreferent, that determines agreement. The target is the element that determines the form it takes. Haspelmath (2013), following Lazard (1998), prefers the term person indexing, since there is no universally accepted definition of agreement (cf. Siewierska 2004:120). The form, then, is called the agreement marker or index, serving as a target for the controller. Agreement need not be precluded to the S and A in a language. Thus, as shown in (12) below, when we consider the theme *kespā* 'silver', the NP itself is the controller and the target is the verb *šdy* 'throw' where the person index *-y*, traditionally known as a pronominal suffix or pronominal copy, agrees with it.

(12) **Syriac** (Northwest Semitic, Aramaic)

[V-A-T] ⟶	[T]	
šḏā-Ø-y	*kespā*	*ḇ-hayklā*
threw-3MS-3MS	silver:MS	in-temple:MS

'He threw said silver into the temple.' (Matthew 27:5, 5th c. *Pšiṭta*)

Following Siewierska (2003) and Bickel et al.(2013), agreement or person indexing can be further differentiated by several factors that may lead to discrepancies in alignment. The first question is whether agreement is possible at all, and, if so, in what form and to what extent. Morphologically, the markers are not only compared in terms of phonological form but also in terms of the relative position, respectively, left-to-right order of affixes[35] (e.g. the markers are prefixal for the S and A but suffixal for the P). Furthermore, it may be relevant how the arguments align in triggering agreement at all (e.g. only the S and A trigger agreement but never the P) or under specific conditions (e.g. agreement with the S and A is conditioned by word order or agreement with the P argument is conditioned by definiteness)[36]. This trigger potential of agreement may also be graded in terms of obligatoriness, i.e. if agreement is possible, is it optional or obligatory (see further below):

(13) impossible > optional > obligatory

[35] See also Kibrik (2012). However, affix position is confined to clear distinctions between prefixal and suffixal forms in this monograph, since the relative position of dependent person forms that are all prefixal or all suffixal is not clearly significant for alignment, see Subsection 2.2.3.3.

[36] Auxiliary and serial verb constructions are also subsumed under agreement.

Person forms, also known as anaphoric pronouns, may be dependent (or bound, i.e. affixal or clitic) or independent (i.e. free). Independent person forms are generally included in nominal marking and are required when dependent equivalents are not available[37]. Only dependent person forms qualify as agreement markers and can index a coreferential nominal[38]. Some linguists make a sharp distinction between affix and clitic as subtypes of bound morphology. The distinction is, however, taken to be fuzzy in this monograph, since the categories clitic and affix can lead to ambiguity (cf. Haspelmath 2011b), although, naturally, not all dependent (or bound) morphology will show the same usage patterns. Yet, the terms cannot be avoided altogether for practical reasons as they are, for instance, generally used in the literature (e.g. in Aramaic studies), though without implying a strict categorical demarcation in this monograph.

The difference between pronominal affixes and agreement markers is also not always clear-cut (cf. Corbett 2003). Person forms are not necessarily also anaphoric pronouns. Personal pronouns are by defintion referential and definite, while this need not apply to the coreferent of person indexes, respectively, agreement markers (Siewierska 2004:121-127). Moreover, the nominal coreferent is always the same constituent in the clause for grammatical agreement markers, while this is not required for anaphoric pronouns. By the same token, first and second person forms are also distinct from third person forms in being deictic against anaphoric. They are virtually always identifiable; whom they refer to is presupposed, while the third person need not be[39].

Siewierska (2004:126) makes the following main distinctions in the typology of person forms depending on the presence, respectively, absence of a controller respectively nominal coreferent for which Haspelmath (2013) introduces new terminology. Table 4 offers an overview of these types. Haspelmath applies the term gramm-index for what is more generally known as a person agreement marker, where the coreferential nominal is obligatorily expressed such as the English verbal ending *-s* that requires a conominal (i.e. ***come-s* for 'He/she/it comes'). He suggests to avoid the term pronominal agreement marker and to use pro-index instead for cases where the coreferent is impossible. For example, unlike Syriac in (12) above, the object index *-hu* in Classical Arabic typically

[37] Unversal G. in Haspelmath (2013:222).

[38] Universals A. and B. in ibid.

[39] Haspelmath (2013) proposes to reserve the term pronoun for unambiguous noun substitutes such as the English pronouns *this one*, *mine* and *he* which could only be anaphoric/cataphoric to a nominal and the term argument index for, respectively, agreement markers.

lacks a conominal so that one does not say ***ra'ay-tu-hu l-kalba* (lit. saw-I-him the-dog) for 'I saw the dog'. Siewierska uses the term ambiguous agreement marker for when the coreferential nominal is optional (also known as pro-drop). It is either a person or a pronominal agreement marker (e.g. Latin *veni-t* 'He is coming' besides *Marcus veni-t* 'Mark is coming'). Haspelmath (2013:207-208, 211-212) argues that taking such person forms to be ambiguous merely presupposes that the meaning should not be expected to receive double grammatical expression; an assumption which he questions given that it is cross-linguistically not unusual. He considers such person indexes a unique type of their own where both the index and the coreferential nominal constitute the argument (i.e. both *Marcus* and *-t* in *Marcus veni-t*) and proposes the term cross-index instead.

Table 4. *Types of person forms*

AGREEMENT MORPHOLOGY ('TARGET')		COREFERENTIAL NP
Siewierska (2004)	Haspelmath (2013)	('CONTROLLER')
person agreement marker	**gramm-index**	obligatory
ambiguous agreement marker	**cross-index**	optional
pronominal agreement marker	**pro-index**	impossible

The typology of person forms given in Table 4 also reflects diachronically the following grammaticalization process (Siewierska 1999:231; Haspelmath 2013:222):

(14) pro-index > cross-index > gramm-index.

The shift from pro-index to cross-index is a well-known development found in, for example, Semitic languages (cf. Khan 1988). Independent person forms become increasingly dependent on the host (e.g. the verb) to end up as differential agreement markers via topicalization constructions (cf. Givón 1976; Lehmann 1988). The target becomes increasingly obligatory in more routine-driven grammatical functions as fully integrated person indexes.

2.2.3.3. Word Order and Affix Order

Malchukov et al. (2010b) note that word order leads to ambiguity for alignment typology. This also holds for the relative order of dependent person forms (cf. Siewierska 2003). Although word order and affix/clitic order are possibly significant contributors to argument discrimination in transitive constructions (i.e. A before/after P), they lead to ambiguous conclusions for argument grouping (i.e. S=A≠P)[40]. Word order and affix order are not helpful as alignment determinants, if all the arguments are expressed on the same side of the verb(al stem).

Consider the Arabic example of accusative alignment given below. Evidently, the A and P do not occupy the same slots in the clause or in the chain of affixes. Nevertheless, it is unclear to what argument the S would be said to align. The S and A arguably align with each other by being immediately adjacent to the verb. At the same time, the S and P could be said to align, since both arguments occupy the final position of the construction. By the same token, the order of suffixal verbal indexes is also ambiguous. The S (*-a*) and A (*-a*) are both closer to the verbal stem than the P (*-hu*) in (15d). The P index, however, arguably also aligns with the S as both constitute the final suffix of the verbal form.

(15) **Classical Arabic** (Central Semitic, Kász 2015:336, cf. Fischer 1972)

	[V-S] ⟶	[S←NOM]		
a.	*saqaṭ-a*	***l-walad-u***		(intransitive)
	fall$_{PFV}$-S:3MS	DEF-boy:MS-S:NOM		
	'**The boy** fell.'			
	[V-A] ⟶	[A←NOM]	[P←ACC]	(transitive)
b.	*ḍarab-a*	***l-walad-u***	*l-kalb-a*	
	beat$_{PFV}$-A:3MS	DEF-boy:MS-A:NOM	DEF-dog:MS-P:ACC	
	'**The boy** beat the dog.'			
	[V-S]			
c.	*saqaṭ-a*	(intransitive)		
	fall$_{PFV}$-S:3MS			
	'He fell.'			

[40] Word order and the order of person affixes or clitics are obviously not completely parallel. It is, for instance, more likely that independent (pro)nominal S arguments would vary in position relative to the verb than dependent person forms relative to the verbal base. Nevertheless, there seems to me to be sufficient warrant to treat both of them with the nuances given above.

[V-A-P]

d. *ḍarab-a-hu* (transitive)
beat$_{PFV}$-A:3MS-P:3MS
'He beat him.'

By contrast, word order is arguably considered relevant in languages like English where the P typically follows the verb but the S and A occupy pre-verbal position as observed in the translation of the examples above. Affixal position for the alignment of the indexes is clearly relevant in the following intransitive and transitive constructions from Chorti (Mayan, Guatamala) taken from Siewierska (2003:343). The coding of the S matches that of the P both in form (*-et*) and position (suffixal). The person marking of the A is distinct in form (*a-* vs. *-et*, *in-* vs. *-en*) as well as position (prefixal vs. suffixal). The indexing patterns ergatively on all accounts.

(16) **Chorti** (Mayan, Guatamala; Siewierska 2003:343, original source cited therein, glossing adapted)
[V-S] (intransitive)

a. *wayan-**et***
sleep-S:2SG
'**You$_{SG}$** slept.'
[A-V-P] (transitive)

b. *in-ira-**et***
A:1SG-saw-P:2SG
'I saw **you$_{SG}$**.'

c. *a-ira-en*
A:2SG-saw-P:1SG
'You$_{SG}$ saw me.'

2.2.3.4. Behavioral Properties

Behavioral properties are among others the control of reflexives, relativization, interclausal co-referential reduction (sometimes termed equi NP-deletion) and same subject constraints in adverbial clauses such as the complement of modal verbs like 'can', 'want', 'begin', 'finish' etc. (e.g. Keenan 1976; Silverstein 1976; Dixon 1979, 1994). The anaphoric deletion of an equivalent NP across clausal chains, for instances, may be a syntactic process peculiar to particular grammatical functions. This is, if applicable in the language, also manifested in the control of verbal agreement of clausally connected verbs. The cross-clausal co-reference of the S and A is the same in accusative syntax. A typical example in

English is offered in (17) below taken from Comrie (1988) where the S and A control anaphoric deletion and not the P. Equivalent NP coreference in complement clauses or conjunctions are the same for the S and A but distinct from the P in accusative syntax. A particular device may be available to signal a switch of reference, for example, independent pronominalization or a full NP, and indicates that the referents are distinct. If the controller of the anaphoric deletion were distinct in the conjoined intransitive clauses, English would highlight this by expressing the subject as an independent pronoun or full NP (i.e. *The man hit the woman and* ***she/the woman*** *ran away*).

(17) a. [S] [S=S]
The man$_i$ *came and* [Ø$_i$] *ran away*.
[A] [P] [S=A≠P]
b. *The man*$_i$ *hit the woman*$_y$ *and* [Ø$_{i/**y}$] *ran away*.

A morphologically ergative construction generally patterns according to accusative syntactic behavior. In a strictly morphological ergative pattern, then, the ergative A fulfills the syntactic behavior that corresponds with the S of intransitive constructions like the nominative (S=A) in an accusative system. It is, however, rare but possible that ergative alignment is found not only in terms of coding but also in terms of behavior, so that it is the S and P that share more behavioral properties against the A (much like the patient in the passive, see Subection 4.3.1). Dyirbal is an oft-cited example of this where the behavioral properties of the P is like that of the S. As illustrated in (18) below, it is the P that controls anaphoric deletion rather than the A. If the A were intended to control the anaphoric deletion, Dyirbal requires an antipassive construction to indicate such a switch where the agent is expressed as the S (Comrie 1988:11).

(18) **Dyirbal** (Australia, North Queensland; Comrie 1988:10, glossing slightly simplified)

[P]	[A]		[S=P≠A]	
Balan dʸugumbil$_y$	*baŋgul yaṛaŋgu*$_i$	*balgan*	[Ø$_{y/**i}$]	*baninyu*
woman-ABS	man-ERG	hit		came

'The man$_i$ hit the woman$_y$ and (she$_y$/**he$_i$) came here.'

2.2.4. Intransitive-Transitive Alignment Types

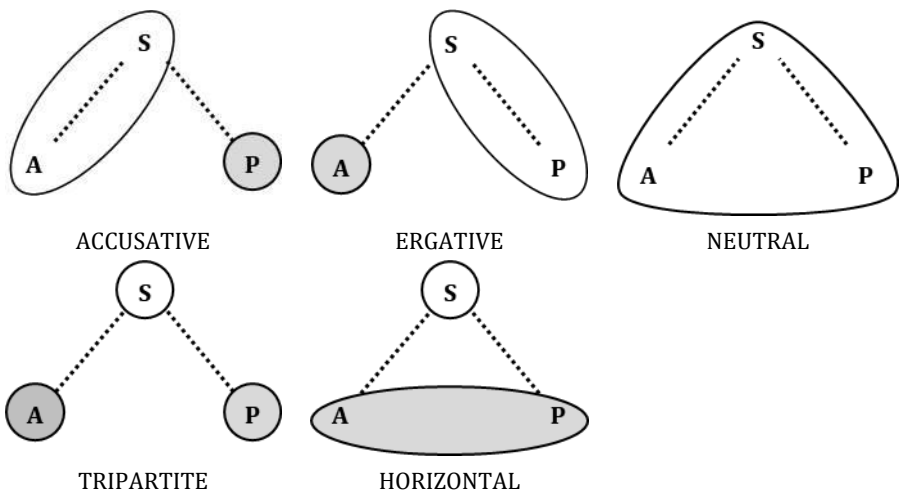
Having outlined the coding properties, we will review the manifestations of alignment. The defining distinction of intransitive-transitive alignment patterns is the grammatical link between the single argument of intransitive constructions and the two arguments of primary transitive constructions (Croft 2012:259). In other words, what defines an alignment type is whether the S is grouped with either the A (S=A) or P (S=P) in its coding (or behavior), if at all. The major types are:

(i) (A=S≠P) (nominative-)accusative,
(ii) (A≠S=P) ergative(-absolutive)[41],
(iii) (A=S=P) neutral and
(iv) (A≠S≠P) tripartite.

Another minor type that can be distinguished is (v) horizontal alignment where the S is not grouped but the A and P align (S≠A=P).

The alignment patterns we reviewed below can be and generally are represented in linguistics by the following schemas (cf. Comrie 1978:332; Payne 1997:140; Croft 2001:138; Siewierska 2003; Velupillai 2012:239).

Figure 3. *Monotransitive alignment schemas*



[41] It is common for nominative-accusative and ergative-absolutive alignment to be simply labelled according to the case-marker of the isolated argument (accusative for the P, ergative for the A).

2.2.4.1. Accusative Alignment

Firstly, the accusative type, found across many of the world's languages and best-known for the Indo-European languages in Europe, aligns the S with the A and isolates the P (A=S≠P). The Semitic languages that exhibit case declension may serve as an example (see also Hasselbach 2013), such as Akkadian in (19). In terms of case-marking, the nominative case (Akk. sg. *-um*, pl. *-ū*) groups the S and A, whereas the accusative case singles out the P (Akk. *-am*). With respect to agreement, the verb cross-indexes the S and A arguments only. The verbal affix marking of the P is a pro-index. No object index is added in (19b). The S and A, therefore, not only align in terms of morphological marking but also in terms of trigger potential, since nominal P arguments do not trigger indexing to the same degree. The alignment of these constructions as such is accusative throughout.

(19) **Akkadian** (East Semitic, see Huehnergard 1997:6-7, 19-18, 168-169, 98)

[S←NOM] ← [S-V-S]

a. ***bīt-um*** *i-mqut-∅* (intransitive)
house-S:NOM:MS S:3-fall$_{PFV}$-S:SG
'The house collapsed.'

[A←NOM] [P←ACC] [A-V-A] (transitive)

b. ***ward-ū*** *bīt-am* *i-qqur-ū*
slave-A:NOM:MPL house-P:ACC:MS A:3-destroy$_{PFV}$-A:MPL
'**The slaves** destroyed the house.'

[A-V-A-P]

c. *ī-qqur-ū-šu* (person indexes)
A:3-destroy$_{PFV}$-A:MPL-P:3MS
'They$_M$ destroyed it$_M$.'

2.2.4.2. Ergative Alignment

Whereas the accusative pattern groups the S with the A, the ergative groups the S with the P (A≠S=P). In the following example from Northern Kurdish or Kurmanji, the S and P are formally equivalent but different from A in terms of case-marking and agreement. The first case form (*ez*, *tu*) marks both the S and P and is generally referred to as the absolutive. The second case (*min*, *te*) marks only the A and is termed ergative. The verb consistently expresses equivalent suffixal grammatical agreement with the S and P only. Agreement, therefore, is ergative in both morphological marking and trigger potential.

(20) **Kurmanji** (West Iranian, Turkey; Matras 1997:617-618)

	[S+ABS] ← [V-S]			
a.	***ez***	*çû-**m***		(intransitive)
	I:NOM	went-1SG		
	'**I** went.'			
b.	***tu***	*cû-**yî***		
	you:NOM	went-2SG		
	'**You** went.'			
	[A+ERG]	[P+ABS] ←	[V-P]	
c.	*te*	***ez***	*dît-**im***	(transitive)
	you:OBL	I:NOM	saw-1SG	
	'You saw **me**.'			
d.	*min*	***tu***	*dît-**î***	
	I:OBL	you:NOM	saw-2SG	
	'I saw **you**.'			

2.2.4.3. Neutral Alignment

The S, A and P are all treated the same (A=S=P). The following example sentences from English may serve as an illustration:

		[S]	[V]		
(21)	a.	*The bride*	*arriv-ed*		(intransitive)
		[A]	[V]	[P]	
	b.	*The groom*	*kiss-ed*	*the bride.*	(transitive)

Distinct morphological marking of the arguments is absent, so that the alignment is neutral in terms of case-marking and agreement. Word order, however, clearly contributes to role discrimination (the P occupies post-verbal position), and, thus, English alignment could be characterized as basically accusative.

Neutral alignment can also manifest itself by non-distinct morphological marking instead of its absence. The neutral type, on the other hand, is sometimes solely understood as the absence of dependent person forms (e.g. Siewierska 2004:52), since the phonologically non-distinct person indexes generally do display a distinct affix position, as exemplified below. The S argument is prefixal, while the A argument is suffixal, even though they are phonologically non-distinct (*dyi*).

(22) **Reefs** (Papuan, Eastern Outer Islands; Siewierska 2003:343-344, original source cited therein, glossing slightly adapted)

[S-V]

a. ***dyi***-*ki*-*egi* (intransitive)
S:1DU:INC-ASP-cry
'**We** cry.'

[P] [V-A]

b. *nyenaa* *ki*-*bwaki*-***dyi*** (transitive)
stick ASP-break-A:1DU:INC
'**We** broke the stick.'

The relative order of person indexes can even be free in several Bantu languages (e.g. Siewierska 2003:264). As explained in §2.2.3.32.2.5, however, even where the order is fixed, this may lead to ambiguity in determining an alignment pattern. Phonologically non-distinct person forms, therefore, are in principle also treated under neutral alignment here (cf. Siewierska 2003).

2.2.4.4. Tripartite Alignment

Tripartite alignment is the mirror image of the neutral pattern. The S, A and P are each treated differently (A≠S≠P), as illustrated in the following example from Yazgulyam, a Pamir language. The independent pronouns each enjoy distinct case marking. The first person singular would be *ž-mon* in the object case (Payne 1980:176), yielding *az* for the S, *mon* for the A and *ž-mon* for the P.

(23) **Yazgulyami** (East Iranian, Pamir; Bickel and Nichols 2009:309, original sources cited therein)

[$CASE_I$→S] [V]

a. *áz=əm* *mɔt* *mad* (intransitive)
1SG:ABS=1SG tired become:PST
'I am tired.'

[$CASE_{II}$→A] [$CASE_{III}$→P] [V]

b. *mon* *š-tu* *wint* (transitive)
1SG:OBL ACC-2SG see:PST
'I saw you.'

2.2.4.5. Horizontal Alignment

Horizontal alignment stands out in isolating the S and grouping the A and P (S≠A=P). It is also known as 'double oblique alignment' after the terminology for case systems in modern Iranian languages where this pattern predominates

(Payne 1980), as illustrated below. The S pronoun (*az*) is completely distinct from the A and P pronouns, while the latter two are the same in the so-called 'oblique case' (*mu*). The S is also treated differently in triggering indexing via a clitic person form (=*um*), while the A and P are not indexed[42]. One should note that the A-P-V word order contributes to their role discrimination, the A argument coming immediately before the P argument.

(24) **Rošani** (East Iranian, Pamir; Payne 1980:156, glossing adapted)

	[ABS:S]-[←S]			[V]	
a.	*az=um*	*tar*	*xār*	*vij*	(intransitive)
	1SG:ABS=1SG	to	town	be:PERF	
	'I've been to town.'				
	[OBL:A]	[OBL:P]		[V]	
b.	***mu***	*tā*		*wunt*	(transitive)
	1SG:OBL	2SG:OBL		see:PST	
	'**I** saw you.'				
c.	*tā*	***mu***		*wunt*	
	2SG:OBL	1SG:OBL		see:PST	
	'You saw **me**.'				

In some languages, such as Vafsi (Northwestern Iranian, Tati; Stilo 2004b:239-240), the agreement may also be horizontal in terms of trigger potential, since the agreement with the A and P is largely optional but agreement with the S is obligatory.

2.2.5. Ditransitive Alignment types

What characterizes ditransitive alignment patterns is the relationship between the P of a monotransitive construction (like the S) and the two arguments T and R of primary ditransitive constructions (like the A and P, e.g. Croft 1990:101-108; Siewierska 2003; Haspelmath 2005a; Andrews 2007; Malchukov et al. 2010b)[43]. The major types are:

(i) (T=P≠R) indirective,

(ii) (T≠P=R) secundative,

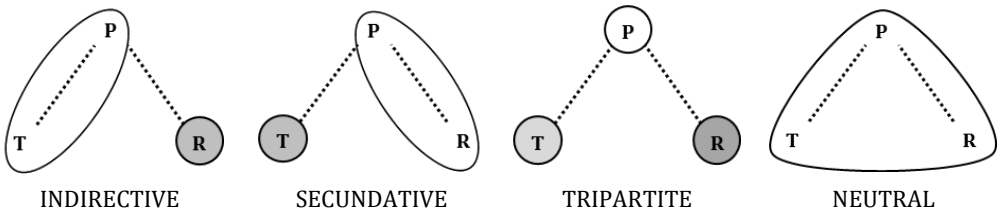
[42] These clitics also feature in the marking of A in other contexts and are extended to clauses like (19b) and (19c) among younger speakers (Payne 1980:158-161).

[43] The following discussion in this subsection is based on and closely conforms to the pattern of the literature cited here.

(iii) (T=P=R) neutral and
(iv) (T≠P≠R) tripartite.

These four patterns are reviewed below. The fifth theoretically possible type is (v) horizontal alignment where the T and R are grouped and the P is isolated (T=R≠P). Since there is no unambiguous attestation of this pattern (Kittilä 2006:27-28; Malchukov et al. 2010b:6), it will be excluded. The ditransitive alignment patterns are generally represented by the following schemas (compare Figure 3.):

Figure 4. *Ditransitive alignment schemas*



2.2.5.1. Indirective Alignment

The indirective type (T=P≠R) isolates the R through a (adpositional) indirect object construction while the P and T receive the same coding. The recipient is distinctly marked through the dative, as illustrated by *li-l-muʿallim-i* in (25b) below, or through a distinct set of person indexes, as illustrated by *-rə̀* in (26b) below. (25) offers an example of an indirective case-marking pattern, the P and T both marked as accusative. (26) offers an example of indirective indexing pattern, the P and T being both zero.

(25) **Modern Standard Arabic** (Central Semitic, Kász 2015:334-336, glossing slightly modified)

	[V] (monotr.)	[P←ACC]	
a.	*ḍarab-a*	*l-walad-u*	***l-kalb-a***
	beat$_{PFV}$-A:3$_{MS}$	ART-boy$_{MS}$-A:NOM	ART-dog$_{MS}$-P:ACC
	'The boy beat **the dog**'.		

	[V] (ditransitive)		[T←ACC]	[DAT→R]
b.	*ʾaʿṭ-at*	*l-bint-u*	***l-kitāb-a***	*li-l-muʿallim-i*
	give$_{PFV}$-A:3$_{FS}$	DEF-girl$_{FS}$-A:NOM	ART-book$_{MS}$-T:ACC	R:for-ART-teacher$_{MS}$-GEN
	'The girl gave **the book** to the teacher'.			

(26) **Abkhaz** (Northwest Caucasian, Georgia; Haspelmath 2005a:427, glossing slightly modified, original source cited therein)

a. (monotransitive)

[P]◄——— [P-A-V]

A-š°q°'-k°à **∅**-*z-be-yt'*

ART-book-PL 3PL:P-1SG:A-see-FIN

'I saw **the books**.'

b. (ditransitive)

[R] [T] ◄——— [T-R-V]

Sarà *a-x°əč'-k°a* ***a-š°q°'-k°à*** **∅**-*rə̀-s-to-yt'*

I DEF-child-PL ART-book-PL 3PL:T-3PL:R-3PL:A-give-FIN

'I gave **the books** to the children.'

The indirective pattern is also typical for constructions where dependent person forms are limited to the P and T, so that the R must be expressed independently (Siewierska 2004:60-61). (27) offers an illustrative example of this type from Syriac. Since the verb cannot take additional object indexes, the R is expressed through an independent dative pronoun.

(27) **Syriac** (Northwest Semitic, Aramaic; cf. Muraoka 2005:76-77)

[V-P]

a. *qṭol-ēh* (monotransitive)

kill:IMPV-P:3FS

'Kill her/it$_{F}$!'

[V-T] [DAT→R]

b. *hab̲-ēh* ***l-ī*** (ditransitive)

give:IMPV-T:3FS R:DAT-1SG

'Give her/it$_{F}$ **to me**.'

2.2.5.2. Secundative Alignment

The secundative type (T≠P=R) is the mirror image of the preceding type and is also termed a secondary object construction. The R is grouped with the P (the primary object) but the T is expressed differently through a distinct case-marker or person index. An example of secundative case-marking is found below where the locative expression *ní Yorùbà* represents the theme.

(28) **Yoruba** (Niger-Congo, Nigeria; Croft 1990:103, original source cited therein)

		[V]	[P]			
a.	*a*	*fẹ́*	***ówó***			(monotransitive)
	we	want	money			
	'We want **money**.'					
		[V]	[R]	[LOC→T]		
b.	*nwọ́n*	*kọ́*	***wa***	*ní*	*Yorùbá*	(ditransitive)
	3PL:SUBJ	teach	1PL.OBJ	LOC	Yoruba	
	'They taught **us** Yoruba.'					

2.2.5.3. Neutral Alignment

The absence of any distinct treatment results in neutral alignment (T=P=R), as illustrated below in the following example from Dutch and their English translations. This is also known as a double object or double accusative construction.

(29) **Dutch** (Germanic, the Netherlands)

			[V]	[P]		
a.	*De*	*jongen*	*zag*	***het***	***meisje*.**	(monotransitive)
	the	boy	saw	the	girl	
	'The boy saw **the girl**.'					
		[V]	[R]		[T]	
b.	*Hij*	*gaf*	***het***	***meisje***	***bloemen***	(ditransitive)
	he	gave	the	girl	flowers	
	'He gave **the girl flowers**.'					

In the above example, the objects are unmarked for case or agreement. A neutral pattern may also occur with overt morphological marking (for example in Vafsi, NW Iranian; Stilo 2010:263).

Word order restrictions may contribute to argument discrimination in double object constructions. This would otherwise result in ambiguity. Siewierska (2003:366) offers the following example of an ambiguous double object construction involving Modern Standard Arabic person forms. The object index *-hu* and the independent pronominal object *ʔiyyā-k* could both be interpreted as either the theme or recipient.

(30) **Modern Standard Arabic** (Central Semitic; Siewierska 2003:366, transcription and glossing modified, original source cited therein)

[V-T/R]	[A]	[T/R]
*ʾaʿṭā-**hu***	*l-ʾustād-u*	***ʔiyyā-k***
gave-3MS	the-teacher-NOM	ACC-2SG

'The teacher gave **him to you / you to him**.'

The relative order of dependent person indexes that are identical in form may also be interpreted differently. Siewierska (2003:364) offers the following example from Lomongo. Both object indexes *-m* and *-kaa* could either indicate the T or R regardless of affix shape and order.

(31) **Lomongo** (Bantu, DR Congo; Siewierska 2003:364, original source cited therein)

*a-o-ko-**m-kaa***
3SG-PAST-2SG-1SG-give
'He gave **you to me / me to you**.'

2.2.5.4. Tripartite Alignment

An example of ditransitive tripartite alignment is given below. The indexing is distinct for each argument. The suffix *-ʾe* marks the P, the prefix *e-* marks the R, while the T is unmarked.

(32) **Kanasi** (Trans-New Guinea, Milne Bay area; Siewierska 2003:347, original source cited therein)

	[A]	[V-P-A]		
a.	*ne*	*na-ʾe-pa*		(monotransitive)
	I	eat-2SG:P-1SG:FUT:A		
	'I will eat you.'			
	[T]		[R-V-A]	
b.	*kaire*	*ema*	*e-ne'e-oa*	(ditransitive)
	sweet potato	DEM	2SG:R-give-1SG:FUT:A	
	'I will give you this sweet potato.'			

2.2.6. Typological Markedness

Traditionally, alignment patterns are further distinguished by overt vs. zero marking (e.g. Dixon 1979, 1994; Croft 1988, 2001:138-146). Various scholars (among them, Tsunoda 1981; Comrie 1989; Lazard 1998) have argued that the

ergative and accusative alignment systems each have their own unmarked case which often has no overt morphological case-marking.

Functional typologists presuppose symmetric or assymetric functional relationship between form and function. When at least one of the arguments in the transitive counterpart (A, P) is treated similarly to the S, the relation between overt coding and the same treatment as the functionally unmarked S is symmetric for an alignment system where the morphologically and functionally unmarked properties of the form associated with the S also apply to the argument (A, P) it is morphosyntactically grouped with[44]. There are, however, also reverse patterns that lead to asymmetry. These are considered 'marked'.

The unmarked case is expected to be the nominative (S=A) for an accusative case system and the absolutive (S=P) for the ergative counterpart. Functionally, the unmarked case (nominative/absolutive) is used as citation form and more likely to be obligatory and express the topic of equational sentences, while the marked case (accusative/ergative) is more likely to be optional and have various additional functions such as temporal or locative expressions or marking of goals or instruments (Dixon 1994; cf. Handschuh 2015). Formally, if an argument involves zero case coding (Ø), this is most likely the one grouped with the S (nominative/absolutive), since it is more economical to overtly mark the isolated role (Comrie 1978).

Table 5 offers an example for Classical Arabic and Gəʿəz (Classical Ethiopic) which both have an accusative case system. The nominative and accusative may be both equally formally unmarked as displayed for Classical Arabic. The formally unmarked case in Gəʿəz is the expected nominative. The reverse would pertain to the marked equivalent. Marked nominative is a distinct subtype of accusative alignment where the P lacks overt coding and is used in citation. Comrie (2005:398) offers an example from Harar Oromo (Cushitic, Ethiopia) which is represented schematically in the last row of Table 5. This would be exactly the reverse in an ergative case system which is displayed in Table 6 illustrated by Tongan (Polynesian, Tonga) and Yup'ik (Eskimo, Alaska). The accusative and ergative alignment types are each other's mirror image in terms of markedness. Marked absolutive is thus far only found in Nias (Malayo-Polynesian, Indonesia) illustrated by the last row in Table 6 where it is the A that lacks overt coding and is used in citation (Handschuh 2015:31).

[44] One should note that his does not apply to tripartite (S≠A≠P) or horizontal alignment (S≠A=P).

Table 5. *Zero vs. overt case coding in the accusative type*

	NOMINATIVE (S=A)	ACCUSATIVE (≠P)	GLOSS
Classical Arabic	*bayt-un*	*bayt-an*	'a house'
Gəʿəz	*bet-Ø*	*bet-a*	'house'
Harar Oromo	*sárée-n*	*sáréé-Ø*	'dog'

Source*: Following Table 4.3 in Croft (2001:139). Harar Oromo data from Comrie (2005:398, original source cited therein).*

Table 6. *Distribution of zero vs. overt case coding in the ergative type*

	ABSOLUTIVE (S=P)	ERGATIVE (≠A)	GLOSS
Tongan	*'a he talavou*	*'e ha talavou*	'a young man'
Yup'ik	*nuna-Ø*	*nuna-m*	'land'
Nias	*n-asu*	*Ø-asu*	'dog'

Source: *Table from Croft (2001:140), slightly adapted, and Nias data from Handschuh (2015:31, emphasis mine, original sources cited therein).*

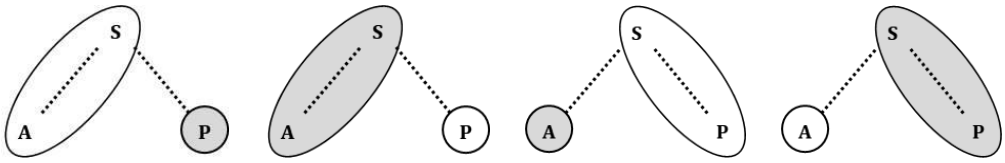
Dixon (1979) introduced the term 'extended ergative' to describe a case-marking system where the case-marker of the A is extended to the S while the P is functionally and morphologically the more default form. Later, Dixon (1994:64) prefers the less confusing label 'marked nominative' instead of 'extended ergative', because the distinction between the S and P is clearly not typical for an ergative system. Moreover, it need not be the case that the P is unmarked, even though a formally ergative case-marker of the A extends to the S. This is, for instance, found in the upper dialect of Waxi, a Pamir language described by Payne (1980:180-181), where not only the special marker of the A extends to the S but the P also has developed a dedicated case marker.

The markedness in the indexing of arguments is defined in terms of trigger potential and possible zero realization (e.g. Dixon 1994:67-68, Croft 1988, 2001:140-141). It is the presence of agreement that correlates with the least marked argument. The P is not overtly expressed in accusative indexing, while the A is not overtly expressed in ergative indexing. In Classical Arabic, for example, full nominal Ps cannot trigger indexing. In Gəʿəz, full nominal Ps can trigger indexing but it is conditional, while indexing of S and A is obligatory. Conversely, obligatory indexing of the A but optional marking of the P and S would be marked in the ergative agreement system. In phonogical form, the set of indexes that more likely includes zero morphemes is the S and A in the accusative type

and the S and P in the ergative type. Thus, if indexing of the P does occur, zero morphemes would be marked for the accusative grouping, while zero morphemes in the set of agent indexes would be marked in the ergative counterpart.

Figure 5 offers a summary of the major alignment types in terms of markedness sofar. One can observe how, strictly in terms of markedness, the P of the marked nominative exhibits the same properties as the P of the ergative and the A of the marked absolutive the same as the A of the accusative (both are outside of the gray area). In this sense, the marked alignment types are neither typically accusative nor ergative. The groupings, however, are clearly identifiable, and, for this reason, it is only logical to subsume 'marked nominative' as a subtype under accusative alignment (A=S≠P) and 'marked absolutive' under ergative alignment (A=S≠P).

Figure 5. *Marked nominative and marked absolutive compared*



ACCUSATIVE | MARKED NOMINATIVE | ERGATIVE | MARKED ABSOLUTIVE

Notes: *The arguments outside of a gray area*

- *may display zero coding (case-marking, zero morpheme in agreement affixes)*
- *have a greater potential to trigger agreement.*

Croft (2001:142-146) shows similar coding patterns for the major ditransitive alignment types (indirective and secundative alignment). It is expected that zero or overt coding properties and agreement potential of the patient also apply to the argument (T, R) that it is morphosyntactically grouped with, and not the other way around. For instance, it is considered marked for indirective alignment (T=P≠R) that it is the R that is possibly zero-coded and triggers agreement, while the P and T are overtly coded and do not trigger agreement (i.e. T=P≠R against T=P≠R). Similarly, one would <u>not</u> expect for secundative alignment (T≠P=R) that it is the T that is zero-coded and triggers agreement, while the P and R are overtly coded and do not trigger agreement (i.e. T≠P=R against T≠P=R). These unexpected types would be 'marked primative' and 'marked directive' (cf. Haspelmath 2005a) but, in fact, only the marked primative seems to be found thus far where the P and R are zero-coded but the T is overtly coded (Haspelmath 2005a). Moreover, it is unexpected that the possible

zero-coding or a greater trigger potential should apply to the T or R but not to the A and P (Croft 2001:165).

All things considered, zero coding and/or the trigger potential tends to be implicational for the argument grouped with the S (or with the P in ditransitives) which can be formulated as follows:

(33) **Implicational distribution of zero vs. overt coding**
If the unmarked arguments, i.e. nominative (S+A) or absolutive (S+P), show overt case-marking and can control agreement, the marked arguments, i.e. accusative (P) or ergative (A), will also do so**.** (after Croft 2001:139-146)

Patterns that go against this tendency or scale are considered typologically marked such as 'marked nominative' and 'marked absolutive' and are rare cross-linguistically. These are given in Table 7. where '0' represent the absence and 'm' the presence of overt marking (following Haspelmath 2005b).

Table 7. *Marked intransitive/transitive alignment types*

	MARKED NOMINATIVE			MARKED ABSOLUTIVE		
	S	**A**	**P**	**P**	**S**	**A**
CASE-MARKING	m	m	0	m	m	0
AGREEMENT	0	0	m	0	0	m

It is the argument which is <u>not</u> grouped with the S (the utter left in the scale above) in marked systems that is zero-coded and/or has a greater trigger potential.

The same seems to hold even more strongly so for ditransitive alignment types regarding the P and its morphosyntactic partner (the T or R) for which only the marked primative type of case-marking seems to exist:

Table 8. *Marked ditransitive alignment types*

	MARKED PRIMATIVE			MARKED DIRECTIVE		
	P	**R**	**T**	**P**	**T**	**R**
CASE-MARKING	m	m	0	m	m	0
AGREEMENT	0	0	m	0	0	m

2.3. Verb-Related Factors

When the manifestation of one alignment pattern besides another is conditioned by semantic and/or grammatical properties, we speak in terms of a split. The semantics of the event denoted by the verb or the construction as a whole is a common cross-linguistic conditioning factor of constructional splits. Hence, this is sometimes referred to as "semantic alignment" (Donohue 2008). This may involve a split between intransitive constructions or a split between transitive constructions. The present tense, for instance, may be aligned accusatively, while the past tense is aligned ergatively. When ergative alignment is restricted with respect to the accusative, this is generally called split ergativity (Comrie 1978; Dixon 1979, 1994). Following Haig (2008:9), this terminology is avoided, as "it is not ergativity that is split, but alignment". Lexical verb classes can be open as opposed to closed, so that one construction is available to all verbs while another is restricted. Event-related properties such as an action as opposed to state and role-related properties such as control and affectedness can be involved in such classifications but this is certainly not always the case. Alignment splits conditioned by clausal properties such as tense, aspect and/or mood (= TAM) have been studied alongside internal splits based on lexical verb semantics (e.g. Tsunoda 1981). Both are subsumed under 'verb-related factors' here.

2.3.1. Split and Fluid Subject-Marking

The marking of the S and alignment of arguments can vary based on verbal semantics. The S can align with either the A or the P, so that we can speak in terms of an S_A and S_P form.

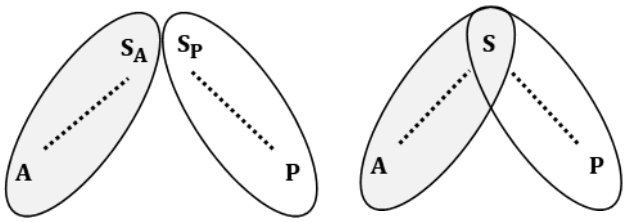
In Guaraní (indigenous American language spoken in Paraguay), for example, the S_A form is limited to verbs that denote an active-dynamic situation such as 'go', 'die' or 'sleep', while the S_P to those that denote a stative situation (like 'be fast', 'be dead' or 'be sleepy'). The semantically more transitive verbs groups the S and A. In the following example, the prefix *a-* marks the A as well as the S of dynamic intransitive verbs and the prefix *še-* marks the P as well as the S of stative intransitive verbs.

(34) **Guaraní** (Paraguay, Mithun 1991:511)

	TRANSITIVE			INTRANSITIVE	
a.	***a**-gwerú*	*aĺ́na*	c.	***a**-xá*	(S=A, dynamic)
	A:1SG-bring	them		S:1SG-go	
	'**I** am bringing them now.'			'**I** go.'	
	TRANSITIVE			INTRANSITIVE	
b.	***še**-rerahá*		d.	***še**-ropehɨ́í*	(S=P, stative)
	P:1SG-carry.off			S:1SG-be.sleepy	
	'It will carry **me** off.'			'**I** am sleepy.'	

Dixon (1979, 1994) distinguishes between split subject-marking and fluid subject-marking[45]. The main difference between them is the number of lexemes, respectively, verb classes involved. Split subject-marking confines S_A or S_P forms to specific verb classes depending on semantic prototypes, as in the Guaraní example above. Sometimes there is an open as opposed to a closed verb class, so that one form is more common overall than the other. Fluid subject-marking, however, allows one single verb class to occur in either S_A or S_P forms. In Guaraní, for example, some verbs can occur in either the S_A or S_P form. Mithun (1991:13), for instance, notes that "the verb *kaʔú* means 'to get drunk" in the S_A form "but 'to be a drunkard, to be drunk'" in the S_P form. One should note, therefore, that a language may show both split and fluid subject-marking. Figure 6 displays the two types in form of a schema.

Figure 6. *Split and fluid subject-marking*



SPLIT S-MARKING FLUID S-MARKING

Various factors may be involved in split and fluid subject-marking. The type exemplified in Guaraní above is on the basis of aspect and also known as active-stative alignment. A dynamic situation, respectively, action is generally distin-

[45] This is sometimes also called split intransitivity (e.g. Payne 1997; Andrews 2007; Creissels 2008a).

guished from a stative situation, respectively, inaction by the occurrence of change or not. Activities like 'walk' or processes like 'grow' are dynamic, since they presuppose a change, while a state like 'be sleepy' does not. The opposition between action and inaction of the intransitive situations correlates with the agent as instigator, respectively, initiation phase and patient as endpoint, respectively, result-state phase of a transitive situation (e.g. DeLancey 1981).

Another type of split and fluid subject-marking is known as an agent-patient split (Nichols 1990) where the degree of agentivity or affectedness determines the grouping of the S. If the S is in control and thus instigating like an agent (such as the subject of 'walk', 'swim' etc.), it shares its coding properties with the A but if it lacks control and is affected like a patient (such as the subject of 'fall', 'die'), it shares these with the P. An example of this is Lakhota, a Native American language in Dakota (Mithun 1991). The person indexes variably align with the A or P depending on control such that a controlled activity like 'swim' takes S_A coding but an uncontrolled event like 'faint' or 'die' takes S_P coding. (There is no overt coding of the third person.)

(35) **Lakhota** (Siouan, Dakota, United States; Mithun 1991:514, emphasis original)

	TRANSITIVE		INTRANSITIVE	
a.	***wa**-ktékte* A:1SG-kill '**I**'ll kill him.'	c.	***wa**-núwe* S:1SG-swam '**I** swam, bathed.'	(S=A, controlled)
b.	***ma**-ktékte* P:1SG-will.kill 'He'll kill **me**.'	d.	***ma**-t'é* S:1SG-died '**I** fainted, died.'	(S=P, uncontrolled)

An example of a split in case-marking is Basque which largely has ergative case-marking. The S of a few intransitive verbs, however, such as 'boil' in (36c) takes ergative case-marking and the verb takes transitive coding instead of the expected absolutive such as the S of 'come' in (36b) (Creissels 2008a:143).

(36) **Basque** (Creissels 2008a: 143, glossing slightly adapted)

a. ***Gizon-ak*** *ur-a* *edan* *du*
man-SG:ERG water-SG:ABS drink$_{PFV}$ AUX:PRS:P:3SG:A:3SG
'**The man** has drunk the water.'

b. *Gizon-a* *etorri* *da*
man-SG:ABS come$_{PFV}$ AUX:PRS:S:3SG
'The man has come.'

c. ***Ur-ak*** *irakin* *du*
water-SG:ERG boil$_{PFV}$ AUX:PRS:P:3SG:A3SG
'**The water** has boiled.'

Split subject marking is more common for agreement than case-marking (Dixon 1994:76; Siewierska 2004:53, 57)[46].

Semantic factors motivating differences in subject marking often correlate and it is not always clear which semantic feature, be it aspectual or causal, is more significant than others. Croft (2001:162-165, 2012:257-258) classifies intransitive situations according to the hierarchy in (37) below which is mainly characterized by control.

(37) **Hierarchy of A-like or P-like subject coding** (based on Croft 2001:163, 2012:257-258)
MORE LIKELY TO TRIGGER A-LIKE CODING
- **Controlled activities**: agentive processes such as *run*, *dance, go out* etc.
- **Inactive Actions** denoting a position, location such as *sit*, *hang*, *stay* etc.
- **Inherent Properties**: permanent, unchanging attributes such as *be red*, *tall* etc.
- **Dispositions**: personal traits such as *be proud*, *wise*, *jealous* etc.
- **Bodily Actions** which can be controlled or uncontrolled such as *cough*, *sweat* etc.
- **Inchoatives** (of dispositions or properties) such as *become proud*, *red* etc.
- **Uncontrolled Activities** or processes such as *die*, *slip*, *grow* etc.
- **Transitory States** that imply a prior process such as *be sick*, *tired* etc.

MORE LIKELY TO TRIGGER P-LIKE CODING

Croft contends there is a cross-linguistic tendency for agent-like coding of the S to become more likely for the semantic classes at the upper end with controlled activities such as *dance* at the top and an the other way around for patient-like coding of the S towards the lower end with uncontrolled activities such as *die* and transitory states such as *be sick* at the bottom.

Languages will differ in what respect subject marking is sensitive to agent-like and patient-like features. Control is more central to Croft's hierarchy than

[46] Word order alternations also exist. The S_A precedes the verb while the S_P follows the verb in Ambonese (Malay, Donohue 2008:37-38).

affectedness. Arkadiev (2008) argues that languages will tend to outrank either volitionality (respectively, control) or telicity (respectively, change of state) for agentive telic predicates. A telic situation is characterized by a change of state that reaches its natural endpoint or result phase (after Greek *telos* 'goal, end'), such as *I sat down*, *I went to the market* and the like (Comrie 1976:45). The counterpart is known as atelic. Alignment with the patient for telic verbs could be connected with the patient coinciding with the endpoint of the transitive situation (e.g. DeLancey 1981). In Georgian, for example, telic verbs will align their S with the P and not with the A which indicates that telicity outranks volitionality (Arkadiev 2008).

Moreover, although semantic factors may be discerned in the classification of verbs and split in subject marking, there is ample room for language-specific arbitrariness (e.g. Dixon 1994:74-75; Creissels 2008a:150-151). There appears to be no obvious semantic reason for the S_A coding in Basque, for example. It appears to be a recent, increasingly common shift that is spreading from Western to Eastern Basque (Aldai 2008).

Finally, such split-S systems can be characterized as an independent, coherent alignment type *sui generis* (cf. Mithun 1991). Often, however, languages that exhibit non-accusative alignment will also have a set of verbs that take A-like subject marking within their system. In Basque, for example, when the verb 'eat' occurs in an intransitive construction, it may maintain A-like subject coding. The 3sg. is the unmarked form of the verb and, therefore, non-referential in the meaning of 'Martin ate', but it indicates that morphosyntactically some transitivity is preserved (Comrie 1978:118):

(38) **Basque** (Comrie 1975:118, 1978:333, 358)

	[ABS→S]	[V]	
a.	*Martin*	*ethorri*	*da.*
	Martin-ABS	came	AUX-3SG:S
	'Martin came.'		
	[ERG→S(A)]	[V]	
b.	*Martin-ek*	*jan*	*du.*
	Martin-ERG	ate	AUX-3SG:A(-3SG:P)
	'Martin ate.'		

The dividing line, therefore, between ergative alignment and split S-marking is not always clear. Comrie (2005:399) considers that, when it is only a small

number of verbs that take A-like subject coding, the pattern instantiated by the majority of verbs is the basic alignment (at least for comparative purposes).

Lazard (1998:136-139) calls verbal forms with non-identifiable P-marking like (38b) an anti-impersonal construction. He notes that animal noises or sound emission verbs such as 'bark', more or less controllable bodily responses such as 'sneeze' and 'laugh' and manner of motion verbs such as 'dance' and 'run' are a common exception in taking agent-like coding in languages that otherwise exhibit ergative alignment (cf. Sorace 2000:877). They typically include verbs whose lexical aspect belongs to situations that are called semelfactive (Comrie 1976:42) used to distinguish a punctual atelic predicate involving an instantaneous event (happening only once) from an iterative atelic one with a serial meaning (happening in a series). Lazard (1998:139) suggests that such verbs tend to take S_A coding, because they imply a single, instant, manifestation impressing on a perceiver via the senses that is, morphosyntactically, realized in the reduced referentiality of the patient. Control is an ambiguous feature of such instantaneous bodily actions (cf. Sorace 2000:877).

In complex predicates or light verb compound constructions (sometimes also termed phrasal verbs), however, the choice of S_A or S_P is largely determined by the light verb and may be semantically arbitrary (Creissels 2008b). In such light verb constructions, a non-referential dummy nominal element is incorporated in the verbal construction as a single constructional unit. In Vafsi (Tati, Northwestern Iranian; p.c. Stilo), for example, the verb *gen-*/*kætt-* 'fall' may combine with the NP *rá* 'road' to convey the meaning of 'set off' (lit. 'to road-fall') where the controlling subject takes S_P coding because of the light verb. It takes an ergative subject because of the otherwise transitive light verbs such as *kærd-* 'do' or *da-* 'give', e.g. including less or uncontrollable situations such as *æræq kærd-* 'sweat'. Interestingly, some of the verbs in Vafsi that are semantically intransitive but combine with S_A coding belong to semantic fields of the anti-impersonal constructions mentioned by Lazard (1998:139), e.g. *to kærd* 'spit' (lit. spit-do), *sezne da* 'sneeze' (lit. sneeze-give), *guz da* 'fart (noisily)' (lit. fart-give) (Stilo p.c.).

In sum, the grouping of the S argument, especially as manifested through agreement, can vary between an ergative and accusative pattern and align with either the A (S=A) or the P (S=P). Split subject marking distinguishes lexical classes of verbs, some treating the S like the A, others treating the S like the P. Fluid subject marking allows one lexeme to occur in different constructions where the S aligns with either argument. If a semantic basis can be identified for such split or fluid subject marking, the S_A verbs tend to denote controlled involvement, a

dynamic and atelic situation, and some implicit effect as in semelfactives ('sneeze'). The opposite, S_P verbs tend to denote uncontrolled, affected involvement and a stative or telic situation. Lexicalization, however, often obscures these tendencies.

2.3.2. Tense, Aspect, and Mood

Alignment may also differ depending on clause-level grammatical information expressing the categories of tense (such as future, present and past), aspect (such as imperfective and perfective) and mood (such as realis vs. irrealis) or modality (such as possibility, necessity etc.) that are often abbreviated to TAM. There are noteworthy cross-linguistic preferences for the grouping of S and A (S=A) in the irrealis, non-past, and/or imperfective constructions against the grouping of the S and P in the realis, past, and/or perfective constructions. The S aligns either with the P or the A depending on the TAM category expressed by the construction. It is also possible that ditransitive constructions manifest distinct argument coding depending on TAM.

In Kurmanji, or Northern Kurdish, for example, past tense constructions show ergative alignment, while non-past tense constructions show accusative alignment. Example (39) illustrates this split. The verb always agrees (e.g. *-î*) only with the argument in the 'nominative' case (e.g. *tu*); this is the P in the past and the A in the present. The 'oblique' case (e.g. *min*), in turn, marks the A in the past but the P in the present. One should also note the consistency of word order in the transitive constructions. The A precedes the P. The coding properties, by contrast, are inverted. The S ergatively aligns with the P in the past but accusatively with the A in the non-past (present or future). Figure 6 below represents this in a schema.

(39) **Kurmanji** (West Iranian, Turkey; Matras 1997:617-618)

PAST: ERGATIVE (S=P)

	[A]	[P] ←	[V-P]
a.	*min*	***tu***	*dît-**î***
	I:OBL	you:NOM	saw-2SG
	'I saw **you**.'		

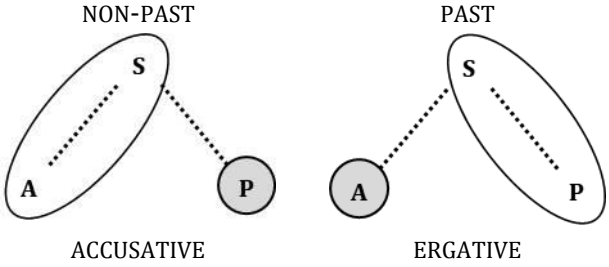
	[S]	[V-S]
b.	***tu***	*çû-**yî***
	you:NOM	went-2SG
	'**You** went.'	

PRESENT: ACCUSATIVE (S=A)

	[A]	[P]	[V-A]
c.	***tu***	*min*	*di-bîn-**î***
	you:NOM	I:OBL	PROG-see-2SG
	'**You** see me.'		

	[S]	[V-S]
d.	***tu***	*di-ç-**î***
	you:NOM	PROG-go-2SG
	'**You** are going.'	

Figure 7. *Alignment split conditioned by TAM in Kurmanji*



The dividing line between accusative and ergative alignment in languages such as Kurmanji is tense: non-past vs. past. In Indo-Aryan languages such as Hindi and Mayan languages such as Chorti, the dividing line is between perfective and imperfective aspect (Dixon 1994:100; cf. Comrie 1978:351-352). Moreover, although such TAM-conditioned splits are commonly between accusative and ergative alignment in the imperfective/non-past and perfective/past, other oppositions are also found. The imperfective in Gujarati, for instance, follows a neutral case-marking pattern against ergative case-marking in the perfective (DeLancey 1981:628-631). Furthermore, it has been claimed for some Cariban languages (Amazonia) that it is rather the imperfective/non-past conditions that favor an ergative pattern (Gildea and de Castro Alves 2010).

Mood is also a category that correlates with accusative or ergative marking and indirectly with tense (such as the future) and possibly aspect (such as proximative). The future/irrealis or imperative/hortative mood favors accusative marking in some languages that manifest a split (Dixon 1994:101). Dixon (ibid.) notes that moods such as the imperative focus on a controllable activity which would typically target the A and/or S and, hence, disfavor a grouping of the S with the P. But it may also be the other way around. Ergative alignment, for instance, is found for the future/irrealis and past and perfect in Newari (Tibeto-Burman, Nepal, Givón 1985a:93).

Based on cross-linguistic studies of splits conditioned by TAM, Malchukov (2015) proposes the following correlating scales or hierarchies that can be subsumed under a Tense-Aspect-Mood hierarchy. This hierarchy presupposes that, when a language exhibits a split between ergative and accusative alignment, ergative alignment is more likely to be manifested in constructions involving the features towards the right edge of the scales. The scales are also implicational, so that once the ergative pattern is manifested in constructions belonging to the left edge, it will also tend to do so to the right, and *vice versa* for the accusative.

(40) **Tense-Aspect-Mood hierarchy** (based on Malchukov 2015:287)

ASPECT:	IMPERFECTIVE	>	PERFECTIVE	(> PERFECT > RESULTATIVE)
TENSE:	(FUTURE >) PRESENT	>	PAST	
MOOD:	IMPERATIVE	>	NON-IMPERATIVE	

◄– ►

ACCUSATIVE	ERGATIVE
(S=A)	(S=P)
MORE LIKELY	MORE LIKELY

Some scholars[47] argue that the features on the left edge entail a viewpoint of the event from the perspective of the agent and the right edge from the perspective of the patient. The perfective aspect, then, entails a viewpoint of the event that is ultimately oriented towards a definite result terminating in and affecting the patient. This readily combines with the past tense, since completeness and completion neatly go hand in hand. Aspect defines where the situation unfolds over time within its temporal structure in a part-whole relationship (Shibatani 2006:220-221). The event is viewed as a complete whole from beginning to end in the perfective aspect but viewed from a specific point or several points of the temporal phase (such as habits) between beginning and end in the imperfective. The perfective past, for instance, expresses complete, bounded events in the past and aligns the S with the P distinct from the accusative alignment in the imperfective past which expresses ongoing or iterated events. Since the manner in which the activity or process unfolds through time is more central to the imperfective aspect, this is mainly dependent on the agent's involvement which would be conventionalized in accusative alignment (e.g. Comrie 1981:69; DeLancey 1982).

Nevertheless, it seems more plausible that this patient-orientation is merely an epiphenomenon of the diachrony. There is no *a priori* reason why perfective past constructions should favor ergative alignment or bias accusative alignment. Indeed, the ergative constructions in tense-aspectual splits are well-known to originate historically in resultative constructions involving an adjectival form of the verb that expresses the state of a patient (e.g. Anderson 1977; Trask 1979; Creissels 2008b; cf. Haig 2008 on Iranian). Interestingly, the aspect scale above represents diachronically the grammaticalization of resultative to perfective past via the perfect (e.g. Bybee and Dahl 1989):

[47] See inter alia DeLancey (1981), Givón (1984a:156-158), Dixon (1994:100-101), Lazard (1998:214-217) and Næss (2007:118-119).

(41) stative > resultative > perfect > perfective past

It is most likely, then, that the ergative construction in a TAM alignment split is at least in some cases the outcome of a historical development of originally intransitive resultative participial constructions that grammaticalized to and was conventionalized as the main expression of the perfective past. Conversely, in other cases, it is the progressive that is based on an intransitive construction where the S typically marks the agent of an activity in progress. This can further grammaticalize into an accusative pattern besides the predominent ergative alignment in the rest of the language (e.g. Creissels 2008b).

Although the discussion mainly centers on accusative as opposed to ergative alignment, other types of alignment can also be conditioned by TAM. Split subject marking, for example, is TAM-conditioned in some languages. Hindi, for example, exhibits split and fluid subject marking in the perfective and perfect which appears to be semantically mainly conditioned by intention (i.e. "conscious choice", Butt and King 1991; Mohanan 1994).

(42) **Hindi** (Indo-Aryan, India; Mohanan 1994:71; glossing slightly modified)
[S=P]
a. *raam* *giraa*
Ram-NOM fall-PERF
'Ram fell hard.'
[S=A]
b. *raam-ne* *nahaayaa*
Ram-ERG bathe-PERF
'Ram bathed.'
[S=A/P]
c. *raam*(*-ne*) *jorse* *cillaayaa*
Ram(-ERG) loudly shout-PERF
'Ram shouted loudly (deliberately).'

In addition, TAM-conditioned argument coding is not always split between two distinct TAM categories. Georgian, illustrated in (43) below, for instance, has three distinct case-marking patterns depending on tense (Harris 2001). The coding of the A differs in all three series of tenses: 'nominative' for the present or future, 'ergative' for the aorist (i.e. perfective past) and 'dative' for the perfect (i.e. evidential). The 'dative' case marks the P in the first series but the 'nominative' marks the P in the second and third series. In addition, the third series in-

verts the case-marking pattern of the first: dative A vs. nominative P (against the other way around in I). In addition, although the marking of the S is always the nominative case in series I, it is split in series II and III[48]. The present and related tenses, therefore, manifests accusative alignment while the aorist and perfect exhibit split subject marking or active-stative alignment, each with distinct agent coding. This is consistent with the scales in (40) above, since the accusative pattern is still favored in the non-past tenses.

(43) **Georgian** (Kartvelian, Georgia; Harris 2001:1378-1380, glossing slightly adapted)

	[A]	[P]	[V]	
a. **I: NOM-DAT**	*merab-i*	*ɣvino-s*	*amoiɣebs*	(future)
	Merab-NOM	wine-DAT	take.out	
	'Merab will take out wine'			
b. **II: ERG-NOM**	*merab-ma*	*ɣvino-Ø*	*amoiɣo*	(aorist)
	Merab-ERG	wine-NOM	take.out	
	'Merab took out out wine'			
C. **III: DAT-NOM**	*merab-s*	*ɣvino-Ø*	*amoiɣia*	(perfect)
	Merab-DAT	wine-NOM	take.out	
	'Merab evidently took out wine'			

Finally, the T and R may also be treated differently depending on TAM. In Mukri Kurdish, for example, TAM is expressed with distinct person forms and attachment patterns for the A and R in the past against the A and R in the present (Öpengin 2013:267-268).

In brief, when a language manifests a split between accusative and ergative (or other non-accusative types of) alignment based on TAM, the semantic properties often seem to be non-past, imperfective, and/or imperative mood for the accusative contrasting with past, perfective, and/or non-imperative for the ergative or split subject marking.

[48] One subclass of intransitive verbs such as 'grow' takes nominative subjects and thus P-like coding in series II and III while another subclass of verbs such as 'run' takes A-like coding: ergative in II the aorist and dative in III the perfect (Harris 2001; Aldai 2008).

2.3.3. Transitive Semantics

Ever since Hopper and Thompson's (1980) seminal article, typological linguists[49] have argued that the prototypical transitive semantics of the event as a whole contributes to the preference of more transitive morphosyntax in constructional splits and alternations. The intransitive valence pattern tends to be used for the semantically less transitive situation (e.g. Tsunoda 1981; Hopper and Thompson 1980; Givón 1984a, 1985). One of the agent-like or patient-like arguments is treated more like the S or more like OBL[50].

Languages have various valence-reducing devices that downgrade the patient (cf. Payne 1997). Alternative constructions such as the antipassive voice that are favored when the effect on the patient is reduced (e.g. Cooreman 1994). Cross-linguistically, the antipassive and comparable constructions are largely uniform in expressing reduced semantic transitivity in marginalizing the effect on the patient (e.g. Hopper and Thompson 1980; Tsunoda 1981). In Samoan, for example, a Polynesian language, a transitive verb such as 'eat' occurs in an intransitive construction in (44b) where the agent is expressed as the S. The patient equivalent to the transitive counterpart in (44d) is expressed as the OBL. The locative-directional case is used to denote a partially affected undergoer (Mosel and Hovdhaugen 1992:108).

(44) **Samoan** (Polynesian, Samoa; Mosel and Hovdhaugen 1992:105, 108, 429, glossing adapted)

	[V]		[S]			
a.	*Sā*	*paʻū*	Ø	*le*	*teine*	(patientive intransitive)
	PST	fall	ABS	the	girl	
	'The girl fell.'					
	[V]		[S]			
b.	*Sā*	*ʻai*	Ø	*le*	*teine*	(patientless antipassive)
	PST	eat	ABS	the	girl	
	'The girl ate.'					

[49] See *inter alia* Lakoff (1977), Comrie (1978, 1989), Hopper and Thompson (1980), DeLancey (1984, 1987), Givón (1984a, 1985a), Langacker (1987, 1991a-b), Croft (1990, 1991), Lazard (1998, 2002), de Swart (2006), and Næss (2007).

[50] A rather extreme view found in the literature is that ergative alignment itself is even conceptually based on transitivity (e.g. Cooreman et al. 1984; Givón 1985a) and its effects, therefore, are predicted to characterize any split between ergative and some other construction (e.g. Givón 1984a:153-163).

	[V]		[S]			[OBL]			
c.	*Sā*	*'ai*	*Ø*	*le*	*teine*	*i*	*le*	*i'a*	(antipassive)
	PST	eat	ABS	the	girl	LOC	the	fish	
	'The girl ate some fish.' (lit. The girl ate from the fish)								
	[V]		[A]			[P]			
d.	*Sā*	*'ai*	*e*	*le*	*teine*	*Ø*	*le*	*i'a*	(transitive)
	PST	eat	ERG	the	girl	ABS	the	fish	
	'The girl ate the fish.'								

The affectedness or change of state of the P is arguably the most fundamental feature that contributes to the transitivity overall. When the patient is totally affected, the change of state is completed and the endpoint of the event is clearly delimited and the transitive construction is preferred. When the patient is not totally affected and/or the change of state incomplete, the delimitations become vaguer. The most important of these shared properties can be summed up as follows:

(45)

ANTIPASSIVE	ERGATIVE
less transitive	more transitive
imperfective	perfective
partial affectedness of P	complete affectedness of P
atelic	telic
durative	punctual
stative	dynamic

The intransitive construction is favored when the effect on the patient is less salient and the activity is more central. In Hopper and Thompson (1980)'s model, this is the reduction of transitivity.

Samoan two-argument experiencer verbs, for example, show a transitivity alternation that is not only grounded in the affectedness of the patient but also in the lexical aspect. The verb *va'ai* 'see' is atelic and non-punctual in the sense of 'look at' in the intransitive construction in (46a) or telic and punctual in the sense of 'spot' in the transitive construction in (46b) (Mosel and Hovdhaugen 1992:733). A special transitivizer *-a* is added to the verb in the latter sense. Similarly, the verb *faitau* 'read' in (46c) refers to a more durative activity where possibly only part of the letter is being read, while the same verb in (46d) with transitive coding is presented as a single whole where all of the letter is read.

(46) **Samoan** (Polynesian, Samoa; Hopper and Thompson 1980:270, 272, cf. Tsunoda 1981:416-417; glossing adapted)

			[S]			[OBL]			
a.	*Na*	*va'ai*	*Ø*	*le*	*tama*	*i*	*le*	*i'a***.**	(atelic, durative)
	PST	see	ABS	the	boy	LOC	the	fish	
	'The boy looked at the fish.'								
			[A]			[P]			
b.	*Na*	*va'ai-a*	*e*	*le*	*tama*	*Ø*	*le*	*i'a.*	(telic, punctual)
	PST	see-TR	ERG	the	boy	ABS	the	fish	
	'The boy spotted the fish.'								
			[S]		[OBL]				
c.	*Sā*	*faitau*	*Ø*	*Ulika*	*i*	*l=a=na*	*tusi*		(atelic, durative)
	PST	read	ABS	Ulika	LOC	the=POSS=3SG	letter		
	'Ulika read her letter.' (lit. read in her letter)								
			[A]		[P]				
d.	*Sā*	*faitau*	*e*	*Ulika*	*Ø*	*le*	*tusi*		(telic, punctual)
	PST	read	ABS	Ulika	ABS	the	letter		
	'Ulika read the letter.' (Mosel and Hovdhaugen 1992:111)								

One should note, however, that there are known counterexamples where the antipassive marks precisely the opposite, a highly individuated and affected patient much like differential object marking (cf. Comrie 1978:362-363). Moreover, the relationship between transitivity and the properties of the agent is even more controversial (e.g. Fauconnier 2011B, 2012). Conscious choice, for example, is reported not only to play a key role in split subject marking but also in split agent marking in Hindi (Mohanan 1994:72-75). The lower the S or A is in agentivity (i.e. control, intention), the more likely it is marked by something other than the ergative case. The human argument in (47a) consciously and deliberately initiates an action like the A in (47c), while something happens to the human argument in (47b) uncontrolled/unintended like the same argument in (47d).

(47) **Hindi** (Indo-Aryan, India; Mohanan 1994:72, 74; glossing adapted)

a.	*us-**ne***	*jaan buuj^{h}kar*	*cillaayaa*
	he-ERG	deliberately	shout-PERF
	'He shouted deliberately.'		

b. *vah* *cillaayaa*
he-NOM shout-PERF
'He screamed.' (involuntarily)

c. *ravii-**ne*** *davaaii* *pii* *ḍaalii* (more transitive coding)
Ravi-ERG medicine-NOM drink pour-PERF
'He (deliberately) drank up the medicine.'

d. *ravii* *davaaii* *pii* *gayaa* (less transitive coding)
he-NOM medicine-NOM drink go-PERF
'He (impulsively) drank up the medicine.'

Not all scholars (e.g. Tsunoda 1981) consider the degree of agentivity a significant factor in contributing to transitivity as conceived by Hopper and Thompson (1980; cf. Croft 1984; Malchukov 2006). Studies like Fauconnier (2011a-b, 2012; cf. Kittilä 2005; Shibatani 2006; Fauconnier and Verstraete 2014) have shown, for instance, that the less transitive morphosyntax is ultimately the result of the anticausativization of the verb denoting an uncontrolled event which generally require an oblique agent. In the Hind examples above, for instance, the light (i.e. lexically empty) verb in the complex predicate is modified to an intransitive verb *jaa* 'go' (Mohanan 1994:74). In such constructions, it is the light verb that primarily determines the A-like or P-like case-marking and not the transitive semantics (Creissels 2008b).

2.3.4. Ditransitive Semantics

Alternations and splits can be similarly described for ditransitive alignment types (see Malchukov et al. 2010a). Firstly, one verbal lexeme can alternatively occur in two different ditransitive constructions (reminiscent of fluid subject marking). Secondly, distinct ditransitive constructions are often lexically confined to or semantically conditioned by specific verb classes (comparable to split subject marking). Double object constructions or neutral alignment generally have lexical restrictions. Derived ditransitive verbs, however, may be treated differently from basic ditransitive verbs in this respect.

Constructional alternations are so common for ditransitive verbs that a model ditransitive construction generally cannot be identified (Malchukov et al. 2010b:2). The verb 'give' in Modern Standard Arabic, for example, can freely occur in a double object or a prepositional indirect object construction:

(48) **Modern Standard Arabic** (Central Semitic, Kász 2015:334, glossing slightly modified)

a. (double object)

[V]		[R←ACC]	[T←ACC]
ʾaʿṭ-at	*l-bint-u*	*l-muʿallim-a*	*l-kitāb-a*
give$_{PFV}$-A:3FS	DEF-girl$_{FS}$-A:NOM	DEF-teacher$_{MS}$-ACC	DEF-book$_{MS}$-ACC

'The girl gave the teacher the book'.

b. (indirective)

[V]		[T←ACC]	[PREP→R]
ʾaʿṭ-at	*l-bint-u*	*l-kitāb-a*	*li-l-muʿallim-i*
give$_{PFV}$-A:3FS	DEF-girl$_{FS}$-A:NOM	DEF-book$_{MS}$-T:ACC	R:for-DEF-teacher$_{MS}$-GEN

'The girl gave the book to the teacher'.

Nevertheless, the verb 'give' is arguably the primary ditransitive verb and, for many though not all languages, the double object construction is at least found for this verb (Kittilä 2006). For example, this holds for 'give' in Arabic above but not for 'give' in Syriac (Aramaic, Northwest Semitic).

Double object constructions or neutral alignment are lexically restricted in the majority of languages and derived ditransitive/causative verbs are often confined to it (Malchukov et al. 2010b). They typically also exhibit word order constraints. The recipient, for example, usually precedes the theme, as illustrated for Arabic in (48a). The first or primary object typically outranks the second or secondary one in affectedness and is considered the most salient affectee much like a patient (e.g. Fillmore 1977; Givón 1976, 1984b; Kittilä 2008). The indirective construction in turn generally constitutes a prepositional alternant of the double object construction which rearranges the viewpoint to a process or state directed at a salient affectee.

On the whole, then, the indirective pattern is generally not semantically restricted and the double object construction is usually more open to derived ditransitive (the causatives of monotransitives) than basic ditransitive verbs.

2.4. Argument-Related Factors

While alignment splits based on the verb and role-related and event-related semantics may als involve the coding of the S, referential properties such as animacy and discourse-salience of the NPs generally only pertain to the A and/or P in a relative or absolute sense. First, the prominence hierarchy consisting of several subscales will be introduced. Subsequently, we will discuss some examples of constructional splits based on these properties. The opposition between

zero and overt coding of an NP depending on such properties is generally known as differential argument marking and is mainly associated with a particular grammatical function such as the P (Bossong 1985). Argument salience has been argued to correlate with alignment typology by various functional typologists (e.g. Givón 1976; Croft 1988). Recently, Bickel (2008) and Bickel et al. (2015) have tested the significance of such referential hierarchies for alignment split tendencies in large language databases. They show there is no conclusive evidence that demonstrates the correlation between argument salience and agreement is universally valid. The tendency is explained as side-effects of areal diffusion or linear developments within languages (cf. Gildea and Zúñiga 2016).

2.4.1. The Prominence Hierarchy

The features that determine the inherent and/or discourse salience of a nominal are generally decomposed into the following distinct subscales listed in (49)[51]. The terminology differs for the overarching scale that merges these. What is commonly known as "the nominal hierarchy" (Dixon 1994), is variously also referred to as the animacy, agency, empathy, individuation, topicality, and salience scale/hierarchy. Aissen (2003) adopts the more general term "prominence hierarchy" which I will follow here. These features are generally subsumed under a single prominence hierarchy with first and second person pronouns as the highest ranking type and inanimate, non-specific (indefinite) common nouns as the lowest ranking type.

(49) **Prominence hierarchy**

		MORE PROMINENT		LESS PROMINENT
a.	**PERSON**:	first, second	> third	
b.	**NOMINAL**:	pronoun	> full NP: proper/kin	> common
c.	**ANIMACY**:	human	> animate	> inanimate
d.	**REFERENTIAL:**	definite	> specific indefinite	> non-specific

What particular pragmatic and/or semantic features of the prominence hierarchy demarcates the marking of an argument differs from language to lan-

[51] See for instance Croft (1990:116, 127), Bossong (1991:160), Siewierska (2004:149). Other categories not listed in (49) may obviously also be involved. Hopper and Thompson (1980:253), for example, also include the properties number (singular vs. plural), countability (count vs. mass) and concreteness (concrete vs. abstract).

guage. Topicalization constructions can also trigger differential marking (Givón 1979; Lazard 2001:878; Iemmolo 2010, 2013). In addition, there is no universal preference for the individual ranking of first and second person (i.e. both 1>2 and 2<1 exist, e.g. Silverstein 1976; Siewierska 2004:150-151). There is a cross-linguistic tendency to distinguish speech act participants, i.e. the (1p.) speaker and/or (2p.) addressee, against non-speech act participants (3p), i.e. somebody other than speaker or addressee (DeLancey 1981:645-646; Dahl 2000)[52]. A basic distinction exists, therefore, between third and non-third person, the latter strictly referring to first and second person here.

The prominence hierarchy has been postulated by functional typologists to make implicational predications regarding case-marking and agreement patterns across languages with reference to several grammatical functions[53]. Functional typologists often differentiate between arguments that are more topic-worthy than others, i.e. more readily considered salient in the discourse. Such topic-worthy NPs instiantiate the higher ranking properties that make them more eligible to be selected as the topic in the transitive clause (e.g. Givón 1979, 1994; Comrie 1989). Given that the A and the R are more often human, the higher ranking properties are associated with the A and R:

(50) **Role hierarchies**

a.	PROMINENCE:	high	>	low
b.	FUNCTION:	A	>	P
		R	>	T

The lower ranking properties in turn are associated with the P and T, since they are more often inanimate. Thus, the A typically outranks the P and the R typically outranks the T. The zero case-marking and the potential for the overt expression of person agreement would correlate with a higher ranking of A and R as well as a lower ranking of the P and T. In accordance with such scales, then, for example, pronouns favorably occur in the A and R function, while nouns favorably occur in the P and T function (see further below).

[52] First and second person, if so subsumed under one term, are generally referred to as SAPs after speech act participants. This abbreviation is not used here, since it may lead to confusion with S, A, and P.

[53] See Keenan (1976); Silverstein (1976); Givón (1976, 1984;, Comrie (1989), Croft (1984, 1990 1994a); Bossong (1991:160); Aissen (1999, 2003); Haspelmath (2004b, 2007); Næss (2007); among many others.

A functional-comunicative motivation for the special marking of higher ranking Ps and Ts offered by functional typologists is that the unexpected candidates would favor morphology to disambiguate them from the more expected candidate with the properties associated with the A and R function. Unexpected Ps are morphosyntactically distinguished from the expected A and overt case-marking tends to be limited to one argument (e.g. Comrie 1975, 1978). Similarly, functional typologists (e.g. Givón 1976; Croft 1988) have argued that argument salience, i.e. what is central to the speech situation and the speakers' experience, enhance the trigger potential for person indexing. Speakers tend to limit person indexing to what they consider the most important referents. This applies to both monotransitive and ditransitive clauses (e.g. Haspelmath 2007). This tends to decline along the prominence hierarchy and the associated syntactic roles. Haspelmath (2004b) explains this tendency on the basis of frequency-driven grammaticalization. The more frequent and more harmonic combinations of argument types and associated roles are more grammaticalized, while disharmonic combinations such as where the T outranks the R are disfavored and, therefore, less grammaticalized.

Recently, Bickel (2008) and Bickel et al. (2015) have tested the significance of such referential hierarchies for alignment splits tendencies in large language databases. Bickel et al. (2015), for instance, show on the basis of survey of 460 case systems across the world that the languages that fit with the aforementioned predictions are common in the macroareas of Eurasia and New-Guinea and Ausralia but not outside of these areas. Thus, they conclude that such hierarchical effects are prone to areal diffusion. Gildea and Zúñiga (2016) note that these effects can be explained on the basis of their historical source rather than underlying cognitive principles.

2.4.2. Differential and Optional Object Marking

In differential object marking (= DOM) constructions, the marking of the P, T, and R may be sensitive to the prominence hierarchy. Israeli Hebrew, for instance, differentiates between definite and indefinite P arguments. The preposition *et* marks definite Ps such as *sefer* 'book' in (51b) below, while the equivalent indefinite P in (51a) is zero-marked. The definiteness condition, however, does not apply to the A and S, as illustrated in (51c) and (51d).

(51) **Israeli Hebrew** (Northwest Semitic, Canaanite; Givón 1982:305, 303; glossing slightly modified and stress marking omitted, ex. 1d my addition)
(transitive)

	[V+A]	[CM→	P]		
a.	*kaniti*	(Ø)	*sefer-xad*	*etmol*	(indef. P)
	bought:1SG		book-one	yesterday	
	'I bought a book yesterday.'				
b.	*kaniti*	***et***	*ha-sefer*	*etmol*	(def. P)
	bought:1SG	DOM	DEF-book	yesterday	
	'I bought the book yesterday.'				

(intransitive)

	[S]	[V+S]		
c.	*ish-xad*	*ba*	*hena*	*etmol*	(indef. S)
	man-one	came:3MS	here	yesterday	
	'A man came here yesterday'				
	[S]	[V+S]		
d.	*ha-ish*	*ba*	*hena*	*etmol*	(def. S)
	DEF-man	came:3MS	here	yesterday	
	'The man came here yesterday.'				

Strictly speaking, neutral alignment (A=S=P) is found for indefinite NPs in Israeli Hebrew, while accusative alignment (A≠S=P) is found for definite NPs. Generally, the pattern with overt marking is taken to be the more basic alignment type (Comrie 2005; Siewierska 2005; Malchukov et al. 2010), so that we would characterize the alignment in Israel Hebrew to be basically accusative. Thus, DOM first and foremost involves a constructional split, not an alignment split *per se*.

Differential marking of the T can coincide with differential marking of the P. In Israel Hebrew, as exemplified below, the preposition *et* differentially marks the theme *matana* 'present' depending on definiteness.

(52) **Israeli Hebrew** (Northwest Semitic; Hopper and Thompson 1980:256, original source cited therein; glossing slightly modified)
TRANSITIVE

			[(DOM→)T]	[DAT→R]	
a.	*David*	*natan*	(Ø)	***matana***	*lə-rina*.	(indef. T)
		gave:3MS		present	to-Rina	
	'David gave **a present** to Rina.'					

b. *David natan* ***et-ha-matana*** *lə-rina*. (def. T)
gave:3MS DOM-the-present to-Rina
'David gave **the present** to Rina.'

The preposition *lə-* is stable and not sensitive to prominence. Prominence is not relevant to the marking of the R. Thus, whatever conditions the overt against zero marking of the objects, the T and P are always treated alike and distinctly from the R: the alignment remains indirective throughout.

Languages that exhibit differential P-marking need not also differentially mark the T. Overt case-marking typically targets the R or both the T and R (Siewierska and Bakker 2009:300). In fact, cross-linguistically, it is often the dative case that syncretizes both the indirective marking of the R and differential marking of the P (e.g. Bossong 1985, 1991, 1998a). Givón (1976, 1984b) argues that this results from their prototypical semantics. The recipient is typically a human, undergoer (and often definite), while the theme, being a transferable item, is conceived to be non-human. The recipient as such is semantically akin to the human, definite undergoer in transitive constructions which is the P (e.g. Næss 2007). It is, therefore, not surprising that the indirective R-marker and differential P-marker would be morphologically identical (i.e. the dative case). Consequently, the dative marking of both a prominent T and any R would be avoided due to disambiguation of the roles (e.g. Kittilä 2006). Thus, Kittilä (2006:14) concludes that for some languages identical marking of the T and R is avoided, regardless of the animacy of the arguments. The more basic alignment in this constructional split would still be indirective.

An example where the prominence hierarchy overrides role discrimination is Syriac which fuses differential marking of the P and T as well as indirective marking of the R. The differential case-marker of a nominal P argument in Syriac is the dative preposition *l-* 'to, for' that indicates goals, recipients, beneficiaries etc. irrespective of prominence, although a recipient will be most often a (definite) animate argument such as *Adday* below:

(53) **Syriac** (Aramaic, Northwest Semitic)

	[DAT→R]	[T]	
d=ne-tl-ūn	***l-Adday***	*kespā*	*ʔu=ḏahḇā*
SUBR=3-give-MPL	DAT-PRN	silver:MS	and=gold:MS

'… that they should give **to Adday** silver and gold.' (5th c. Cureton 1864:ܐ.23)

Example (54) below offers an illustration of differential P-marking in Syriac. Compare *haw gaḇrā* 'that man' in (54a) and *gaḇrā qūrīnāyā* 'a Cyrenian man' in (54b).

(54) **Syriac** (Aramaic, Northwest Semitic)

[DOM→P]

a. *ʔeškaḥ-Ø* ***l-haw*** ***gaḇrā*** (definite, animate P)
found-A:3PL DAT-DEM:MS man:MS
'They found **that man**.' (3rd c. *Sinait.* Luke 8:35)

[Ø]

b. *ʔeškaḥ-Ø* ***gaḇrā*** ***qūrīnāy-ā*** (indefinite, animate P)
found-A:3PL man:MS Cyrenian-EMP:MS
'They found **a Cyrenian man**.' (3rd c. *Sinaiticus* Matthew 27:32)

The basic construction is a prepositional indirect object construction, as exemplified in (53) above. Like the P, the T is also differentially marked by the same preposition *l-* for recipient-theme verbs. When DOM is applied to themes in addition to recipients, both arguments are marked by the dative preposition *l-* as shown in (54c) and (54d) below (cf. Nöldeke 1904:231-232 §289):

[DOM→T] [DAT→R]

c. *lā…* *šaddar-Ø* *ʔalāhā* ***la-ḇr-eh*** ***l-ʕālmā…***
NEG sent-A:3MS/PL god:MS DAT-son:MS-his DAT-world:MS
'(For) God did not sent **his Son to the world** (in order to condemn the world).' (5th c. *Pšiṭta* John 3:17)

d. *…zabbn-ēṯ* ***l-Īhūḏā*** … ***l-Ḥabbān*** …
…sold-A:1SG DAT-PRN DAT-PRN
'I have sold **Judas** (Thomas, my servant,) **to Ḥabban** …' (3rd c. Wright 1871:173.11)

The coding of the T and R is neutralized[54]. And clauses are ambiguous to the role of the object, if either the theme or recipient is left unmentioned (e.g. in ellipsis).

The preposition *l-* is a generalized marker of P, T and R starting with highly prominent arguments of dative case semantics (cf. Croft 2003:168). The mono-

[54] Different prepositions may be used to indicate the R, however, while the differential marking of P and T is always *l-*. Whether this is might also depend on prominence or other pragmatic or semantic factors, requires further study.

transitive constructional split has been extended to ditransitives, targeting the T function. If the basic alignment is the one where arguments have most overt marking, the case-marking alignment for Syriac ditransitive clauses would be characterized as neutral, not indirective. In Syriac, then, differential object marking does not seem to be motivated by disambiguation, which would be contrary to the traditional discriminatory function of DOM.

Differential argument-marking need not be sensitive to all the subscales of prominence. DOM, for example, solely depends on definiteness, respectively, information structure (i.e. identifiability in the discourse) and covers the whole range from personal pronouns to definite NPs in Hebrew (Givón 1982) and Amharic (Amberber 2005) but excludes indefinite NPs altogether. Indefinite NPs, however, may be identifiable depending on whether the speaker has a specific referent in mind. Differential object marking, for example, also involves such specific indefinites in some languages such as Persian (Lazard 2001:877). Persian, for example, marks both definite and specific indefinites by the postposition *-râ*.

The differential marking can be obligatory or optional. Some languages such as Sinhalese (Indo-Aryan, Sri Lanka; Næss 2004:1196) optionally mark animate NPs, while inanimates are never marked. By the same token, definite NPs may not be obligatorily marked in a language, suggesting that speakers need not bind themselves to a definite reading of the object, if they do not feel such a need. In Classical Syriac, for example, differential marking of definite object NPs is not obligatory. Speakers can increase an argument's identifiability through DOM as they feel required to signal what they, for whatever reason, find salient in the discourse (cf. Khan 1988:139-140; Joosten 1996:45).

Moreover, coding properties that are sensitive to the prominence of the P argument can override other alignment splits. Hindi has a TAM-sensitive alignment split: ergative in the perfective (and the perfect) but accusative in the imperfective (and future). The A is distinguished by the postposition *=ne* in the perfective. The S and indefinite Ps are zero-marked. When, however, the P is definite such as *hār* 'necklace' in (55b) below or animate such as *bacce* 'child' in (55c), it is marked by the postposition *=ko*. Hindi, therefore, shows a tripartite case-marking pattern (A≠S≠P) with respect to higher ranking NPs, while the ergative case-marking pattern is manifested only for lower ranking NPs.

(55) **Hindi** (Indo-Aryan, India; Mohanan 1994:180, glossing slightly modified, transcription adapted)

a. *Illā=ne* *hār* *uṭʰāyā* (indef. inanimate P)
Ila=ERG necklace-NOM lift-PERF
'Ila lifted up a/the necklace.'

b. *Illā=ne* ***hār=ko*** *uṭʰā-yā* (def. inanimate P)
Ila=ERG necklace=DOM lift-PERF
'Ila lifted up **the** necklace.'

c. *Illā=ne* ***bacce=ko*** *uṭʰā-yā* (animate P)
Ila=ERG child=DOM lift-PERF
'Ila lifted up **the/a** child.'

In Vafsi, salient NPs follow a horizontal pattern (S≠A=P), as illustrated below. The 'direct' case (Ø) not only neutrally subsumes S, A and P in the present but also groups ergatively the S and non-salient Ps in the past. The 'oblique' case (*-i*) is used for the A of the past tense as well as for salient Ps in all tenses. This morphological identity between A in the past tense and salient Ps is found in some Iranian languages (Bossong 1985). Such differential marking is unexpected from the assumed discriminatory function of differential argument marking.

(56) **Vafsi** (Northwest Iranian, Tati, Iran; Stilo p.c.)

[S←DIR] [V]
a. *hæsæn-Ø* *dǽ-kæt-tæ*(direct)
PRN-DIR PVB-fall:PST-PPT
'Hasan fell.'

[A←OBL] [P←DIR] [V]
b. *tine* *yey* *dánæ* *yú-æ=s* *dærd-æ* (ergative)
he:OBL one CLF heifer-DIR=A:3SG:II have:PST-PL
'He had a heifer.' (Stilo 2004b: B1.2)

[A←OBL] [P←OBL] [V]
c. *hæsǽn-**i*** *mæhmud-**i**=s* *bǽ-xænd-en-a* (double oblique)
PRN-OBL PRN-OBL=A:3SG:II PUNC-laugh-CAUS-PST
'Hasan made Mahmud laugh.'

In both languages, while the ergative and non-ergative pattern are sensitive to TAM, the DOM is used irrespective of TAM. DOM, therefore, supervenes the aspectual domains of the distinct alignment types for less prominent NPs. Thus, it is principally the marking of the A that is TAM-based, while the marking of the P is animacy-based. The marking of the S is not sensitive to either.

Table 9 offers a succinct overview of the patterns that were reviewed in this subsection.

Table 9. *Alignment patterns based on the NP prominence of the P*

A	S	P	
Ø	Ø	Ø/DOM	(*neutral-*)*accusative*
ERG	Ø	Ø/DOM	(*ergative-*)*tripartite*
OBL	Ø	Ø/OBL	(*ergative-*)*horizontal*

2.4.3. Differential and Optional Agent Marking

The marking of the A was considered to be stable in the preceding discussion. We continue with the differential marking of the A. The relatively less obvious, respectively, unexpected properties of an NP to occur potentially in the A-function make overt (or distinct) case-marking more likely (e.g. Croft 1988; Comrie 1989:128-130). Its relationship with DOM, however, is controversial and cannot be considered an exact mirror image (see McGregor 2010; Fauconnier 2011a, 2012; Fauconnier and Verstraete 2014). Differential A-marking is presumably a phenomenon *sui generis*. It is confined here to the possible effects of animacy or discourse-salience on the overt case-marking of the A where particularly the absence of case-marking, i.e. zero-coding, is interesting in what otherwise follows an ergative pattern[55]. Some languages, especially Australian languages, do appear to evince such effects of mainly animacy and/or focus. We first discuss how the differential case-marker of the A is employed to contextualize pragmatically the A in the clause.

The factors determining differential, respectively, split A-marking are schematized in (57) below:

(57) **A-related scales**

a. ANIMACY: human > animate > inanimate

b. FOCUS: non-focal > focal

(less likely) (overt coding more likely)

DIFFERENTIAL A-MARKING

[55] Differential agent marking is sometimes also referred to as differential subject marking. To avoid confusion with the S ('subject'), it is confined to the A here.

Overt (or distinct) coding is more likely for the features to the right edge.

First of all, there appear to be no unambiguous cases where the overt case-marking of full NPs is solely triggered by animacy, that is zero coding for animate agents against overt coding for inanimate agents (Fauconnier 2011a). Other factors may be involved such as different noun classes, respectively, gender that may correlate with animacy distinctions but are ultimately lexically conditioned (cf. Comrie 1989:191) or the relative ranking of arguments in A or P-function (cf. Silverstein 1976:129; Comrie 1978:386-287, see further below). Animacy, thus, may be partially involved in the lexical restrictions on selectable arguments to occur with overt ergative case-marking. Indeed, there are some languages where such case-marking or the possible occurrence in the A function in general appears to depend completely on animacy. In Hindi, for instance, ergative case-marking is possible for highly animate entities such as human beings and less animate entities such as natural forces but apparently impossible for inanimate entities such as 'stone' or 'rock' (Mohanan 1994:74-75; cf. Fauconnier 2012:55-58).

Secondly, the distinction in case-marking of the A may be animacy-based. This does not alter the alignment pattern, only the selection of case-marking. An instrumental case is used for A arguments low in animacy against the ergative case for those high in animacy (Fauconnier 2011a, 2012:43-47). Less or inanimate A arguments such as natural forces like 'lightening' are differentatied from highly animate A arguments like 'brother'.

Several languages show a type of differential A-marking that is conditioned by role discrimination, animacy and focus (e.g. Givón 1985a; McGregor 2006, 2010; Fauconnier 2012). The differential case-marker is employed to express the unexpectedness of the A. Neutral alignment, i.e. zero coding, is found for A arguments not in focus, while ergative alignment is found for the focal counterpart. In Warrwa, an Australian aboriginal language, for example, ergative case-marking is optional and not predictable but manifests itself through distinct coding depending on focus and the degree of agentivity (McGregor 2006). Zero-marking of the A is what defocuses it, signaling an expected actor with little impact. Overt case-marking of the A is diffused across an ordinary ergative marker and a focal ergative marking. The first adds no significance to the A, the latter adds salience to the A, highlighting it as being counter to expectation and having an exceptionally powerful impact on the P.

Overt case-marking of agent focus also correlates with animacy. Consider the following example from Umpithamu, an Australian aboriginal language:

(58) **Umpithamu** (Australia, Northern Queensland; Fauconnier 2012:49, original source cited therein)

	[A]		[V=P]	
a.	*Manta*	*eentinti*	*kali-n=iluwa*	(animate A)
	child	small	carry-PST=3SG.NOM	
	'The child carried it.'			
	[A←ERG]		[V=P]	
b.	***Yuma-mpal***		*anthi-ku=ingkuna*	(inanimate A)
	fire-ERG		burn-POT=2SG.GEN	
	'**The fire** will burn you.'			
	[A←ERG]		[V=P]	
c.	***Nhunha-mpal***		*watyun=iluwa*	(contrastive focal animate A)
	other-ERG		spear-PST=3SG.NOM	
	'**Another one** speared it.'			

In Umpithamu, animate agents are zero-marked and inanimate agents overtly case-marked (Fauconnier 2012:48-49). When they are focal, however, not only inanimate agents but also animate agents may be case-marked (*-mpal*).

Moreover, coding properties of the A argument can override other alignment splits (for example, Nepali, Verbeke 2013a). In Newari, for instance, a Tibeto-Burman language in Nepal, ergative alignment is in principle TAM-conditioned and largely confined to the perfect and perfective past and irrealis/future (Givón 1985b). The imperfective (i.e. durative/progressive), however, may also manifest ergative case-marking (*-nɑ̨*), when the A is focal (ibid. 93- 94).

In conclusion, the marking of the A tends to be specialized for inanimate arguments and/or agent focus. Case-marking of the A serves to contextualize unexpected arguments pragmatically.

2.4.4. Person-Based Splits and Role Associations

In split case-marking, the zero-coded argument varies between the A and P. Since differential marking mainly involves the absence or presence of a marker, respectively, the zero or overt coding of an argument conditioned by the NP's ranking, an alignment split based on these same conditions mainly depends on which arguments exhibit overt case-marking. If at all, the S is typically zero-marked (see §2.2.6). For accusative or ergative alignment, it is typical that only the argument that is not grouped with the S is overtly coded.

In the functional typological approach, what is overtly marked is the higher ranking argument type in the P function but the lower ranking argument in the A

function. A pronoun ranks higher than a common full NP on the nominal hierarchy. And first/second person referents rank higher than third person referents on the person scale. Hence, when there is a split in case-marking based on the referential properties of the NP, the absolute higher ranking arguments have often been said to associate with with accusative alignment, while the lower ranking arguments associate with ergative alignment (Silverstein 1976; Silvertein 1976:122-129; Comrie 1978, 1989; Dixon 1995:83-94). Dyirbal, an Australian aboriginal language, is an oft-cited example where non-third person forms follow an accusative pattern, while other (pro)nominals follow an ergative pattern (Dixon 1979:63-64). Table 10 illustrates this split by the glosses 'we all' and 'father'[56]. Similarly, there are languages where the cut-off point is between pronouns and full nominals, pronouns being neutral or accusative and nouns ergative (Comrie 1989:131; Dixon 1994:95-96).

Table 10. *Split conditioned by NP prominence in Dyirbal*

	ACCUSATIVE (S=A)	GLOSS	ERGATIVE (S=P)	GLOSS
A	*ŋana*	'we all'	*ŋuma-ŋgu*	'father'
S	*ŋana*		*ŋuma*	
P	*ŋana-na*		*ŋuma*	

Source: *After Dixon 1979:63.*

The trigger potential for agreement can also depend on person. Third person (singular) is typically a null/zero realization especially in the A (and S) role (Siewierska 2004:24, 150-151). It is possible that non-third persons alone trigger agreement, as illustrated for Tangut below.

(59) **Tangut** (Tibeto-Burman, China; DeLancey 1981:631, emphasis original)

	[A: 2]	[P: 3]		[V-A: 2]	
a.	*ni*	*pha*	*ngi-mbın*	*ndı-sei-**na***	(A is indexed)
	you	other	wife	choose-2	

'You choose another wife.'

[56] Essentially, only the A and P are affected, while the S is not. One should note that Dyirbal may express actual transitive clauses where both the A and P are marked by ergative and accusative case or both zero-marked (Comrie 1989:131; Croft 2001:309-310),

	[A: 3]		[P:2] ← [V-P:2]		
b.	*mei-swen*	*manə*	*na*	*khe-**na***	(P is indexed)
	Meng Sun	formerly	you	hate-2	
	'Meng Sun formerly hated you.'				

In Tangut, a Tibetan language known from the middle ages, expresses agreement only with first and/or second persons but never with third person, i.e. the person reference triggers the agreement (DeLancey 1981:631) as exemplified below.

Siewierska (2005:407) notes it is equally possible for the third person only to trigger agreement either accusatively or ergatively. English, for example, where the accusative agreement affix *-s* is confined to third person referents and Trumai. Trumai expresses overt ergative agreement that is confined to the third person such as *-e* in (60a) and (60b) joining S and P below against (60c) and (60d).

(60) **Trumai** (Isolate, Upper Xingu, Brazil; Siewierska 2005:407, original source cited therein)

	[V-S: 3]				
a.	*iyi*	*waṭkan-**e***			(S is indexed)
	PCL	cry-3SG:S			
	'**She** cried.'				
	[A: 3]			[V-P: 3]	
b.	*hai-ts*	*ka-in*	*iyi*	*midoxos-**e***	(P is indexed)
	I-ERG	PST-FOC	PRT	call-3SG:P	
	'I called **him**.'				
	[S: 1]	[V]			
c.	*ha*	*pita*	*ka-in*		(no indexing)
	I	go.out	PST-FOC		
	'I went-out.'				
	[A: 3]	[P: 1]	[V]		
d.	*ka'natl-ek*	*ha*	*midoxos*		(no indexing)
	that-ERG	I	call		
	'That one called me.'				

The relative ranking of the A and P on the prominence scale can also determine the alignment. That is, both a particular argument type and associated role is higher or lower, not simply a particular argument type. Dabalon, an Australian language (Northern Territory), for example, is reported to manifest only overt

case-marking of the A, when the A and P are of equal ranking in animacy (Silverstein 1976:129; Comrie 1978:386-387). This is also known as "hierarchical alignment" (Siewierska 2003, 2004:55). Such hierarchy effects have cross-linguistic tendencies for treating clauses differently when either the A or the P is higher in prominence (and balanced rankings as possibilities in between). Witzlack-Makarevich et al. (2016) further distinguish between hierarchical agreement and co-argument sensitivity. In co-argument sensitivity, the properties of another argument determine the marking of a particular grammatical function. The P is, for instance, only marked accusatively, when the A is third person in Ik (a Kuliak language, Nilo-Saharan, Uganda); otherwise it is marked in the nominative. This is somehwat similar to Comrie's (1975, 1978:380-383) "antiergative" type which he introduced for Finnish and Welsh that are traditionally described as accusative. Comrie (1975) argues that case-marking in 'antiergative languages' serves to discriminate arguments, distinguishing the A from the P. In Comrie's 'antiergative' type, it is the full nominal presence of the A that triggers distinct coding and only the P is coded differently. Following previous literature, Witzlack-Makarevich et al. (2016) emphasize, however, that hierarchical agreement and co-argument sensitivity are not instances of a special alignment type but represent the basic alignment types conditioned by particular referential properties. Thus, the systems above would still be characterized as either ergative or accusative depending on the properties of either or both arguments.

Person role inverse constructions, for instance, are, among others, a typical trait of Native American languages and a few Tibeto-Burman languages (e.g. DeLancey 1981). The construction where the A outranks the P is called 'direct', while constructions that deviate from this are called 'inverse', and this is highlighted by distinct verbal morphology. DeLancey (1981:642) offers the following example from Jyarong, a Tibetan language (spoken in the Sichuan province of China) where ergative case-marking and agreement are conditioned by the highest person reference. The ergative postposition *-kə* occurs only when the A is of lower ranking in person than the P. The alignment is, therefore, split between ergative and neutral depending on the person of the A. When the A is third person, for example, but the P is first person, it is overtly marked, but in the reverse situation, the A is zero-marked. The third person form does not trigger agreement, only the non-third person form (*-ng*). At the same time, the verb agrees with the highest ranking person and takes a special, so-called inverse form (*u-*) to indicate that the patient is associated with the highest ranking person instead of the expected agent, i.e. the P outranks the A in person.

(61) **Jyarong** (Tibeto-Burman, Sichuan, China; DeLancey 1981:642)

	[A: 1]	[P: 3]	[V-A: 1]	
a.	***nga***	*mə*	*nasno-**ng***	(A > P)
	I	he	scold-1st	
	'I will scold him.'			
	[A: 3]	[P: 1] ←	[V-P: 1]	
b.	*mə-kə*	***nga***	*u-nasno-**ng***	(P > A)
	he-ERG	I	INV-scold-1st	
	'**He** will scold me.'			

Haspelmath (2007), following Zúñiga (2002), argues that, when a language evinces a person role constraint, a more complex construction becomes increasingly more likely for when the P outranks or is equal to the A and the T outranks or is equal to the R contrary to the more frequent pattern of higher ranking A and Rs. A ditransitive person role constraint, thus, typically applies to clauses where the T outranks the R in person. For example, Modern Standard Arabic disallows dependent person forms for the R role when the T outranks the R. An independent object person form based on the element *ʾiyyā-* is used instead. Suffixal object indexes such as *-hu* and *-nī* in (62a) and (62b) are added to the inflected verb. The additional object may be either suffixal (e.g. *-hi*) or independent (*ʾiyyā-ya*) as shown in (62d) and (62d). Doubled object indexes are possible where the R outranks the T as illustrated in (62c) or where the R and T are balanced. In other contexts, however, the T must be expressed independently. Moreover, the independent pronominal object constructions are ambiguous, when the non-third person referent is expressed independently. Thus, a suffixal first person index (*-nī*) will always be interpreted as the R but never as the T.

(62) **Modern Standard Arabic** (Central Semitic; Fassi Fehri 1988:115-116, glossing and transcription slightly modified, ex. b and h my own additions)

a. *ntaqad-tu-hu*
criticized-A:I-P:him
'I criticized him.'

b. *ntaqad-ta-nī*
criticized-A:you-P:me
'You criticized me.'

c. *ʾaʿṭay-ta-nī-hi* (R>T, dependent)
gave-A:you-R:me-T:him

d. *ʾaʿṭay-ta-nī* *ʾiyyā-hu* (R>T, independent)
gave-A:you-R:me T:ACC-him
'You gave it/him to me.'

e. *ʾaʿṭay-ta-hū-***ni*** (T>R, **dependent)
gave-A:you- T:him- R:me

f. *ʾaʿṭay-ta-hu* ***ʾiyyā-ya*** (T>R, independent)
gave-A:you-him ACC-me
'You gave **me** to him.' (also 'You gave it/him to me')

g. *ʾaʿṭā-Ø-ka-***ni*** (R=T, dependent)
gave-A:he-you-me

h. *ʾaʿṭā-Ø-ka* ***ʾiyyā-ya*** (R=T, independent)
gave-A:he-you T:ACC-me
'He gave **me** to you.' (also 'He gave you to me.')

Recent, cross-linguistic studies by Bickel (2008) and Bickel et al. (2015) indicate, however, that there is no conclusive evidence for these tendencies and that areal diffusion or genetic inheritance most likely account for them. What does appear to hold is that the higher ranking A or the lower ranking P are associated with zero case-marking. With respect to agreement, the same tendencies for accusative and ergative alignment have been argued to hold for person indexing (e.g. Siewierska 2005). Again, acusative alignment is associated with the higher ranking arguments, first/second persons, and ergative with lower ranking person, the third person. There appears to be no correlation between person reference and other alignment types (Siewierska 2004:63). The reverse would be accusative for the third person and ergative for the first/second person. This reverse split also occurs, as evinced by recent surveys such as Bickel (2008) and Bickel et al. (2015). Bickel (2008) offers examples from Kiranti languages (Sino-Tibetan) where it is, for example, the first person (singular) that is ergatively aligned and the third person accusatively (the other persons align neutrally).

Table 11. *Person split in Puma*

	1SG ACCUSATIVE (S=A)	3SG ERGATIVE (S=P)
A	*-ŋ* (>3)*, -na* (>2)	Ø- (*p*A-, >1)
S	*-ŋa* (non-past)*, -oŋ* (past)	Ø-
P	*-ŋa* (non-past)*, -oŋ* (past)	*u-, i-*

Source: *After Bickel 2008:197.*

Table 11 illustrates this for Puma, a Kiranti language. Bickel et al. (2015) argue that the accusative-ergative splits in accordance with the higher ranking As and lower ranking Ps cannot be considered universally valid, as much of the provided evidence is ambiguous or leaves room for alternative analyses such as areal diffusion. They maintain that the person-based splits are an epiphenomenon (cf. Witzlack-Makarevich 2016).

Finally, while the S typically remains unaffected by such hierarchies, split subject marking (see §2.3.1) can be limited to non-third person forms in languages such as Lakhota (Siouan, Dakota, United States) or to pronouns against full NPs in Koasati (Muskogean, Louisiana, United States; Mithun 1990). Person-conditioned splits can also be confined by TAM. Balochi, a Northwest Iranian language, for example, manifests a person and nominal role-based split in the past (Korn 2009). Some (Eastern) Balochi dialects express ergative agreement with higher ranking full nominal Ps only, an interesting counterexample similarly to Trumai above. Moreover, the higher ranking persons only possibly trigger agreement with the A, which is the reverse of what we expect from the prominence scale.

Thus, while the absolute referential properties, the relative referential properties, the referential and associated role properties, and/or the properties of other arguments may determine a particular grouping of grammatical functions, all of these can be characterized as an alignment split conditioned by specific argument-related factors.

2.5. Cross-Linguistic Distribution and Combinability

The alignment types reviewed in the previous subsections are not equally distributed among languages of the world. Languages also appear to evince preferences as to how an alignment type is manifested (either via case-marking or agreement).

2.5.1. Intransitive-Transitive Alignment Types

Cross-linguistic studies such the *World Atlas of Language Structures* (WALS) show that case-marking and verbal person marking are distributed differently for distinct alignment types (e.g. Siewierska 2004, 2005; Comrie 2005; Croft 2012:259; Valipullai 2012:243) which we could represent in the following scales for major alignment patterns for case-marking of full NPs in (63) and

agreement in (64). 'Neutral' is strictly the absence of marking[57] and the frequency decreases from left to right.

(63) **Case-marking**[58]: neutral (98/190) > accusative (52/190) > ergative (32/190)
(64) **Agreement**: accusative (212/380) > neutral (84/380) > ergative (19/380)

In this survey from WALS, neutral alignment (A=S=P) is the most common pattern for case-marking (i.e. the absence thereof) while accusative alignment (A≠S=P) predominates for agreement. Accusative case-marking is found more frequently than the ergative type (A=S≠P) but the difference is small (27% > 16%). Tripartite marking is very rare throughout, but split subject marking in agreement (26/380) and person-based alignment splits (28/380) are slightly more common than the ergative type (Siewierska 2005). In terms of geographical distribution, only ergativity is significantly rarer in Europe and virtually absent in Africa (Comrie 2005:401; Siewierska 2005:407). In these surveys, ergative alignment is more likely to be manifested via case-marking rather than agreement and accusative alignment is most likely to be manifested via agreement.

The higher ranking topic-worthiness of the A is often used as an explanation for its tendency to be grouped with the S in accusative indexing (e.g. Comrie 1989). Topic referents expressed through person forms are mainly found in the S and A-function (e.g. Cooreman et al. 1984; Dixon 1994:54-55). On the other hand, corpus-based studies indicate that the P and S rather than the A are the more likely bearers of new information expressed by full nominals, so that these discourse properties would group the S and the P ergatively (e.g. DuBois 1987).

Agreement itself, however, can also be more refined into phonological form, position and trigger potential and, therefore, evince combinations of alignment types on these levels. Recently, Bickel et al. (2013) showed that, cross-linguistically, there is essentially no strong preference for a particular agreement pattern[59] in terms of morphological marking alone. Thus, a preference for

[57] Differential object marking is subsumed under the alignment type where the object is overtly marked.

[58] This is case-marking of full NPs excluding independent person forms.

[59] Accusative indexing is still favored slightly (37% against 21% for ergative). Bickel et al. (2013) exclude tripartite alignment from their study but do include horizontal alignment (S≠A=P).

accusative agreement in phonological form does not appear to be supported. Yet, they indicate there is a strong avoidance of the grouping of S and P (or A and P) in terms of what triggers agreement (i.e. the trigger potential). S and A are favorably aligned in this respect. Ergative (and horizontal) alignment, thus, only appears to be strongly disfavored in this latter respect. Moreover, concerning affix order, Siewierska (2004:167) notes that a V-P-A sequence is more commonly combined with accusative (rather than ergative) morphological marking.

Siewierska and Bakker (2009:299-300) observe a cross-linguistic preference for the A argument to be both overtly case-marked and indexed rather than the P argument, if such an overlap exists in transitive constructions. Differential indexing of objects combined with case-marking, then, is an interesting exception. It shifts the morphological markedness in proportion to the P. Amharic, for instance, does not make a distinction in the indexing of the S and A while the indexing of the P remains distinct from the S and A in phonological form for both indefinite and definite NPs. Objects can be marked differentially through both agreement and/or case-marking in Amharic. In example (65) below, the verb *wässäda* 'took' agrees with the definite P *borsa-w* 'his wallet' through a suffixal object index *-w*. The definite P itself *borsa-w* 'the wallet' takes the case-marker *-(ɨ)n*.

(65) **Amharic** (West Semitic, Givon 1979:244; cf. Croft 1990:129; glossing adapted)

	[A]	[P(+DOM)]		[V+A(+P)]	
a.	*Kassa*	*borsa* (Ø)		*wässäd-a* (Ø)	(indef. P)
	PRN	wallet		take$_{PFV}$-A:3MS	
	'Kassa took a wallet.'				
b.	*Kassa*	*borsa*		***wässäd-a-w***	(pron. P)
	PRN	wallet		take$_{PFV}$-A3MS-P:3MS	
	'Kassa took **it$_{M}$**.'				
c.	*Kassa*	*borsa*	***-w*** ***-ɨn***	*wässäd-a-w*	(def. P)
	PRN	wallet	-DEF:MS -DOM	take$_{PFV}$-A:3MS-P:3MS	
	'Kassa took **the wallet**.'				

The P differs from the S and A only in trigger potential. S and A arguments are always indexed while the P is indexed only when it is definite.

Distinct coding properties can instantiate the same alignment pattern in a language. The construction can, for instance, be accusative in terms of both indexing and case-marking. Constructions, however, can also consist of a combi-

nation of distinct alignment types through different coding properties. Stilo (p.c.), for instance, explains that Vafsi manifests a horizontal pattern for case-marking but the person indexing may be ergative. A construction can, therefore, contain the mirror image in alignment type for either coding property, having, for instance, ergatively aligned case-marking yet accusatively aligned agreement. Dixon (1979:92, 1994:95-96) claims that ergative cross-referencing can be combined with ergative case-marking but never with accusative case-marking (cf. Comrie 1978:340 who notes it is "rare or nonexistent"). The possible combinations of ergative and accusative coding are given below. Following Dixon (1994:95-96), if the cross-referencing of arguments patterns differently from their case-marking, the cross-referencing will be accusative, and the case-marking ergative, but the other way around does not appear to occur.

(66) **Ergative and accusative indexing, respectively, case-marking**

DEPENDENT PERSON FORMS	**INDEPENDENT PERSON FORMS**	**FULL NPS**
ACC	ACC	ACC
ACC	ACC	ERG
ACC	ERG	ERG
ERG	ERG	ERG
(**)ERG	ERG	ACC
(**)ERG	ACC	ACC

Overall, from a more refined perspective of agreement, ergative agreement is only strongly disfavored in terms of trigger potential. The S and A tend to be grouped accusatively in both triggerering overt agreement. If accusative indexing involves suffixal person forms, the P is more likely to precede the A after the verbal stem (i.e. V-P-A) rather than the reverse.

Ergative alignment seems to be more likely to be manifested via case-marking. Case-marking and indexing can also diverge with respect to alignment. If they do, the indexing is typically accusative and the case-marking ergative; the other way around is strongly disfavored.

2.5.2. Ditransitive Alignment Types and Combinations

Haspelmath's (2005b:5) sample indicates cross-linguistic preferences for manifestations of ditransitive alignment types:

(67) **Case-marking**[60]: indirective (58/100) > neutral (45/100) > secundative (6/100)
(68) **Agreement**: neutral (71/100) > secundative (22/100) > indirective (16/100)

In this survey, neutral agreement and indirective case-marking are the most common, while secundative case-marking is rare. It may be interesting to note that neutral case-marking is less common for the monotransitive alignment types compared with the ditransitive types (compare (63) and (64) above) and the reverse for neutral agreement (Haspelmath 2005b:9).

The ditransitive patterns secundative (T≠P=R) and indirective (T=P≠R) can each combine with either ergative (A=S≠P) and accusative (A≠S=P) alignment cross-linguistically (Croft 2001:146-147; Malchukov et al. 2010b:5), although Siewierska (2004:63) remarks that ergative alignment more readily combines with the indirective type. If a language manifests neutral indexing (i.e. the absence of agreement) for monotransitive clauses, it will also do so for ditransitive clauses (Haspelmath 2005b:6).

A completely tripartite pattern (S≠A≠P≠T≠R) does not appear to be found (Bickel and Nichols 2009:309). An unambiguous instance of horizontal alignment does not appear to be known for ditransitive constructions (Malchukov et al. 2010b:6). A possible major equivalent of horizontal (or double oblique) constructions is found in Vafsi (Northwest Iranian, Iran; Stilo 2010):

(69) **Vafsi** (West Iranian, Iran; Stilo p.c.)

	[S←DIR]	[V]			
a.	*hæsæn-Ø*	*dǽ-kætte*	(intransitive)		
	PRN-DIR	PVB-fell			
	'Hasan fell.'				
	[A←OBL]	[P←OBL]	[V]		
b.	***hæsǽn-i***	***tæmen***=*s*	*bǽ-xændena*		(monotransitive)
	PRN-OBL	1SG:OBL=A:3SG:II	PUNC-made.laugh		
	'**Hasan** made **me** laugh.'				
	[A←OBL]	[T←OBL]	[V]	[R←OBL]	
c.	***tæmen***	***kell-i***=*m*	*há-da*	***hæsǽn-i***	(ditransitive)
	1SG:OBL	daughter-OBL=A:1SG:II	PVB-gave	PRN-OBL	
	'**I** gave my **daughter** to **Hassan**.'				

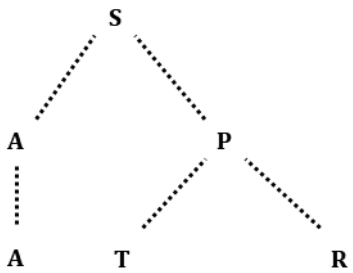
[60] This is case-marking of full NPs including independent person forms.

The A receives the same case marking as the P, T and R but the S is isolated (S≠A=P=T=R), as exemplified below. The first form in (69a) is known as the 'direct' case, the other nominal forms in (69b) and (69c) as the 'oblique'. All arguments (including themes and recipients) but the subject in (69a) are marked by the 'oblique'[61].

The cross-linguistic distribution of the various groupings of core arguments in intransitive, monotransitive and ditransitive constructions is said to reflect the conceptual proximity between the participant roles for S, A, P, T and R (Croft 2001:146-147; cf. Malchukov et al. 2010b:5). This is schematized in the following figure after Croft (2001:147)[62]. Figure 8 shows how the alignment patterns are primarily determined by the grouping of the S with the P and/or A and the grouping of the P with the T and/or the R. The other types of groupings that are conceivable and/or extant such as tripartite or horizontal alignment are secondary and more likely to be unstable.

Coding strategies can converge and diverge in ditransitive constructions. Secundative indexing (P=R≠T) is particularly found in languages that exhibit DOM where the differential case-marker of the P is often morphologically identical to marker of the R (Givón 1976:165-166; Siewierska 2004:61).

Figure 8. *Conceptual space for participant roles*



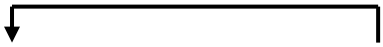
Source: *Based on Croft (2001:147).*

This is a common feature of languages where only one suffixal object index is available as illustrated for Amharic in (70) below (cf. Moravcsik 1988:104). Two object indexes may also be involved as in Lebanese Arabic illustrated in (71) below.

[61] This alignment pattern only applies to animate NPs.

[62] Croft's original semantic map (ibid.) predicts that there are languages where also the A of ditransitives is treated differently from the A of monotransitives and this is, in fact, attested but extremely rare (Bickel 2009:307; Wichmann 2010).

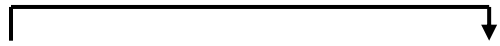
(70) **Amharic** (West Semitic, Ethiopia; Givon 1979:162, glossing adapted)



	[DAT→R]	[T←DOM]	[V+R]
Kassa	***lä-Mulu***	*däbtarocc-u-n*	*sät't-**at***
K.	to-M.	notebooks-the-OBJ	gave-R:3FS

'Kassa gave **Mulu** the notebooks.'

(71) **Lebanese Arabic** (Central Semitic, Lebanon; Moravcsik 1988:104, original source cited therein, transcription adapted)



	[V+R]	[T] →	[DAT→T]		[DAT→R]	
Samīr	*baʔat-la*	*yeh*	*la*	*l*	*walad*	*la Salma*
Samir	send:PAST-her	him	to	the	boy	to Salma

'Samir sent the boy to Salma.'

The R is preferred over the T when case-marking and indexing are combined (Siewierska and Bakker 2009:299-300). The R typically outranks the T in topicality, animacy and affectedness and is construed as the most salient affectee much like a patient (e.g. Fillmore 1977; Givón 1976, 1984b; Kittilä 2008). Thus, what is identifiable as the most recipient-like argument, will favor both case-marking and indexing like the P, if applicable.

Differential indexing of the R is also typically found in languages where both the T and R are case-marked, as illustrated for Amharic and Lebanese Arabic above. In an indirective construction, however, sole indexing of the T like the P is said to be limited to languages where differential indexing of the P is sensitive to definiteness and case-marking of the P and T is lacking (Givón 1976:165-166). Givón (ibid. referring to Comrie) seems to suggest, therefore, that the following combinations of differential case-marking and person indexing are typically found. Table 12 below offers a simple overview where '0' represents the absence and 'm' the presence of overt coding (following Haspelmath 2005b). Agreement with the R is preferred over T, when all arguments enjoy overt case-marking (second column). Agreement with the T is only preferred over the R, when only the R enjoys overt case-marking (third column). That is, indirective agreement combines with indirective case-marking, while other case-marking patterns favorably combine with secundative agreement (T≠P=R).

Table 12. *Combinations of ditransitive case-marking and agreement preferences*

	R > T			T > R		
	P	**T**	**R**	**P**	**T**	**R**
CASE-MARKING	m	m	m	0	0	m
AGREEMENT	m	0	m	m	m	0

Syriac, however, would seem to be a counterexample to these tendencies. Syriac DOM is sensitive to definiteness and is expressed through the dative preposition *l-*. The differential case-marking of the T is always combined with differential indexing of the T in Syriac, as exemplified in (72) below. Syriac verbs only take one object index and most verbs will select an indirective pattern throughout. Only a select few ditransitive verbs of the causal profile 'A causes R to receive T' (Blansitt 1984) such as *mly* 'fill' index the most recipient-like argument in a double object construction. Otherwise, agreement with the T like the P is always preferred, even though all arguments are case-marked.

(72) **Syriac** (Northwest Semitic, Aramaic; 2nd c. Genesis 37:28)

[V+T]	⟶	[DOM→T]	[DAT→R]		
*ʔu=zabbn-ū-**y***		***l-yawsep̄***	*l-ʕarbāyē*	*b̲-ʕesrīn*	*d-kespā*
and=sold-A:3MPL-T:3MS		DAT-PRN	DAT-Arab:MPL	in-twenty	LK=silver:MS

'And they sold **Joseph** to the Arabs with twenty (piecies) of silver.'

Overall, indirective alignment appears to be the more common ditransitive alignment pattern and is most often manifested through case-marking. There is a cross-linguistic tendency of secundative indexing to group the P and R rather than the P and T, and this always involves zero coding of the T. Yet, the indexing of the T may also be preferred over the R in differential object marking.

2.6. Conclusion

Alignment is principally a property of constructions and not *per se* of a language as a whole (Comrie 1989:114; cf. Croft 2001:168; Haig 2008). A constructional approach allows us to capture both cross- and intralinguistic variation in argument marking where the observable morphosyntax is central (without requiring theoretical assumptions regarding deeper phenomenona of phrase structure). Linguistic typology generally approaches this from the angle of constructional and semantic types and their development and distribution.

Functional approaches point to communicative and cognitive principles underlying alignment variations. Givón (1984a, cf. Croft 1990)'s role hierarchy, for example, made predictions that the A and R are prototypically more topic-worthy than the P and T. The semantic and pragmatic properties of these functions and their syntactic constraints have been shown to be aptly uniform across languages in several typological studies, so that what is considered less topic-worthy is syntactically also more constrained (Givón 1984a). The cross-linguistic preference of secundative (R=P) over indirective (T=P) person indexing, for instance, is reported to reflect the relative higher ranking of the R over the T (Givón 1976; Croft 1988; Haspelmath 2007). But there are noteworthy counterexamples and not all typologists take this approach. The traditional, functional view has recently been brought into question by typologists who highlight the importance of diachronic evidence. The functional-communicative principles behind alignment variation do not seem to fit with the vast cross-linguistic distribution beyond microareas such as Eurasia and Australia. Functional-communicative principles, then, need not always underlie the phenomena that comply with them, especially when they cannot be advanced on synchronic grounds. Diachronic and areal grounds must be taken seriously.

Semantic bases can be identified for some of the constructional splits. Lexicalization, however, leaves plenty of room for semantic arbitrariness, and grammaticalization for historical incidents. The source construction, for example, may account for a particular constructional split. When a language exhibits a split between accusative and ergative (or other non-accusative types of) alignment based on TAM, for instance, the semantic properties can be non-past, imperfective for the accusative, grouping the S with the A, contrasting with past, perfective for the non-accusative, typically grouping the S with the P. The non-accusative pattern, however, is generally the outcome of a diachronic development from a resultative participle with a patient-orientation that grammaticalized into a perfective past construction.

In the study of an alignment pattern, we focus on the correspondences between S and P or A respectively the P and the T or R. Languages nevertheless tend to show various constructional splits that are constrained by different factors. Firstly, the morphology and syntactic behavior, for example, can diverge. The morphological expression may be ergative, even though the syntax is predominantly accusative, so that the A shares most more behavioral properties with the S, but the P more coding properties with the S.

Secondly, two major coding strategies are to be distinguished. The agreement and case-marking (which also includes adpositional marking) can diverge

between different groupings of grammatical functions. The agreement can be accusative, while the case-marking is ergative. Word order could be considered a coding or behavioral property. When there is an evident preference of an argument in a grammatical function to occur on either side of the verb (pre-verbal vs. post-verbal), an alignment pattern can be discerned.

Thirdly, agreement itself is a complex phenomenon where, apart from the phonological form, the relative position of the agreement markers and the potential to trigger overt expression of grammatical functions can be additional factors to distinguish particular groupings. There seems to be, for instance, a cross-linguistic bias against an ergatively aligned trigger potential.

Finally, intransitive and transitive constructions can lead, as it were, a life of their own. Intransitive constructions can be split or alternate, even beside transitive constructional splits and alternations. In this respect, it is important to distinguish between verb-related and argument-related properties and these may override each other. This can yield complex alignment systems.

Verb-related properties such as lexical aspect and TAM generally do not involve distinct marking of the P. Intransitive constructions can be split or fluid, especially as manifested through agreement, between an ergative and accusative pattern in terms of verbal semantics without any change in the transitive construction. Verb-related intransitive construction splits can additionally be constrained by argument type, such that first/second person subjects are treated differently from third person subjects. Especially the P and often also the R and/or T seem to be more sensitive to the referential properties of the argument such as definiteness, while the marking of the S remains stable. Moreover, it is not uncommon, that the coding of the accusative and ergative are each other's mirror image in TAM-conditioned splits similarly to person- and NP-conditioned splits. The coding of the S remains stable throughout but the coding of the A and P shifts according to TAM or person. One could argue, however, that the distinct coding of the A between the two TAM categories is more crucial than the grouping of P and S in the perfective/past in some languages such as Hindi and Vafsi. The P in the perfective, for instance, may sometimes share identical coding with the P in the imperfective due to DOM which is conditioned by referential properties. Thus, DOM can override verb-related splits. On the otherhand, DOM and person-splits can also penetrate only one TAM construction type, so that argument scales can affect past transitive constructions differently from the present counterparts. This is precisely what we need to bear in mind, when we proceed with the study of Eastern Neo-Aramaic alignment splits.