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Metonymy and the Grammaticalization of Necessity in Finnish

1. Introduction

There is a special group of modal verbs in Finnish that are generally referred to as *necessitative* (or *necessive*) *verbs* (henceforth: *nec-verbs*). Syntactically, they are characterized by the fact that they do not allow person or number agreement, and the case marking of arguments in clauses containig a nec-verb (henceforth: *nec-clauses*) is dependent on semantic-pragmatic factors. Semantically, they belong to the "strong end" of the modal scale (see e.g. Horn 1984), expressing some kind of necessity: obligation, compulsion, norms, suitability. The most common of these verbs are *pitää* ('must, shall; should') and *täytyy* ('must, have to'). Both have deontic and epistemic (inferential) meaning, but *pitää*, the oldest nec-verb, has also developed other — mostly evidential — functions.

In all these functions, the morphological form of the verb is invariably in the third person singular, as seen in examples 1—4. Furthermore, the nec-verb has neither passive inflection [1] nor infinitival forms. The necessitative predicate (*täytyy*) takes an infinitival complement, the first infinitive (in these examples *tuoda* 'bring' or *tulla* 'come'):

(1) *Tyttö   täytyy   tuoda   kotiin.*
     girl-SG-NOM   must-3SG   bring-INF1   home-ILL
     'the girl must be brought home'

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[1] The implied indefinite agent of the "impersonal" passive inflection in Finnish is human (see Hakulinen 1987, Shore 1988).

(2) *Meidän*   *täytyy*   *tuoda*   *tyttö*   *kotiin.*
      we-GEN   must-3SG   bring-INF1   girl-SG-NOM   home-ILL
      'we must bring the girl home'

(3) *Tyttö*   *täytyy*   *tulla*   *kotiin.*
      girl-SG-NOM   must-3SG   come-INF1   home-ILL
      'the girl must come home'

(4) *Tytön*   *täytyy*   *tulla*   *kotiin.*
      girl-SG-GEN   must-3SG   come-INF1   home-ILL
      'the girl must come home'

In examples 1 and 2 the NP *tyttö* ('girl') is analysed as the object of the infinitive in modern Finnish. Like the object in some other clause types which do not have overt subjects (passives and imperatives), it is in the nominative.[2] According to a generally accepted view (see e.g. Itkonen 1979), the source of constructions of necessity can still be seen in the form of example 1 — but earlier the nominative NP was analysed as the subject of the predicate verb (e.g. *täytyy*). The NP in the genitive (*meidän*) in example 2 is understood as the subject of the infinitive (*tuoda*).

In the intransitive examples, 3 and 4, the subject-like argument is either in the nominative (*tyttö*) or in the genitive case (*tytön*); the first alternative is frequent in non-standard Finnish. In standard Finnish, the nominative S is allowed only in so-called existential constructions (5):

(5) *Talossa*   *täytyy*   *olla*   *tyttö*
      house-SG-INE   must-3SG   be-INF1   girl-SG-NOM
      'there must be a girl in the house'

During the past hundred years, Finnish linguists have developed a detailed hypothesis about the history of the nec-clause. It is assumed to result from syntactic re-analysis and a lengthy restructuring process of the central morphosyntactic constituents, with a gradual loss of person and number marking in the verb in

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[2] It can also appear in the partitive, but this aspect of Finnish object case variation need not concern us here.

its course from lexical to modal functions. (See Setälä 1914: 12, Ikola 1959, Saukkonen 1965: 124–131, 143–144, T. Itkonen 1975.) The hypothesis is obviously close to the grammaticaliza- tion theories of today.

In earlier work (Laitinen 1992), based on extensive Finnish dialect material, I examined the grammaticalization process of nec-verbs. This article discusses one particular problem, namely metonymical inferencing, which, according to recent studies is a basic component in the early stages of the grammaticalization process. My outlining of the grammaticalization of necessity in Finnish (op.cit. 116-150) is compatible with this view.

The term metonymy seems to be a nice way of bringing together the implicature hypothesis and the metaphor hypothesis, as parts of the same conceptual category in grammaticalization processes (see e.g. Hopper and Traugott 1993, Heine, Claudi and Hünnemeyer 1991). These mechanisms can, thus, be described as complementary inferencing processes in the gram- maticalization development, and this makes the analysis look more coherent.

Hopper and Traugott use the term metonymy in the restrictive sense of conceptual association. According to them (1993: 81), the older ways of looking at metonymical change arising either out of contiguity in utterance or contiguity in the so-called non-linguistic world were not very useful. However, it seems to me that, in this case, the basic nature of metonymy remains too vague and abstract. I claim that both "traditional" kinds of contiguity can still be essential in the metonymical process of grammaticalization, if we look at the change on the syntagmatic axis of an utterance containing referential indexicals.

This argument will be explicated in the following outline of the development of nec-clauses. In this development, the morphosyntactic structures indexing contextual relations are reanalysed in a metonymical way that explains the grammar and semantics of the present-day construction.

2. Restructuring theory

According to the traditional Finnish reconstruction, what is analysed as the nominative object in modern Finnish was originally the subject of the source verb (as outlined below). The modal development began when this verb started to take transitive infinitival complements, as in 1: *Tyttö täytyy* ('the girl must') — *tuoda kotiin* ('to bring home').

In example 1, the English translation is in the passive ('(to) be brought'): this is because no agent is mentioned. The first infinitive has no passive form in present-day Finnish. The implied agent of the transitive verb *tuoda* 'take' is interpreted as human but referentially arbitrary; the infinitive has no controller in this case. Only two kinds of Finnish verb can take this kind of uncontrolled infinitival complement: ones that have the modal meaning of necessity (about 20 nec-verbs such as *pitää*, *täytyy*; *tarvitsee* 'need', *sopii* 'be suitable' etc.), and others that mean sufficiency (*riittää, piisata, jäädä, suittaa* etc. 'be sufficient, suffice, be enough'). An example of the latter set of verbs is given in 6:

(6) *Leipä(ä)*   *ei*   *riitä*
     bread-sg-nom(par)   Neg-3SG   suffice

     (meille / meillä / meidän)   *syödä.*
     we-ALL / ADE / GEN   eat-INF1

     'there is not enough bread (for us) to eat'

Example 6 contains an optional argument, the first person plural pronoun, in the genitive (*meidän*), adessive (*meillä*), or allative, a directional case that can be used to indicate a recipient (*meille*). According to the Finnish hypothesis, a similar optional argument in the genitive (generally interpreted as a dative genitive) also occurred in pre-necessitative clauses, as in in 7:

(7) *Tyttö*   *täytyy*   *(meidän)*   *tuoda*   *kotiin*
     girl-SG-NOM   must-3SG (we-GEN)   bring-INF1   home
     'we must bring the girl home'

In 7, *meidän*, the recipient of *täytyy* (as it must have been analysed at that stage) controlled the infinitive *tuoda* 'bring'. The re-analysis began when it was interpreted primarily as the agentive transitive subject.

Simultaneously, the intransitive subject of *täytyy* was reanalysed as the object of the transitive verb. Consequently, the genitive NP assumed the unmarked position of a normal nominative subject, shown in example 2: *meidän täytyy tuoda tyttö kotiin*.

At the next stage of development, the verb also started to take intransitive complements, as in example 3: *Tyttö täytyy tulla kotiin*. The case marking pattern was now a classical ergative (Itkonen 1979): A (transitive subject) was marked by the genitive, and S (intransitive subject) and O (object) were in the unmarked form, the nominative case (8).

(8) *Meidän* (A) *täytyy tuoda tyttö* (O) *kotiin*
     'we must bring the girl home' (= 2)

     Tyttö (S) *täytyy tulla kotiin.*
     'the girl must come home'(= 3)

After the earlier subject was re-analysed as an object, partitive objects (9) and subjects (10) also became possible — and the multipersonal verb became "unipersonal", freezing up in the 3rd person singular form. (Itkonen 1975: 51.)

(9) *Talosta*   *täytyy*   *saada*   *tyttöjä*   */ puuroa.*
     house-SG-ELA must-3SG get-INF1 girl-PL.PAR /porridge-SG.PAR
     'one must be able to get girls / porridge from the house'

(10) *Talossa*   *täytyy*   *olla*   *tyttöjä*   */ puuroa.*
     house-SG-INE must-3SG be-INF1 girl-PL-PAR / porridge-SG-PAR
     'there must be girls / porridge in the house'

As the verb became modalized, the process went still further. Kiuru (1988) has shown that in the 16th century texts, where the old third person singular suffix *-pi* in present tense forms was still in general use, it was nevertheless omitted in nec-verbs in all modal functions and in other modals with epistemic function.[3] This can be analysed as a tendency towards a difference between "unipersonality", the agreement of the non-modal verb with the 3rd person subject (e.g. *täytyypi* 'grow, become full', *pitääpi* 'get or be stuck') and "impersonality", or non-agreement of the modal verb (e.g. *täytyy* 'must', *pitää* 'shall'). This earlier difference between two kinds of 3rd person singular verb is no longer reflected in the morphology of modern standard Finnish: the personal suffix *-pi* has totally disappeared.

However, there are still differences in the case marking system of nec-clauses that can be given different modal semantic interpretations. According to the restructuring theory, the case marking system developed further to the present situation, as indicated in examples 1–4. The next step of the development involved the analogical generalization of the genitive to intransitive clauses: thus *tyttö täytyy tulla kotiin* 'the girl must come home' (example 3) developed into *tytön täytyy tulla kotiin* (example 4). The case marking of intransitive subjects split in two, between the nominative and the genitive. The split is sem antically conditioned: minimal pairs such as the following (11 a and b) are possible in colloquial Finnish.

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[3] According to her data, the verb of necessity *täytyy* ('must, have to') was always used without this suffix (as *teuty*, not *teytupi*), but for example *voida* ('can'), a modal verb of possibility, was suffixless in only 78% of the cases (*voi*). The modal verb *pitää* ('must, shall') occured without the suffix *-pi* in 99.5% of all instances; *pitää* is also used with lexical, non-modal meanings ('hold; stick') and in the data it was used without a suffix in 69% of the cases.

(11) a. *Tyttö täytyy tulla kotiin.*
 'It is necessary, that the girl comes home' (= 3)
 b. *Tytön täytyy tulla kotiin.*
 'It is obligatory for the girl to come home' (= 4).

These translations are very rough. In the next section I shall elaborate on the semantic distinction that is being made here.

3. The present-day system

According to data from modern Finnish dialects and other non-standard varieties, there are both modal and role semantic differences interacting in examples such as 11a and 11b (Laitinen 1992). In examples with nominative subjects (as in 11 a), the nec-verb is used either in the meaning of so-called *practical necessity* or in *evidential* (i.e. epistemic, hearsay or affective) functions. In contrast, the genitive subjects (as in 11 b) belong to *deontic* or *dynamic* modal contexts.

A role semantic analysis ties in nicely with the modal semantics. The so-called deontic and dynamic interpretations of necessity correlate with "agent-oriented" cases in which subjects are treated as responsible and controlling agents of social norms or as intentional experiencers of obligative circumstances. In these contexts, the subject is in the genitive. The practical and evidential modal functions are more "speaker-oriented": the role of the nominative subject is quite neutral, and its own conciousness, intention or will is not relevant.

However, the semantic distinction between genitive and nominative cannot be applied in the same way to all kinds of NPs as "subjects" in nec-clauses. Speech act pronouns have only genitive marking in all contexts. On the other hand, the great majority of referentially inanimate NPs are invariably in the nominative. Thus, the minimal pair in 11 is mainly applicable to the group of animate 3rd person NPs. The case marking of the necessitative subjects in non-standard present-day Finnish can be schematized in the following way (12), dependent on their position on the referential-indexical hierarchy of NP-types:

(12) HIERARCY OF NPS IN NECESSITATIVE CONSTRUCTIONS

personal pronouns	human,	vegetal,
= SAPs	animate	inanimate, abstract
persons < - - - - - - -------------------------- - - - - - >		non-persons
GENITIVE		NOMINATIVE

(Laitinen 1992)

Like the so-called agentivity hierarchy, or more exactly the hierarchy of referential features of NP-types, suggested by Silverstein (1976), this continuum can also be described in terms of indexicality (see Silverstein 1981). The leftmost NP-types, the personal pronouns, are true indexical referentials, *shifters* in Jakobsonian terms (1956), and the more we move to the right the less indexical the NP-types are. In the middle area, the animate referents of NPs can be categorized iconically either as persons with genitive or as non-persons with nominative case.[4] Marked with the genitive, they are treated as (at least potential) speech act participants, capable of understanding and reacting intentionally to deontic norms or obligatory circumstances. On the other hand, they can alternatively be marked with the nominative indicating that the entity has no access to the status of a speech act participant: they — i.e. their necessary states or properties — can only be spoken about.

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[4] In my corpus from Finnish dialects (Laitinen 1992), 25 % of the nominative subjects were referentially animate entities; of the genitive subjects, as many as 95 % were animate. Thus, inanimate NPs are mainly in nominative; they are always in genitive in the A-position (i.e. as transitive agents), in the S-position only sometimes, when they refer to moving or changing entities. It is much more common for animate NPs to be in the nominative case, thus, be treated as inanimates.

4. Metaphorical abstraction?

Thus far, we have seen that both of the major mechanisms of grammaticalization (cf. Hopper and Traugott 1993) are supposed to have been working in the development of nec-constructions: reanalysis on the syntagmatic axis, creating new morphosyntactic relations, and analogy on the paradigmatic axis, generalizing the system of genitive and nominative subjects. The source verb has lost its independency and some of its verbal attributes in this process, and has semantically developed into a modal. The next issue that needs to be addressed is the reason for this development.

The traditional description of the restructuring process was purely morphosyntactic: there was not much discussion of the semantic or pragmatic aspects of this development. It has generally been suggested that the change from lexical to modal meaning in Finnish verbs was based on metaphor (see e.g. Saukkonen 1965, 1966). As for nec-verbs, metonymy could also be seen as a starting point for modal development. This question will be addressed next.

The lexical sources of the nec-verbs are easy to find, because they still exist in actual use as semantically more concrete, independent predicates; they are usually intransitive verbs expressing a change of place or state in the subject. The oldest nec-verb, *pitää*, probably originates out of the old intransitive meaning of *pitää*: 'stick, get or be stuck'. The necessitative *täytyy* ('must') has developed from a reflexive verb *täytyy* 'become full', which is derived from the adjective *täysi* 'full'.

The lexical verb *täytyy* is still used in eastern Finnish dialects with meanings such as 'become full, filled; become mature, ripe; become full-size, full-grown'. It is easy to find suitable contexts where these kinds of meanings could become more abstract. The metaphorical use of the words that mean 'full' or 'ripe' (i.e. something like 'to have enough') is common in everyday talk:

(13) *Pomot juoksuttaa, mikään ei toimi.*
'The bosses keep (me) running, nothing works.'

Mä olen ihan kypsä.
I am quite ripe. (i.e. I've had quite enough.)

Mä voin lähteä vaikka heti!
I can leave any time!'

(Ilta-Sanomat 19.8.1994)

The reflexive verb *kypsyä* 'ripen' can also be used in this way: it even takes infinitival complements as in 14.

(14) *Kypsyin   lähtemään.*
ripen-PAST-1SG   leave-INF3-ILL
'I was ripe to leave' (i.e. 'I had enough, I was ready to leave')

A similar development, which has been suggested to be metaphorical by Saukkonen (1965), occurs with the verb *täytyy*: the meaning 'to become (too) full' has developed into 'bursting by inner pressure or compulsion'— i.e. a sort of necessity.[5] The lexical meaning can be seen in Karelian and Ingrian (closely related Finnic languages) in examples where the infinitival complement is *itkeä* ('cry') or *nauraa* ('laugh'):

(15) *Tuost   hän   täytyi   itkömää.*
that-ELA   he/she-NOM   fill-PAST-3SG   cry-INF3-ILL
'because of that he burst out crying'

This is one of the contexts from which the meaning of obligation ('he had to cry') could have started to develop through metaphor. But this kind of context has *not* led to necessitative morphosyntax. There is normal agreement between the verb *täytyy* and

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[5] Compare Fi. *pakko* 'necessity, obligation, compulsion' in the nec-construction: *minun on pakko nauraa* 'I have to laugh'(I-GEN be-3SG-PRS compulsion-SG-NOM laugh-1INF). Earlier *pakko* had the meaning 'pain, ache, pressure'. Even in present-day Finnish, the causative derivative verb *pakottaa* 'compel, obligate' has the meaning 'ache; press; *(maito pakottaa rintaa* 'the milk is pressing the breast').

the nominative subject (here: *hän*), which is coreferential with the implied subject of the second verb (*itkeä*). There are no genitives in this construction. The second verb is always intrasitive, and it is always in the form of the third infinitive illative – a complement that the nec-verb *täytyy* does not take.

Thus, we need to look at other contexts. Another common feature of the verbs from which nec-verbs developed is that they allow, and even favour, inanimate or non-personal subjects. This was virtually the only possibility in my data (Laitinen 1992) on the lexical verb *täytyy* 'become full, ripe, full-size': a container was filled, vegetal entities or other living resources (livestock, children) grew, ripened and matured.

It is most likely that the necessitative construction started from these kinds of specific, local contexts with third person singular subjects, especially with ones that referred to inanimate, vegetal or collective entities. From this point of view, it is only natural that the nec-verbs do not have passive forms: the Finnish passive implies human actors. Moreover, in different databases on Baltic-Finnic languages there are no traces of an earlier agreement between nec-verbs and the original nominative subjects (i.e. today's objects) with a first or second person singular (as in 16 and 17) or plural pronoun.

(16) **Minä   täydyin   sinun   tuoda*
     I-NOM   must-PAST-1SG you-GEN bring-1inf
     'you had to bring me'

(17) **Sinä   täydyit   meidän   tuoda*
     you-pl-nom   must-PAST-2SG we-GEN bring-1INF
     'we had to bring you'

However, in some dialects under strong Swedish influence, nec-verbs do agree with the nominative subjects:

(18) *Sinä*   *täydyit*   *tuoda*   *minun / minut* [6]
    you-NOM must-PAST-2SG bring-1INF I-ACC
    'you had to bring me'

(19) *Me*   *täydyimme*   *tuoda*   *sinun / sinut*
    we-NOM must-PAST-1PL bring-1INF you-2SG-ACC
    'we had to bring you'

These constructions — where the subject of the infinitive verb has started to control the modal verb — are relatively recent. Grammatically, they are like the converse of 16 and 17 and bear no evidence of an earlier 1st or 2nd person nominative subject controlling the original source verb.

The subjecthood of such NPs is therefore totally hypothetical, and it seems to me that it should be rejected. As argued in Laitinen (1992) it seems feasible that in the earliest phase of grammaticalization the context of these pre-modal verbs was restricted to non-personal subjects. In other words, the source verb always had a 3rd person subject — and, thus, the predicate was always in the third person. Consequently, there has not been any gradual loss of personal inflection during the grammatical re-analysis: the verb has been "unipersonal" from the very beginning of the necessitative structuring.[7]

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[6] The accusative of personal pronouns in standard Finnish and in the eastern dialects is *minut, sinut*; in western dialects there are the alternative forms *minun, sinun*.

[7] This hypothesis is supported by the case marking system in the necessitative constructions today (cf. 12). — Theoretically, the verb still could have agreed in the 3rd person plural in the first phase of modal development. As shown by G. Karlsson (1966), non-agreement between a third person plural subject and the verb is frequent in Finnish dialects. For example in Savo dialects, where the non-necessitative verb *täytyä* is common, 3rd person plural agreement is absent in 88% of his data. The same frequency of non-agreement is shown in Häme dialects, in the main area of the necessive *täytyy*. With collective, non-individual entities or sets like rye or a person's eyes, non-agreement is also semantically natural (cf. example 20).

This starting point does not, of course, contradict the idea of metaphorical abstraction from lexical to modal meaning. But metonymy is also neded here: the two operations have worked together. In the following, I shall try to show that the development from a clause expressing a change of state in the 3rd person subject to the modal meaning of necessity is understandable only if we take into account the indexical ground —i.e. the relation of this non-personal entity to the speech act participants.

5. From possession to control

Example 20, from a 19th century dictionary, meets the requirement of inanimateness of the subject in pre-necessitative constructions. In other respects it is close to example 15 in meaning.

(20) *Silmät*   *täytyi*   *puhjeta*   *itkuun*
     eye-PL-NOM   must-PAST-3SG burst-INF1   crying-ILL

     'the eyes had to burst into tears'
     (Lönnrot 1880: 'ögonen måste brista ut gråt')

In 20, the subject *silmät* 'eyes' could refer to the speaker's own eyes, in which case, it would express a kind of metonymical part-whole relationship. This can be explicated as in 21:

(21) *Minun / minulla*   *täytyi*   *silmät*
     I-GEN / I-ADE   must-PAST-3SG   eye-PL-NOM

     puhjeta   *itkuun.*
     burst-INF1   crying-ILL

     'my eyes had to burst into tears'

In cases like 21, instead of the genitive (*minun*), modern Finnish has selected the adessive case (*minulla*). Both are possible in dialects, but the genitive is favoured in western (Häme) dialects, and the adessive case in the eastern areas. In the eastern dialects, it is also possible for nec-clauses to have an adessive argument (instead of the standard genitive):

(22) *ne   minulla   piti   korjata   melekee aena.*
     they-NOM   I-AD   must-PAST-3SG   repair-INF1   almost always
     'I had to repair them (the nets) almost always'.
                                                          — Suomussalmi.[8]

The genitive in 21 is thus more like a possessive case than a directional ("dative") genitive. With animate referents in Finnish, other outer locative cases (ablative and allative) are also possible alternatives to this kind of genitive. According to Vilkuna, in possessive (or "habitive") examples such as 23 a-c, the referent of the possessor-NP is understood to be affected by the described event. (See Vilkuna 1989: 169–175.)[9]

(23a) *Mulla / multa / mun   on   jalka   poikki*
      1SG-ADE / ABL / GEN   be-3SG   foot-SG-NOM   broken
      'I have a broken leg'

(23b) *Multa / mulla / mun   lähti   mies   merille*
      1SG-ABL / -ADE / GEN   go-3SG-PAST   man-SG-NOM   sea-PL-ALL
      'My husband left to be a sailor'

(23c) *Mulla / mulle / mun   tuli   rakko*
      1SG-ADE / ALL / GEN   come-3SG-PAST   blister-SG-NOM

      jalkaan
      foot-SG-ILL

      'I had a blister on my foot'

In these constructions, there is always a fairly close relationship between the 3rd person subject and its personal, displaced possessor: a relation of inalienable or alienable possession, control or kinship etc. According to Kangasmaa-Minn (1966; 1991:

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[8] The eastern dialects mainly use the nec-verb *pitää* ('have to'). If *täytyä* is used, it can also alternatively have the adessive case. (The alternation of the two cases is not total: the adessive is restricted to referentially animate NPs, whereas the genitive can refer to inanimates as well.)

[9] These can be compared to English constructions with *on me* e.g. *My husband died on me*.

197–199), examples like these in the Baltic-Finnic languages are remnants of the general function of genitive case in Finno-Ugrian, namely one indicating animate, personal entities that are affected or concerned by the state of affairs.

Furthermore, as with the necessitative genitives, habitives also tend to be omitted. (See Vilkuna op.cit.; Leinonen 1985.) They are often only covertly present in the syntagmatic context (24).

(24) *Mitä nyt?* – *Tuli* *rakko* *jalkaan*
what now come-3SG-PAST blister-SG-NOM . foot-SG-ILL
'what's the problem? — I got a blister on my foot'

I suggest that the context that constituted the source of nec-clauses included— even if covertly — such indexical displaced possessors. Unlike examples 23–24, indexical displaced possessors were "affected" by the change of state of the referent of the non-personal subject and were also interpreted as agents of a transitive verb, as in example 22 above.

According to the earlier reconstruction, the grammaticalization process of nec-clauses would have started from transitive verbs as infinitival complements (as in example 1) and not from intransitive ones (as in examples 20–21 and 23). There are, however, more transitive contexts where a change of state in inanimate entities could lead to the modal meaning of 'necessity' — to the necessity for somebody to start acting.

In such transitive situations, the implied agent of the infinitive complement is often indexical, i.e. presupposed in the actual speech context. Such an interpretation is usual in verb-initial nec-clauses (25). This holds true for passives (26) as well (see Shore 1988).

(25) *Täytyy* *tuoda* *tyttö* *kotiin.*
must-3SG bring-INF1 girl-SG-NOM home
'we / I must bring the girl home'

(26) *Tuotiin*   *tyttö*   *kotiin.*
     bring-PASS-PST   girl-SG-NOM   home
     'we brought the girl home'[10]

It is not possible to have an overt agent in passive clauses in Finnish. But there are some interesting passive constructions in western (Häme) dialects, where it is possible to have a kind of "habitive" indexical explicated, as in example 27 below. Most examples of these constructions are from agricultural contexts; the genitive argument is always a plural personal pronoun, in this example the first person, having the meaning 'us', 'our family', 'our household' or 'our farm'. In other dialects and in standard Finnish the genitive (*meidän*) is replaced by the adessive (*meillä*):

(27) *meidänkin*   *saadaan*   *rukiit*   *jauhoiksi.*
     we-GEN+too   get-PASS-PRS   rye-PL-NOM   meal-PL-TRAN
     'the rye gets ground also in our house (or: by us)' [11]

<div align="right">(Penttilä 1957: 343.)</div>

It seems possible that constructions of necessity arose from local contexts that contained optional arguments, expressing indexical possessive and/or agentive relations in the situation exemplified in examples 23–24 and 27. For instance, example 28 below could have been interpreted as containing a displaced possessor, and this is not far from an agentive or control interpretation:

(28) (*Meidän*)   *täytyy*   *ruis*   *kaataa.*
     (we-GEN)   must-3SG-PRS   rye-NOM   cut.down-INF1
     'the rye (of ours) has to be cut down'
     –> 'we had to cut down the rye'

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[10] Compare to *Tyttö tuotiin kotiin* 'the girl was brought home'.

[11] This "habitive" NP can occur in intransitive clauses as well: *Meidän ollaan tänään heinässä* (we-GEN be-PASS-PRS today   hay-SG-INE) 'We are making hay today'.

The next question is how the lexical meaning 'become full, ripened' of the source verb *täytyy* developed to the modal function of necessity. I shall address this question in the next section.

6. From suffiency to necessity

Example 29 differs in many ways from 28. The first clause contains the lexical verb *täytyy* 'become ripe'; the transitive verb *kaataa* ('cut down') occurs in a separate adjacent clause:

(29) *Ruis*   *on*   *jo*   *täytynyt.*
　　 rye-NOM   be-3SG   already   become.ripe-PCP.

　　 Sen   *saa*   *jo*   *kohta*   *kaataa.*
　　 It-ACC   can-3SG   already   soon   cut.down-INF1

'the rye (our rye) has already ripened. It can already soon be cut down.'

— Mouhijärvi.

This is a possible context provided the basis for a reanalysis leading to the necessitative construction of 28. This kind of frequent, prototypical situation may have provided exemplars with an infinitive complement (as in 28) instead of a full, co-ordinated clause (as in 29). There is a purposeful, inferential connection between these two co-ordinated clauses: a change of state in an entity is a precondition for somebody to act. In changes of state, such as fulfilment or maturation, the end point is usually a relevant and expected part of someone's project, e.g. a project being carried put by the speech act participants. The rye is expected to become ready enough to be harvested; a girl is expected to mature enough to be married; a barn sufficiently filled for threshing etc. The full change of state is a necessary condition for performing the action: it makes the action possible.

　　 Thus, in a way, the entity undergoing the change of state is "responsible" for the successful execution of the activity to be

carried out by the implied agent of the transitive verb[12], or it could be seen "causing" this activity. According to Foley and van Valin (1984), the strongest semantic relations will be expressed in the most tightly linked syntactic configurations in different languages: at the top of the hierarchy causative (and secondly modal) relations.[13] But the causation relationship between the co-ordinated clauses in 29 is more indirect: it is not understandable without the inferencing process of speech act participants.

In their introduction to grammaticalization, Hopper and Traugott regard abduction as the mode of reasoning that leads to reanalysis (1993: 39–44). In obligative and future oriented contexts, for example, processes of abduction can lead a language user to interpret the input string not as representing two underlying, adjacent clauses, but rather as bracketed together. In example 29, in the context of ripening, the possibility of harvesting could arise from a classical pattern of abductive inferencing as well: the resulting ripeness of the rye invokes the knowledge of its prototypical treatment and therefore, by a conversational implicature, knowledge of its harvesting. However, example 28 includes more than an abduced possibility: it indicates necessity. This meaning is fully semantized: when we use the nec-verb *täytyy* in the past tense, we know (and not only infer) that the harvesting took place. Thus, not only the necessary but also the sufficient conditions for harvesting are filled. The modal verb *täytyy* in Finnish is an implicative verb: the factuality of its

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[12] Plank (1979: 18) suggests, that the feature of primary responsibility belongs to the agent in accusative systems but in ergative systems to the patient (the argument in the absolutive case).

[13] I refer here to the so-called interclausal relations hierarchy (IRH), developed by Foley and van Valin (op.cit. 268–274), or the hierarchy of clause-clause logical relations of Silverstein (1976, 1980).

complement cannot be cancelled.[14] But where does this strong meaning of 'necessity' come from?

There is a possible pre-modal candidate for mediating between of *täytyy* 'filling' or 'riping' and *täytyy* 'necessity'. This is the meaning 'to be sufficient', which I have already introduced in the example 6. Example 30 is from a 16th century text.

(30) *Leiuet*   *ei*   *teudhyisi*   *heidhen.*
     bread-PL-NOM Neg-3SG-PRS suffice-COND 3PL-GEN
     'the bread woud not suffice for them'
                                       (Agricola)

Example 31 below is from Karelian (a closely related Baltic-Finnic language). It contains the verb *täytyy* 'suffice' with a transitive verb as the infinitive complement. It was translated by an informant in terms of sufficiency ('there were enough boots to sew') but explained as indicating necessity ("one had to make many boots"). The situation gave enough practical reasons to act — there was no choice:

(31) *töydui*   *sapkoit*   *ombuuta*
     must-PAST-ISG boot-PL-PAR sew-INF1
     'there were enough boots to sew
     (= one had to make many boots, because we had a large family)'.
                            (Saukkonen 1965: 149.)

It is easy to understand the semantic change from 'ripening' or 'becoming full' of an inanimate, vegetal or other growing entity to 'sufficiency', if we consider the end point of this change of state: it is something that is not only observed but expected by somebody. At some moment, this entity was filled, matured or ripened *enough* to be manipulated or worked with. In other

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[14] As a matter of fact, it is semi-implicative (see Karttunen 1970), because its negation *ei täydy* (normally replaced by the negation of the verb *tarvita* 'need', *ei tarvitse*) cancels the necessity: 'it is not necessary to V'. According to Horn (1978), modal expressions with external negation belong to the strong end of necessity on the modal scale.

words, because of the relevance of these sufficient conditions (e.g. expected material resources) for the acting of the speakers, the verb became interpreted in terms of necessity.

7. Practical necessity

Abductive inferencing is often considered hearer-centered and leading to conversational implicatures (for different analyses see Hopper and Traugott 1993: 65–72). As Horn (1984) has suggested, the weaker implications (the possibility meaning) of modals and other scalar expressions result from the hearer-centred Q-principle, whereas the strengthening of the implications (to the meaning of necessity) is based on the speaker-centred R-principle. These two views are not necessarily in conflict if the inferencing and its grammaticalization are seen as a signification process by several speech act participants working together: by 'us', connected by the relevant relations in the situation.

Horn's approach has an interesting parallel in modal semantics. Unlike linguists, modal logicians have discussed a wider range of modalities: for example *practical necessity*. The practical syllogism is paradoxical, according to von Wright (1972; 1977), because its result is at the same time voluntary and fully determined. Thus, practical necessity always leads to action. For example, if the house is inhabitable only if I warm it up, then I warm it up. This kind of reasoning produces so-called technical norms: it is based on expediency and not on the moral, physical or logical conditions that are the basis of the deontic, dynamic and epistemic modalities. As I see it, the development of the nec-verbs to these other modal functions has started from practical necessity — from pragmatic inferencing by speakers.

According to von Wright, a genuine practical syllogism, which leads to acting, is made by the first person, and the inferences of third persons are only secondary descriptions. From the present point of view, this means that in the nec-clauses the

inference-making first person is the primary referent of the genitive argument. Thus, the pronoun — which also could be plural (referring to at least two speech act participants) — is a referential index: it exists in two worlds at the same time, both in the utterance and in the so called non-linguistic world. In the non-linguistic world, it is always present in the necessary presence of speech act participants. In the utterance, it is present either overtly or covertly.

8. Discussion

In this paper, I have argued that the grammaticalization of so-called nec-verbs in Finnish could have begun metonymically in local contexts, where the subject of a lexical intransitive verb was an NP that referred to an inanimate or non-personal entity controlled or, by implication, possessed by human beings, most often the speech act participants. It was also possible to explicate this relation by a displaced possessor argument, marked by the genitive. When the source verb began to take transitive infinitive complements, the possessor argument was re-analysed as its agent, and the nominative subject of the source verb as the object of the transitive verb. Starting from this syntagmatic structuring, the unipersonality of nec-verbs and the case marking with genitive and nominative of the central arguments in these constructions can be explained. Paradigmatically, the system developed further, creating a contrast between nominative (non-personal) and genitive (personal) subjects in intransitive clauses by means of analogy and metaphor.

The possession and control relationship in a pre-necessitative utterance between the third person in the nominative and the other persons in the genitive was a relationship of contiguity, the classical case of metonymy. The metonymic change started in the covert presence of a person in the context of non-personal subjects. This implied possessor of the non-personal entity created the indexical ground on which it was possible for a

transitive verb to be connected with the source verb of these clauses.

Metonymical changes are often understood as expressing speaker attitudes — i.e. pure, non-referential indexical meanings — whereas metaphor is correlated with representation. In this article, I have tried to show that the metonymical processes must be interpreted as more substantial in Finnish constructions of necessity: they index referential relations of the entities in a speech context.

Abbreviations

ACC = accusative case
ADE = adessive case 'on'
ALL = allative case 'to'
COND = conditional mode
GEN = genitive case 'of'
ELA = elative case 'from'
ESS = essive case 'as'
ILL = illative case 'into'
INE = inessive case 'in'
INF = infinitive

NOM = nominative case
PAR = partitive case
PASS = passive
PAST = past tense
PL = plural
PRS = present tense
PTC = participle
SAP = speech act pronoun
SG = singular
TRAN = translative case

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