Negation

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1. Introduction

Negation is a function that has been universally grammaticalized in the world's languages. This is something we can state with a high level of confidence, since no language has ever been reported to lack a grammaticalized expression of negation. Some languages may show a stylistic dispreference for the direct expression of negation but grammatical means to express negation are always found, see Forest (1993: 59-64) for discussion. In propositional logic, negation can be defined as an operator changing the truth value of a proposition *p* to its opposite ¬*p*. In natural languages, things do not look quite so simple as negation is marked in a multitude of ways and enters into intricate interaction with various other functional domains; this interaction may result in complicated semantic and pragmatic effects that make the analysis of the meaning of negation quite a bit harder than simply noting the difference in truth value. However, it remains the case that the change of truth value is the semantic core of negation, and negative constructions may be identified in languages on the basis of this semantic definition. Typological aspects of the various complications and interactions with other functional domains will be discussed in the pages to follow.

The chapter[1] is structured as follows. Section 2 gives an overview of the history of typological studies of negation. Section 3 addresses clausal negation, paying special attention to standard negation (negation of declarative main clauses with a verbal predicate), negation in non-declarative clauses, negation of clauses with non-verbal predicates and negation of non-main clauses. Section 4 deals with non-clausal negation: negative indefinites, negative derivation and case markers as well as negative replies to questions. Finally, Section 5 takes up other aspects of negation, including the scope of

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negation, case marking and referentiality under negation, the issue of double negation, and selected diachronic questions. The main focus in the chapter is on aspects of negation that have received attention in typological literature and for which typological information based on broad cross-linguistic studies is available. Aspects for which such information is not available will be treated more briefly, and some interesting aspects of negation fall outside the scope of this overview. The perspective is mainly synchronic and selected diachronic issues are taken up separately at the end of the chapter.

2. An overview of typological studies of negation

This overview of the history of typological studies of negation will focus on works that have taken an explicitly typological approach, preferably based on a systematic and extensive language sample. In typological work, attention has first and foremost been paid to negation in declarative main clauses with verbal predicates, i.e. standard negation. Other aspects of negation that have received at least some attention in large-scale cross-linguistic studies include the negation of imperatives and non-verbal predications as well as indefinite pronouns under negation. Only a brief historical outline will be given in this section, and the phenomena mentioned here will be illustrated and discussed in more detail further below. The order of presentation will be chronological rather than thematic.

   Dahl (1979) surveys standard negation in a sample of 240 languages. He makes a basic distinction between syntactic and morphological negation. In the former, negative markers are particles or auxiliary verbs and in the latter affixes (with a few exceptions). Some attention is also paid to other structural aspects of negatives. The placement of negative markers is discussed at length. Payne (1985) addresses various aspects of negation but focuses mostly on standard negation. Three main types of negative marking are identified: morphological negation, negative particles and negative verbs. Some notes on "secondary modifications", i.e. additional changes in the structure of negatives with respect to the corresponding affirmatives are also made. Dryer's work on word order (1988, see also 1992) addresses the position of negative markers with respect to clause-level constituents.

Croft (1991) examines the relationship between standard and existential negators and makes a hypothesis about a developmental cycle whereby standard negators arise from existential negators. Forest (1993) makes a distinction between recusative and suspensive-reassertive negation: in the former the negative utterance is strictly identical to an autonomous positive utterance except for the negative marker(s); in the latter, the marking of one or more grammatical domains differs from their marking in positives, e.g., neutralization and/or obligatory use of certain tense and Aktionsart categories, use of irrealis categories under negation, and increase of stativity. Honda (1996), too, pays attention to structural differences between affirmatives and negatives: addition of a (negative or non-negative) auxiliary verb, changes in the form of the lexical verb, changes in tense and aspect marking, changes in the marking of clausal participants, and appearance of markers of irrealis categories in negatives. Kahrel (1996), based on a sample of 40 languages, looks at a few aspects of negation, most notably constructions involving indefinites in the scope of negation, and typologizes these according to the nature of the indefinite and its cooccurrence with clausal negation. Haspelmath (1997, 2013[2005]) separates these two dimensions, treating the properties of the indefinite with the help of a semantic map and proposing a separate typology regarding cooccurrence with clausal negation. These issues have recently been revisited by Van Alsenoy (2014) and van der Auwera & Van Alsenoy (forthcoming). De Haan (1997) addresses the interaction between modality and negation.

Miestamo (2000, 2003, 2005, 2013a[2005], 2013b[2005]) looked at the structural differences between affirmatives and negatives systematically on the basis of a sample of 297 languages. A basic distinction between symmetric and asymmetric negation was proposed: symmetric negatives show no structural differences with respect to affirmatives apart from the presence of the negative marker(s), whereas in asymmetric negatives, further structural differences can be found. Asymmetric negation can be divided into subtypes according to the nature of the asymmetry. The main subtypes have to do with the marking of finiteness, reality status, emphasis, tense-aspect-mood and person-number. Later studies of asymmetry have looked at negative imperatives (Miestamo & van der Auwera 2007), addressed the relationship between aspect and negation (Miestamo & van der Auwera

2011) and surveyed the marking of case and other categories on NPs under negation (Miestamo 2014).

Van der Auwera & Lejeune (2013[2005]) examined prohibitives (2nd person singular negative imperatives) in a sample of 495 languages paying special attention to whether or not prohibitives differ from declaratives in terms of how negation is marked, and from positive imperatives in terms of how the imperative is marked. A central finding is that there is a strong tendency for prohibitives to show negative marking different from declaratives (see also Kahrel 1996). This tendency is further discussed in van der Auwera (2006, 2010a). Aikhenvald (2010) took a wider look at the domain of negative imperatives and examined their marking and relationship to other grammatical domains in detail.

Dryer (2013a[2005]) looked at the geographical distribution of the three main types of negators identified by Dahl and Payne (see above) and double negation (in the sense of negation expressed with two (or more) negative elements simultaneously present). In Dryer (2013b[2011], 2013c[2011]), the position of the different types of negative markers with respect to the verb and other clausal constituents are examined in great detail. These studies by Dryer are based on very large samples (more than 1000 languages in each).

Eriksen (2011) looks at the negation of non-verbal predicates and lays special emphasis on the fact that many languages use a strategy different from standard negation for them. He postulates the Direct Negation Avoidance (DNA) principle to account for this. Veselinova (2013a) proposes a typological classification of negative existentials paying attention to their relationship to standard negation and examines the domain in detail using the semantic map methodology. Veselinova (2014) offers a fresh and critical look on Croft's (1991) negative-existential cycle.

These and many other subdomains of negation are addressed in Dixon's (2012: 89-137) rich typological overview of the domain of negation. In addition to the general works mentioned in this section, a couple of typologically oriented works addressing negation in individual languages or specific areas, families or other specific language groupings should be mentioned. Bernini & Ramat (1992) address various aspects of negation in European languages from a typological perspective. The collective volume edited by Kahrel & van den Berg (1994) provides questionnaire-based

descriptions of the negation systems of 16 languages from different parts of the world. The chapters in Miestamo & al. (2015) provide a systematic and comprehensive look on negation in Uralic languages from a typological perspective with questionnaire-based descriptions of individual languages and typological overviews of selected aspects of negation in the family. Other collective volumes addressing negation in a specific family or area include Hovdhaugen & Mosel (1999) on Austronesian, Cyffer & al. (2009) on African languages, and Michael and Granadillo (2014) on Arawakan. Finally, pioneering work on negation in sign languages has been done by Zeshan (2004, 2006 2013[2005]).

3. Clausal negation

This section will address standard negation (3.1), negation in non-declaratives (3.2), negation of non-verbal predicates (3.3), negation in non-main clauses (3.4), lexicalized negatives (3.5), and further aspects of clausal negation (3.6)

3.1. Standard negation

The term standard negation was coined by Payne (1985), who defined it as 'that type of negation that can apply to the most minimal and basic sentences. Such sentences are characteristically main clauses, and consist of a single predicate with as few noun phrases and adverbial modifiers as possible' (1985: 198). Today, the term is used for the negation of declarative main clauses with a verbal predicate, more precisely for the pragmatically neutral and productive strategies that languages use for this function, see Miestamo (2005: 39-45) for discussion and a more precise definition.

As discussed above, three main types of negative markers can be observed in standard negation (Dahl 1979; Payne 1985): negative affixes, negative particles and negative verbs. Negative affixes are exemplified in (1-3).

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(1) Czech (Indo-European, Slavic) (Janda and Townsend 2000: 34, 37)

    a. vol-al   b. ne-vol-al

        call-PST.3SG   NEG-call-PST.3SG

        'He was calling / called.'   'He was not calling / did not call.'

(2) Lezgian (Nakh-Dagestanian, Lezgic) (Haspelmath 1993: 127, 245)

    a. xürünwi-jri   ada-waj meslät-ar q̃aču-zwa

        villager-PL(ERG) he-ADEL advice-PL take-IMPF

        'The villagers take advice from him.'

    b. xürünwi-jri   ada-waj meslät-ar q̃aču-zwa-č

        villager-PL(ERG) he-ADEL advice-PL take-IMPF-NEG

        'The villagers do not take advice from him.'

(3) Chukchi (Chukotko-Kamchatkan) (Kämpfe & Volodin 1995: 68, 69)

    a. čejwə-rkən   b. a-nto-ka   (itə-rkən)

        go-DUR   NEG-go.out-NEG be-DUR

        '(S)he goes.'   '(S)he does not go out.'

As can be seen in these examples, prefixes, suffixes and circumfixes are attested as negative markers.

     The examples in (4-6) illustrate standard negation marked by negative particles.

(4) Indonesian (Austronesian, Sundic) (Sneddon 1996: 195; David Gil, p.c.)

    a. mereka menolong kami   b. mereka tidak menolong kami

        they   help   us.EXCL   they   NEG help   us.EXCL

        'They helped us.'   'They didn't help us.'

(5) Taba (Austronesian, S Halmahera-W New Guinea) (Bowden 1997: 388)

    a. n-han ak-la   b. n-han ak-la   te

        3SG-go ALL-sea   3SG-go ALL-sea NEG

        'She's going seawards.'   'She's not going seawards.'

(6) French (Indo-European, Romance) (constructed examples)

    a. le   chanteur chante   b. le   chanteur ne   chante   pas

       DEF singer   sing.3SG   DEF singer   NEG sing.3SG NEG

       'The singer is singing.'   'The singer is not singing.'

Again, we can observe different types of constructions: the negative particle may be preposed or postposed to the verb, or a double particle can appear as in French.

    Examples (7-8) illustrate the use of verbs as markers of standard negation.

(7) Forest Enets (Uralic, Samoyedic) (Siegl 2015: 47)

    a. mud' Dudinka-xan   d'iri-đʔ

       1SG   Dudinka-LOC.SG live-1SG

       'I live in Dudinka.'

    b. mud'   Dudinka-xan   ńi-đʔ   d'iri-ʔ

       1SG   Dudinka-LOC.SG NEG-1SG live-CNG

       'I do not live in Dudinka.'

(8) Tongan (Austronesian, Oceanic) (Churchward 1953:56)

    a. na'e 'alu 'a   siale   b. na'e 'ikai ke   'alu 'a   siale

       PST go ABS Siale   PST NEG SBJN go ABS Siale

       'Siale went.'   'Siale did not go.'

In Forest Enets, the negative marker is an auxiliary that carries the finite inflections of the verb. In Tongan, the negative verb can be analysed as a higher clause verb that takes the negated content as a clausal complement.

    In addition to the three main types of negative markers – affixes, particles, verbs – Dahl (1979) and Payne (1985) observe a few more marginal types of negative marking. Dahl notes that negation expressed by reduplication, by tone and by change of word order is found marginally in one or two languages each. Dryer's (2013b) sample contains one language, Engenni (Niger-Congo, Edoid), in which tone appears to mark standard negation. According to Payne, the marker of standard negation may also be a negative noun. He cites the example of Evenki, where the negative element *ācin* is a nominal element. However, this element is not used for the negation of

verbal predicates and cannot therefore be seen as a standard negator. A nominal element marking standard negation is, however, found in Nadëb (Nadahup), see Weir (1994) and Miestamo (2005: 93-94) for discussion. Furthermore, negation without an overt negative marker, the negative construction consisting of the omission of tense marking, is found in some Dravidian languages, see Pilot-Raichoor (2010) for details and Miestamo (2010) for a typological discussion.

As to the cross-linguistic frequency of the different types of negators, negative particles (found in 502 out of 1157 languages in Dryer 2013a) and affixes (in 395 out of 1157 languages) are the most common types. Negative auxiliaries are much less common (in 47 out of 1157 languages). Note that Dryer's counts also include 119 languages showing 'double negation', i.e. the simultaneous presence of two markers of negation, be they affixes, particles or auxiliaries, or any combination of these, as in Chukchi and French above. It should be noted that, according to Zeshan (2004), while spoken languages very rarely use prosodic means to express negation, this is extremely common in sign languages, in which prosodic features such as head movements and facial expressions are universally found in the expression of negation; furthermore, in sign languages, negative particles are clearly the most common type of negative marker, along with the prosodic means mentioned above.

Turning now to the placement of negative markers within the clause, already Jespersen's (1917: 5) had observed that 'there is a natural tendency, also for the sake of clearness, to place the negative first, or at any rate as soon as possible, very often immediately before the particular word to be negatived (generally the verb [...]).' Horn (2001 [1989]) refers to Jespersen's observation as the Neg-First principle. Dahl's (1979) and Dryer's (1992, 2013b) sample-based typological surveys indicate that the Neg-First principle holds for negative particles irrespective of basic word order, but basic word order is relevant for the placement of negative auxiliaries, which are more readily placed after the lexical verb in OV languages; as to morphological negation, suffixes prevail over prefixes, but not with a very significant margin (prefixes in 162 and suffixes in 202 out of 1324 languages in Dryer's sample), cf. the general suffixing preference in the world's languages (see Dryer 2013d). Dahl (1979) further notes that negators tend to be placed in relation

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to the finite element (finite verb) of the clause rather than in relation to the whole clause, and they tend to appear as close to the finite element as possible. An interesting difference between spoken languages and sign languages is that the latter tend to place negative particles clause-finally rather than pre-verbally (see Zeshan 2004: 52).

So far, the presentation has focused on negative markers. As noted in the historical overview above, typological research has looked at other structural aspects of standard negatives as well. Miestamo's (2005) typology with the distinction between symmetric and asymmetric negation will now be discussed in more detail.[2] Symmetric negatives show no other structural differences vis-à-vis affirmatives than the presence of negative markers, whereas asymmetric negatives differ strucurally from affirmatives in other ways, too. Symmetry and asymmetry can be found in negative constructions on the one hand and negative paradigms on the other. A clause with a symmetric negative construction differs from the corresponding affirmative clause only by the presence of the negative marker(s), whereas a clause with an asymmetric negative construction shows other structural differences as well; these are illustrated by Swedish (9) and Finnish (10), respectively.

(9) Swedish (Indo-European, Germanic) (constructed examples)

    a. hund-ar-na   skäll-er   ute   b. hund-ar-na   skäll-er   inte ute

       dog-PL-DEF   bark-PRES outside   dog-PL-DEF   bark-PRES NEG outside

       'The dogs are barking outside.'   'The dogs are not barking outside.'

(10) Finnish (Uralic, Finnic) (constructed examples)

    a. koira-t haukku-vat ulkona   b. koira-t ei-vät   hauku   ulkona

       dog-PL bark-3PL   outside   dog-PL NEG-3PL bark.CNG outside

       'The dogs are barking outside.'   'The dogs are not barking outside.'

In Swedish, the negative particle *inte* is added after the verb but in other respects the structure of the clause remains the same as in the affirmative. In Finnish, the negative marker is the auxiliary *ei* that carries person marking

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[2] Forets's (1993) distinction between recusative and suspensive-reassertive negation is reminiscent of the symmetry-asymmetry distinction, but there are some clear differences, see Miestamo (2005: 163-165) for discussion.

and the form of the lexical verb changes as it loses it finiteness, appearing in the connegative form.

In symmetric paradigms, the paradigms used in the negative show a one-to-one correspondence to the paradigms used in the affirmative, see French (11), whereas in asymmetric paradigms such a one-to-one correspondence is not found and (usually) distinctions are lost in the negative, see Bagirmi (12).

(11) French (Indo-European, Romance) (constructed examples)

a. chanter 'to sing', PRESENT

1SG	je chante	je ne chante pas
2SG	tu chantes	tu ne chantes pas
3SG	il/elle chante	il/elle ne chante pas
1PL	nous chantons	nous ne chantons pas
2PL	vous chantez	vous ne chantez pas
3PL	ils/elles chantent	ils/elles ne chantent pas

b. chanter 'to sing', IMPERFECT

1SG	je chantais	je ne chantais pas
2SG	tu chantais	tu ne chantais pas
3SG	il/elle chantait	il/elle ne chantait pas
1PL	nous chantions	nous ne chantions pas
2PL	vous chantiez	vous ne chantiez pas
3PL	ils/elles chantaient	ils/elles ne chantaient pas

(12) Bagirmi (Nilo-Saharan, Bongo-Bagirmi) (Stevenson 1969: 83, 91, 130)

a. ma   m-'de   b. ma   m-'de   ga
   1SG   1SG-come   1SG   1SG-come   CMPL
   'I came.'   'I have come.'

c. ma   m-'de   li
   1SG   1SG-come   NEG
   'I did not come.'

In French, every member of the verbal paradigm used in the affirmative can appear in the negative – for reasons of space, only part of the verbal paradigm can be given here. In Bagirmi, affirmatives can use the marker *ga* to emphasize the completive character of the action, but in negatives this

marker cannot appear and the distinction made by the presence vs. absence of the marker is lost in the negative. Thus, there is only one choice in the negative paradigm corresponding to two in the affirmative. The correspondence between the paradigms used in the affirmative and the negative is not one-to-one and we are thus dealing with paradigmatic asymmetry. Note that the negative constructions in the French and Bagirmi examples are symmetric. Constructional and paradigmatic asymmetry are largely independent dimensions and any combination of symmetric and asymmetric constructions and paradigms is possible.

Within asymmetric negation, various types of asymmetry can be found. The main types identified in Miestamo (2005) are the following. In subtype A/Fin, the lexical verb loses its finiteness and a new finite element is usually added, see Apalaí (13) and Evenki (14).

(13) Apalai (Cariban) (Koehn & Koehn 1986: 64)

    a. isapokara   [Ø]-ene-no

       jakuruaru.lizard   [1>3]-see-IMPST

       'I saw a jakuruaru lizard.'

    b. isapokara   on-ene-pyra a-ken

       jakuruaru.lizard   3-see-NEG   1-be.IMPST

       'I did not see a jakuruaru lizard.'

(14) Evenki (Tungusic) (Nedjalkov 1994: 2)

    a. nuŋan   min-du purta-va   bū-che-n

       he   1SG-DAT knife-ACC give-PST-3SG

       'He gave me the knife.'

    b. nuŋan   min-du purta-va   e-che-n   bū-re

       he   1SG-DAT knife-ACC NEG-PST-3SG give-PTCP

       'He did not give me the knife.'

In Apalaí, the negative marker is a deverbalizing suffix that appears on the lexical verb and a copula is added as the new finite element of the sentence carryig TAM and subject person marking. In Evenki, the negative marker is a negative auxiliary, which acts as the finite element of the sentence carrying the marking of most finite verbal categories, and the lexical verb is in a

participial form. These are the two most common subtypes of A/Fin asymmetry: the Apalaí type construction, in which the negative marker attaches to the lexical verb (A/Fin/Neg-LV), also illustrated by Chukchi (3) above, and the Evenki type negative verb construction (A/Fin/NegVerb), also illustrated by Forest Enets (7), Tongan (8) and Finnish (10) above. Subtype A/Fin asymmetry is almost always of the constructional type. It is found in roughly one-fourth of the sample languages. A/Fin/Neg-LV is most commonly found on New Guinea and neighbouring islands as well as in South America, whereas A/Fin/NegVerb is most common in northern Eurasia and at a couple of specific spots in Central and North America.

In type A/NonReal asymmetry, the negative is marked for a category that expresses non-realized states of affairs. This is illustrated by examples from Maung (15) and Jaqaru (16).

(15) Maung (Australian, Iwaidjan) (Capell and Hinch 1970: 67)

 a. ŋi-udba   b. ni-udba-ji

  1SG > 3-put   1SG > 3-put-IRR.NPST

  'I put.'   'I can put.'

 c. marig ni-udba-ji

  NEG 1SG > 3-put-IRR.NPST

  'I do not [/cannot] put.'

(16) Jaqaru (Aymaran) (Hardman 2000: 102, 106)

 a. ill-w-ima-wa   b. isha-w ill-w-ima-txi

  see-PST-1 > 2-PK   NEG-PK see-PST-1 > 2-Q

  'I saw you.'   'I didn't see you.'

 c. ill-w-ima-txi   d. isha-txi ill-w-ima

  see-PST-1 > 2-Q   NEG-Q see-pst-1 > 2

  'Did I see you?'   'Did I not see you?'

In Maung, a distinction between realis and irrealis mood can be made in the affirmative (15a,b), but in the negative, the irrealis form has to be used; this is paradigmatic asymmetry of type A/NonReal. In Jaqaru, there is a set of suffixes marking different modal and evidential values. In affirmative declaratives, the personal knowledge suffix *-wa* is used and in positive

questions the marker *-txi* appears in its stead (16a,c). Declarative negatives use the same marker as questions on the verb and the personal knowledge suffix appears on the negative particle (16b); to complete the picture, we may observe that negative questions have the question marker on the negative marker and the lexical verb has none of these suffixes (16d). In Jaqaru, we may observe asymmetry simultaneously both in the construction and the paradigm: the negative is not formed by the simple addition of a negative marker to any existing non-negative form and the paradigm is reorganized (although the distinction between declaratives and interrogative is not lost). A/NonReal asymmetry is found in 13% of the sample languages, most commonly in Australia. As to the constructional-paradigmatic distinction, A/NonReal asymmetry is found in both types, roughly equally often.

Another domain asymmetry may affect is the domain of emphasis and we can identify this type as A/Emph. In some languages, negatives differ from affirmatives in being marked by forms that express emphasis in non-negatives. One such language is Meithei (17).

(17) Meithei (Sino-Tibetan, Kuki-Chin) (Chelliah 1997: 133, 228)

   a. təw-í   b. təw-e

      do-NHYP   do-ASS

      '(She) does.'   '(Yes, she) has.'

   c. əy   fotostat   təw-tə-e

      I   photostat do-NEG-ASS

      'I haven't made copies.'

In Meithei, the paradigm has a distinction between the non-hypothetical and the assertive in the affirmative. In the negative, only the assertive may be used and the distinction is thus lost. The assertive makes a more emphatic statement than the non-hypothetical and this paradigmatic asymmetry can thus be linked to the marking of emphasis. A/Emph is a marginal type, only found in a handful of languages, many of which are in Southeast Asia.

A fourth type of asymmetry can be defined: A/Cat, in which the marking of grammatical categories is affected in other ways. Consider the Tera, Burmese and Karok examples (18-20)

(18) Tera (Afro-Asiatic, Biu-Mandara) (Newman 1970: 128, 142)

a. ali   wà   masa koro   b. ali   nὲ masa   goro ɓa
   Ali   PFV   buy donkey   Ali   PFV buy   kola NEG
   'Ali bought a donkey.'   'Ali didn't buy kola.'

(19) Burmese (Sino-Tibetan, Burmese-Lolo) (Cornyn 1944: 12–13)

a. θwâ-dé   b. θwâ-mé   c. θwâ-bí
   go-ACT   go-POT   go-PERF
   'goes, went'   'will go'   'has gone'

d. ma-θwâ-bû
   NEG-go-NEG
   'does/did/will not go, has not gone'

(20) Karok (Karok) (Bright 1957: 67, 138)

a. kun-iykár-at   b. pu-ʔiykar-áp-at
   3PL/3SG-kill-PST   NEG-kill-3PL/3SG-PST
   'They killed [him/her].'   'They did not kill [him/her].'

c. ʔu-ʔuˑm   d. pu-[Ø]-ʔuˑm-ára
   3SG/3SG-arrive   NEG-[3SG/3SG]-arrive-NEG
   'He arrives.'   'He doesn't arrive.'

In Tera, the perfective marker changes under negation: a special negative perfective marker is used (18b) and the construction is thus asymmetric. In Burmese, there is a distinction between the actual, potential and perfect in the paradigm (19a-c), but this distinction is lost in the negative as all three forms are negated by the same form (19d); the paradigm is thus asymmetric; and note that the construction is asymmetric as well since the negative marker is not simply added to a corresponding positive but rather replaces the TAM markers. In Tera and Burmese the asymmetry affects the marking of TAM categories and can therefore be labelled as A/Cat/TAM. In Karok, it is the marking of person and number on the verb that is affected by negation; the language has a different set of person-number markers in affirmatives and negatives. Asymmetry that affects the marking of person, number or gender is labelled A/Cat/PNG in the typology. A/Cat asymmetry is found in one third of the sample languages, and both constructional and paradigmatic

asymmetry are common. Asymmetry affecting the marking of TAM catgeories is clearly more common than asymmetry affecting PNG categories. In two-thirds of the cases A/Cat asymmetry involves loss of grammatical distinctions in the negative. A/Cat is not rare in any part of the world and it is especially common among the languages of Africa.

The first three types of asymmetry, A/Fin, A/NonReal and A/Emph, are defined by the specific effects that the asymmetry has on a specific domain: decrease of finiteness of the lexical verb, non-realized marking or emphatic marking under negation. These are the three cross-linguistically recurrent ways in which negation can affect the marking of a specific domain. A/Cat includes all other cases of asymmetry in which the marking of grammatical categories is affected in some way. For these, we cannot make a cross-linguistic generalization according to which a given domain would tend to be affected in a certain way, i.e. a given category would correlate with negation. Perfective aspect is an often-cited candidate for such a category: it has been claimed in the literature (e.g., Schmid 1980) that perfective aspect would tend to be excluded from negation, and imperfective would appear instead, but in larger-scale typological research (Miestamo 2005: 178-180) this common belief has been shown to be unfounded (see Miestamo & van der Auwera 2011 for further discussion). There is thus no cross-linguistic empirical evidence for a type of asymmetry in which negatives would be marked for imperfective aspect. In other words, neutralization of distinctions is a common pattern within A/Cat, but this neutralization is not in favour in any specific category such as imperfectives; In the other subtypes there is such a favoured category type, e.g., non-realized categories in A/NonReal.

Symmetric and asymmetric negation and the different subtypes of asymmetry can be connected to different semantic and pragmatic properties of negation (symmetry and asymmetry on the functional level) and the cross-linguistic types can thus be shown to be functionally motivated, see Miestamo (2005) for discussion.

Paradigmatic asymmetry whereby negation affects the number of choices available in some grammatical domains can also be seen in the context of Aikhenvald and Dixon's (1998) dependency hierarchies. They have observed dependency relations between different domains such that certain choices within one domain may affect the availability of choices in another. In the

dependecy hierarchy, polarity is at the top, which means that the presence of negation may affect the availability of paradigmatic distincitons in other domains, but polarity choices are not affected by any of the domains lower in the hierarchy. The paradigmatic asymmetries discussed above whereby tense-aspect-mood and person-number-gender choices are affected by negation conform to the hierarchies as proposed by Aikhenvald and Dixon. Note however that their study does not include mood or modal categories, but in the typological research summarized above, modal categories, too, have been observed to be affected by negation.

So far we have discussed structural properties of negatives focusing on declarative clauses. Not much has been said about the variation in negative strategies within a language. It is rather common in the world's languages that different negative constructions are used with different grammatical categories. Even within the declarative domain, different TAM categories, for example, may require different standard negation constructions. Most typically the contexts in which different negation strategies are found, however, are outside standard negation, and we can then talk about non-standard negators (or special negators following Veselinova 2013a). The most common contexts for non-standard clausal negation are imperatives and clauses with non-verbal predicates; in Kahrel's (1996) 40-language sample, 17 languages have non-standard imperative negation, 9 have non-standard negation with existentials and 8 with other non-verbal predicates. We will now turn our focus to these clause types.

3.2. Non-declaratives

Imperatives are the clause type where we most commonly find negative strategies distinct from standard negation. In their typological study of negative imperatives, based on a sample of 495 languages, van der Auwera & Lejeune (2013[2005]) proposed a four-way typology of prohibitives (defined as 2nd person singular negative imperatives). In Type I the negative strategy is the same as is used in declaratives and the imperative is marked in the same way as in positive imperatives (21). In Type II the negative strategy is different from declaratives but the imperative construction is the same as in

positives (22). In Type III, it is the imperative construction that differs from the positive but the negative construction is the same as in declaratives (23). Finally, Type IV has a difference for both parameters, i.e. a negative strategy that differs from declaratives and an imperative strategy different from positive imperatives (24).

(21) Bagirmi (Nilo-Saharan, Bongo-Bagirmi) (Stevenson 1969: 91, 93, 95)

   a. ab   'be   b. ab   eli   c.   je   j-ab   eli

      go   home   go   NEG   we   1PL-go NEG

      'Go home!'   'Don't go!'   'We did not go.'

(22) Purépecha (Tarascan) (Chamoreau 2000: 112, 242)

   a. 'no, 'xua-ø-rini   'sani   b. 'aši 'xua-ø-rini   'sani

      NEG bring-IMP-2>1 little   NEG bring-IMP-2>1 little

      'No, bring me little!'   'Don't bring me little!'

   c. 'no   pi'ri-šiN-ti

      NEG   sing-HAB-ASS.3

      'He does not sing.'

(23) Italian (Indo-European, Romance) (constructed examples)

   a. canta   b. non cantare

      sing.IMP.2SG   NEG sing.INF

      'Sing!'   'Don't sing!'

   c. non canti

      NEG sing.PRES.2SG

      'You don't sing.'

(24) Koasati (Muskogean) (Kimball 1991: 58, 270)

   a. íp   b. is-p-án   c. cík-m-ǫ

      eat   2SG-eat-NEG.IMP   2SG.NEG-gather-NEG

      'Eat!'   'Don't eat!'   'You don't gather.'

In Bagirmi, there is no difference in the imperative verb form between positives and negatives (21a,b) and the same postverbal negator is used in imperatives as is found in declaratives (21b,c). In Purépecha, we find the

imperative construction in positives and negatives (22a,b) but a different negator is found in prohibitives vs. declaratives (22b,c). In Italian, the verb form differs between positive and negative imperatives appearing in infinitive form in the prohibitive (23a,b) but the same negator is found in both moods (23b,c). In Koasati the verb form marking the imperative is different in negatives vs. positives (24a,b) and negative marking also differs between imperatives and declaratives (24b,c). The number of languages assigned to each type in the 495-language sample is as follows: Type I: 113, Type II: 182, Type III: 55 and Type IV: 145. The most important generalization arising from these numbers is that languages tend to use a negative strategy different from standard negation in the imperative. The functional motivations proposed for the existence of dedicated prohibitive markers have to do with the frequency and special speech act status of prohibitives (see van der Auwera 2006 for discussion).

In addition to a detailed overview of cross-linguistic variation in the marking of negative imperatives, Aikhenvald (2010) pays special attention to the relationship between negative imperatives and other grammatical categories, including person and number, tense, aspect, distance and directionality, information source, reality status and modality, as well as transitivity. The general picture that emerges is that negative imperatives often mark these categories differently from positive imperatives and make fewer distinctions in these domains than do positive imperatives (cf. also Miestamo & van der Auwera 2007). This is in line with the observations concerning the asymmetry between negatives and affirmatives in standard negation discussed above. Languages may distinguish several imperative constructions with meanings differing, e.g., in politeness or strength; interestingly, as Aikhenvald (2010: 189-190) notes, some languages show a higher number of negative imperatives than positive ones.

As to the other main non-declarative mood, the interrogative, Miestamo (2009) made some preliminary cross-linguistic observations of negative polar interrogatives (PI) based on a preliminary survey of 322 languages from 273 genera. In most languages, the combination of negation and polar interrogation does not lead to any special effects. In some languages interesting phenomena can, however, be observed. Negative PIs can differ from negative declaratives and positive PIs by the position of the marker of

negation or PI: the negator may be fronted and/or the PI marker may appear on the negator instead of the verb. In some languages the marker of negation and/or PI differ from their declarative and/or positive counterparts: a negator different from declarative negation may be used, a PI marker different form positive PIs may be used, and these differences may also be combined in a special portmanteau negative PI marker. Furthermore, in some languages, markers of negation or PI may disappear in negative PIs. An example of a special negative PI marker can be seen in Estonian *ega* (25).

(25) Estonian (Uralic, Finnic) (Erelt 2003: 108 [except c constructed by MM])

  a. *sa   tule-d   täna   meile*
     2SG   come-2SG today   1PL.ALL
     'You will come to visit us today.'

  b. *kas   sa   tule-d   täna   meile ?*
     Q   2SG come-2SG   today   1PL.ALL
     'Will you come to visit us today?'

  c. *sa   ei   tule   täna   meile*
     2SG NEG come   today   1PL.ALL
     'You won't come to visit us today.'

  d. *ega   sa   (ei) tule   täna   meile ?*
     NEG.Q 2SG NEG come   today   1PL.ALL
     'Won't you come to visit us today?'

These preliminary observations need to be confirmed in further typological work.

Aikhenvald & Dixon (1998) predict that there should not be any dependencies between polarity and the three basic moods (declarative, imperative and interrogative). Although negation can affect imperatives and interrogatives, and vice versa, in terms of the choice of marker, this does not lead to the blocking of one category in connection with the other, i.e. the combination of negation and the imperative/interrogative is always possible.

3.3. Non-verbal predications

As noted above, clauses with non-verbal predicates form another context in which it is typologically common that negative constructions different from standard negation are used. Non-verbal predicate is here meant as an inclusive term referring to all types of predicates that are not (typically) expressed by verbs: predications of identity (X is my mother), class inclusion (X is a man), attribution (X is tall), existence (X exists), possession (X has a dog) and location (X is in the room). It should be noted that some authors, e.g., Kahrel (1996) and Eriksen (2011), operate with a narrower definition excluding the latter three (existential, possessive, locative) from the scope of the term non-verbal predicate. In many languages, e.g., most of the well-known European ones, non-verbal predicates do not show a difference with respect to standard negation, but it is common that such a difference exists, see the examples in (26)-(27).

(26) Finnish (Uralic, Finnic) (constructed examples)

    a. koira-t ei-vät hauku   ulkona

       dog-PL NEG-3PL bark.CNG outside

       'The dogs are not barking outside.'

    b. koira-t o-vat   ulkona

       dog-PL be-3PL outside

       'The dogs are outside.'

    c. koira-t ei-vät ole   ulkona

       dog-PL NEG-3PL be.CNG outside

       'The dogs are not outside.'

(27) Turkish (Turkic) (van Schaaik 1994: 38, 44)

    a. gel-me-yecek   b. su   var   c. su   yok

       come-NEG-FUT   water EX   water NEG.EX

       '(S)he will not come.'   'There is water.'   'There is no water.'

In Finnish, the standard negation construction is used with the copula and non-verbal predications do not show special behaviour. In Turkish,

existentials are not negated by the standard negation construction but a special existential negator *yok* is used.

The relationship between existential and standard negators was addressed by Croft (1991). He identified three types: Type A in which the standard negator is used with the existential predication marker as with any verb (e.g., Finnish 26), Type B in which there is a separate negative existential predication marker distinct from the standard negator (e.g., Turkish 27), and Type C in which one and the same element functions as a negative existential predication marker and as a standard negator combining with any verb (e.g., the Tongan negative verb illustrated in 8 above, which can also function as a negative existential '(there) is not'). In addition, there are three intermediate types: languages may show variation between Types A~B, B~C or C~A. Croft's types constitute a synchronic typology of an aspect of the cross-linguistic variation in the domain of negative existentials. His main point, however, is that the typology can be given a dynamic interpretation showing stages in a typical diachronic development path of negators; we will come back to this at the end of this chapter.

To account for the tendency to use non-standard negation in non-verbal predications, Eriksen (2011) postulates the Direct Negation Avoidance (DNA) principle, which says that '[a]ll non-standard negation of non-verbal predicates is a means to negate such predicates indirectly' (p. 277). Languages may use different strategies to satisfy the DNA principle: the two main types are distantiating and phrase-internal strategies and these can further be divided into subtypes. In distantiating strategies, the predicate is embedded under an expression that has positive polarity and this positive polarity expression is negated: NEG [POS [NV-PRED]]. In phrase-internal strategies, the predication remains positive and negation appears within the phrase that constitutes the predicate, negating its lexical contents: POS [NV-PRED [NEG [LEX]]]. These two strategies are illustrated by Thai (28) and Jamul Tiipay (29), respectively.

(28) Thai (Tai-Kadai, Kam-Tai) (Iwasaki and Ingkaphirom 2005: 15, 222, 227)

   a. mây khâw   pay

      NEG enter   go

      '(He) won't go in.'

   b. man pen mét   sǐi   khǐaw khiǎw   ŋay

      3   COP tablet colour green   PP

      'It was a green tablet, you see.'

   c. kɔ̂   khɯɯ   bɛ̀ɛp wâa mây dây pen rôok   alay   mâak maay

      LP   LINK   HEDGE   NEG AUX COP illness what   much

      'It's like – it's not really a serious illness.'

(29) Jamul Tiipay (Hokan, Yuman) (Miller 2001: 168, 183)

   a. nya'wach yu'ip   xemaaw

      1PL   hear.PL NEG

      'We didn't hear it.'

   b. nyaap [nye-'iipa]   c. nyaap ['iipanya-maw]

      1SG   1SG-man   1SG   man 1SG-NEG

      'I am a man.'   'I am not a man.'

In Thai, the negation of nominal predicates (28c) features an extra verbal element (auxiliary) between the negator and a copula and this verbal element is the positive polarity expression that is in the direct scope of negation. In Jamul Tiipay, the negation of copulaless nominal predications is expressed by the nominal negator *maw* and the overall polarity of the clause remains positive; a literal translation would have the structure of (29c) as 'I am a non-man'. Eriksen further hypothesizes that the DNA principle is operational even in languages that show no difference between standard negation and negation of nominal predicates.

Veselinova (2013a) examines the negation of existential predicates in a sample of 95 languages. She looks at the relation between existentials and standard negation observing that one third of her sample languages does not have a special construction for the negation of existentials whereas two thirds do. She then examines the special negators used in existentials looking at the range of other functions that the existential negators have, and uses the

semantic map methodology to account for the cross-linguistic variation within this domain. The most common functions in which these negators are used include negation of possessive and locative predicates as well as negative prosentences. It is further argued that negative existentials are not the simple combination of negation and existence but should rather be regarded as a functional domain of their own. In Veselinova (2015), where the study focuses on Uralic languages but a sample-based typological background is also laid out, the negation of non-verbal predicates is addressed more generally, and other types of special negators are also identified in addition to existential negators. Ascriptive negators apply to predications of identity, class inclusion and attribution, locative negators to locative predications and possessive negators to possessive predications. Furthermore, as stative predication is used as a cover term for all types of non-verbal predications, general stative negators are special negators that can be used in all types of stative predications (but being special negators, they do not express standard negation).

3.4. Negation in non-main clauses

We are now moving to territories where there is no systematic sample-based typological work available in the literature. Nevertheless, some interesting cross-linguistic observations can be made. In some languages dependent clauses show negation strategies different from standard negation. This is usually tied to the question whether the dependent clause verb construction differs from declarative main clauses, i.e. whether special moods or non-finite forms are used. For example in Latin, dependent subjunctive clauses use *ne* instead of the standard negator *non*. A systematic look at the Uralic family (see Miestamo & al. 2015) shows that in this family dependent clauses are negated with standard negation when the verbal construction is the same: finite dependent clauses in the indicative mood use standard negation. Finite dependent clauses in the subjunctive occur in Hungarian and they exhibit variation between the standard negator *nem* and the subjunctive/imperative/optative negator *ne* (E. Kiss 2015). Non-finite dependent clauses show a lot of variation: they may combine with a standard

negator, use a special negator with the non-finite verb form, or there may be a special negative non-finite form (negative converb/participle); none of these three strategies is clearly more frequent than the others within the family. Systematic cross-linguistic surveys would be needed to get more reliable information on the occurrence and frequency of these or other patterns in dependent-clause negation beyond Uralic.

3.5. Lexicalized negatives

So far, we have looked at productive means of clausal negation, not restricted to specific lexemes. Clausal negation may also be expressed by lexically idiosyncratic negatives, i.e. the combination of negation and a lexical meaning can lexicalize. It has been observed that certain meanings are more prone to lexicalize with negation than others. Zeshan's (2013) comparative study of sign languages reveals the following set of domains and meanings within them that are the most likely to exhibit what she calls irregular negatives:

 – cognition: 'not know', 'not understand'
 – emotional attitude: 'not want', 'not like', 'not care'
 – modals: 'cannot', 'need not', 'must not'
 – possession/existential: 'not have', 'not exist', 'not get'
 – tense/aspect: 'will not', 'did not', 'not finished'
 – evaluative judgement: 'not right', 'not possible', 'not enough'

By irregular negatives she means the negation of a limited subset of lexemes in a non-standard way, either by a special derivation or by a suppletive form. As regards spoken languages, Veselinova's ongoing work (2013b, personal communication) shows that the domains that tend to lexicalize negation are largely the same as in sign languages; to Zeshan's list she adds the domain of non-utterance represented by senses such as 'not talk', 'not tell/inform' and 'not mention'. As regards the relative cross-linguistic frequency of negative lexicalizations, Veselinova (p.c.) notes that negative existentials and not-yet expressions are clearly the most common, followed by 'not know', 'not be of

identity', 'cannot', 'not want', 'not talk' and 'need not'. It should be noted that even if 'not exist' and 'not be of identity' are listed here as negative lexicalizations, they can be seen as grammatical constructions expressing negation in a specific domain (non-verbal predications) and have been discussed as such above. As to 'not yet', its status as lexical expression is not clear either – not-yet expressions can often be seen as negative constructions operating in a specific aspectual domain applying productively to any verb and thereby actually belonging to standard negation. The distinction between grammar and lexicon is not sharp in this respect, either. Formally, lexicalized negatives can be either fused forms in which a negative marker has fused with the lexeme to be negated or they can be completely suppletive forms showing no formal relation to the positive lexeme. The former type is illustrated by English *dunno* for '(I) don't know' (in which is not only the negative marker but also the auxiliary *do* that is fused). The latter type is shown in the Samoyedic language Tundra Nenets: *jexaraś* 'not know', cf. the affirmative counterpart *t́eńewaś* 'know' and the standard negation auxiliary *ńiiś* (see Mus 2015: 76, 29); Samoyedic languages are especially rich in lexicalized negative verbs. For inherently negative verbs, see also Dixon (2012: 123-124).

3.6. Further aspects of clause negation

The above discussion does not exhaust expressions of clausal negation. Some clausal negation constructions, for example, are pragmatically marked and therefore do not fall under standard negation. These will not be discussed in any detail as not much cross-linguistic information is available. To take an example, Finnish has a negative construction formed by the verb *olla* 'be' or *jäädä* 'stay, remain' and a negative non-finite form of the lexical verb (abessive of the *ma*-infinitive), literally translatable roughly as 'be/remain un-V-ed'; this construction is used under specific pragmatic conditions when the expectation of the corresponding positive content is stronger than usual. A functionally and formally similar construction can be found in some other Uralic languages, e.g., in Skolt Saami.

4. Non-clausal negation

In this section attention will be directed to negative constructions not operating on the level of the clause, i.e. negative constructions that do not turn clauses into negatives but that instantiate negation on some other type of constituent. The negative functions surveyed here are the negation of indefinite pronouns and related adverbs (4.1), negative derivation and case marking (4.2), and negative replies to polar questions (4.3). Some further constructions are mentioned in 4.4.

4.1. Negative indefinites

Typological literature has paid some attention to negative indefinite pronouns and related adverbs under the scope of negation, i.e. the cross-linguistic variation in the expression of meanings such as '**nobody** came', 'I didn't see **anybody**', 'they **never** sing' etc. Kahrel's (1996) typology distinguishes five types of construction: Type I in which the same item is used in the scope of negation as is used in positives (Evenki 30), Type II in which there is a special form of the indefinite/adverb under negation (English 31), Type III in which an inherently negative item is used without clausal negation present (German 32), Type IV in which an inherently negative item cooccurs with clausal negation (Romanian 33), and finally Type V in which no indefinite pronouns are found and the corresponding meaning is expressed with an existential construction (Nadëb 34). The first four types are also identified in Dahl (1979) and Bernini & Ramat (1992).

(30) Evenki (Tungusic) (Nedjalkov 1994: 25)

    a. ekun-da   ō-ra-n

        something-CLT   become-NFUT-3SG

        'Something happened.'

    b. ekun-da   e-che   ō-ra

        something-CLT   NEG-PST become-PTCP

        'Nothing happened.'

(31) English (Indo-European, Germanic) (constructed examples)

    a.   I see something   b.   I don't see anything

(32) German (Indo-European, Germanic) (constructed examples)

    a. wir   haben   etwas   gesehen

        1PL   have.PRES.1PL   something seen

        'We saw something.'

    b. wir   haben   nichts   gesehen

        1PL   have.PRES.1PL   nothing seen

        'We didn't see anything.'

(33) Romanian (Indo-European, Romance) (constructed examples)

    a. cineva   a   venit

        someone   has   come.PST.PTCP

        'Somebody came.'

    b. nimeni   n-a   venit

        nobody   NEG-has come.PST.PTCP

        'Nobody came.'

(34) Nadëb (Nadahup) (Weir 1994: 301)

    a. dooh   ha-wɨh   péh

        NEG   RS-eat.IND NREF

        'No-one is eating'

        (lit. 'One who is eating is something non-existent.)

In some languages, variation between types III and IV is observed according to the position of the negative elements. Consider the Italian examples in (35).

(35) Italian (Indo-European, Romance) (constructed examples)

    a. non è   venuto   nessuno

        NEG is   come.PST.PTCP nobody

        'Nobody came.'

    b. nessuno è   venuto

        nobody   is   come.PST.PTCP

        'Nobody came.'

In Italian, clausal negation is present depending on the position of the inherently negative indefinite: in case the indefinite precedes the verb as in (35b), the clausal negator is not needed in front of the verb. This conforms to the tendency to place the negator as early in the clause as possible: the clausal negator is needed in front of the verb if an expression of negation would otherwise only occur after the verb.

    Haspelmath (1997, 2013) has taken a somewhat different approach to the negation of indefinites. He discusses separately the presence of clausal negation and the nature of the indefinite. The former is dealt with a four-way typology: clausal negation present as in the Evenki and Romanian examples above, clausal negation absent as in the German example above and mixed behaviour as in the Italian example. Note that English would also count as mixed in Haspelmath's typology since the classification is about languages

and not individual constructions, and English has variation between presence vs. absence of clausal negation: *I don't see anything* vs. *I see nothing.* The fourth type in the typology is the one in which an existential construction is used in the absence of indefinites, as in Nadëb. As to the nature of the indefinite, Haspelmath (1997) notes that it is not always easy to draw a line between normal, special and inherently negative indefinites as required by Kahrel's classification. The ranges of the meanings and uses of different indefinites in different languages show a lot of variation and this variation is best captured with a semantic map. On this map, the function of (direct) negation is at one extreme. Van Alsenoy and van der Auwera (2015, forthcoming) recognize the difficulties in distinguishing between the different types of indefinites as required in Kahrel's typology, and try to refine the criteria, distinguishing three types of indefinites used under negation: neutral indefinites occurring in positive and negative contexts, negative polarity indefinites occurring in negative polarity contexts, and negative indefinites occurring under negation only. In their sample, the most frequent construction types are neutral indefinites and negative polarity indefinites used with clausal negation (Kahrel's types I and II, respectively), while the types with negative indefinites used with or without clausal negation (Kahrel's IV and III, respectively) are clearly less common, the latter being the rarest type. Van Alsenoy (2014) proposes a new and expanded version of the semantic map of indefinites, and relates the three types of indefinites used in negation to the bigger picture visualized by the map.

4.2. Negative derivation and case marking

Derivational affixes expressing negation are found in many languages, and languages differ considerably as to the extent of the inventory of such markers. In English, for example, we encounter a large array of negative prefixes such as *un-, in-, dis-, a-, anti-, de-, counter-* (see Dixon 2014: 71-117 for a thorough discussion). These prefixes differ from each other in terms of their meaning and in terms of what types of words they can attach to. One relevant parameter is whether the type of opposition they express is contrary (as in *happy* vs. *unhappy*) or contradictory (as in *married* vs. *unmarried*).

Although Zimmer (1964; see also Horn 1989: 273-308, Dixon 2012: 124-126) makes some cross-linguistic observations, no systematic typological studies have been made on derivational negation, and thus no generally valid cross-linguistic generalizations can be offered.[3]

The terms privative and caritive have been used to refer to categories that express the absence of an entity, e.g., English *-less* or Finnish *-tOn*. The same meaning can often be expressed by adpositions, e.g., *without,* and adpositional and affixal means of expressing absence can cooccur in a language – *colourless ideas* are *without colour*.

Some languages feature case categories that have negative semantics. In Finnish and many other Uralic languages (see Miestamo & al. 2015), there is an abessive case: *-ttA* in Finnish: *talotta* (house.ABE) 'without a/the house', which can also be rendered with a preposition: *ilman taloa* (without house.PAR) 'without a/the house'; as mentioned in Section 3.6 above, the abessive attached to nominalized forms of the verb can also participate in clausal negation. Case categories with similar functions are also found in many Australian languages, e.g., the privative *-warri* in Kayardild (Evans 1995).

4.3. Negative replies

Some cross-linguistic observations on how languages give negative replies to polar questions can be made, although no systematic cross-linguistic data are available on this point, either. Languages vary as to whether they have a one-word negative reply (such as English *no*) or whether they lack such a form and repeat the verb or the whole clause of the question in the negative. This is related to, but not necessarily directly dependent on, whether there is a one-word positive reply in the language or whether the verb is repeated in positive replies. Both strategies can coexist in a language. The one-word negative reply may be identical to the standard negator of the language if this is a particle, e.g., Spanish *no*. It may also be identical to a negator with

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[3] Preliminary results of ongoing work by Koptjevskaja-Tamm and Miestamo (2015) suggest that negative derivations would not be as common cross-linguistically as might be expected from a European perspective.

another function – Veselinova (2014) notes that existential negators are often used in this function (e.g., Russian *net*). And it may also be a dedicated marker not used in other major functions, e.g. Swedish *nej*. Many Uralic languages that use negative auxiliaries for standard negation are of the type that repeat the verb in replies, and in the negative it is then the negative auxiliary, inflected in the appropriate person-number category, that functions as the negative reply alone or together with the lexical verb.

Another aspect of negative replies that can be paid attention to relates to their semantics – whether they disagree with the the polarity or with the propositional content of the question. In negative replies to positive polar questions, both alternatives give the same result, but in negative replies to negative polar questions the former alternative affirms the propositional content of the question while the latter negates it. Japanese is a language in which a negative reply disagrees with the polarity of the question (see Hinds 1988: 45); thus a negative reply to a question meaning 'did the dog bark?' would mean 'the dog didn't bark', just as in English and in most European languages, but a negative reply to a question meaning 'didn't the dog bark' would mean 'the dog did bark', contrary to what would be the case in most European languages.

4.4. Further negative constructions

The above sections have not exhausted the possibilities of expressing negation. Languages may for example have special negative coordinators that can express negation in complex clauses or at the level of coordinated constituents, e.g., English *neither... nor* or Russian *ni... ni*. For coordinating negative clauses, languages may also have special coordinators that are not negative by themselves, e.g., the Finnish clitic *-kA* which combines with the standard negation construction appearing on the negative auxiliary in a coordinated negative clause.

5. Further aspects of negation

The preceding sections have been structured around different negative functions and their formal expression in the world's languages. This section will address further aspects of negation: scope of negation (5.1), case marking and referentiality (5.2), the issue of double negation (5.3) and some diachronic points (5.4), and briefly mention some further issues in (5.5). For most of these aspects of negation, systematic sample-based research is not available and the cross-linguistic observations made in these subsections are based on unsystematic observations in the literature.

5.1. Scope of negation

Questions pertaining to the scope of negation have received a fair amount of attention in syntactic and semantic literature (see Horn 2001: 479-518 for discussion). In logic a distinction is made between internal and external negation. In internal negation, the subject (or topic) of the sentence falls outside the scope of negation which is restricted to the predicate (or comment) part of the utterance. In external negation, the whole sentence, including the subject is in the scope of negation and the existence of the subject is not presupposed. In natural language, external scope of negation does not usually occur. Payne (1985) argues that, semantically, negation is placed at the border of old and new information, and gives the following "performative paraphrase" for sentential negation: *I say of X that it is not true that Y*, where X contains the contextually bound elements, i.e. old information. The sentence *The dog is not barking* could be paraphrased as *I say of the dog that it is not true that it is barking*. Thus, in sentential negation, the scope of negation typically excludes the subject but includes the rest of the sentence (see also Givón 2001: 379-380). Very often, however, the scope of negation is more narrow than this, restricted to a specific constituent or constituents of the sentence.

Languages have different ways for indicating the scope of negation and restricting it to a specific constituent. This is closely related to the marking of focus in a language: negation tends to interact with focus and when a focused

constituent appears in a negative, the result is often a narrow-scope reading with the focused element alone in the scope of negation. Dahl (1979: 104-105; see also Payne 1985: 232-233) made the observation that languages differ in terms of how they associate negation and focus: in focus-dependent negative placement, the negator is placed in relation to the constituent in focus, whereas in verb-dependent negative placement, the negator is placed in relation to the verb and focus is expressed in other ways, e.g., with prosody or focus particles. In many languages an NP can be topicalized to indicate that it falls in the scope of negation. For further discussion and examples, see Givón (2001: 386-388) and Dixon (2012: 112-118).

5.2. Negation, case marking and referentiality

In some languages, negatives differ from affirmatives in terms of how NPs in the scope of negation are marked. In a number of Circum-Baltic languages (Finnic, Baltic, Slavic) as well as in Basque, NPs in the scope of negation (objects of transitives and subjects of existentials) are marked by a case that has partitive semantics while the corresponding affirmative has accusative or nominative marking or a choice between accusative/nominative and partitive. In Finnic languages and in Basque the case with relevant partitive semantics is the partitive while in Slavic and Baltic it is the genitive. In Finnish (36), for example, the affirmative can make a choice between total and partial objects (36a,b) while the negative has to use the partitive (36c).

(36) Finnish (Uralic, Finnic) (constructed examples)
    a. *söin   banaani-n*
       eat.PST.1SG   banana-GEN
       'I ate {a/the} banana.'
    b. *söin   banaani-a*
       eat.PST.1SG   banana-PAR
       'I {ate some / was eating {a/the}} banana.'
    c. *en   syönyt   banaani-a*
       NEG.1SG eat.PST.PTCP banana-PAR
       'I {didn't eat / wasn't eating} {a/the} banana.'

The semantics of the distinction has to do with quantification and referentiality as well as with aspect. These semantic distinctions are lost in the negative and we are dealing with paradigmatic asymmetry between affirmatives and negatives on the level of the NP. This paradigmatic asymmetry conforms to the dependency hierarchy (polarity > case) proposed by Aikhenvald & Dixon (1998).

A large-scale survey of the marking of NPs under negation (Miestamo 2014) showed that similar case changes are not found elsewhere in the world. However, other, related, differences in the marking of NPs under negation are found in some languages. Negation is found to affect the use of articles and other determiners, e.g., in Polynesian languages and in French, as well as in some Bantu languages, in which class markers that function as determiners are affected. In most of these cases, the marking that appears under negation serves to mark the NPs as non-referential, and a clear correlation between negation and non-referential marking can thus be shown. As noted by Givón (1978), there is a pragmatically motivated tendency for indefinite noun phrases to have a non-referential reading under the scope of negation, and the grammaticalized pattern of non-referential marking under negation found in some languages can be seen as motivated by this pragmatic principle. Non-referentiality is also part of the semantics of the partitive cases in the Circum-Baltic area.

5.3. Double negation

A few words on the notion of double negation are in order. First of all, the term double negation has been used to refer to two quite opposite situations. In Dryer (2013a), double negation refers to the pattern in which clausal negation is expressed by the combination of two negative markers as in French *ne... pas.* Other terms for this type of negative marking are discontinuous negation and in the case of affixes also circumfixal negation (cf. Dahl's 1979 terminology above). In logic, double negation refers to the situation in which two negatives together make a positive (the law of double negation), e.g., *I didn't think he would not come* is roughly equivalent to *I*

thought he would come. According to the standard norm in a number of Germanic languages, a clause with both clausal negation and an inherently negative indefinite such as *I didn't see nobody* would obey the law a double negation and be equivalent to *I saw somebody*. However, in many non-standard varieties of these languages such utterances assume negative readings counter to the law of double negation. Without going any deeper into the normative debates concerning double negation, it may be noted here that in a typological perspective, as discussed in Section 4.1, the pattern with clausal negation cooccurring with negative indefinites (e.g., Romanian 33) is much more common cross-linguistically than the one without clausal negation present (e.g., German 32); see Haspelmath (2013) for data and discussion. Languages thus seem to show a need for explicit and prominent marking of negation rather than for following the rules of propositional logic.

5.4. Some diachronic issues

In this section I will take up two well-known diachronic developments in the domain of negation: the Jespersen Cycle and Croft's negative existential cycle. In the development known as Jespersen Cycle, an element that is first introduced to negatives as an emphasizing element, gets reinterpreted as a negative marker alongside the original marker of negation resulting thus in a double marking of negation; the older marker of negation may then gradually be dropped and the new element ends up functioning as the sole marker of negation. This is the story of the French negative marker *pas*, which originally meant 'step' and was first introduced into clauses with verbs of walking and going, and then gradually became part of the negative construction, later ousting out the original negator *ne* in colloquial French. Other well-known cases of Jespersen Cycle are found in the history of negation in many Germanic languages (see Jespersen 1917). In recent years, research on these types of diachronic developments has been active and Jespersen Cycles have been observed in many families across the world including Oceanic and Bantu. Van der Auwera (2009, 2010b) gives an overview of these findings and argues that since the processes connected to the development are complex and varied across languages, one should indeed

talk about Jespersen Cycles in the plural. In some cases, Jespersenian developments have been shown to result in triple or even quadruple marking of negation (see van der Auwera 2009; van der Auwera & al. 2013). A link between emphasis and negation is well-known, as negation occurs in a discourse context in which it often contradicts something that is assumed in the context if not explicitly said earlier in the discourse (see, e.g., Givón 1978). Functional motivations for the Cycles are thus not difficult to find and it is understandable that similar developments are attested so widely in different language families.

As pointed out in Section 3.3, Croft's (1991) negative existential cycle can be given a dynamic interpretation showing stages in a typical diachronic development path of negators, whereby Type A would develop into Type B, which would further develop into Type C and then back to Type A again. The change from A to B may come about, e.g., through the fusion of the standard negator with the existential predicator. B may change to C when the negative existential marker broadens the set of functions it covers via reanalysis to include standard negation. And C can become A when this negator loses its ability to function as a negative existential predicator and becomes a pure standard negator that can combine with the affirmative existential marker. Croft's typology is an interesting and widely-cited example of the dynamic interpretation of synchronic typology. Veselinova (2014) takes a critical look at the cycle. She first surveys the distribution of the six types in a world-wide sample and then goes on to examine the diachronic developments in two genealogical groups – Polynesian and Slavic – in detail. Her analysis identifies three main pathways for the transfer of negative existentials into the domain of standard negation and thus shows that the developments along the cycle are not as uniform and straightforward as the model abstracted from the concrete data might suggest.

5.5. Notes on some further aspects of negation

There are many aspects of negation addressed in linguistic literature that have not been treated in this section, mainly due to lack of any systematic cross-linguistic information and to space limitations. One of these aspects is

negative tags, for which Dixon (2012: 128-129) offers some comparative notes. Further topics in negation not treated here include metalinguistic negation (Horn 1989: 362-444), negative transport (neg-raising) (Horn 1989: 308-330) and reinforcing/emphasizing negation. More cross-linguistic work on these aspects of negation is needed.

6. Conclusion

This chapter has provided an overview of the domain of negation in a typological perspective. Focus has been on issues for which large-scale typological work has been done and there is therefore typological literature to lean back on. The discussion has been divided into three main sections: clausal negation, non-clausal negation and other aspects of negation. Within clausal negation, we have looked at standard negation, negation of non-declaratives, negation of non-verbal predicates, negation in non-main clauses and lexicalized negatives. The non-clausal negatives we have looked at are negative indefinites, negative derivation and case marking and negative replies. Finally, we have addressed other aspects of negation: scope of negation, case marking and referentiality under negation, the issue of double negation, and some diachronic developments. Despite the simplicity of the semantic core meaning of negation, the domain of negation appears to be complex and fascinating when we see the multiple ways in which negation is expressed in languages and how it interacts with other domains of grammar. In this overview we have only been able to discuss the most central aspects for which typological research is available. The need for large-scale cross-linguistic work on several subdomains of negation is obvious.

Abbreviations

1 first person, 2 second person, 3 third person, ABS absolutive, ACC accusative, ACT actual, ADEL adelative, ALL allative, ASS assertive, AUX auxiliary, CLT clitic, CMPL completive, CNG connegative, COP copula, DAT dative, DEF definite, DUR durative, ERG ergative, EX existential, EXCL exclusive, GEN genitive, HAB

habitual, HEDGE hedging device, IMP imperative, IMPF imperfective, IMPST immediate past, IND indicative, INF infinitive, IRR irrealis, LINK linker, LOC locative, LP linking particle, NEG negation, NFUT non-future, NHYP non-hypothetical, NOM nominative, NPST non-past, NREF non-referential, PAR partitive, PERF perfect, PK personal knowledge, PL plural, POT potential, PP pragmatic particle, PRES present, PST past, PTCP participial, Q question/interrogative, RS relativized subject, SBJN subjunctive, SG singular

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