Andrej Malchukov & Andrew Spencer (eds.)
The Handbook of Case

Spatial Cases

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1. Introductory remarks

1.1.Definitions

In this chapter, the term *case* is taken in its traditional meaning of inflectional category-system (and the individual categories or values of that system) expressing dependency relations involving NPs.[1]

A spatial relation involves two percepts, a *Figure* (or *Theme*, or *Trajector*) and a *Ground* (or *Location*, or *Landmark*), the Figure being perceived as located or in motion relative to the Ground.[2]

A spatial case is an inflected form of nouns or NPs distinct from the absolute form available for the extra-syntactic function of pure designation, and apt to fulfill one of the following functions without the addition of an adposition:

– non-verbal predicate, or predicative complement of a copula, specifying the location of an entity,

– verb satellite specifying the location of an event,

– argument of motion verbs specifying the source, path, or destination of the movement.

It may happen that the same case form has some uses corresponding to this definition along with non-spatial uses (see sections 4 and 5).

Some authors have advocated that all cases can be viewed as locative expressions (see in particular Hjelmslev 1935, Hjelmslev 1937, Anderson 1971, Cook 1989). Since we are concerned with cases that have concrete spatial meanings (and not with cases having only non-spatial uses derivable from abstract locative meanings) this question will not be further developped here.

[1] For a discussion of the various extensions of the term *case* encountered in the literature, see Haspelmath (this volume).

[2] For a general approach to the study of the linguistic expression of spatial relations, see e.g. Jackendoff 1983, Langacker 1987, Jackendoff & Landau 1992, Svorou 1994, Pederson 1995, Pederson & al. 1998, Talmy 2000. Shay & Seibert 2003 provides a collection of papers exploring the variety of the linguistic means of expressing spatial relations in typologically diverse languages.

1.2. Simple and complex spatial cases

Morphologically complex spatial cases may include a formative having an independent existence as a spatial case marker, combined with an *extension*, i.e., a formative that has no independent existence (for example, Basque directional *-ra-ntz* 'towards' and terminative *-ra-ino* 'up to' combine allative *-ra* with two extensions that exist only in combination with the allative marker).

It may also happen that none of the formatives involved in the formation of complex spatial case marker has an independent existence. In Akhvakh, all spatial cases arise from a combination of markers for relative orientation with markers for destination, location or source, but none of the distinctions underlying this system involves zero marking.

Spatial cases arising from a combination of 3 formatives are attested. In some Daghestanian languages, cases markers encoding path consist of a first formative for relative orientation, a second formative that by itself carries an ablative meaning, and an third formative, responsible for the meaning of path, that exists only as an extension of the ablative marker. In Tsez, the possible addition of a distal marker is responsible for the existence of spatial cases consisting of 4 formatives (Comrie & al. 1999).

1.3. Problems in separating spatial cases from spatial adpositions

It is not possible to discuss here the criteria according to which descriptive linguists decide to treat simple markers encoding spatial meanings and located at the edge of noun phrases as spatial cases or spatial adpositions. In the case of complex markers, three options are available (combination of two affixes, of an affix and an adposition, or of two adpositions), and the criteria that may lead to choose between these three options cannot be discussed here either:

> 'Although one can easily separate different layers of case marking in a particular language, as in Hindi for instance, it can be difficult to determine whether a single layer of case marking in a particular language is affixal or adpositional.'
>
> (Blake 1994:11)

Consequently, in the search for typological generalizations concerning spatial cases in the narrow sense of this term, one must always keep in mind that there is some degree of arbitrariness in the distinction between cases affixes and adpositions as it is recognized in the descriptions of individual languages. It is nevertheless interesting to take this distinction into account, because spatial relation markers that are clearly affixal lend themselves to some generalizations that do not apply to those that are clearly adpositional and vice versa.

1.4. Spatial cases in languages devoid of case contrast between core syntactic terms

Most of the time, noun forms identifiable as spatial cases according to the definition put forward in the introduction are observed in languages in which morphological variations of nouns contribute to mark the contrast between syntactic core termes (*nominative vs. accusative*, or *absolutive vs. ergative*), but there are exceptions. Tswana has no case contrast between syntactic core terms, but Tswana nouns have a locative form. Nahuatl is another case in point.

1.5. Case languages devoid of spatial cases *stricto sensu*

A language may have case inflection without having spatial cases. For example, none of the three cases of Classical Arabic (nominative, accusative, and genitive) can be used by itself in spatial functions.

In case languages devoid of spatial cases proper, the functions typical of spatial cases are expressed by means of adpositional phrases. This is a common situation among the modern Indo-

European languages that have not entirely eliminated the Indo-European case inflection. For example, in Russian and other Slavonic languages:

– the ancient locative case has become a *prepositional case*, that can only be used in combination with some prepositions,

– the case resulting from the fusion of I.E. genitive and ablative still assumes the genitive function by itself, but assumes the ablative function in combination with some prepositions only,

– similarly, the accusative case, which originally assumed the allative function by itself, occurs in allative function in combination with prepositions only.

Case forms used in such conditions may still contribute to the expression of spatial meanings (in Russian, both *za + accusative* and *za + instrumental* encode the relative orientation BEHIND, but the choice between accusative and instrumental case encodes the distinction between destination and location).[3] It may however also happen that the choice of a particular case is simply required by the adposition (in Russian, *ot* 'from' is necessarily followed by a noun phrase in the genitive case).

In the old I.E. system, most clearly attested in Sanscrit, three case forms of nouns qualified as spatial cases, at least in some of their uses. Latin illustrates the transition towards another type, in which the same case forms can contribute to the expression of spatial meanings within the frame of prepositional phrases only: in Latin, with some nouns, the accusative case assumed an allative function, and the ablative case assumed locative and ablative functions, without the help of any preposition,[4] but for most nouns, the expression of spatial meanings necessitated the presence of a preposition.

In languages that undergo such an evolution, it is common that isolated spatial case forms of some nouns, when they are not accompanied by noun dependents, continue to be used by themselves with spatial meanings, becoming thus spatial adverbs.

1.6. Spatial cases and semantic classes of nouns

Two semantic classes of nouns frequently have particularities in relation with spatial cases: Geographical names,[5] and nouns referring to humans.

Geographical names often have a 'lighter' spatial marking than most other nouns and tend to be more conservative in evolutions affecting the expression of spatial relations. This is quite obviously the consequence of their predisposition to represent the reference point in a spatial relation, and of the frequency of their use as spatial complements or adjuncts. In Latin, the nouns that maintained spatial uses of prepositionless ablative and prepositionless accusative were mainly town names. In Tswana, names of towns or countries have no locative form, and occur in the absolute form in contexts in which, with very few exceptions, other nouns must take the locative form. In Hungarian, some town names maintain an ancient locative ending *-ett/ött/ott* that has been eliminated from regular noun inflection.[6]

Nouns referring to humans, or more generally to animate beings, may have special forms for spatial cases. In some languages, such nouns are incompatible with spatial cases (for example, in Armenian, they do not have locative case). This follows from a general tendency to express spatial relations with human beings as the reference point in an indirect way, through a genitival construction ('at N's place'). The grammaticalization of such constructions may lead to the creation of spatial adpositions specifically used with human nouns (like French *chez* < Latin *casa*), but in some variants of this scenario, the result may be the emergence of spatial cases specifically used with human nouns; one may for example imagine the grammaticalization of a construction in which

[3] Abraham 2003 discusses case assignment with respect to the doubly-governing prepositions in German, showing the weaknesses of the traditional presentation of this question.

[4] Some of these nouns (but not all) maintained also a locative form distinct from the ablative.

[5] Common nouns characterizable as 'natural locations' (such as *house*, or *village*) often show the same tendencies as geographical names with respect to the expression of spatial relations.

[6] This ancient locative suffix subsists also in the inflection of spatial postpositions – see section 3.

a spatial case affix is attached to a genitive interpreted as an elliptical variant of the construction *N's (place)*.

Basque cumulates both particularities: contrary to the other cases of Basque, which have the same form for all nouns, spatial cases have special forms (a) for animate nouns, and (b) for geographical names. Interestingly, the spatial case endings of Basque are shorter for geographical names than for ordinary nouns, and longer for animate nouns.

'Endingless locatives' (which in at least some cases can be analyzed as bare noun stems in locative function) are well-attested in some ancient I.E. languages, but the nouns that have this particularity do not seem to constitute a natural semantic class (for Hittite, see Neu 1980), and the very notion of 'endingless locatives' in I.E. is not entirely clear.

An interesting case of grammaticalization of the relation between semantic classes of nouns and the encoding of spatial meanings is attested by Central Bantu languages, in which affixes that are basically noun class prefixes (and as such, primarily attach to subsets of nouns that have in common an inherent locative meaning) are also used with nouns belonging to other classes with a function similar to that of spatial case markers (Grégoire 1977).

1.7. Adverbs and adpositions inflected for spatial cases

In languages in which nouns have a case inflection including a subsystem of spatial cases, spatial adverbs and adpositions commonly have possibilities of variations similar to noun case inflection, but limited to spatial cases. This can be viewed as an indication that, diachronically, such adverbs or postpositions originate from nominal forms inflected for case –see section 3.

2. Semantic distinctions expressed by spatial cases

2.1. Preliminary remark

When analyzing the semantic distinctions expressed by spatial cases, cases that assume spatial functions in a productive way along with uses typical of some non-spatial case must be considered on a par with specialized spatial cases, and in this respect, current terminology may be misleading. For example, Turkish provides a typical illustration of the tripartite distinction *locative / allative / ablative*, but the case assuming the allative function is also used as a dative marker, and is designated simply as 'dative' in many Turkish grammars, whereas in other languages which have basically the same situation, a case very similar to Turkish 'dative' is described as an 'allative' or 'directive' case having also dative functions.

2.2. Case systems with a unique spatial case

Some languages have a unique spatial form of nouns used equally, without the help of any adposition, for verb dependents expressing location, source of movement, or destination of movement (Tswana, Nahuatl). Such forms are commonly designated as *locative*.[7]

But there are also languages with a unique spatial case, designated as *locative*, expressing location only. For example, Baltic languages (Latvian, Lithuanian) encode location by means of prepositionless locative, but use prepositions governing non-spatial cases for destination or source.

[7] Creissels 2006 examines the strategies used to encode the distinction between location, destination, and source, in languages that do not encode this distinction by means of adpositions or case affixes. See also Wälchli & Zuñiga 2006.

2.3. Types of distinctions structuring the systems of spatial cases

Spatial case systems tend to be structured along two dimensions: the distinction between location, destination, source, and path on the one hand, and reference to particular types of *spatial configurations* (or *relative orientations*) on the other hand. The terms *configuration* and *relative orientation*, taken here as synonymous, refer to distinctions of the type expressed by the choice between *in, on, at, behind, under*, etc. in English.

For a formal analysis of the semantics of locative expressions, see Kracht 2002.

2.4. Unidimensional spatial case systems

Spatial case systems encoding distinctions between types of configurations only, without any distinction between location, destination, source, and path, do not seem to be attested.

Unidimensional spatial case systems tend to be organized according to a tripartite distinction between location, destination of movement, and source of movement. *Locative / allative / ablative* are the terms most commonly used to describe such systems, at least when the case forms in question are used predominantly in spatial functions.[8] Another possible terminology, mostly used however in descriptions of bidimensional spatial case systems, is *essive / lative / elative*.[9]

In systems of spatial adpositions, the conflation of location with destination is quite common. Among spatial case systems, this conflation is found for example in Kryz, but this is not a common situation, which is somewhat unexpected, given the diachronic relation between case affixes and adpositions.

A few languages have a *locative-ablative vs. allative* distinction: Kanuri, Dinka, Old Georgian; in Latin, only part of the nouns that maintained spatial uses of the ablative case had a distinct locative form. Contrary to what we observed in relation with the location-destination conflation, this second type of conflation is equally rare in case systems and in adposition systems.

2.5. Bidimensional spatial case systems

Bidimensional spatial case systems combine an indication on relative orientation with a distinction of the type *locative / allative / ablative* (or *essive / lative / elative*).[10] The indication on relative orientation carried by spatial cases is most of the time limited to three basic configurations that can be symbolized as IN, ON, and AT.[11]

The following chart gives the terms used to label the 9 spatial cases of Hungarian analyzable as combining the two dimensions *location / destination / source* and *IN / ON / AT*.[12]

	IN	ON	AT
location	*-ban/ben* (inessive)	*-(o/e/ö)n* (superessive)	*-nál/nél* (adessive)
destination	*-ba/be* (illative)	*-ra/re* (sublative)	*-hoz/hez/höz* (allative)
source	*-ból/ből* (elative)	*-ról/ről* (delative)	*-tól/től* (ablative)

[8] *Allative* and *ablative* are used with a more restricted meaning in the description of some bidimensional systems of spatial cases –see section 2.5.

[9] Note that *essive* is also used, for example in Hungarian grammars, as a label for non-spatial cases with the meaning 'as', 'in capacity of'.

[10] Recent works on Daghestanian languages, which have particularly elaborated systems of spatial cases, use the terms *localization* for what is called here configuration or relative orientation, and *direction* for the choice between location, destination, source, and path.

[11] This is in accordance with a general principle according to which, 'Where inflectional case and adpositions co-occur in a language, the adpositional system normally exhibits finer distinctions than the inflectional system' (Blake 1994:11).

[12] In a consistent use of Latin roots, *sublative* should be replaced by *superlative*, since *sub-* refers to UNDER-configuration. The choice of this term by Hungarian grammarians was probably motivated by the desire to avoid homonymy with *superlative* as an inflected form of adjectives.

More elaborated bidimensional systems of spatial cases are found in Daghestanian languages[13] and in Burushaski. In such systems, the second dimension may include a 4th term specifically used to encode path (*translative*, or *perlative*), and the first dimension may include additional distinctions, for example :

– series encoding configurations more commonly encoded by means of adpositions or locational nouns: UNDER, BEHIND, or IN FRONT OF,

– distinct series for two varieties of IN-configuration, 'in filled, dense space' (*The stone is in the ground*) vs. 'within an empty or closed space' (*The water is in the glass*),

– distinct series for two varieties of ON-configuration, according to distinctions such as *vertical vs. horizontal contact*, or *contact due to gravity vs. adherence* (see Ganenkov 2005 on Daghestanian languages, Tiffou 1999:190 on Burushaski).

The following chart gives possible labels for the spatial cases of Avar as they are currently presented in descriptions of Avar, with 5 series of 4 cases each:[14]

	ON	AT	IN_1	UNDER	IN_2
location	*-da* (superessive)	*-q* (apudessive)	*-ɬ* (intereressive)	*-L'* (subessive)	*-<b>* (inessive)
destination	*-de* (superlative)	*-qe* (apudlative)	*-ɬe* (interlative)	*-L'e* (sublative)	*-<b>-e* (illative)
source	*-dasa* (superelative)	*-qa* (apudelative)	*-ɬa* (interelative)	*-L'a* (subelative)	*-sa* (inelative)
path	*-dasan* (supertranslative)	*-qan* (apudtranslative)	*-ɬan* (intertranslative)	*-L'an* (subtranslative)	*-san* (intranslative)

The semantic complexity of such spatial case markers is more or less reflected in their form.

In Hungarian it is not possible, in a strictly synchronic analysis, to isolate in each spatial case marker a formative for the distinction *location / destination / source* and another for the distinction *IN / ON / AT*, but the superessive marker is the only one constituting the direct reflex of an ancient case marker, and most of the others (in particular, those encoding IN-configuration) still have forms suggesting that they originally combined two distinct formatives.

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[13] On Daghestanian case systems in general, see Daniel & Ganenkov, this volume. On Daghestanian spatial case systems, see Comrie 1999, and for a diachronic approach Alekseev 2003. Detailed presentations of Daghestanian systems can be found in Authier to appear (Kryz), Charachidzé 1981 (Avar), Haspelmath 1993 (Lezgian), Kibrik (ed.) 1996 (Godoberi), Kibrik & al. (eds.) 2001 (Bagvalal), Kibrik & Testelec (eds.) 1999 (Tsakhur), Sumbatova & Mutalov 2003 (Dargwa), van den Berg 1995 (Hunzib).

[14] This inventory calls for the following two remarks, which unfortunately cannot be sufficiently developped here :
(a) The 1st series, traditionally described as encoding ON-configuration, tends to take the status of series unmarked for configuration, the postposition *t'ad* being used to encode specifically ON-configuration.
(b) The basic meaning of the two series labelled here IN_1 and IN_2 is currently described as involving the distinction *in dense space* vs. *in empty space*. *<b>* in the first two forms of the 5th series is a gender-number marker agreeing with the absolutive term of the construction in which these forms fulfill the function of locative adjuncts or allative complements, conventionally given in the form it takes for 'singular, non-human'. This last series has no formative of its own, but its formation involves a special stem, whereas the suffixes of the other series attach to the same 'oblique stem' as non-spatial case markers (for example, the oblique stem of *ruq'* 'house' is *ruq'aɬ-*, but the stem of this word for the suffixes of the 5th series of spatial cases is *roq'o-*). In addition to that, this series exists only with a limited set of nouns, which casts some doubts on the decision to analyse these forms as inflected forms of nouns rather than locative adverbs derived from nouns. Diachronically, it seems reasonable to assume that this 5th series represents a layer of spatial case marking anterior to the emergence of the bidimensional system of spatial cases. Additional evidence supporting this hypothesis is the similarity between this series and the case inflection of adverbs/postpositions such as *hani<b>* 'here', *ki<b>* 'where ?', *horL'o<b>* 'in the middle (of)', *χadu<b>* 'behind', *žani<b>* 'inside' (among which some at least may be ancient locational nouns subsisting only in spatial case forms).

In Avar, 3 series of spatial cases quite transparently result from the concatenation of a configuration marker and a marker encoding the *location / destination / source / path* distinction, but the segmentation of the remaining two series is more problematic. In such cases, it can be assumed that evolutions have blurred the original composition of complex markers, or that the system conflates distinct diachronic layers of case marking (see in particular note 12 on the 5th series of spatial cases of Avar).

A plausible source of such systems is the morphologization of constructions involving a case-marked locational noun or adposition expressing configuration –see section 3.

In bidimensional systems in which spatial case markers can be more or less straightforwardly segmented into two formatives, it may happen that:

– either the absence of the second formative encodes location, contrasting with non-void formatives encoding source and destination (Avar, Burushaski),

– or the configuration marker is optional, and its absence indicates that the relative orientation is not specified (such a system is reconstructed for Proto-Finnish – see section 6).

A frequent problem in describing bidimensional spatial case systems is that one of the series may tend to lose its specific meaning, and to function as the default choice when the specification of a particular configuration is not important from a communicative point of view. For example, Akhvakh has 5 series of spatial cases; three of them quite obviously encode specific configurations (IN, AT and UNDER), but the other two have uses that lead to the conclusion that one of them (characterized by a formative *-q-*) has lexicalized (in the sense that its productivity is very limited, and the nouns that have this series of spatial cases must be listed in the lexicon), whereas the other (characterized by a formative *-g-*) is the default choice to encode spatial relations without referring to a particular configuration. A similar problem has been mentioned for Avar in note 11.

In the absence of a series used by default when no particular configuration is intended, the choice of a particular series may involve lexical properties of nouns. Kracht 2002:6 rightly observes that Hungarian has *a mezőn* 'in the meadow' (superessive) but *a kertben* 'in the garden (inessive), and that a *hajón* 'on the ship' (superessive) 'is the neutral way of saying that you are on the ship, regardless of whether you are in a cabin or on deck'.

2.6. Tridimensional spatial case systems

Tridimensional spatial case systems are exceptional, but Tsez attests the possibility to combine the two dimensions commonly found in Daghestanian systems with a binary distinction *± distal*.

2.7. The expression of path

In addition to the common tripartite distinction *location / destination / source*, a few languages (e.g., Yup'ik) have a fourth unanalyzable marker specifically used to encode path (*translative*, or *perlative*), but the following situations are much more common:

– ablative markers are often used to encode, not only source, but also path (Basque, Turkish, Armenian, Lezgian);

– path may also be encoded by a complex case marker consisting of an ablative marker plus an extension in the sense of section 1.2 (Avar and other Daghestanian languages);

– path may be encoded by means of the combination of a spatial case and an adposition (Hungarian);

– instrumental case markers or adpositions often have the expression of path as one of their possible uses, even in languages that have a distinction between an instrumental case/adposition and an ablative case (in Azerbaidjani, at least with some nouns, the ablative suffix *-dAn* and the comitative-instrumental postposition *ile* can equally encode the role of path).

2.8. Other uncommon types of spatial cases

Páez has a unique allative case *-na* and a unique ablative case *-hu*, but four locative cases expressing an obligatory distinction between four types of posture: standing (*-te*), lying (*-ka*), hanging (*-khe*), and leaning (*-su*).

In languages that have spatial cases, *terminative* ('up to') is commonly encoded by means of an adposition governing the allative case, or a complex case marker resulting from the addition of an extension to an allative marker (Basque *-ra-ino*, Azerbaijani *-(y)A-cAn*), but Hungarian has an unanalyzable terminative marker (*-ig*). A terminative case is also mentioned in Estonian grammars, but it is a complex marker based on the genitive case.

Directional ('towards') is encoded in Basque by means of an extension of the allative marker.

2.8. Common types of spatial cases in uncommon types of organization

From a strictly synchronic point of view, Georgian can be analyzed as having an inventory of seven spatial cases.[15] All of them are complex markers ('cas secondaires' in Vogt's terminology), but their meaning is entirely determined by the second formative (which is historically a cliticized postposition), and their first formative is a non-spatial case initially governed by the postposition from which the second formative originates:

– superessive-superlative: dative + *-ze*
– inessive-illative: dative + *-ši*
– adessive-allative: dative + *-tan*
– ablative: genitive + *-gan*
– elative: instrumental + *-dan*
– directional: genitive + *-k'en*
– terminative: adverbial + *-mde*

3. Spatial case forms of locational nouns, spatial adpositions, and spatial adverbs

In languages that have unidimensional systems of spatial cases, relative orientation is often transparently expressed by means of locational nouns inflected for spatial cases and taking as their complement a noun phrase (often in the genitive case), as in Basque:

	gain 'top'	azpi 'bottom'	ondo 'side'	etc.
location	*gain-ean*	*azpi-an*	*ondo-an*	
destination	*gain-era*	*azpi-ra*	*ondo-ra*	
source	*gain-etik*	*azpi-tik*	*ondo-tik*	

The grammaticalization of such situations may lead:
– in a first stage, to systems of spatial postpositions inflected for spatial cases;
– in a second stage, to bidimensional systems of spatial cases.

This is precisely what occurred in Hungarian. This language has a large inventory of postpositions with a case inflection consisting of three forms encoding the distinction *location / destination / source*:

[15] see Vogt 1971; most Georgian grammars do not consider these complex markers as cases, but are not explicit on the nature of their second formative.

	BESIDE	FRONT	BACK	etc.
location	*mell-ett*	*el-ött*	*mög-ött*	
destination	*mell-é*	*el-é*	*mög-é*	
source	*mell-ől*	*el-ől*	*mög-ül*	

These postpositions are quite obviously, from a diachronic point of view, spatial case forms of locational nouns. But synchronically, due to relatively recent changes in the case system of Hungarian, they cannot be recognized as such, even when the noun they originate from still exists (for example, *mell-ett/-é/-ől* is clearly cognate with *mell* 'chest', but none of the three forms of this postposition coincides with any of the case forms of the noun *mell*).

The cliticization of some of these postpositions resulted in the two-dimensional spatial case system of Hungarian presented in section 2.5.[16]

In a variant of this scenario, nominal forms or phrases including spatial case markers grammaticalize in contexts in which they are not combined with a complement NP, becoming thus spatial adverbs, and the adverbs created in this way may maintain a case inflection limited to spatial cases, and often irregular from a synchronic point of view, due to the fact that, once they have frozen as adverbs, these forms are not affected by subsequent changes affecting regular noun inflection.

For example, Basque has three deictic place adverbs, *hemen/hon-* 'here', *hor* 'there (near hearer)', and *han* 'over there', with the following possibilities of case inflection:

locative	*hemen*	*hor*	*han*
allative	*hona*	*horra*	*hara*
ablative	*hemendik*	*hortik*	*handik*

The etymological connection with the three demonstratives (*hau(r)/hon-*, *hori*, and *hura/ha-*) is clear, but in the present state of the language, these forms cannot be recognized as case forms of demonstratives, or of phrases including demonstratives.

Adverbes inflected for spatial cases, often cognate with inflected postpositions, are very common in Hungarian. For example, the postposition *el-ött / el-é / el-ől* expressing the relative orientation FRONT is cognate with the adverb *elöl / elő-re / elöl-ről* expressing exactly the same meaning. Akhvakh is another typical example of a language with a large inventory of such adverbs.

4. Syncretisms between core syntactic cases and spatial cases

4.1. Allative-dative syncretism

Not surprisngly, given the prototypical meanings currently recognized to cases, the allative-dative syncretism is by far the most common syncretism involving a core syntactic case and a spatial case. Even in languages that have a specialized dative marker, it is not rare that allative can replace dative in its most typical function (e.g., Akhvakh), and the shift *allative → dative* is admittedly a common source of dative markers.

[16] Note that the Hungarian postpositions whose cliticization gave rise to the case system of present-day Hungarian still exist as words in complementary distribution with case suffixes: in Hungarian, with the only exception of the accusative, case suffixes cannot attach to personal pronouns, and this impossibility is compensated by the use of postpositions inflected for person. For example, 'by me' cannot be expressed as **én-nél* (*én* 'I', *-nél* 'adessive'), but only as *nálam*, 1st person of a postposition cognate with the case suffix *-nál/nél*; this potposition differs from ordinary postpositions in that it exists only in forms having a personal ending – for a detailed analysis, see Creissels 2006b.

4.2. Allative-accusative syncretism, and unmarked allative

An *allative-accusative* syncretism in languages that have a specialized dative case is attested in ancient Indo-european languages (Sanscrit, Latin).

A possible explanation is a first change by which an allative marker extends its use to dative and subsequently accusative functions (as attested in the history of the Romance preposition *a* < Latin *ad* in Spanish, or in Sardinian), the chain *allative-dative-accusative* being subsequently broken by the creation of a new dative marker from a different source. However, this hypothesis is entirely speculative, and the following observations on *unmarked allative* suggest rather a direct functional explanation of such situations.

Unmarked allative (i.e., the use of the absolute form of nouns in allative function without the help of any adposition) is observed in several languages that have also direct objects devoid of any mark of their function (for example, in Maale, an Omotic language in which a marked case form of nouns is used for subjects, and the absolute form is used for objects). The situation of such languages is therefore functionally similar to that of languages using the same case-marked form of nouns for direct objects and complements of verbs of movement expressing destination. In some cases (for example, in Armenian), the unmarked allative can be explained by the loss of the *nominative vs. accusative* distinction in a system originally characterized by an *allative-accusative* syncretism. But unmarked allative is also found in languages in which there is no evidence that an accusative case ever existed, and other explanations must be considered.

For example, Tswana has a locative form of nouns indistinctly used for nouns in the roles of location, source, and destination, but the verbs of movement assigning to their complement the role of destination can also optionally take complements encoding destination that bear no mark of their role, and are treated in fact as direct objects (in particular, they can pronominalize in the same way as direct objects).

The tendency to treat nouns encoding destination or source of movement as the second core term of transitive constructions is sporadically attested in many languages (as in English: *He entered / leaved the room*), and seems particularly strong for nouns in allative function, which may explain the situation of languages in which unmarked allative is the rule.[17]

4.3. Locative-dative syncretism

Mongolian has a *locative-dative* syncretism, but uses a different marker (traditionally analyzed as a postposition governing the absolute form of nouns) for allative. A similar situation existed in Old Hittite.

4.4. Spatial cases and genitive

The *ablative-genitive* syncretism is common in adposition systems (French *de*), and therefore would be expected to be found in case systems too, but examples are not easy to find. Such a syncretism is postulated in the history of Greek, but in Classical Greek, the ablative-genitive case was no more a spatial case, since it assumed spatial functions productively in combination with prepositions only.

The same can be said of the *locative-genitive*, *allative-genitive*, and *locative-allative-genitive* syncretisms: such syncretisms are relatively common in adposition systems (for example, Bulgarian *na* illustrates the *locative-allative-genitive* syncretism), but seem to be rare in case systems.

[17] More generally, on the possibility to treat NPs encoding spatial relations as core syntactic terms, see Dimmendaal 2003.

4.5. Spatial cases and ergative

Dixon 1994 signals the existence of a *locative-ergative* syncretism in some languages, but does not mention the possibility of an *ablative-ergative* syncretism. This is somewhat unexpected, since *ablative-instrumental* and *instrumental-ergative* are among the most common case syncretisms, and in many languages, obliques representing agents (in particular, in passive constructions) occur in the ablative case. An illustration of the *ablative-ergative* syncretism can however be found in Kryz, where the ergative suffix coincides with the second formative of spatial cases encoding source.

5. Other uses of spatial cases

5.1. Oblique arguments

Arguments of individual verbs may occur in case forms that have otherwise the status of spatial cases. Such case assignments can often be viewed as resulting from a metaphorical extension of the spatial meaning of the case in question. For example, verbs with the meaning 'be afraid (of)' commonly assign ablative case to their complement.

5.2. Spatial cases in constructions involving valency changes

Ablative is used in some languages for NPs representing the demoted subject in passive constructions (Greenlandic). This use is clearly related to the ablative of cause – see 5.3.3.

Yup'ik uses the ablative case for demoted objects in antipassive and applicative constructions, and the allative case for demoted transitive subjects in constructions involving the introduction of an additional participant in subject role.

Spatial cases may be involved in non-volitional agent constructions. For example, Lezgian marks the non-volitional agent with the adelative case.

5.3. Spatial cases used to mark verb satellites with various circumstantial meanings

Cross-linguistically, the *ablative-instrumental* syncretism is particularly common.

Case markers specialized in the expression of temporal meaning (such as Hungarian *-kor*) are not common. Spatial cases are widely used to encode temporal relations, which is commonly viewed as a metaphorical extension of their basic meaning.

Locative of state, allative of transformation, allative of purpose, and ablative of cause, are also relatively common metaphorical extensions of the use of spatial cases.

Basque has a secondary case marker based on allative (*-ra-ko*) for NPs used as verb dependents with a meaning of purpose.

5.4. Partitive

Hungarian illustrates the use of ablative to express partitive.

Basque has a partitive marker *-(r)ik* resulting from the specialization of an allomorph of the ablative marker *-tik*.

5.5. Comparative

The use of ablative to mark adjective complements expressing comparison is relatively common.

5.6. Spatial cases governed by adpositions

It may happen that case markers apt to encode spatial relations without the help of any adposition have also uses in which they are governed by an adposition (Basque *zehar* 'throughout' combines with NPs in the locative case, Turkish *kadar* 'until' combines with NPs in the allative case, *sonra* 'after' combines with NPs in the ablative case, etc.)

5.7. Spatial cases and the syntactic role of noun dependent

Spatial cases are rarely used to mark NPs in the role of noun dependents.

Some languages have 'adjectivizers' systematically used to convert words or phrases typically used as verb satellites (including NPs marked for spatial cases) into noun dependents (Basque *-ko*,[18] Turkish *-ki*, Akhvakh *-se*).

6. Non-spatial cases derived from spatial cases

The generalization of the use of adpositions with originally spatial cases is not the only way by which spatial cases can undergo a change in their status. Another possible scenario is that, after developping non-spatial uses, spatial cases tend to be used predominantly in their new function, and to be replaced by other spatial cases (or by adpositions) for the expression of spatial meanings.

This is quite obviously a very common type of change in the evolution of case systems, and, diachronically, syncretisms such as those described in sections 4 & 5 often constitute intermediary stages in evolutions converting spatial cases into markers of core syntactic relations, or into cases expressing other types of circumstantial meanings.

For example, the system of spatial cases of Finnish originally consisted of nine cases organized in three series with the meanings 'unmarked for relative orentation', 'IN' (originally characterized by a formative *-s-*), and 'AT' (originally characterized by a formative *-l-*), but the first series has developped non-spatial uses (modal < locative, partitive < ablative, and transformative < allative), and is now used only residually in spatial functions.[19]

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[18] Traditional Basque grammars wrongly identify *-ko* as a 'local genitive' case. In fact, *-ko* attaches to NPs already inflected for case, and has a purely syntactic function of converting verb satellites into noun dependents. The source of the error is that, due to morphophonological rules, when *-ko* attaches to NPs in the locative case, the locative suffix may not be apparent.

[19] The three cases of this series are designated in Finnish grammars as essive, partitive, and translative.

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