1. Introduction
Alignment is standardly illustrated with ergative vs. accusative coding of subjects as in Basque (1) and Russian (2):¹

(1) a. gizona etorr-i da
   man.NOM arrive-PERF.PTCP AUX.3sS
   ‘The man has arrived.’

   b. gizona-k mutila ikus-i du
   man-ERG boy.NOM see-PERF.PTCP AUX.3sA3sO
   ‘The man has seen the boy.’

(2) a. muzhchina prishel
   man.NOM came.PST.MASC
   ‘The man arrived’

   b. muzhchina uvidel devushku
   man.NOM see.PST.MASC girl.ACC
   ‘The man saw the girl’

In (1) the syntactic functions of S (gizona ‘man’ in 1a) and O (mutila ‘boy’ in 1b) are identically coded, while in (2) it is S (muzhchina ‘man’ in 2a) and A (muzhchina in 2b) that are identically coded. That is, the two languages differ in whether S is aligned with A or O. Henceforth we refer to syntactic functions such as A, O, and S as argument roles.

Argument structure has to do with the number of arguments and their roles; valence has to do with the morphosyntactic treatment of these roles, including their marking with particular cases.

Alignment is the identical vs. distinct coding or treatment or behavior of argument roles that are different at some other level or in some other part of the grammar. Put differently, alignment is neutralization of valence-specific argument roles in particular morphological or syntactic contexts. Alignment, from our perspective, holds between sets (usually pairs, sometimes triads) of argument roles that

¹ Research for this chapter was facilitated by DFG grant No. BI 799-3/1 (Bickel) and NSF grant no. NSF 96-16448 (Nichols).

¹ Throughout this chapter we use nominative to refer to the morphological case that is citation form and marks S, regardless of whether S is aligned with A or O (though many linguists use nominative only for S=A and absolutive for S=O). As the rest of the chapter shows, there are so many cross-cutting alignment patterns that a terminology treating morphological cases as nodes in an alignment space and separately labeling every node would be cumbersome, as well as confusing morphological case paradigms with alignment patterns.
have the same formal treatment (e.g. case) in some context in some language, and
alignment patterns define construction-specific and language-specific grammatical
relations. The typological and theoretical issues in alignment include ascertaining the
possible alignment types, extending the theoretical and descriptive apparatus for
alignment beyond the standardly covered A, S, and O, determining the contexts and
factors that constrain or favor alignment types (such as referential hierarchy effects),
and accommodating them in a comprehensive typology of alignment. In this chapter
we are concerned with alignment as identified by coding in cases, though
morphological alignment is also manifested in verb agreement, and syntactic
alignment appears in such things as word order, argument sharing, conjunction
reduction, aspects of complementation, accessibility to relativization and the like, pivot
in valence-changing derivations, and control of reflexivization and nonfinites.
Alignment of case marking can be seen as a generalized version of morphological
syncretism: the same marker covers different argument roles but, unlike classical
syncretism, it does so across all, or nearly all, paradigms.

It is convenient to be able to identify a language as exhibiting some alignment
type: Basque is (morphologically) ergative, Russian accusative, Lakhota stative-active
(or split-intransitive), Vietnamese neutral. However, this is rarely, and probably never,
accurate, for three reasons. First, there are lexical splits: most and probably all
languages have verbs that display distinct valence patterns. For instance, Basque has
enough agentively inflected subjects, and Russian enough dative experiencer subjects,
to qualify either language as split-intransitive. Second, there are grammatical splits.
The alignment of the case marking is not necessarily the same as that of other parts of
the grammar: a number of languages, like Georgian, have ergative case marking but
accusative verb agreement. Alignment may vary with tense and other factors: again in
Georgian, case marking is ergative in the past tense series but accusative in the present
series. (This describes a large and open part of the Georgian verbal vocabulary, but
Georgian also has a significant lexical split and most specialists describe it as stative-active.)
Third, alignment is often taken to pertain only to the coding of S, A, and O, but
the relative coding of different objects and the coding of arguments like possessors or
like non-arguments are also kinds of alignment.

We define our purview as follows. First, we consider case marking in the broad
sense: morphological cases (whether marked by affixes, clitics, separate case words,
ablaut, tone changes, etc., all of which we regard as differing in their degrees of
phonological fusion but not as different grammatical phenomena) and adpositions (at
least in languages where the adpositions govern cases and the same argument role can
be marked by a bare case in one context but an adposition plus case in another, as in
most Indo-European languages that preserve cases). The same alignment patterns can
be found in head-marking systems as well, but we do not cover these. The alignment of
syntactic phenomena, which has to do with which arguments behave alike rather than
which are marked alike, is also not covered here (but see Bickel 2007a for a recent
survey.)

Second, we ultimately attempt to catalog all alignment types involving
arguments, including those where arguments are coded as adjuncts or possessors, but
we do not attempt to cover alignment of all adjuncts or all possessors, and for reasons
of space, we concentrate here on argument alignment. So approached, alignment types are nearly the same thing as valence types, and we define alignment types as subsets of arguments defined by their roles in valences plus their referential properties. Surveying alignment patterns for any language then requires surveying all the valence types found in that language, or at least those found with any frequency. Alternatively, one exhaustively surveys all the predicate-specific functions of each individual case (e.g. dative marks $S$ of lexical set 1, $A$ of lexical set 2, $G$ of all verbs except lexical set 6, etc.).

2. Argument roles

Predicates license a specific number of arguments: zero ($snow$), one ($run$), two ($see$), three ($give$). Arguments are therefore identified first of all by numerical valence. This distinguishes $S$, the sole argument of one-place predicates, from all others. The arguments in two-place or three-place predicates can be distinguished from each other by differences in their semantic entailments (see Dowty 1991, Primus 2006, among others):

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$A_1$</td>
<td>The more agent-like argument of a two-place predicate</td>
</tr>
<tr>
<td>$O$</td>
<td>The less agent-like argument of a two-place predicate</td>
</tr>
<tr>
<td>$A_2$</td>
<td>The more agent-like argument of a three-place predicate</td>
</tr>
<tr>
<td>$G$</td>
<td>The more goal-like non-agent-like argument of a three-place predicate</td>
</tr>
<tr>
<td>$T$</td>
<td>The non-goal-like and non-agent-like argument of a three-place predicate</td>
</tr>
</tbody>
</table>

An argument is more agent-like if it causes an event, if it is volitional or at least sentient, and/or if it exists independently of the event. Thus, in an experiential predicate, experiencers always qualify as more agent-like than stimuli. Since agent-like properties also characterize the most common topics in discourse, measures of topicality are a useful rule of thumb for evaluating whether an argument is agent-like or not. (The more topical an argument is, the more likely it is agent-like.) An argument is more goal-like if it is stationary in movements, if it is the target of a communicative event, or if it benefits or suffers from an event.

$A_1$ and $A_2$ are most often aligned with each other, and we use 'A' as a cover symbol neutralizing the distinction. The only language with a general distinction between $A_1$ and $A_2$ in case marking that we know of is Gyarong:

(3) Gyarong (lCog-rtse rGyal-rön) (Sino-Tibetan; Sichuan; Nagano 1984)

<table>
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<td>The less agent-like argument of a two-place predicate</td>
</tr>
<tr>
<td>$A_2$</td>
<td>The more agent-like argument of a three-place predicate</td>
</tr>
<tr>
<td>$G$</td>
<td>The more goal-like non-agent-like argument of a three-place predicate</td>
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<tr>
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A1 and $A_2$ are most often aligned with each other, and we use 'A' as a cover symbol neutralizing the distinction. The only language with a general distinction between $A_1$ and $A_2$ in case marking that we know of is Gyarong:

a. nayo-ki chigyo kaw-nasho-ch ko
2s-ERG 1d.NOM 2>1-scold-1d AUX
A1 O
'You scold us.'

---

2 An expanded version of this chapter that deals systematically with alignments of arguments and possessors will appear elsewhere (Bickel & Nichols, forthcoming).
b. nayō chiqyo kaw-wu-ch ko
2sNOM 1dNOM 2>1-give-1d AUX
A2 G
'You give (it to) us.'

(3a) is monotransitive, and its A1 argument is obligatorily marked by the ergative case in -ki, while the A2 argument of (3b) cannot take the ergative case. In addition, several languages have a covert difference in that A1 exhibits minor alignments such as A1=G (e.g. with experiencers marked dative, as in (9) and (10) below), while A2 apparently never does. This is probably because A2, in all instances known to us, is uniformly fairly agent-like, unlike A1, which ranges over various semantic roles (agent, experiencer, receipient, location). Put differently, ditransitives allow only agentive A's, while monotransitives allow agentive, experiencer, etc. A's. This means that A1 and A2 are different generalized roles, supporting our decision to regard them as different argument roles.

Apart from these argument roles, alignment sometimes extends to adjuncts (abbreviated here as Ad) and to adnominal dependents (abbreviated as Poss, for 'possessor', the most common semantic role of adnominals).

Argument roles are defined here by the minimal distinctions necessary in numerical valences. Individual predicates make much more fine-grained distinctions (known as semantic or thematic roles), and in many languages lexical and/or semantic distinctions between such predicates condition case alignment: e.g. one-place predicates in Basque are divided into those that take agents and others (a pattern known as split intransitivity). Those that take agents align S with A, while those that take non-agents align S with O. A very common lexical split of this kind involves two-place predicates where the O argument represents a goal. Such predicates often fail to follow the general alignment pattern of O arguments and instead align these arguments with adjuncts. An example is English go to X. (That X is still an O argument is evident from the fact that go assigns a goal role even in the absence of the preposition to: in Where did she go?, where must be interpreted as goal, in contrast to Where did she walk?, in which where can be either a location or a goal.) We return to this issue in Section 3.6 below.

3. Alignment possibilities
This section illustrates the alignment patterns we are aware of. Probably every imaginable alignment pattern is found somewhere in some language, but the ones of chief typological interest are those that are the major or dominant or basic type in one or another language and those that are fairly frequent or the obvious major contenders in splits. Traditional surveys suggest that these are alignments of S with A ('accusative') or O ('ergative'), and of O with either G ('primary object'; 'secundative' in Haspelmath’s

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3 As important this observation is for appreciating the true range of typological variation, the distinction between A1 and A2 is currently becoming lost among younger speakers of Gyarong, probably because of increased exposure to Chinese (Y. Nagano, personal communication, October 2003).
2005 terms) or T (‘direct object’ or ‘indirective’). We refer to alignments including S (S=A, S=O, S=A=O, etc.) as ‘S-alignments’ and to alignments including O (O=G, O=T, O=G=T, etc.) as ‘O-alignments’.

For expository reasons, we typologize alignments primarily by the way S is aligned, and, within these types, by the way objects are aligned. In reality, S-alignment and O-alignment are logically independent variables, and only a large-scale quantitative survey can establish distributional preferences and clusters.

Examples below have an additional interlinear line showing their argument roles. For each example we indicate whether this alignment pattern is a major type, important though not major, or a minor type in that language.

3.1 Tripartite-based alignments

Full-fledged tripartite systems would have distinct cases for all major roles, i.e. S≠A≠O≠T≠G. However, in all cases of languages with S≠A≠O that we are aware of, at least one pair of the object roles is aligned, either T with O or G with O.

In Yazgulyam, objects align following a direct object pattern, with T=O. The resulting S≠A≠O=G pattern is limited to pronouns. (Nouns only have dative marking on G and some prepositionally governed arguments.)

(4) Yazgulyam (Iranian; Pamir; Èdel’man 1966)

a. áz=əm mot mad
   1sABS=1s tired become.PST
   S
   ‘I am tired.’ (Èdel’man 1966:37)

b. mon š-tu wint
   1sOBL ACC-2sOBL see-PAST
   A1 O
   ‘I saw you.’ (Payne 1970:176)

c. ź-way aja ni wádúk-ra
   ACC-3sM.OBL give.IMP for puppet-DAT
   T Ad
   ‘Give this for my puppet!’ (Èdel’man 1966:167)

d. a ĵa mó-ra kˇaːdít
   give 1sOBL-DAT key
   G T
   ‘Give me the key!’ (Èdel’man 1966:175)

In Nepali, O aligns with G, but in addition, T also aligns with S. The resulting pattern is T=S≠A≠O=G and is limited to past tense sentences with definite O.
arguments; when these conditions are not met, alignment is accusative and based on direct objects (see Bickel 2007a):

(5) Nepali (Indo-European; Nepal)
   a. ma ga-ê
      1sNOM go-1sPST
      S
      'I went.'
   b. mai-le Rām-lāi dekh-ê
      1s-ERG Ram-DAT see-1sPST
      A1 O
      'I saw Ram.'
   c. mai-le kitāp Rām-lāi di-ê.
      1s-ERG book.NOM Ram-DAT give-1sPST
      A2 T G
      'I gave the book to Ram.'

3.2 S=A alignments
Accusative alignment is found with all kinds of O-alignment patterns. Ute illustrates S=A≠O=T=G alignment; the object case is distinguished from the nominative by voiced vs. voiceless finals:

(6) Ute (Uto-Aztecan; Colorado; Givón 1980)
   a. tá'waci wįįka-ţa
      man.NOM work-ANT
      S
      'The man worked.'
   b. mamáci ta'wáci puñıkay-kyá
      woman.NOM man.OBJ see-ANT
      A1 O
      'The woman saw the/a man.'
   c. mamáci ta'wáci pysárinyápi máy-kyá.
      woman.NOM man.OBJ story.OBJ tell-ANT
      A2 G T
      'The woman told the man a story.'

A formula with an internal "≠" abbreviates a sequence of alignment statements: S=A; A≠O; O=T=G.
When accusative alignment combines with primary objects (i.e. S=A≠O=G≠T), the T argument is typically coded like the S and A argument, i.e. there is no distinct T case and the actual pattern is S=A=T≠O=G. A frequent further restriction is that such patterns are mostly limited to O arguments that rank high on the referential hierarchy, following principles of differential object marking. Low-ranking O arguments then generally appear in the (unmarked) nominative case like S and A. We exemplify the pattern with Awa Pit; other examples would be Spanish, Persian, and many other languages. (7a) shows (zero-marked) nominative case on S, and the same case is found on all A arguments in (7b-d). Human and other higher-ranking O arguments align with G and are marked by dative clitic =ta, as in (7b,c). Note that the T argument of ditransitive is always in the nominative, whether it is human or not.

(7) Awa Pit (Barbacoan; Colombia; Curnow 1997)

a. na=na nayŋ-ma-ti-s
   1sNOM=TOP fall-COMPL-PST-CONJ.UND
   S
   'I fell.'

b. kin-ka=na, na=na Santos=ta izh-ta-w
   dawn-when=TOP 1sNOM=TOP S.=DAT see-PT-CONJ.SBJ
   A1 O
   'At dawn I saw Santos.'

c. Camilo=na Santos=ta pala kwin-ti-zi
   C.NOM=TOP S.=DAT plantain.NOM give-PST-DISJ
   A2 G T
   'Camilo gave Santos a plantain'

d. na=na Santos=ta pashu mila-ta-w
   1sNOM=TOP S.=DAT daughter.NOM give-PAST-CONJ.SBJ
   A2 G T
   'I gave my daughter to Santos.'

Direct object patterns combine with accusative alignment more freely. A very common pattern is the one illustrated here by Khasi: S=A≠G≠O=T
Khasi (Austroasiatic; India; Nagaraja 1985)\(^5\)

\[\text{a. } \text{u-briew} \quad \text{u-la-wan} \]
\[3\text{sm-man}\text{.NOM} \quad 3\text{sm-PST}\text{-come} \]
\[
\begin{align*}
\text{S} \\
&\text{‘The man came.’}
\end{align*}
\]

\[\text{b. } \text{u-briew} \quad \text{u-la-pinyap} \quad \text{ya-u-bseñ} \]
\[3\text{sm-man}\text{.NOM} \quad 3\text{sm-PST}\text{-kill} \quad \text{ACC-3sm-snake} \]
\[
\begin{align*}
\text{A1} &\quad 0 \\
&\text{‘The man killed a snake.’}
\end{align*}
\]

\[\text{c. } \text{u-khinna}? \quad \text{u-la-a:y} \quad \text{ya-u-khulam} \]
\[3\text{sm-boy}\text{.NOM} \quad 3\text{sm-PST}\text{-give} \quad \text{ACC-3sm-pen} \]
\[
\begin{align*}
\text{A2} &\quad \text{T} \\
\text{ha-ka-koŋ} &\quad \text{joŋ-u} \\
\text{DAT-3sf-sister} &\quad \text{GEN-3sm} \\
&\text{‘The boy gave a pen to his sister.’}
\end{align*}
\]

With primary objects and accusative alignment we noted that the ditransitive object that is excluded from the object case (here, T) tends to align with S and A; with direct objects, where the excluded argument is G, this is less common, but it does occur as a minority pattern: S=A=G≠O≠T. This is not uncommon for experiential predicates and can be exemplified by Russian, where it represents a minority but fairly important pattern:\(^6\)

Russian

\[\text{a. Mne strashno.} \]
\[1\text{sf-DAT scary} \]
\[
\begin{align*}
\text{S} \\
&\text{‘I’m scared’}
\end{align*}
\]

\(^5\) We write some preposed morphemes as prefixes here because they are grammatically bound to stems and cannot occur independently. But they are phonologically separate words, and this why they are typically not written as prefixes but as preposed words.

\(^6\) Based on the semantic entailments (cf. Section 2), we regard the dative experiencer in these examples as A, though this is not settled. There is a large literature on the question; see e.g. Barðdal 2004, Bossong 1998, Marušić and Zaucer in press, Perlmutter & Moore 2002, Bickel 2004, Nichols 2006, 2007.
b. Bol'she vsego mne tam ponravilas' pogoda.
   most of.all 1sDAT there like.PST.FEM weather(FEM)-NOM
   A1 O
   'I liked the weather most of all.'

c. Daj mne kuklu
give-IMPV 1sDAT doll-ACC
   G T
   'Give me the doll.'

S=A=G patterns are also often found as minority patterns among experiential predicates in languages that strictly differentiate S and A with most other predicates. An example is Ingush, where most other predicates show ergative alignment:

(10) Ingush (Nakh-Daghestanian; Caucasus)
   a. Suona shiila jy
      1sDAT cold J.is
      S
      'I'm cold'

   b. Suona yz bwarjg+veira
      1sDAT 3sABS(V) eye+V.see.WP
      A1 O
      'I saw him'

   c. Aaz cynna mashen j.elar
      1sERG 3sDAT car(J)[NOM] J-gave
      A2 G T
      'I gave him/her a car'

The mirror image of this is S=A=T≠O≠G and is found with accusative marking on experiencers:

(11) German
   a. Ihn friert.
      3sACC be.cold.3sNPST
      S
      'He is cold.'

   b. Ihn interessiert das nicht.
      3sACC be.interesting DEM.NOM not
      A1 O
      'He doesn't find this interesting.'
c. Sie übergaben ihn der Polizei.
3sNOM hand.over 3sACC ART.sDAT police
A2 T G
‘They handed him over to the police.’

This analysis follows our methodological principle of analyzing argument roles exclusively by their semantic entailments (Section 2). The A and S arguments here do not share properties with other A arguments beyond the semantics, showing that that other constructions — specifically verb agreement — have another alignment in German (S=A≠T=G=O throughout). 7

3.3 S=O alignments
Ergative patterns with neutral O-alignment (A≠S=O=T=G) is illustrated by Belhare, where it is the majority pattern in the lexicon:

(12) Belhare (Sino-Tibetan; Nepal)
  a. a-phu ta-he
     1sPOSS-eB[NOM] [3sS]come-PST
     S
     ‘My elder brother came.’
  b. a-phu-ya a-tak nis-e
     1sPOSS-eB-ERG 1sPOSS-friend[NOM] [3sA]see-PST[3sO]
     A1 O
     ‘My elder brother saw my friend.’
  c. un-na a-tak celi pir-he
     3s-ERG 1sPOSS-friend[NOM] clan.sister[NOM] [3sA]give-PST[3sO]
     A2 G T
     ‘He gave a celi (marriageable agnatic relative) to my friend.’

The combination of ergative and primary O-alignment, i.e. A≠S=O=G≠T is shown by Inuit (West Greenlandic), where it is the standard, majority pattern:

Note that third person singular agreement in Mich friert is a default form and not triggered by the S argument. Although the sentence can be expanded into mich friert es, nominative es ‘it’ does not realize an argument, as can be seen from the fact that it cannot be replaced by a lexical NP (‘*das Wetter friert mich ‘the weather is cold to me’).
(13) Inuit (Eskimo-Aleut; Greenland; Manning 1996)

a. Oli *sinip-p-o-q.
   O.-NOM sleep-IND-INTRANS-3s
   S
   ‘Oli sleeps.’

b. Aani- *miiqqa-t tama-isa taku-nngi-la-i
   A.-ERG child-pNOM all-3p see-NEG-IND-3s>3p
   A1 O
   ‘Aani saw none of the children.’ / ‘Aani didn’t see all of the children.’

c. Juuna- *miiqqa-t atuakka-mik nassip-p-a-i
   J.-ERG child-pNOM book-MOD send-IND-TRANS-3s>3p
   A2 G T
   ‘Juuna sent the children a book.’

However, ergative (non-tripartite) alignment seems to more commonly align with
direct objects. The pattern A≠S=O=T≠G is a major pattern in Ingush (involving
productive derivational machinery):

(14) Ingush (Nakh-Daghestanian, Caucasus)

a. Marem *qiera-jalar
   M.NOM fear-J.INCP-WP
   S
   'Mariam got scared'

b. aaz Marem *qiera-jyr
   1sERG M.NOM fear-J.CAUS-WP
   A1 O
   'I frightened Mariam'

c. Aaz *cynna mashen j.elar
   1sERG 3sDAT car(J).NOM J-gave
   A2 G T
   'I gave him/her a car'

As noted above, an important minority of verbs in the Ingush lexicon aligns
A=S=G≠O=T.

3.4 A=O alignments
Especially among experiential predicates it is common for A arguments to be coded as
O, G, or T arguments, but, as we noted in the discussion of S=A types above, this usually
(although to different degrees) extends to experiential S arguments as well. A limiting
case is Latin, where accusatively-marked experiencers are virtually limited to two-place predicates, i.e., there are almost no accusative-marked S arguments (unlike in German, cf. example (11a) above):

(15) Latin

\[
\begin{align*}
    & \text{ut me non solum piget stultitae meae,} \\
    & \text{COMP 1sACC not only feel.bad3sSBJV.PRES stupidity.GEN my.GEN} \\
    & \text{A1 O} \\
    & \text{sed etiam pudeat (C. dom. 29)} \\
    & \text{but also be.ashamed.3sSBJV.PRES}
\end{align*}
\]

‘s so that I not only feel bad about my stupidity but that I’m also ashamed of it.’

However, note that in examples like these the O argument (\text{stultitae meae} ‘my.GEN stupidity.GEN’) aligns with possessors and therefore does not show the same case as the A.

Apart from such minority patterns, it is rare for A arguments to align with objects but not also S. This does occur, however, as the majority pattern in a few Iranian languages of the Pamirs, e.g. Rushan, where it is limited to the past tense:

(16) Rushan (Indo-European: Iranian; Afghanistan; Fajzov 1966)

\[
\begin{align*}
    & a. \text{az=um tuyd} \\
    & 1sNOM=1s go-PST \\
    & S \quad \text{'}I went' (57) \\
    & b. \text{mu way wunt} \\
    & 1sOBL 3sOBL saw \\
    & A1 O \quad \text{'}I saw him.' (202) \\
    & c. \text{tā mu kā talēpt} \\
    & 2sOBL 1sOBL why sought \\
    & A1 O \quad \text{Why did you look for me?} \quad (61)
\end{align*}
\]

Here both A and O, but not S, appear in the oblique case. The nominative is reserved for S arguments.

3.5 Neutral alignment

Neutral S-alignment combines both with primary objects and direct objects (and of course with neutral O-alignment, which is the same as the absence of argument case marking). Ju‘hoan illustrates the primary object, i.e. S=A=O=G≠T, pattern:
Neutral alignment combined with a direct object pattern, i.e. S=O=T≠G, can be illustrated with French or English, where a preposition (à, to) marks the G argument, while all other (non-pronominal) arguments are treated the same way and have no overt case marker.

Neutral alignment most often involves zero morphological exponence. When there are neutrally aligned overt case markers, their use is often governed by the ranking of arguments on the referential hierarchy. The proximative (also known as nominative) case in Tagalog, for example, is assigned to the argument that is most topical in discourse (identified here as such by italics in the translation):

(18) Tagalog (Austronesian; Philippines, Kroeger 1993)

a. bumili ang=lalake ng=isda sa=tindahan.
   PFV.A.buy PROX=man OBL=fish LOC=store
   A O Ad
   'The man bought fish at the/a store.'

b. binili ng=lalake ang=isda sa=tindahan.
   PFV.O.buy OBL=man PROX=fish LOC=store
   A O Ad
   'The/a man bought the fish at the/a store.'

c. binilhan ng=lalake ng=isda ang=tindahan
   PFV.G.buy OBL=man OBL=fish PROX=store
   A O Ad
   'The/a man bought fish at the store.'

The other core case of Tagalog, marked by ng, also has neutral alignment but is reserved for low-ranking arguments. Similar systems are found in a number of
languages of the Americas (see Zúñiga 2006 for a survey) and are commonly referred to as ‘hierarchical alignment’. It should be noted, however, that referential ranking also plays a central role in non-neutral kinds of alignment. Referential ranking, in our view, is not an alignment but a secondary, referentiality-based and often discourse-related, elaboration of a basic alignment (e.g. neutral in the case of Tagalog).

3.6 Adjunct and possessor alignment

All examples discussed so far have arguments coded the same as other arguments. But arguments are also often align with adjuncts or possessors in the way they are treated by case or other constructions. The most well-known instances of adjunct alignment are those of languages where A arguments receive the same case marker as instrumentals or ablatives. This phenomenon is often referred to not as alignment but as syncretism (ergative-instrumental and ergative-ablative syncretism, respectively). If the pattern is general across all paradigms of a language, it is different from syncretism, in the same way as the use of the same case marker for S and O across all paradigms of a language is different from syncretism.

Alignment of O arguments with adjuncts is also frequent – for example in the form of adpositional object marking such as the use of the preposition a before animate or specific objects and for locational adjuncts in Spanish; or in the form of the multitude of adpositions used on specific verbs in Russian.

Alignment of arguments with possessors is best known in the form of case markers covering both genitive and ergative functions, as, e.g. in Eskimo languages, or in the form of genitives on experiential and S or A arguments, as in the following example from Bangla:

(19) Bangla (Indo-European; India and Bangladesh; Klaiman 1980)

a. āmār əscorjo ḫo-lo.
   1sGEN surprise become-3PST
   S
   ‘I was surprised.’

b. āmār tomāke cāi.
   1sGEN 2sDAT need.3
   A1 O
   ‘I need you.’

Another well-known example is genitive-marking on O arguments in Latin and several other European languages (see Haspelmath & Michaelis 2007 for a recent survey.)

Further discussion of adjunct and possessor alignment can be found in Bickel & Nichols (forthcoming).
4. The stative-active type

Split-S, or stative-active (or similar terms), is generally taken to be an alignment type on a par with accusative, ergative, etc. Languages with this alignment type are considered to have no single basic subject alignment, and the coding of S is based on agency, Aktionsart, or a similar factor. There are several respects in which split-S is not a satisfactory alignment type, however. First, nearly every language has at least some verbs with oblique or otherwise atypically coded S; the difference between split types and unsplit types is one of degree. Second, as Sapir 1917 first noted and Merlan 1985 first showed in detail, in some split-S languages the verbs with O-coded S are a closed, small, or otherwise delimited class and A-coded S verbs are open and productive; while in others it is the A-coded set that is closed, small, or delimited while O-coded S is open and productive. This makes it possible to consider such languages respectively accusative and ergative, with a larger than usual set of oblique-S verbs but still a clear basic alignment type. (There are some languages in which both sets of verbs are large enough that it is difficult to discern a basic type; Georgian is one such. There are, of course, fluid-S languages like Acehnese or Batsbi in which nearly every verb can take both S coding types depending on semantic factors; fluid-S languages are not at issue here. Note, however, that Batsbi is fluid-S only in the first and second persons; the third person is ergative.) Third, not only the sizes but the lexical membership of the classes differ from language to language, often unpredictably. Fourth, languages fall into a continuous cline running from ergative to accusative via split-S, with no cut-off points that might define discrete types and considerable overlap between languages that are generally considered stative-active and ones that are not. (Nichols 2006 surveys 20 verb glosses across 41 languages, and when the number of O-coding verbs is plotted against the number of A-coding verbs a continuous cline results.) Fifth, split-S languages generally have the same split in A; two-argument verbs like 'like', 'forget', and 'remember' are quite likely to have O-coded A. Sixth, S=O is too general a description of the object-coded type; the great majority of split-S languages have O=G alignment, so the essence of the type is S=G (or S=O=G) coding, and this means that the dative-coded experiencers of many Eurasian languages (which are O=T) exhibit the same pattern. Seventh, if one posits split-S as a separate type, one would, by the same logic, also need to posit split-O types, where again the split falls into distinct patterns following O=T, O=G or O=Ad alignments, and ultimately also split-G and split-T types.

These problems are inherent in seeking discrete grammatical types when the grammatical patterning is driven by individual lexical items. Probably the best way to define types is to set up a standard list of verb glosses, determine the argument coding of each of those verbs in the language in question, and use the frequencies of the different coding types and their distribution in the list to typologize languages.

5. Compound verbs

A number of languages, including most languages of southwest Asia, have periphrastic compounding with light verbs as a main means of verbal derivation. Often the heavy element of the compound is nominal in origin and retains some of the grammatical properties of independent nouns:
(20) Persian  man  nafas  mi-kesh-am  
1sg  breath  CONT-pull:PRES-1sg  
S  
'I breathe'

(21) Ingush  aaz  sa  doax  
1s.ERG  breath(D)  D.take:PLURALITIONAL  
S  
'I breathe'

In these examples, as is common, the light verb is a transitive verb that takes the nominal element as its direct object. We regard this as the etymologically interesting but syntactically irrelevant internal morphological structure of the verb, and on this analysis the subject is an S and the verb has one argument. As a consequence, a number of derived verbs in an ergative language like Ingush have ergative-marked S arguments, i.e. S=A alignment.

A similar issue arises with the light verb constructions common in Southeast Asian and Himalayan languages, called psycho-collocations by Matisoff (1986). Typically these consist of a body-part or experiential noun as heavy piece, with the experiencer coded as its possessor; cf. the examples from Bangla in (19). The resulting structure is again one where the experiencer is syntactically an S (or A) argument although morphologically and etymologically it is a possessor.

Exceptional O=Poss alignments, as with genitive-marked objects in Latin, also tend to have their roots in compound constructions where the genitive used to be in an adnominal relation to a lexical noun.

6. Non-lexical conditions

The choice of case alignments is most often lexically determined by the verb. But other factors condition alignment as well. Tense and aspect categories commonly condition alignment in Eurasian languages with tense-based split ergativity. Often the explanation of such splits involves a mix of pragmatic factors and the specific nature of the morphological forms involved; for a case study on the history of tense-conditioned alignment splits in Indo-Aryan, see Peterson 1998.

The referential hierarchy is associated with a split where high-referentiality NP's (personal pronouns, human nouns) have accusative or at least non-ergative inflection while lower-referentiality ones have ergative inflection. (See Bickel 2007a, 2007b for some recent discussion).

Alignments may be split between main and subordinate clauses, in nominalized vs. verbal predicates, etc. Dixon 1994:97-104 lists languages with some of these kinds of splits.

7. Whole-language types?

As noted in the introduction, it is standard to pigeonhole languages as accusative, ergative, stative-active, etc. and as primary/secondary or direct/indirect object. As
almost all our examples above show, this is not correct in detail; every language we have seen has at least some verbs exhibiting other patterns, at least some of which are in fact salient in the language, and some languages have two clear contenders for default or plurality type. In addition, the typological literature on alignment has had very little to say about oblique coding of arguments and about compound and light verbs, both of which result in additional minor and sometimes even major splits in alignment.

But for many research questions it is still of great interest to be able to classify languages (or even whole families) by their alignment type. As with "stative-active" splits, the proper way to do this is to count lexical frequencies of alignment patterns on some controlled wordlist and also text frequencies on a sufficiently large and varied corpus of authentic text to give a reliable reflection of the language's type. The only attempt in this direction that we know of is Nichols 2006, a pilot lexical study on split S and A coding.

An alternative approach is to survey all distinct alignment patterns in each language and derive an aggregate value estimating the overall trend in the language. For example, of all case alignment patterns in Russian, two include an alignment of S with A (nominative and dative) and an appropriate aggregate value would qualify this language as being more S=A like than, say, Ingush, where only one pattern (the one with datives) aligns S with A. Obviously, it is not enough to determine whether S aligns with O; it is also important to know whether O, in turn, aligns with T or G; and ideally also which argument, if any, aligns with adjuncts or possessors.

Adequate quantitative surveys of alignment patterns ultimately need both approaches, with aggregate values based on exhaustive listings of available alignments in each language, weighted for lexical and discourse frequency.

8. Conclusions

A typology of alignment must necessarily be relativized to lexical valence sets and must ultimately include the alignment of all argument roles among themselves and with all sorts of adjuncts and nominal dependents. In this chapter we have concentrated on the better known alignments of arguments with arguments.

We have not discussed the distribution of alignment types in this chapter. For some recent discussion of the effects of the referential hierarchy on case distributions, see Bickel 2007a and 2007b. The basic finding of these studies is that despite their popularity (starting with Silverstein 1976 and Comrie 1981 and continued by Dixon 1994 and Aissen 2003), such effects cannot be considered well-established universals (comparable, to, say the correlation of VP and PP order), and much more empirical groundwork is needed before any such claims can be accepted as proven.
References


Zúñiga, F. 2006. Deixis and alignment: inverse systems in indigenous languages of the Americas, Amsterdam: Benjamins