

11. Auxiliarization

11.0. Introduction

In the previous chapters I concentrated on the basic uses of non-verbal predication types. Apart from these basic uses several construction types have other, specialized uses, in which they serve the purpose of periphrastically expressing some abstract notion which in other languages could well be expressed by means of some grammatical morpheme. By way of illustration consider the following examples:

Basque (Isolate; Lafitte 1944: 74, 221)

- (1) *Ez d-a ogir-ik.*
NEG 3.SG.ABS-COP.PRES bread-PTT
'There is no bread.'
- (2) *Etche hunta-n ez d-a bizitzer-ik.*
house DEM-LOC NEG 3.SG.ABS-COP.PRES live.INF-PTT
"There is no living in this house."
'It is impossible to live in this house.'

The negative existential predication type in Basque illustrated in (1) has a specialized use in which it signals the notion of impossibility, as illustrated in (2). Thus, Basque employs a basic non-verbal predication type to periphrastically express some abstract, in this case modal, notion.

Non-verbal predication types with some specialized use can be called *auxiliary predications*. By an auxiliary predication I understand one which is used to express some tense, mood, aspect, or polarity distinction, i.e. some notion which when expressed grammatically would be captured by a π -operator (see 1.6) in Functional Grammar. Dik (1987) has argued with respect to several types of auxiliary predication with an aspectual value that, from a diachronic perspective, these can be analyzed as non-verbal predications, and that, consequently, verbal copulas used as auxiliaries in aspectual predications may be treated in the same way as copular verbs used in basic non-verbal predication types.¹ In this chapter this idea is extended to auxiliary predications expressing notions other than aspectual, and to some further auxiliary predication types.

Auxiliary predications may undergo processes of grammaticalization that lead to their incorporation into the grammatical system of languages. For a proper understanding of this chapter it is important to note that its aim is not to give a detailed description of these processes of grammaticalization, but rather to

1. Language specific proposals in the same field have been made by Shiratsuki (1985) for Basque, Hengeveld (1986, 1990) for Spanish and Mandarin Chinese, and de Groot (1987, 1989) for Hungarian.

investigate what the sources of these processes are. As in the previous chapter, this diachronic perspective is arrived at primarily through the investigation of synchronic data. This means that it in some cases it will be hard to say whether the analyses of language-specific data presented here are synchronically relevant or of etymological interest only.

In 11.1 I give a survey of auxiliary predication types, investigate how they relate to the basic predication types distinguished in chapter 5, and provide a description within the Functional Grammar framework. This section is organized in such a way that auxiliary predications are discussed under the heading of the basic predication type on which they are patterned.² In 11.2 I deal with the position of auxiliary predications within the systems of non-verbal predication of the languages of the sample, showing that the selection of particular auxiliary predication types is governed by the same typological parameters that played an important part in previous chapters.

11.1. Auxiliary predication types

11.1.1. Property assignment

11.1.1.0. Introduction. A predication type often borrowed for some auxiliary use is that expressing the semantic relation of property assignment, the general format of which is given in (3):

- (3) $(e_i: [(f_i: \text{pred}_A (f_j)) (x_j)_\theta] (e_j))$

This basic predication type can be extended to auxiliary uses by substituting a participial form for the adjectival predicate, the result being a construction which expresses some aspectual or modal distinction.

11.1.1.1. Aspect. A language making extensive use of property assigning constructions for the expression of aspectual distinctions is Turkish. Compare the following examples, in which the behaviour of predicatively used participial forms is contrasted with the behaviour of adjectival predicates, or rather, since Turkish is a flexible language (see 4.4.1), predicates which can be used as a modifier of a nominal head:

2. There is one auxiliary use of a verbal copula that has to remain unexplained. In Krongo the equative copula *-aa* combines with an infinitive in a narrative construction, which links a sentence with the preceding text and is best translated by 'and'.

Turkish (Altaic; Lewis 1967: 96-115)

- (4) a. *Gel-eceğ-im.*
come-FUT-1.SG
'I am about to come.'
- b. *Güzel-im.*
beautiful-1.SG
'I am beautiful.'
- (5) a. *Gel-ecek-miş-im.*
Come-FUT-INFR-1.SG
'I am said to be about to come.'
- b. *Güzel-miş-im.*
beautiful-INFR-1.SG
'I am said to be beautiful.'
- (6) a. *Gel-ecek i-miş-im.*
Come-FUT COP-INFR-1.SG
'I am said to be about to come.'
- b. *Güzel i-miş-im.*
beautiful COP-INFR-1.SG
'I am said to be beautiful.'

In Turkish most verbal bases, such as *gelecek* in (4)-(6), are participial forms which behave in all respects like other non-verbal predicates (see Lees 1972). Their non-verbal character is shown by the fact that they take one of a set of personal endings characteristic of non-verbal predicates, such as *-im* in (4), by the fact that they may be inflected for the same categories as other non-verbal predicates, e.g. inferential *-miş* in (5), and by the fact that they may be accompanied by a copular verb, such as *i-* in (6).

The reason to consider these constructions with a predicative participial form to express the semantic relation of property assignment is that the participial forms are functionally equivalent to adjectives (see 4.3): they share with adjectives the potential to be used attributively, witness the following examples:

Turkish (Altaic; Lewis 1967: 159)

- (7) a. *Haber gel-ecek-ø.*
news come-FUT-3.SG
'The news will come.'
- b. *gel-ecek haber*
come-FUT news
'news which will come'

- (8) a. *Haber iyi.*
 news good
 'The news is good.'
- b. *iyi haber*
 good news
 'good news'

Taken together, examples (4)-(8) show that in Turkish participial forms behave in all respects like adjectival predicates. The only difference between the two is that whereas adjectives are lexemes, participial forms are not. The latter designate internally complex properties, whereas the former designate simple ones. A first approximation of this difference is given in (9) and (10), informal representations of (4a) and (4b):

- (9) (e_i: [(f_i: [fut come_v] (f_j)) (1.sg)_θ] (e_j))
 "I am characterized by my future coming."
- (10) (e_i: [(f_i: beautiful_A (f_j)) (1.sg)_θ] (e_j))
 "I am characterized by being beautiful."

In (9) the first person singular argument of the non-verbal predicate (f_j) is characterized in terms of its future involvement in a state of affairs. This state of affairs is expressed as a participial form occupying the predicate slot. The representation in (10) has essentially the same structure, except for the fact that the predicate slot is occupied by a lexeme, not by an internally complex constituent.

In (11) the auxiliary predication is represented in more detail:

- (11) (pres e_i: [(f_i: (post e_j: [(f_j: come_v (f_j)) (x_i)_{Aθ}] (e_j)) (f_i)) (x_i: 1.sg (x_i)_θ)_θ] (e_j))
 "I am characterized now (pres) by my future (post) coming."

The complex predicate (f_i) in (11) contains a predication (e_j), which has its own predicate (f_j), one of the arguments of which (x_i) is coreferential with the argument of the complex predicate as a whole. Operators can be expressed on the verb contained within the complex predicate, and these operators trigger the participial form of the verb.

The prospective nature of the auxiliary predication in (9) and (11) is a result of the combination of the tense operator (pres) of the main clause predication (e_i) with the tense operator (post) of the predication (e_j) used predicatively (see also Olbertz 1992: 3). I use the operator *post*(erior) rather than *fut*(ure) in order to account for the fact that the participial form expresses a relative tense (see Comrie 1985), i.e. one that is to be interpreted relative to some other temporal reference point, in this case the present tense of the matrix predication.

Dik (1987: 61) notes that phasal aspect distinctions, such as prospectivity, lend themselves relatively easily for expression through a property assigning construction, since these distinctions concern the description of what is the case at some reference point in relation to the occurrence of a state of affairs at some (other) reference point. Thus, the construction represented in (11) describes what is the case with the subject at the moment of speaking in relation to the occurrence of some state of affairs in which the subject is involved at some point posterior to the present.

A similar characterization applies to *resultativity*,³ another phasal aspect distinction that is often expressed by means of a property assigning pattern. Consider the following example:

- Imbabura Quechua* (Andean; Cole 1982: 148)
- (12) *Nukanchi miku-shka ka-nchi.*
 1.PL eat-RSLT COP-1.PL
 'We are in a state of having eaten.'

This sentence can be represented as in (13):

- (13) (pres e_i: [(f_i: (ant e_j: [(f_j: miku_v (f_j)) (x_i)_{Aθ}] (e_j)) (f_i)) (x_i: 1.pl (x_i)_θ)_θ] (e_j))
 "We are (pres) characterized by our having (ant) eaten."

Here the resultative nature of the construction results from the combination of the present tense operator of the main clause predication (e_i) with the relative tense operator *ant*(erior) of the predication (e_j) used predicatively.

The same construction may occur in *Imbabura Quechua* with the participial form of a transitive verb. In such a case the argument of the complex predicate may be coreferential with the Goal argument of the verb contained within this complex predicate, the result being a seemingly passive construction. Consider the following example and its representation:

- Imbabura Quechua* (Andean; Cole 1982: 133)
- (14) *Nuka-ka Juzi riku-shka ka-rka-ni.*
 I-TOP José see-RSLT COP-PAST-1.SG
 'I was seen by José.'

3. See Nedjalkov ed. (1988) for an elaborate treatment of the typology of resultative constructions.

- (15) (past e_i : [(f_i : (ant e_j : [(f_j : *rikuV* (f_j)) (x_i : *Juzi* (x_i)_θ)_{Ag} (x_j)_{Go}] (e_j) (f_i)) (x_i : 1.sg (x_i)_θ) (e_i))
 "I was (past) characterized by José's having (ant) seen me."

This example shows the importance of the presence of the argument positions of the verb within the complex predicate. In (14) the complex property assigned to the subject is *Juzi riku-shka* 'seen by José' and thus includes an argument of the verb *riku-* 'see'. Despite its passive translation, the construction can be seen as just another variant of the resultative construction illustrated in (12).

In other languages there are property assigning auxiliary predications with an aspectual and passive value at the same time. Consider the following example of the resultative passive in Spanish:⁴

Spanish (Indo-Hittite)

- (16) *La carta está firmada*
 DEF.F.SG letter.F.SG COP.PRES.3.SG sign-PAST.PART.F.SG
por el embajador.
 by DEF.M.SG ambassador.M.SG
 'The letter is signed by the ambassador.'

Note that this construction has a resultative interpretation only, i.e. it can only be paraphrased as 'The letter has the property "signed by the ambassador"'. In order to render the dynamic interpretation another auxiliary has to be used. The passive nature of the construction is shown by the fact that, as in regular dynamic passives, the Agent argument is introduced by the preposition *por* 'by'. These facts are accounted for in the following representation:

- (17) (pres e_i : [(f_i : (ant e_j : [(f_j : *firmarV* (f_j)) (x_i : *embajador*_N (x_i)_θ)_{Ag} (x_j)_{GoSubj}] (e_j) (f_i)) (x_i : *carta*_N (x_i)_θ) (e_i))
 "The letter is (pres) characterized by its having (ant) been signed by the ambassador earlier."

The passive nature of the construction is taken care of, within the complex predicate, through subject assignment to the Goal argument (x_i) of the verb, which is coreferential with the Zero argument of the participial predicate. This example again shows the necessity of including the full verbal predicate frame, including its argument slots, within the complex predicate, since voice distinctions can be accounted for only in this way.

4. For a more elaborate discussion of this type of construction see Hengeveld (1986: 405-411).

Resultative passives like that illustrated for Spanish in (12) may gradually acquire a dynamic interpretation, in which case the construction loses its property assigning character and the copula, if present, develops into a true passive auxiliary. The Spanish copula *ser*, which in Old Spanish could fulfil the same function as the copula *estar* in (12), is now used as an auxiliary in dynamic passive constructions only (see Pountain 1985).

11.1.1.2. Mood. Property assigning predications have a second auxiliary use in which they serve to express a modal distinction. The particular subtype of modality involved is that which has become known as *agent-oriented* modality.⁵ Agent-oriented modalities describe the relation between a participant in a state of affairs and the potential realization of that state of affairs. Consider the following example, which illustrates the agent-oriented modality *obligation*:

Imbabura Quechua (Andean; Cole 1982: 151)

- (18) *Miku-na ka-rka-ni.*
 eat-OBLIG COP-PAST-1
 "I am to eat."
 'I must eat.'

This sentence be paraphrased as 'I am characterized by my being under the obligation to eat'.

The modal construction in (18) can be considered to express a relation of property assignment, since the participial form in *-na* can be used attributively, as in (19):

Imbabura Quechua (Andean; Cole 1982: 177)

- (19) *ufya-na yaku*
 drink-POT water
 "water to be drunk"
 'water suitable for drinking'

In its attributive use the participial form expresses potentiality, another participant-oriented modality, rather than obligation. The same suffix *-na* can furthermore be used as a future nominalizer. What all these uses of the suffix have in common is that they characterize a state of affairs as not yet having taken place at a certain reference point, i.e. as unrealized (irr) at that reference point. In the process of grammaticalization the suffix *-na* has apparently acquired different but related values in different contexts. Similar diverging developments can be observed in

5. A better term would be *participant-oriented* modality, since participants other than agents may be involved in it. In Hengeveld (1988) I use the term *inherent modality*.

relation to some of the other modal auxiliary constructions to be discussed later in this chapter. Since, as stated in the introduction, the aim of this chapter is not to give a description of the processes of grammaticalization that may lead to the incorporation of a non-verbal predication types with an auxiliary function into the grammatical system of languages, but rather to present a general picture of the relations between basic construction types and auxiliary constructions that are patterned on those basic construction types, I refrain from going more deeply into this matter.

Given the attributive use of the participial form, the construction can be represented as a property assigning construction, in the same way as the aspectual constructions discussed in the preceding paragraph. Thus, (18) can be represented as in (20):

- (20) (pres e_i: [(f_i: (irr e_j: [(f_j: miku_v (f_j) (x_i)_{Ag}] (e_j) (f_j) (x_i: 1.sg (x_i)_θ] (e_j)) (e_i))
 "I am (pres) characterized by my unrealized (irr) eating."

This representation reflects that the construction is closely related to the aspectual constructions in Imbabura Quechua illustrated in (12) and (14) in 11.1.1.1. This relationship is shown by the fact that, whereas the resultative morpheme in (12) and (14) can also be used as a past nominalizer, the debitive morpheme in (18) can also be used as a future nominalizer. The aspectual suffix *-shka* and the modal *-na* are furthermore mutually exclusive.

A second participant-oriented modality that can be expressed by means of a property assigning pattern is *desire*. Compare the following examples:

Ngiyambaa (Pama-Nyungan; Donaldson 1980: 281, 115)

- (21) *ñadhu dhiŋga: dhal-i-ŋinda ga-ra.*
 1.NOM meat.ABS eat-PURP-PRIV COP-PRES
 "I am in want of eating meat."
 'I want to eat meat.'
- (22) *ñadhu yuwan-ŋinda ga-ra.*
 1.NOM bread-PRIV COP-PRES
 "I am in want of bread."
 'I want bread.'

In *Ngiyambaa* the, probably derivational (see Donaldson 1980: 115), suffix *ŋinda* 'in want of' can be added to nouns, as in (21), or to non-finite purposive predications, as in (22). In both cases the resulting construction can be used predicatively.

Participant-oriented modalities lend themselves for expression through a property assigning construction, since the participant involved can be characterized at some

temporal reference point in terms of the unrealized state of affairs in which he potentially participates, just as in the case of phasal aspect distinctions a participant can be characterized at some temporal reference point in terms of the state of affairs in which he participates at some other reference point. The situation is quite different for non-agent-oriented modalities, as will be shown below.

11.1.2. Classification

11.1.2.0. Introduction. A second basic predication type on which auxiliary predications may be based is the one expressing the semantic relation of (characterizing) classification, the general format of which is given in (23):

- (23) (e_i: [(f_i: (ix_j (f_j) (x_j)_θ] (e_j))

The kind of distinctions expressed through auxiliary predications built on this pattern are essentially the same as those discussed in the previous section; it is the way these distinctions are presented that is different.

11.1.2.1. Aspect. The following examples may serve to illustrate the basic characteristics of classifying aspectual constructions:

Mandarin Chinese (Sino-Tibetan; Li—Thompson 1981: 587, 148)

- (24) *Tā (shi) zuótiān lái de.*
 3.SG (COP) yesterday come NR
 "He is (someone) characterized by his arriving yesterday."
 'He arrived yesterday.'
- (25) *Zhāngsān (shi) yī-ge hùshi.*
 Zhangsan (COP) one-CLFR nurse
 'Zhangsan is a nurse.'

The auxiliary predication in (24) can be analyzed as a classifying one for several reasons: (i) the auxiliary *shi* is used in classifying predications such as (25) only; (ii) the auxiliary is optional, just as in classifying predications; (iii) the predicate is of a referential nature, as shown by the presence of the nominalizer *de*.

Li—Thompson (1981: 590) note that constructions like (24) are appropriate to explain a situation. Sentence (24) could be used to give an answer to a question like *Why couldn't he speak English?*, whereas its counterpart (26) could be used as an answer to a question like *Has he arrived yet?*:

Mandarin Chinese (Sino-Tibetan; Li—Thompson 1981: 590)

- (26) *Tā zuótiān lái le.*
3.SG yesterday come PF
'He came yesterday.'

In sentence (24) the speaker explains a present situation by referring to a past event. This sentence can therefore be classified as having an aspectual value (see 11.1.1.1), in this case *resultative*. The event referred to may also be located in the present, as in the following example, in which the aspectual value is *progressive*:

Mandarin Chinese (Sino-Tibetan; Li—Thompson 1981: 591)

- (27) *Wǒ (shì) gēn nǐ kāiwánxiào de.*
1.SG (COP) with 2.SG joke NR
'I am (someone) characterized by my joking with you.'
'I am joking with you.'

As in the case of the property assigning pattern, this predication type may also be used with transitive verbs, as in (28):

Mandarin Chinese (Sino-Tibetan; Li—Thompson 1981: 499)

- (28) *Zhèi-běn xiǎoshuō (shì) wǒ mǔqīn xiě de.*
DEM-CLFR novel (COP) 1.SG mother write NR
'This novel is (one) characterized by my mother writing it.'
'This novel is written by my mother.'

The possibilities of the classifying pattern with respect to the expression of aspectual distinctions are thus quite comparable to those of the property-assigning pattern discussed in 11.1.1.1.

The rough representation of (24) in (29) shows that there is, however, an important difference between the two:

- (29) (e_i: [(f_i: (ix: one (x_i): [arriving yesterday] (x_i)_θ) (f_i)) (3.sg)_θ] (e_i))
'He is (someone) characterized by his arriving yesterday.'
(30) (e_i: [(f_i: (ix: nurse (x_i)_θ) (f_i)) (Zhangsan)_θ] (e_i))
'Zhangsan is a nurse.'

In (29) it is predicated of the subject that he belongs to a class of persons characterized by their arriving yesterday, just as in (30) it is predicated of Zhangsan that she belongs to the class of nurses. The crucial difference with property assigning aspectual predications is that in the latter the participial phrase is used predicatively, i.e. is applied to the argument term directly, whereas in the classifying aspectual predications the nominalized phrase is used attributively within

a headless relative, i.e. it is a restrictor within the term used predicatively and as such applied to the argument term indirectly. Schematically:

Direct aspectual predication:

- (31) (e_i: [(f_i: (e_j: [joking with you] (e_j)) (f_i)) (x_i: 1.sg (x_i)_θ] (e_i))
'I am joking with you.'

Indirect aspectual predication:

- (32) (e_i: [(f_i: (x_i: one (x_i)_θ: (e_j: [joking with you] (e_j)) (x_i)_θ) (f_i)) (x_i: 1.sg (x_i)_θ] (e_i))
'I am (someone) characterized by my joking with you.'

A similar distinction between direct and indirect predication was made in 7.2.1, where it was shown that in some languages in which the predicative use of adjectives is disallowed classifying predications are used as an alternative. It is not surprising to find that Mandarin Chinese is one of the languages that treats the few adjectives that it has in this way, as illustrated in (33), which may be compared with the aspectual predication in (24), repeated here as (34):

Mandarin Chinese (Sino-Tibetan; Li—Thompson 1981: 145, 588)

- (33) *Nèi-fēng xìn (shì) jiǎ de.*
that-CLFR letter COP fake NR
'That letter is a fake one.'
'That letter is fake.'
(34) *Tā (shì) zuótiān lái de.*
3.SG (COP) yesterday come NR
'He is (someone) characterized by his arriving yesterday.'
'He arrived yesterday.'

These examples show that exactly the same strategy that is used to enable an adjectival predicate to be used in a classifying predication is applied within the aspectual auxiliary predications: in both cases the property assigning expression is nominalized by means of the nominalizer *de*. In the case of basic non-verbal predications the nominalized expression is a lexeme, in the case of auxiliary predications it is a predication, i.e. an internally complex expression.

A problem with respect to the analysis of constructions like (34) is illustrated in (35):

Mandarin Chinese (Sino-Tibetan; Hashimoto 1969: 100)

- (35) *Tā (shì) zuótiān mǎi de shū.*
3.SG (COP) yesterday buy NR book
'He is (someone who) bought books yesterday.'

The nominalizer *de*, which one would expect to appear at the end of the nominalized clause, here shows up in a position next to the predicate, the preferred position for predicate operators. This might point in the direction of a certain grammaticalization of the construction, which in Mandarin Chinese goes hand in hand with a further restriction on its auxiliary uses: the inverted position of the nominalizer *de* is allowed only when the state of affairs referred to by the headless relative is situated in the past. This might indicate that out of the different phasal aspect distinctions the resultative variant is selected for a treatment which might lead to an incorporation of *de* into the group of regular aspect markers in Mandarin.

11.1.2.2. Mood. As in the case of property assigning predications, the classifying predication type may be used for the expression of some modal distinctions. Consider the following example:

Mandarin Chinese (Sino-Tibetan, Li—Thompson 1981: 588)

- (36) *Bālā shi chī-de.*
 guava COP eat-NR
 "Guavas are (things) to be eaten."
 'Guavas are to be eaten.'

The construction can be analyzed in the same way as the aspectual constructions in the previous section.

11.1.3. Localization

11.1.3.0. Introduction. A completely different strategy that may be used to create auxiliary predications out of basic non-verbal predication types makes use of localizing predications, be they locative or existential. The general formats of these predication types are given in (37)-(38):

- (37) $(e_i: [(f_i: (x_j)_{Loc} (f_j)) (x_j)_{\emptyset}] (e_j))$
 (38) $(e_i: [(f_i: (\emptyset)_{Loc} (f_j)) (x_j)_{\emptyset}] (e_j))$

These predication types can be used to create a great number of auxiliary predications by adding a predicative adjunct to them. Depending on the nature of the predicative adjunct the construction may acquire an aspectual, modal, or negative value.

11.1.3.1. Aspect. A language which makes use of an (originally) locative predication type for the expression of perfect aspect is Tamil. In this language the

copular verb *iru-* can be used in locative predications with an implied location (see 5.1.3.2.2), in the sense of 'be present' as in (39):

Tamil (Elamo-Dravidian; Asher 1982: 52)

- (39) *Kannan iru-kkar-aar-aa.*
 Kannan COP-PRES-3.SG.HON-INT
 'Is Kannan in?'

The same verb can also be combined with an adverbial participle yielding an auxiliary predication expressing perfect aspect, as in (40)

Tamil (Elamo-Dravidian; Asher 1982: 178)

- (40) *Coll-i(y)-iru-kkar-een ...*
 say-ADVR-COP-PRES-1.SG
 "I am present having said ..."
 'I have said ...'

The adverbial nature of the participle is apparent from its use in constructions like (41):

Tamil (Elamo-Dravidian; Asher 1982: 40)

- (41) *Skaatlantukku pooy-i aarḱilam paticcaan.*
 Scotland.DAT go-ADVR English study.PAST.3.SG.M
 'Having gone to Scotland he studied English.'

Combining these data a plausible analysis of (the origin of) the construction seems to be that exemplified in (42), the informal representation of (40):

- (42) $(e_i: [I \text{ am present}] (e_j): (e_j: [having \text{ said } \dots] (e_j))_{Circ} (e_j))$
 "I am present having said ..."

A more detailed analysis is given in (43):

- (43) $(pres \ e_i: [(f_i: (x_j)_{Loc} (f_j)) (x_i: 1.sg (x_j)_{\emptyset})] (e_j): (ant \ e_j: [(f_j: say_V (f_j)) (x_j)_{Ag} (\dots)_{Go}] (e_j))_{Circ} (e_j))$
 "I am present having said ..."

In (43) the main predication (e_i) is represented as a locative predication with an implied locative predicate (f_i), to which a secondary predication (e_j) is added, represented here as a circumstantial (Circ) satellite. This secondary predication contains an argument (x_i) which is coreferential with the single argument of the main predicate. The resultative nature of the construction results from the

combination of the present tense operator of the matrix clause with the anteriority operator of the circumstantial satellite.

A comparison with property assigning and classifying predication types shows that localizing auxiliary predications are like classifying ones, in the sense that they predicate an aspectual property indirectly. Compare the representation of the basic difference between property assigning and classifying aspectual predication that was given in 11.1.2.1, repeated in (44) and (45), with (46):

- (44) Direct aspectual predication: Property assignment
 (e_i: [(f_i: (e_j: [joking with you] (e_j)) (f_i)) (x_j: 1.sg (x_j)_θ) (e_j))
 "I am joking with you."
- (45) Indirect aspectual predication: Classification
 (e_i: [(f_i: (x_j: one (x_j)_θ: (e_j: [joking with you] (e_j)) (x_j)_θ) (f_i)) (x_j: 1.sg (x_j)_θ) (e_j))
 "I am (someone) characterized by my joking with you."
- (46) Indirect aspectual predication: Localization
 (Pres e_i: [(f_i: (x_j)_{Loc} (f_i)) (x_j: 1.sg (x_j)_θ) (e_j: (e_j: [joking with you] (e_j))_{Circ} (e_j))
 "I am present joking with you ..."

Whereas in (44) the predication (e_j) constitutes the main predicate, it is a restrictor within a term used predicatively in (45) and a secondary predication in (46). In the latter two cases the content of (e_j) is predicated of the argument of the main predicate indirectly, in the former directly.

In 10.1.2 I showed that in several languages the localizing predication type is combined with an adverbialized non-verbal predicate. Tamil is one of these languages, as (48) shows:

Tamil (Elamo-Dravidian; Asher 1982: 49)

- (47) *Avaru daktar.*
 3.SG.M doctor
 'He is a doctor.'
- (48) *Avaru distrikt inspektar-aa iruntaara.*
 3.SG.M district inspector-ADVR COP.PAST.3.SG.H
 "He was (present) being a district inspector."
 'He was a district inspector.'

As argued in 10.1.2, the strategy illustrated by (48) allows Tamil to encode temporal distinctions that would otherwise have to remain unexpressed, since, as illustrated in (47), in equative predications a zero-2 strategy is the only possibility.

Within this strategy the categories characteristic of verbal predicates have to remain unexpressed (see 8.1.1). In the aspectual predications illustrated above the verbal copula has a similar function. Since all (absolute) tenses can be expressed on the locative copula, the result is a construction which enables a non-finite form to be used in a finite construction.

The occurrence of a predicative adjunct with a verb suggests that the latter should be analyzed as a lexical or main verb rather than as an auxiliary verb. It therefore seems likely that the copula use of *iru* in (48) and its auxiliary use illustrated in (40) can both be traced back to a stage of the language in which *iru* was a lexical positional verb. Under this analysis, the auxiliary predication type cannot be interpreted as patterned upon the basic non-verbal predication type, as in the case of property assigning and classifying auxiliary predications, but the processes of copularization, as described in 10.1.2, and auxiliarization, as described here, should be interpreted as parallel rather than sequential developments.

In several languages the secondary predication is not expressed as an adverbial participle but as a finite verb, the result being a serial verb construction, as illustrated in the following example, which has a durative value:

Nasioi (East Papuan; Rausch 1912: 601)

- (49) *Nko-e-ma-oto-maun.*
 make-2-PRES-COP.2-PRES
 "You are there you make."
 'You are making.'

In all languages using a serial verb construction involving a verbal copula, this copula is the one used in localizing predications. The underlying representation of these serial verb constructions is the same as that used for predications with an adverbial participle, illustrated in (43) above. The difference in expression is a result of the fact that in languages using the serial verb construction the relative tense operator of the circumstantial satellite is expressed in a finite rather than non-finite form of the verb.⁶

11.1.3.2. Mood. The same procedure illustrated for aspectual predications in the previous section may be applied using adverbial participles with a modal value, as in the following example:

6. In this respect the following quotation from Rausch (1912: 601) concerning the situation in *Nasioi* is of interest: "Die positive Durativform wird gebildet durch die Nachstellung einer verkürzten Form des Zeitwortes *onomaun* sein, bleiben. Das vorhergehende Verbum behält in allen Tempora die Präsensform." This may be interpreted as a sign that the present tense in *Nasioi*, apart from absolute present time reference, may be used to signal simultaneity.

Abkhaz (Caucasian; Hewitt 1979: 192)

- (50) *S-ca-ra-nə* *sə-q'o-ə-w-p'*
 1.SG.SBJ-go-VOL-ADVR 1.SG.SBJ-EX.PREV-COP-PRES-DECL
 "I exist intending to go."
 'I intend to go.'

In Abkhaz existential predications are formed on the basis of a copulative stem, in this case zero, to which an existential preverb is attached, as in (51):

Abkhaz (Caucasian; Spruit 1986: 28)

- (51) *Də-q'a-ə-w-p'*
 3.SG.SBJ-EX.PREV-COP-PRES-DECL
 'He exists.'

To a construction such as (51) several kinds of gerundial forms, such as the volitive gerund in (50), may be added. In this way a large number of aspectual and modal expressions are created.

The volitive illustrated in (50) "expresses an action in the future (with the connotation "intention")" (Spruit 1986: 119), and is one of several tenses that situate a state of affairs at a moment posterior to a certain reference point. I refrain from trying to represent the subtle semantic differences between these and will simply use the *irr*(ealis) operator familiar from 11.1.1 and 11.1.2. This leads to the representation of (50) given in (52):

- (52) (pres e_i : [(f_i : (\emptyset)_{Loc} (f_i)) (x_i : 1.sg (x_i)_O)] (e_i): (*irr* e_j : [(f_j : ca_{-v} (f_j)) (x_j : 1.sg (x_j)_O)] (e_j))_{Circ} (e_i))
 "I exist in the circumstance of my unrealized going."

In Abkhaz, too, a similar strategy is used with adverbialized predicates, as illustrated in 10.1.2.

In Hixkaryana there are desiderative auxiliary predications which at first sight look quite similar to those used in Ngiyambaa, discussed in 11.1.1.2. Compare the following examples:

Hixkaryana (Ge-Pano-Carib; Derbyshire 1979: 32)

- (53) *Rotonir xe wehxaha.*
 1.SG.go.NR DES.ADVR COP.PRES.1.SG
 "I am there/present wanting-to-go."
 'I want to go.'

- (54) *Rohetxe xe wehxaha.*
 1.SG.wife DES.ADVR COP.PRES.1.SG
 "I am there/present wanting-my-wife."
 'I love my wife.'

In Hixkaryana desiderative adjuncts are formed by means of a special adverbializer, which may be combined with noun phrases, as in (54), and with predications, as in (53). The verbal copula appearing in these examples is used in locative and existential predications, and apart from that occurs with all kinds of adverbialized complements, such as the desiderative in (53)-(54), yielding predications with an auxiliary value.

The difference between (21)-(22) from Ngiyambaa and (53)-(54) from Hixkaryana is that in the former the desiderative constituent is of an adjectival nature, whereas in the latter it is of an adverbial nature. A similar difference between the two languages obtains with respect to their propriative and privative expressions, as illustrated in 7.1.5.

No serial expressions with a modal value have been registered in the languages of the sample.

11.1.3.3. Negation. A final auxiliary use of localizing predications can be found in languages with negative adverbial participles. One such language is Hixkaryana, where "sentence negation is expressed by a derivational process which transforms the verb into a negative adverbial, which then functions as the complement of the copula" (Derbyshire 1979: 48). Consider the following example:

Hixkaryana (Ge-Pano-Carib; Derbyshire 1979: 25)

- (55) *R-otaha-hra nahko.*
 1.SG-hit-NEG.ADVR COP.PAST.3.SG
 "He was present/there not hitting me."
 'He did not hit me.'

The copula in (55) is the localizing copula which appeared in (53) and (54) as well. Here it is combined with a negative adverbial, yielding an auxiliary predication expressing a polarity distinction. As in the aspectual and modal constructions discussed above, the copula is inflected for tense and person and thus enables the non-finite adverbial form to be used predicatively, not within the primary but within the secondary predication. This is reflected in the following representation of (55):

- (56) (past e_i : [(f_i : (x_i)_{Loc} (f_i)) (x_i : 3.sg (x_i)_O)] (e_i): (neg e_j : [(f_j : *otaha_{-v}* (f_j)) (x_j)_{Ag} (x_k : 1.sg (x_k)_O)] (e_j))_{Circ} (e_i))
 "He was present/there not hitting me."

This representation may now be contrasted with that needed for negative predications in a language such as English, which uses grammatical means for the expression of polarity:

- (57) (past neg e_j : $[(f_j: hit_V(f_j)) (x_i: 3.sg (x_i)_{\theta} Ag (x_k: 1.sg (x_k)_{\theta} Go)] (e_j)$)
'He did not hit me.'

From a comparison of (56) and (57) it becomes clear that the auxiliary predication in Hixkaryana serves the purpose of making it possible for the two operators Past and Neg to be expressed in separate predications, whereas in English these operators are expressed within the same predication. An interesting parallel, however, is that English too needs an auxiliary verb in this context.

In Nasioi the serial verb construction illustrated in 11.1.3.1 may be used to express negation in combination with durative aspect. Consider the following example:

Nasioi (East Papuan; Rausch 1912: 601)

- (58) *Nko-e-a oto-maun.*
make-2-PRES.NEG COP.2-PRES
"You are there you don't make."
'You are not making.'

Again the underlying structure of this construction may be assumed to be the same as that illustrated for Hixkaryana in (56). The difference between the two languages concerns the way the secondary predication is expressed.

11.1.4. Metaphorical extension of the locative predication type

The locative predication type has a further auxiliary use. Unlike the constructions discussed in the previous sections, in order for the locative predication to acquire this auxiliary use, it has to undergo a metaphorical extension.⁷ Consider the following examples:

7. A discussion of the use of locative metaphors in the expression of aspectual distinctions in Ewe can be found in Claudi—Heine (1985). See also Lehmann (1982b: 32), Dik (1987: 65-68).

Basque (Isolate; Lafitte 1944: 263, 215)

- (59) *Etche-a-n d-a.*
house-SG-LOC 3.SG.ABS-COP.PRES
'He is at home.'
(60) *Ibil-tze-n d-a.*
walk-INF-LOC 3.SG.ABS-COP.PRES
"He is in walking."
'He is walking.'

Example (59) is a regular locative predication in which both the argument term and the predicate term designate first order entities. Example (60) is identical to (59) except for the fact that the predicate term designates a second order entity. The subject is said to be located in a state of affairs in which he himself participates. This locative metaphor has entered the aspectual system of Basque and many other languages and is used to express durative or progressive aspect. The difference between (59) and (60) may be represented as in (61)-(62):

- (61) (pres e_j : $[(f_i: (x_j: house_N (x_j)_{\theta} Loc (f_i)) (x_i: 3.sg (x_i)_{\theta} \theta)] (e_j)$)
(62) (pres e_j : $[(f_i: (e_j: [(f_j: walk_V (f_j)) (x_k) Ag] (e_j)_{\theta} Loc (f_i)) (x_i: 3.sg (x_i)_{\theta} \theta)] (e_j)$)

The main difference between the two constructions is taken care of by means of the different variables of the locative phrases: in (61) the location is a first order entity (x_j), in (62) a second order entity (e_j).

In 5.3.2 I pointed at the discrepancies that may arise within languages between what is ontologically and linguistically predicable. Consider once again the general pattern for locative predications in (63):

- (63) (e_i : $[(f_i: (x_j)_{Loc} (f_i)) (x_i)_{\theta}] (e_i)$)

If one compares the representation of (60) in (62) with this general pattern, then it becomes clear that the locative aspectual construction is an example of such a discrepancy. Location in a state of affairs is an ontologically non-predicable, but, as the example shows, linguistically predicable semantic relation, and can therefore be considered a *type-crossing* (see 5.3.1). The construction can only be interpreted metaphorically, and this fact may be responsible for the rapid grammaticalization to which this construction type seems to be subjected.

Claudi—Heine (1985) point at the fact that in Ewe the grammaticalization of this auxiliary predication type goes hand in hand with phonological attrition. Within my sample there is even an example of the complete loss of morphological material characteristic of the original locative source of the auxiliary predication. Compare the following series of examples, which exist side by side in Bambara:

Bambara (Mande; Brauner 1974: 64, 56)

- (64) *M'-bè dumu-ni na.*
1.SG-COP eat-NR LOC
"I am in the eating."
'I am eating.'
- (65) *M'-bè dun na.*
1.SG-COP eat LOC
"I am in eat."
'I am eating.'
- (66) *M'-bè malo dun.*
1.SG-COP rice eat
"I am eat rice."
'I eat/am eating rice.'

Bambara has auxiliary predications that can be analyzed as the result of metaphorical extension of the locative predication type. The most direct expression of this auxiliary predication type is given in (64). This is reflected in the following features: (i) the verbal copula *bè*, which is restricted to localizing predications, is used; (ii) the embedded predication takes the form of a verbal noun, and (iii) this verbal noun is followed by a locative postposition. Example (65) lacks the second feature: instead of a verbal noun the bare verb stem is used. In (66) the third feature is lacking as well, the only remaining feature of the locative predication being the locative copula. According to Brauner (1974: 64) (64) and (65) can be used interchangeably, both describing an actual present. Sentence (66), on the other hand, may be used to describe a general as well as an actual present (Brauner 1974: 55-56). This seems to suggest that the grammaticalization of the auxiliary predication type goes hand in hand with a temporal reinterpretation.

11.1.5. Reality

11.1.5.0. Introduction. In 5.4 a distinction was made between the semantic relations *existence* and *reality*. The former is expressed in existential predications with a first order argument, i.e. an individual, the latter in those with a second order argument, i.e. an event. Compare once again the following examples:

- (67) *There is beer without alcohol.* (Existence)
(68) *There is trouble.* (Reality)

The existential auxiliary predications which formed part of the subject matter of 11.1.3 are patterned on the basic predication type illustrated in (67). The existence of an individual is predicated and a particular aspectual, modal, or negative value

is arrived at by adding a secondary predication, designating an event in which this individual participates, to this existential predication.

The situation is different in the constructions to be discussed in this section, which are patterned on the basic predication type illustrated in (68): they all assert the existence of an event which is expressed in the form of a finite or non-finite predication. The difference between the two constructions can thus be represented schematically as in (69)-(70):

- (69) $(e_i: [(f_i; (\emptyset)_{Loc} (f_i)) (x_i)_G] (e_i; (e_j: [predication] (e_j))_{Circ} (e_i))$
(70) $(e_i: [(f_i; (\emptyset)_{Loc} (f_i)) (e_j: [predication] (e_j))_G] (e_i))$

11.1.5.1. Mood. The reality construction easily acquires a modal value. Consider the following examples:

Turkish (Altaic; van Schaaik 1985)

- (71) *Bura-da ayakkabıları çıkar-mak var.*
DEM-LOC shoes take.off-INF COP
"There is taking off of shoes here."
'One has to take off his shoes here.'
- (72) *Avuç aç-mak yok.*
hand open-INF COP.NEG
"There isn't begging."
'Begging prohibited.'

In Turkish the positive and negative existential copulas *var* and *yok* may occur with an infinitival argument predication. The resulting modal values form a pair: the positive predication (71) express obligation, the negative (72) prohibition. These values cannot be traced back to particular formal elements but rather result from the combination of the (negative) existential copula with a complement designating an unrealized state of affairs, as illustrated in (73), which represents (72):

- (73) $(neg e_i: [(f_i; (\emptyset)_{Loc} (f_i)) (irr e_j: [(f_j: avuç_aç-v (f_j)) (gx_i)_{AG}] (e_j))_{\emptyset}] (e_i))$
"There isn't begging."

The particular type of modality involved here is *objective deontic* modality (see Hengeveld 1988), a non-agent-oriented modality which concerns the evaluation of the general acceptability of some situation in terms of some system of moral, social, or legal conventions. Objective obligations and prohibitions such as those expressed in (71)-(72) exist even when no particular agent is involved. In this respect they

differ from agent-oriented obligations and prohibitions, which always rest upon a particular agent.⁸

Examples expressing *objective epistemic* modality can also be found. This type of modality concerns the evaluation of the (im)possibility of the occurrence of a state of affairs, as in the following English example:

(74) *There's no escaping his vengeance.*

11.1.5.2. Negation. A second specialized use of reality predications is that in which the occurrence of the event designated by the argument predication is negated. There are languages where this is the only way to express sentence negation. Consider the following example:

Gilyak (Isolate; Nakanome 1927: 25)

(75) *Ni prö-n kabri-nt.*
1.SG come-NFIN NEG.COP-FIN
"There isn't my coming."
'I didn't come.'

The suffix *-n* shows that the verb *prö* is the main predicate of an embedded predication, governed by the finite negative existential verb *kabrint*.

The Turkish negative reality construction has, apart from its modal use illustrated above, a specialized use in negative constructions. In this use it takes a nominalized complement. Compare the modal construction (72) with the negative (76):

Turkish (Altaic; van Schaaik 1985)

(76) *Kadın-ın Ali-ye bak-tığ-ı yok-tu.*
woman-GEN Ali-DAT look-REAL.NR-POSS.3.SG COPNEG-3.SG
"There wasn't the woman's looking at Ali."
'The woman didn't look at Ali at all.'

8. It is interesting to note that the objective deontic reality construction can in some languages be turned into an agent-oriented construction by adding an experiencer argument (Bolkestein 1983: 71; Lehmann 1982b: 30), as in the following example:

Latin (Indo-Hittite; Bolkestein 1983: 71)

(i) *puer-o proficiscendum est*
boy-DAT leave.GER.NOM.SG COP.PRES.3sg
"There is leaving to the boy"
'The boy has to leave'

The fact that this periphrastic negative construction acquires a somewhat emphatic value, as shown by the translation, can be explained by the fact that it exists side by side with a regular negative construction, as illustrated in (77):

Turkish (Altaic; van Schaaik 1985)

(77) *Kadın Ali-ye bak-ma-dı.*
woman Ali-DAT look-NEG-PAST
'The woman didn't look at Ali.'

The difference between (76) and (77) may be represented as in (78)-(79):

(78) (past neg e_i: [(f_i: (∅)_{Loc} (f_i)) (e_j: [bak-V (x_i: kadın_N (x_j)_∅]_{Ag} (x_j: Ali (x_j)_∅]_{Dir}]) (e_j)_∅) (e_j)
(79) (past neg e_j: [bak-V (x_i: kadın_N (x_j)_∅]_{Ag} (x_j: Ali (x_j)_∅]_{Dir}]) (e_j)_∅

In the regular negative construction represented in (79) the negative predication operator is expressed directly on the verbal predicate *bak-* 'look', whereas in the periphrastic construction represented in (78) it is expressed on the existential predicate which takes the positive predication that designates the state of affairs that did not occur as its argument.

A negative existential verb may easily develop into a true negative auxiliary⁹ or negative particle. The general representations in (80) and (81) show that this development can be interpreted as a process of fusion of two predications, i.e. the main and embedded predications in (80), into a single predication.

(80) (neg e_i: [(f_i: (∅)_{Loc} (f_i)) (e_j: [predication] (e_j)_∅]) (e_j)

(81) (neg e_j: [predication] (e_j))

11.1.6. Instantiation and factuality

A rather peculiar type of auxiliary predication makes use of the basic predication types expressing the semantic relations of (specifying) instantiation and factuality (see 5.1.2.2). In these predication types, the predicate and its argument both refer to a second order entity (instantiation) or to a third order entity (factuality), as illustrated in (82) and (83), respectively:

9. See for instance Payne (1985: 209-211) on the grammaticalization of a negative existential verb into a negative auxiliary in Fijian.

- (82) *The best thing you can do is to go home.*
 (83) *My reason for not accepting his invitation is that I don't like him.*

The general representations of these predication types are given in (84) and (85):

- (84) $(e_i: [(f_i: (e_j) (f_j)) (e_j)_\theta] (e_i))$
 (85) $(e_i: [(f_i: (X_j) (f_j)) (X_j)_\theta] (e_i))$

With some adaptations, these predication types can be put to auxiliary uses. First consider the following English examples:

- (86) *It is not that I don't like him.*
 (87) *It may be that I don't like him.*

Two important features of (86) and (87) are to be noted: (i) the subjects of the subordinate verb forms are different from the subject of the auxiliary verb; (ii) unlike their non-auxiliary counterparts illustrated in (82) and (83), (86) and (87) lack a true subject position, i.e. one that can be filled with lexical material. The following general representations take care of these particular properties:

- (88) $(e_i: (f_i: (e_j) (f_j)) (e_j)_\theta)$
 (89) $(X_j: (f_i: (X_j) (f_j)) (X_j)_\theta)$

In these representations the predicate (f_i) is applied directly to the predication (e_j) or proposition (X_j) variable of the main clause, i.e. it is treated as a zero-place predicate, which predicates something of a state of affairs or propositional content directly, but has no true argument positions that may be filled with lexical material. The auxiliary, having no true subject, receives third person singular subject marking by default, while the verb within the subordinate predication or proposition takes its own subject.

The predication types illustrated in (86)-(87) can now be interpreted as a clever means of introducing a dummy auxiliary which is capable of carrying its own tense, mood, aspect, and polarity operators, thus creating a versatile auxiliary predication type within which all kinds operators may be 'stacked' upon one another. Some further applications of this stacking procedure are illustrated in (90) and (91):

Navaho (Na-Dene; Young—Morgan 1987: 163)

- (90) *Díí tsé doo nízhdoo'áál á't'ée da.*
 DEM rock NEG lift.3.SG.IMPRS.OPT COP.3.SG NEG
 "It is not that a person may lift this rock."
 'It is impossible to lift this rock.'

Imbabura Quechua (Andean; Cole 1982: 156)

- (91) *Shamu-nchi-man ka-rka-ø.*
 come-1.PL-COND COP-PAST-3
 "It was that we would come."
 'We would have come.'

Example (90) is an illustration of the so-called "optative of potential" in Navajo. Sentence (91) is an example of the past conditional in Imbabura Quechua.¹⁰

In all the examples given so far the auxiliary predication types allow for a combination of operators that would otherwise be disallowed, or lead to an interpretation of this combination that would not be arrived at otherwise. Within the sample only predications expressing the semantic relation of instantiation have been found. An example of a (simplified) representation of this auxiliary predication type is given in (92), which represents (91):

- (92) $(\text{past } e_i: [(f_i: (\text{cond } e_j: [\textit{shamu-nchi}] (e_j)) (f_j)) (e_j)_\theta] (e_i))$

The past operator of the main predication (e_i) in (92) is expressed on the copula used as an auxiliary, the cond(itional) operator of the subordinate predication (e_j) is expressed on its verbal predicate *shamu* 'come'.

For some of the languages employing the auxiliary predication types discussed here there is evidence for grammaticalization of the construction types involved. An interesting illustration of this process comes from Imbabura Quechua.¹¹ As noted above, a criterial feature of the predication type under consideration is that the subordinate verb has its own subject, and that the auxiliary, by default, is third person singular. This feature is illustrated for Imbabura Quechua in (91), where the subordinate verb is first person plural, and the auxiliary is third person.¹² Cole (1982: 155) notes, however, that if the conditional verb form is in the first person singular, the auxiliary is obligatorily in the first person as well. For the second person singular there is optional agreement. This is illustrated in the following examples:

10. Note that an interpretation of these examples as reality predications (see 11.1.5) is ruled out by the fact that in both languages a different verb would be used in that predication type.

11. A somewhat different example of grammaticalization of the auxiliary predications under consideration is the English adverb *maybe*, which may be traced back to constructions such as (87).

12. In Imbabura Quechua no distinction is made between singular and plural subjects in the third person.

Imbabura Quechua (Andean; Cole 1982: 155)

- (93) a. *Shamu-y-man ka-rka-ni.*
 come-1.SG-COND COP-PAST-1.SG
 "I was that I would come."
 'I would have come.'
- b. **Shamu-y-man ka-rka-ø.*
 come-1.SG-COND COP-PAST-3
 "It was that I would come."
 'I would have come.'
- (94) a. *Shamu-ngui-man ka-rka-ngui.*
 come-2.SG-COND COP-PAST-2.SG
 "You were that you would come."
 'You would have come.'
- b. *Shamu-ngui-man ka-rka-ø.*
 come-2.SG-COND COP-PAST-3
 "It was that you would come."
 'You would have come.'

Outside the first and second persons singular, the auxiliary occurs in its third person form only.

Cole (1982: 156) notes that the use of the first person form of the auxiliary "seems to be peculiar to Ecuadorian Quechua", and furthermore remarks, on the basis of Ross (1963), that even there "some speakers, even in a single district, employ the third person auxiliary throughout the paradigm ... while others inflect *-ka* for agreement in all persons." He concludes that these data "... suggest that the morphology of the past conditional is in a state of change. Comparison with other Quechua languages suggests that the direction of the change is from an invariant use of the third person auxiliary for all persons to the inflection of the auxiliary for subject-verb agreement in all persons. The optional use of the second person auxiliary by some speakers is consistent with such a change." (Cole 1982: 156)

This development can be interpreted as one in which the complex predication represented in (92) is reinterpreted as a simple predication in which the combination of subordinate verb and auxiliary functions as an analytical verb form. This may be represented as in (95):

- (95) (past cond e; [*shamu-nchi*] (e;))

A comparison of (95) with (92) shows that grammaticalization of the predication type illustrated here leads to a situation in which the operators originally expressed in two different predications come to be expressed in a single predication.

11.1.7. Discussion

In Table 47 the values of the various auxiliary predication types are listed. Abbreviations indicate what grammatical meanings may be expressed by the predication type involved.

Table 47. Auxiliary uses of non-verbal predication types
 (Asp = aspectuality, Mod1 = agent-oriented modality,
 Neg = negative polarity, and Mod2 = objective modality)

	Asp	Mod1	Neg	Mod2
Location—metaphorical extension	+	-	-	-
Property assignment	+	+	-	-
Classification	+	+	-	-
Localization	+	+	+	-
Reality	-	-	+	+
Instantiation	-	-	-	+

Table 47 shows that there is a major division between the auxiliary uses of basic predications with a first order argument in the upper part of the table and those with a second order argument in the lower part. Auxiliary predications based on non-verbal predications with first order arguments generally express distinctions that would in Functional Grammar be covered by predicate operators (π_1 , see 1.6) when expressed grammatically. These operators modify the relation or property expressed by the predicate and thus exert their function predication-internally. Auxiliary predications based on non-verbal predication types with second order arguments express distinctions that would be covered by predication operators (π_2 , see 1.6) when expressed grammatically. These operators modify a state of affairs as a whole, i.e. they operate predication-externally. The only exception to this generalization concerns the expression of negation, which can be achieved by means of both the localizing and the reality construction.

A closer look at both groups of predications in Table 47 may reveal the motivation for this division of labour between constructions with first and second order arguments. First consider the representation of the auxiliary predication types with a first order argument in Table 48.

Table 48. Auxiliary predications with a first order argument

Location—metaphorical extension
$(e_i: [(f_i: (e_j: [..(x_i)..] (e_j))_{Loc} (f_i)) (x_i)_{\emptyset}] (e_i))$
<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>
Property assignment
$(e_i: [(f_i: (e_j: [..(x_i)..] (e_j)) (f_i)) (x_i)_{\emptyset}] (e_i))$
<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>
Classification
$(e_i: [(f_i: (x_i: .. (e_j: [..(x_i)..] (e_j)) (x_i)_{\emptyset}) (f_i)) (x_i)_{\emptyset}] (e_i))$
<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>
Localization
$(e_i: [(f_i: (x_i)_{Loc} (f_i)) (x_i)_{\emptyset}] (e_i: (e_j: [..(x_i)..] (e_j))_{Circ} (e_i))$
<div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>

What all the predication types in Table 48 have in common is that (i) they contain two predications and (ii) these predications share an argument. In each of the representations in Table 48 there is a main predication (e_i) which contains an argument (x_i). This same argument also occurs in a subordinate predication (e_j), which may be (i) a satellite predication, as in localizing auxiliary predications, (ii) a restrictor predication, as in classifying auxiliary predications, or (iii) a predication in predicate position, as in the metaphorical locative and property assigning auxiliary predications.

What holds these auxiliary predications together is the shared argument (x_i). In each case the entity referred to by this argument is characterized in terms of its own (anterior, simultaneous, posterior, negative) behaviour. The fact that the aspectual and modal distinctions expressed through the auxiliary predications listed in Table 48 are interpreted as internal to the state of affairs can now be understood as a result of the fact that the shared participant is characterized within the state of affairs (e_i) in terms of his participation within the state of affairs (e_j).

Except for the first, the auxiliary predication types with an aspectual or modal value in Table 48 receive a special interpretation by virtue of the fact that each of the predications (e_i) and (e_j) can be provided with its own temporal or modal operator, as a result of which the shared participant is characterized at the temporal reference point of (e_i) in terms of his participation in (e_j), which has its own temporal reference point. The co-occurrence of the two temporal specifications thus forces a special interpretation on the construction as a whole. In the first auxiliary predication type a special interpretation is arrived at through a locative metaphor.

In the case of the localizing auxiliary predication type with a negative value the situation is slightly different. Consider again the example from Hixkaryana and its representation:

Hixkaryana (Ge-Pano-Carib; Derbyshire 1979: 25)

(96) *R-otaha-hra nahko.*
1.SG-hit-NEG.ADV COP.PAST.3.SG
'He did not hit me.'

(97) (past $e_i: [(f_i: (x_i)_{Loc} (f_i)) (x_i: 3.sg (x_i)_{\emptyset})] (e_i): (neg e_j: [(f_j: otaha_{-v} (f_j)) (x_j)_{Ag} (x_j: 1.sg (x_j)_{\emptyset})] (e_j))_{Circ} (e_i))$
"He was there/present not hitting me."

This construction differs from the aspectual and modal ones in that its particular value does not result from the application of two values for one parameter. The negative operator of (e_j) does not interact with some polar operator of (e_i). If there were such interaction, one would expect it to be possible to apply a negative operator to the main predication, but it is precisely the impossibility to do so that is the *raison d'être* of the construction type illustrated in (96). The different operators (past and neg in (97)) can simply be added up without requiring a special interpretation. It is probably this fact that is responsible for the special status of the negative construction in Table 47.

Now consider the representations of the auxiliary uses of constructions with a second order argument in Table 49.

Table 49. Auxiliary predications with a second order argument

Reality
(e _i : [(f _i : (∅) _{Loc} (f _i)) (e _j : [...]) (e _j) _∅] (e _i))
Instantiation
(e _i : (f _i : (e _j : [...]) (e _j)) (f _i) (e _j) _∅)

In the constructions represented in Table 49 there is no coreferentiality between arguments, and therefore the potentially different operators on the two predications involved can never enter into a conflicting situation that needs to be solved by a special interpretation procedure. As in the case of the negative localizing predications, the operators on both predications can simply be added up, and, as illustrated above, in several cases this is exactly why these predication types are used.

11.2. Basic and auxiliary non-verbal predication

11.2.0. Introduction

In chapters 6-10 I presented a typology of systems of non-verbal predication, concentrating on basic non-verbal predication types. It is now time to show how auxiliary predication types fit into this typology. Table 50 gives an overview of the auxiliary predication types used in the languages of the sample. It should be noted beforehand that this overview is incomplete, since not all grammars give a systematic description of the constructions studied here, nor could the data that were provided in the grammars in all cases be interpreted unambiguously. Only those languages for which data were available and only unambiguously analyzable predication types are listed. The general pattern that emerges is, however, rather significant.

In order to make this general pattern visible, the languages in Table 50 are arranged on the basis of their degree of predicability, as established in Table 21 in 6.1.1.1. The higher a language is in the table, the higher its degree of predicability. The languages in the upper half of the table have a degree of predicability of 3 or 4, i.e. their predicability runs up to predications based on possessive predicates (4)

or bare nominal predicates (3). Those in the lower half have a predicability of 0, 1, or 2, i.e. their predicability runs up to predications based on adjectival predicates (2) locative predicates (1), or they do not allow any type of non-verbal predicate to be used predicatively (0).

Table 50. Auxiliary predications in the languages of the sample
(Asp = aspectuality, Mod1 = agent-oriented modality,
Neg = negative polarity, Mod2 = objective modality,
* = serial verb construction)

	Property assignm.	Localization	Classifi- cation	Locative metaphor	Instan- tiation	Reality
Burushaski	Asp Mod1					Mod2
Ngyyambaa	Mod1					
Quechua, Imb.	Asp Mod1				Mod2	
Turkish	Asp Mod1			Asp		Mod2
Dutch	Asp			Asp		
Sumerian	Mod1					
Basque	Asp			Asp		Mod2
Yessan-Mayo				Asp		
Lango		Asp*				
Abkhaz		Asp Mod1		Asp		
Hungarian		Asp				
Nasioi		Asp* Neg*				
Arabic, Egyptian		Asp*				
Bambara			Asp	Asp		
Pipil				Asp		
Chinese, Mandarin			Asp Mod1	Asp		
Tamil		Asp Neg				
Gilyak						Neg
Hausa				Asp		
Hixkaryana		Asp Mod1 Neg				
Navaho					Mod2	
West Greenlandic			Asp			

The languages in the upper half of the table make use of property assigning, those in the lower half of localizing and classifying auxiliary predications. The remaining

auxiliary predication types are not restricted to any of the two groups. In what follows I will first concentrate on the first three auxiliary predication types.

11.2.1. Property assignment, classification, localization

A first conclusion that can be drawn from the distribution of property assigning, classifying, and localizing auxiliary predications in Table 50 is that for a language to use a property assigning auxiliary predication type it needs a high degree of predicability, which itself presupposes a certain degree of flexibility in the parts-of-speech system of the language involved. The degree of predicability required for a property assigning auxiliary predication is higher than that required for the basic property assigning predication type: within the second group there are several languages with predicability value 2, which means that they allow the predicative use of adjectival predicates, yet these languages do not employ the property assigning auxiliary predication type.

In languages with predicability values lower than three, direct predication (see 11.1.2.1) is disallowed, and one of the two indirectly (see 11.1.3.1) predicating auxiliary predication types has to be used. The data in the second half of the table suggest that these predication types are mutually exclusive.

The particular distribution shown has a straightforward explanation: languages using the localizing auxiliary predication type either (i) use no copula at all in classifying predications or (ii) express classifying predications by means of the zero-1 construction in certain tenses. In the latter case a copula is obligatorily absent in certain tenses (see 8.3.1.2). Languages using the classifying auxiliary predication type, on the other hand, either (i) use a copula in all circumstances in classifying predications or (ii) optionally express classifying predications by means of the zero-2 construction.

What may be derived from these features is that in the (partial) obligatory absence of a copula in classifying predications, this predication type becomes useless as a pattern for the creation of auxiliary predications. The remaining option is to use the localizing predication type. This explanation of the distribution is further corroborated by the fact that the languages using the localizing pattern either (i) use a copula in all circumstances in localizing predications or (ii) optionally express localizing predications by means of the zero-2 construction. The only exception to this is Abkhaz, but in that language a preverb, which in certain circumstances is followed by a copula, is capable of carrying the distinctions characteristic of verbs.

The reason that a copula has to be present in the predication types studied here is that, as stated in 11.1.7, it is precisely these three auxiliary predication types that derive their special interpretation from the clash between two operators of the same

category expressed within the main and subordinate predications. The presence of a copula enables the second operator to be specified independently.

The distribution of the three auxiliary predication types discussed so far can thus be seen as determined in the way indicated in Figure 63.

Degree of predicability	Expression format in classifying predications	Auxiliary predication type
3-4	irrelevant	Direct predication: Property Assignment
0-2	copula / copula + ø2	Indirect predication: Classification
	no copula / copula + ø1	Indirect predication: Localization

Figure 63. The distribution of some auxiliary predication types

11.2.2. Instantiation and Reality

Only part of the restrictions listed in Figure 63 hold for the auxiliary predications expressing the semantic relations of Instantiation and Reality. As stated in 11.1.5 and 11.1.6 these predication types have a 'stacking' function, which requires the presence of a copula morpheme, just as it does in the case of the predication types listed in Figure 63. But predicability does not play a part in the distribution of these predication types: both belong to easily predicable predication classes.

11.2.3. Metaphorical extension of the locative predication type

Finally, none of the restrictions listed in Figure 63 holds for the auxiliary predication type that can be interpreted as a metaphorical extension of the basic locative predication type. This predication type does not acquire a special interpretation through a clash between operators, nor does it have a stacking function. The locative metaphor itself is responsible for the aspectual interpretation of the construction. As a result, this auxiliary predication type does not even require

the presence of an auxiliary, as can be illustrated by means of the following example:

Turkish (Altaic; Lewis 1967: 112)

(98) *Gel-mek-te-yim.*
come-INF-LOC-1.SG.PRES
"I am in (the act of) coming."
'I am coming.'

11.3. Summary

In this chapter I looked at auxiliary non-verbal predication types from the perspective of systems of basic non-verbal predication. I argued in 11.2 that the typological parameters that were argued to be relevant for the description of basic non-verbal predication types are relevant for the description of auxiliary predications as well: on the basis of the degree of predicability of a language (chapter 6), itself related to its parts-of-speech system (chapter 4), and the expression formats it uses in basic non-verbal predication types (chapters 8 and 10), the presence or absence of auxiliary predication types can be accounted for.