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メタデータ	言語: English 出版者: 公開日: 2020-11-17 キーワード (Ja): キーワード (En): MoodP, uncertainty, subjunctive mood, emotion, presupposition, tense, negation 作成者: MUNEMASA, Yoshihiro メールアドレス: 所属:
URL	http://hdl.handle.net/11478/00001542

Stratified Features in MoodP and the Relation between Fin and them

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Abstract

According to the analysis based on the cartography, the functional categories in the left peripheral area of the cartography have their own discourse function. Based on the cartography analysis, this paper shows the possibility of occurrence of a projection called “MoodP” above FinP in the left periphery of clauses. The MoodP bears function of expressing speaker’s mood or modality concerning uncertainty, subjunctive mood, presupposition, emotion, tense, and negation. Both mood and modality involve their own features in MoodP and undergo feature inheritance from MoodP to T (in the case of negation, the head of NegP). These features are stratified as Emotion > Subjunctive Mood > Presupposition > Tense > Negation. The complementizer *that* in English has various functions and can serve as an overt marker of mood such as emotion, subjunctive mood, presupposition, tense, and negation in the head of FinP despite the same morpheme as the subordinator *that*.

Key words: *MoodP, uncertainty, subjunctive mood, emotion, presupposition, tense, negation*

1 . Foreword

Syntax and discourse had been previously treated as individual fields, but Rizzi (1997, 2004) and Rizzi and Bocci (2017) try to incorporate the syntactic information and discourse in the left peripheral field of clauses under the name of cartography. The intent of this cartography is to display the universal syntactic structure in a map-like manner and to connect discourse information structures such as question, topic, and focus with the syntactic structure.

Several functional categories are assumed in the left peripheral part where the discourse informational structure is connected to the syntactic structure. This paper shows that in the left peripheral field a functional category concerning mood and modality called “MoodP” is inductively derived from a variety of syntactic phenomena and is incorporated into the cartography of left periphery. By presenting the consequences of occurrence of MoodP, subjunctive mood, emotion, negation, and presupposition are incorporated into MoodP and features concerning them are inherited from MoodP to T. This paper also shows that the complementizer *that* in English, associated with the head of MoodP, is introduced in the head of FinP as a marker of subjunctive mood, emotion, negation, and presupposition, though its form is the same morpheme as the subordinator *that*.

2 . Uncertainty

In the basic framework of cartography, sentence structure is

considered to consist of the following three areas.

- (1) Peripheral field: the area concerning scope-discourse including information of speaker and listener
- Inflectional field: the area involving grammatical categories such as agreement and inflection
- Lexical field: the area of lexical category involving thematic and semantic roles

The structure presented above is specifically described as follows:

- (2) [ForceP [TopP* [FocP [TopP* [Q [FinP [TP [vP ...
(* Indicates that the projection can occur repeatedly)

ForceP, TopP*, FocP, TopP*, Q, and FinP are equivalent to conventional CPs, and form a rich internal structure consisting of various functional categories. Conventional inflectional field corresponds to TP and conventional lexical field to vP. At the left end of the peripheral field, Force means illocutionary force. Top (Topic) is the position occupied by elements which are interpreted as the topic in a sentence. Foc (Focus) takes in focused elements. Q (Question) has wh-phrases in wh-interrogatives.¹ Fin (Finite) has elements that represent finite and non-finite forms of sentences.

As mentioned above, a rich internal structure composed of various functional categories is formed in the left peripheral portion, but there are categories that may be newly added to these functional categories if a linguistic consideration is added.

Consider the possibility based on English language materials. In English interrogative sentences, as in the following example, it is possible to put appositive elements after a wh-phrase, but they have to be disjunctive, not conjunctive elements.

- (3) They asked who, {John or Bill / *John and Bill},
could help her.

In (3), a *wh*-phrase can be followed by a disjunctive element, which is due to the fact that the interrogative sentence has the meaning that the truth value of the interrogative part of the sentence is not sure, i.e. uncertain in meaning (uncertainty of truth value). This is why it is semantically connected to the disjunctive element. The meaning that this truth value is uncertain is related to the expression of mood and modality. Masuoka (2007) suggests that a particle “*ka*” in Japanese is a marker of uncertainty and one of the expressions of uncertainty of truth value is “question” or “asking oneself.”

- (4) Taro-ha kinou nani-o kaimasita ka.
Taro yesterday what bought Part.
“What did Taro buy yesterday?”

There are other expressions of uncertainty, which can be broadly divided into cognitive systems and emotional systems and can be subdivided as follows:

- (5)
- | | | |
|--------------------|---|--|
| Uncertainty marker | { | Recognition system: uncertainty,
consent/comprehension,
discovery

Emotional system: surprise/
exclamation/rapture,
dissatisfaction,
rhetorical question/
pseudo-rhetorical question |
|--------------------|---|--|

According to the analysis of Masuoka (2007), the meaning of not knowing the truth value is classified as a recognition system for indeterminate markers. Moreover, Masuoka (1991) suggests that modality can be divided into several types and they have their own hierarchy as follows:

- (6) modality of politeness/communication attitude > modality of representation > modality of value judgement/truth value > modality of explanation > modality of appreciation/tense > modality of focus

The category related to the meaning of uncertainty concerning truth value discussed here is assumed to be modality in the sense of Masuoka (2007). Although modality is often distinguished from mood in the literature, modality is integrated into mood here for convenience. Furthermore, mood is projected as MoodP above FinP in the left peripheral part in the cartography.

However, the projection name of MoodP has already been proposed. This projection is shown in the analysis of Cinque (1999). He asserts that adverbs reflect subjectivity and have the following hierarchy:

- (7) MoodP_{speech act} > MoodP_{evaluative} > MoodP_{evidential} > MoodP_{epistemic} > TP (Past) > TP (Future) > MoodP_{irrealis} > ModP_{alethic} > AspP_{habitual} > AspP_{repetitive} >

- AspP_{frequentative} > ModP_{volitional} > AspP_{celerative} > TP (Anterior) > AspP_{terminative} > AspP_{continative} > AspP_{retrospective} > AspP_{proximative} > AspP_{durative} > AspP_{generic/progressive} > AspP_{prospective} > ModP_{obligation} > ModP_{permission/ability} > AspP_{completive} > VoiceP > AspP_{celerative} > AspP_{repetitive} > AspP_{frequentative}

The MoodP proposed here has the same label as the MoodP Cinque (1999) proposes, but it is not the same in that the MoodP proposed here can express a mental state that the truth value of the sentence is not certain and it projects up on FinP. Therefore, we propose that uncertainty of truth value is incorporated into the hierarchy presented above and the mood and modality occur clumping together as MoodP, and that MoodP projects up above FinP, to be more precise, between Q and FinP.

The analysis of MoodP presented above is inductively introduced based on the phenomena observed in Germanic languages, called doubly-filled COMP. Although doubly-filled COMP is not allowed in standard English, there are a lot of Germanic languages that allow it, for example, Dutch, Frisian, West Flemish, Swiss German, Icelandic, Norwegian, Swedish, Danish, etc. (see de Haan and Weerman (1986), Reuland (1990), Haegeman (1992), Hoekstra (1993) etc.). Let’s take a look at Dutch among these languages.

(8) Dutch

- a. Ik vraag me af of dat Ajax de volgende ronde halt.
I ask me PRT if that Ajax the next round reaches
“I wonder whether Ajax will make it to the next round.”
- b. Ze weet wie of dat hij had willen opbellen.
she knows who if that he had wanted call
“She knows who he wanted to call.”

(Bayer (2004: 65))

The examples presented above are all indirect interrogative sentences. They exhibit doubly-filled COMP and furthermore a particle *of* is introduced between the *wh*-phrase and the complementizer. In particular, in (8b), the particle *of* follows the *wh*-phrase, after which the complementizer emerges. The particle *of* is considered to be a particle bearing the meaning that the truth value is unknown or uncertain. According to the cartography, the *wh*-phrase occurs in the Q position and the complementizer occurs in Fin, so the particle *of* occurs between them as shown below.

- (9) [ForceP [Q [MoodP [FinP [TP [vP ...

And the particle *of* is considered to occur in the head position of MoodP.

Similar phenomenon concerning introduction of a particle exhibiting uncertainty of truth value is also observed in Serbo-Croatian.

- (10) a. Dali da Vesna pročita ovu knjigu?
 whether SUBJ Vesna read 3SG this book
 “Should Vesna read this book?”
 b. Kojuu knjigu da Vesna pročita?
 which book SUBJ Vesna read 3SG
 “Which book should Vesna read?”

(Isac and Jakab (2004: 328))

In the example presented above, a *wh*-phrase is followed by a mood marker *da*, which bears the meaning of uncertainty of truth value.

As described above, in the interrogative sentences of English, unlike Dutch and Serbo-Croatian, MoodP does not manifest any elements like a particle *of* in Dutch. This is one of the language variations. In the case of English, a particle bearing the meaning of uncertainty of truth value occurs in MoodP as a covert element which is a counterpart of *of* in Dutch and *da* in Serbo-Croatian.

Let’s take a look at interrogatives in English. An auxiliary or periphrastic *do* occurs in the head position of FinP due to Subject-AUX inversion.

- (11) a. Wh-question
 [ForceP Force [wh Q [MoodP Mood [FinP AUX-Fin [...
 b. Yes-no question
 [ForceP Force [OP Q [MoodP Mood [FinP AUX-Fin [...

In the case of yes-no question, an empty operator occupies the Spec position of Q instead of a *wh*-phrase and an empty element bearing the meaning of uncertainty of truth value occurs in the head of MoodP. AUX occupies the head position of FinP. The inference that an empty operator occupies the Spec position of Q is derived from the fact that a *wh*-operator *whether* diachronically occupied the Spec position of Q in yes-no questions as in the case of *wh*-interrogatives. This phenomenon was originally found in Old English.

- (12) Old English
 Hwæðer ge nu secan gold on treowum?
 Whether you now seek gold trees?
 “Do you now seek gold in trees?”

(Radford (1988: 296))

According to Radford (2004: 220), yes-no interrogatives employing *whether* in tandem with Subject-AUX inversion in the Elithabethan era.

- (13) a. Whether had you rather lead mine eyes or eye your
 master’s heels?
 (Mrs Page, *The Merry Wives of Windsor*, III, ii)
 b. Whether dost thou profess thyself a knave or a fool?
 (Lafeu, *All’s Well That Ends Well*, IV, v)

In this case, *whether* occupies the Spec position of Q and the auxiliary occupies the head of FinP.

As shown above, English has had an option to form yes-no

questions by Subject-AUX inversion or by employing a *wh*-operator *whether* in the Spec position of Q in tandem with Subject-AUX inversion. In Modern English, there is no option to introduce *whether* in a matrix yes-no question. However, an empty element bearing the meaning of uncertainty of truth value occupies the head of MoodP through the periods (cf. Baker (1970), Grimshaw (1993), Roberts (1993)).

In an indirect question of the standard English complement, a *wh*-phrase occupies the Spec position of Q, and an empty element bearing the meaning of uncertainty of truth value occurs in the head of MoodP. Subject-AUX inversion, i.e. movement of verbal elements to Fin, does not occur in the case of an indirect question, contrary to matrix interrogatives.

- (14) a. Wh-question
 ... [ForceP Force [wh Q [MoodP Mood [FinP Fin [...
 b. Yes-no question
 ... [ForceP Force [whether Q [MoodP Mood [FinP Fin [...
 ... [ForceP Force [Q [MoodP if-Mood [FinP Fin [...

In an indirect yes-no question, a *wh*-operator *whether* occurs in the Spec position of Q as in the case of *wh*-interrogatives. However, *if* can occur in an indirect question as a *wh*-operator *whether*. The reason why *if* can occur in an indirect question comes from the well-known fact that although *if* is originally a conjunction exhibiting condition, it can be taken as a question operator according to circumstances. In the following example, the clause containing the conjunction *if* can be taken as a conditional clause or as an interrogative clause.

- (15) I hope you will tell me if you can come.

The *if*-clause exhibiting condition is in the situation of uncertainty as to whether the proposition *if* takes as its complement is determined as true or not. Interrogative clauses, as mentioned before, bear the meaning of uncertainty of truth value. This analogical inference causes *if* to acquire a position as an interrogative marker in an indirect question. The position that *if* occupies will be in MoodP, contrary to *whether*, which occupies the Spec position of Q. The empirical fact that *if* occupies the head of MoodP comes from the doubly-filled COMP *if that*, which was broadly observed in Middle English as follows:

- (16) If that they were put to such assayes The gold of hem hath
 now so badde alayes With bras, that...It wolde rather brest
 in two than plye.

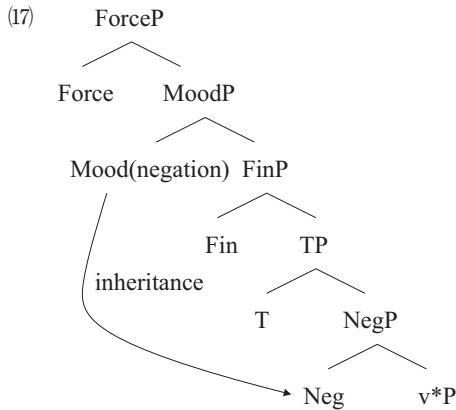
(Geoffrey Chaucer, *Clerkes Tale*, 1110, *OED*)

From the above example and the fact that a complementizer occurs in the head of FinP, it follows that *if* occupies the head of MoodP above FinP.

3. Negation

As mentioned above, MoodP projects up between Q and FinP and the empty element bearing uncertainty of truth value occurs in its head position in English interrogatives. The fact that the empty element bears uncertainty will induce negative meaning from the uncertainty by analogy. From this analogy, we suppose that negation can be a member of MoodP and is integrated into the hierarchy of mood and modality, which cannot be made explicit here now.

It is assumed that grammatical features in C undergo inheritance from C to T in the sense of Chomsky (2000, 2008). We suppose here that neg-features occur in the head of MoodP and are inherited to the head of NegP in TP MoodP dominates.

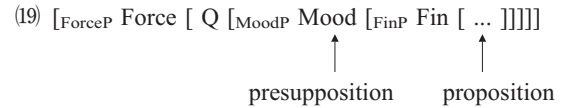


4. Presupposition

Let's take a look at definiteness and factuality next. Factive complement, subject clause, and the complement of nouns have been considered to exhibit definiteness because they bear old information or familiar information in the discourse and the proposition they take is presupposed (see Kiparsky and Kiparsky (1971), Melvold (1991), Hegarty (1992), Watanabe (1993), Roussou (1993, 1994, 2010), Bianchi (1999), Zubizaretta (1999, 2001), Miller (2001), de Cuba (2007), Krapova (2010) Haegeman (2010, 2011, 2014) etc.).

- (18) a. John regrets that Mary did not turn up for the lecture yesterday. (factive complement)
 b. I resent the fact that Mary did not turn up for the lecture yesterday. (complement of noun)
 c. That we won't make any profits in one year is quite likely. (subject clause)

We tentatively suppose here that the formation of presupposition is a mental system concerning mood. Therefore, proposition is formed by influence of presupposition formation in MoodP.



Proposition is formed as the complement of Fin, while presupposition mechanism works at the field of MoodP. Presupposition occurs in the head of MoodP and is associated with the head of FinP. The mechanism realizes as definiteness markers. In (18a), it realizes as the complementizer *that* in the head position of FinP. The complementizer cannot be deleted easily due to overt realization of definiteness. In (18b), it is realized as *the fact that*. *The fact* takes its complement and MoodP occurs in the complement. Presupposition activates in the head of MoodP and the complementizer *that* occurs in the head of FinP by way of inheritance between the head of MoodP bearing presupposition and that of FinP. In (18c), the proposition is presupposed and the complementizer *that* is introduced in the head of FinP, and thus cannot be deleted.

- (20) a. Factive complement
 ...V [ForceP [MoodP Mood[presupposition] [FinP that-Fin [TP]]]]
 b. Complement of noun
 the fact [ForceP [MoodP Mood[presupposition] [FinP that-Fin [TP]]]]
 c. Subject clause
 [ForceP [MoodP Mood[presupposition] [FinP that-Fin [TP]]]] ...

In Greek, the head of MoodP bearing presupposition is associated with the head of FinP and a definiteness marker overtly occurs in the head of MoodP as definite article. A complementizer also occurs in the head of FinP, which yields dual overt realization of presupposition formation.

- (21) Greek
 to oti ethis filus simeni pola
 the that have-2SG friends-ACC mean-3SG much
 "That you have friends means a lot."
 (Roussou (1993: 78))

The same system is true of Japanese.

- (22) Japanese
 [Taro-ga sono hon-o katta koto] ga zannen da.
 Taro Nom. the book bought fact Nom. regretful Part.
 "It is regretful that Taro bought the book."

Presupposition mechanism works at MoodP in Japanese as well and the factive or presupposition marker *koto* occurs in the head of MoodP, which is never deleted.

- The Japanese *koto* is also employed as other mood markers.
 (23) a. Exclamation
 Ano heyano nanto samui koto (ka).
 that room how cold Part. Part.
 "How cold that room is!"

- b. Command
Shukudai-o sugu suru koto.
homework soon do Part.
“Do your homework soon.”
- c. Disappointment
Nannto shita koto ka.
what did Part. Part.
“What the hell did I do?”
- d. Remorse
Zannen na koto ni totuzen computer no deta ga kiete
shimatta.
unfortunately Part. suddenly computer data Nom.
erased have been
“Unfortunately, the data in the computer have been
erased suddenly.”
- e. Advice
Kaairo ga warui youdakara kyou ha hayaku kaette
neru koto da.
you Nom. bad seem today Top. early go home
sleep Part. Part.
“You look pale. You should go home and
go to bed early today.”

In (23a), where the sentence is exclamative, *koto* is employed as a mood marker. The particle *ka* is optionally used. *Ka* can occur as a marker expressing uncertainty, consent, comprehension, discover, surprise, exclamation, rapture, dissatisfaction, rhetorical question, and pseudo-rhetorical question, as mentioned before. A question particle *ka* is introduced to the head of ForceP as an interrogative marker. However, *ka* is used as an exclamative marker in the case of (23a). In (23b), *koto* is employed to express command. *Koto* in (23c-e) is also associated with mood. The Japanese *koto* is originally a noun. Japanese mood or modality tends to be bound up with noun, and thus it may be the case that *koto* is employed in MoodP. From these examples, it follows that there exhibit overt and covert cross-linguistic variations concerning mood marking in the field of MoodP and FinP.

Other languages introduce complementizers to express mood or modality.

(24) German

- a. Dissatisfaction
Daß du mir doch nie glauben willst!
that you me after all not believe will
“You don’t believe me at all.”
- b. Supplication
Daß er nur rechtzeitig kommt!
that he only in time comes
“May he come in time!”

The German complementizer *daß* is derived from demonstratives

and thus has a nominal nature. The following examples show that complementizers are introduced in matrix clauses to express exclamation and imperative.

(25) Exclamative clauses

- a. At du junne gøe det! (Danish)
That you could do it
“How could you do such a thing!”
- b. Daß mir das nicht früher aufgefallen ist! (German)
That me that no earlier struck is
“To think that it didn’t strike me earlier!”
- c. Qu’elle est bavarde! (French)
That she is talkative
“What a chatterbox she is!”
- d. Að María skuli elska Jón (Icelandic)
That Mary shall-SUB love John [SUB = subjunctive]
“That Mary should love John!”
(Radford (1988: 297))

(26) Imperative clauses

- a. Qu’il aille se faire foutre! (French)
That he go-SUB himself make do
“Let him go and get stuffed.”
- b. Daß du ja die Füße vom Tisch läßt! (German)
That you yes the feet off table keep
“Keep your feet off the table!”
- c. Que vengán todos! (Spanish)
That come all
“Let them all come.”

Complementizers are sometimes associated with uncertainty of truth value in interrogatives.

(27) Bavarian

- Warum da-ma (mir) noch Minga fahr-n
why that-(1PL) we to Munich drive-(1/3PL)
“...why we drive to Munich”
(Bayer (1984: 251))

(28) a. Quoi que tu as fait? (Quebec French)

- what that you have done
- b. Chi che t’è vest? (Italian Romagnolo dialect)
who that you have seen
(Haegeman (1991: 111))
- c. Cén bhean a phósfadh sé? (Irish)
Which woman that would-marry he
“Which woman would he marry?”
(Radford (1988: 501))

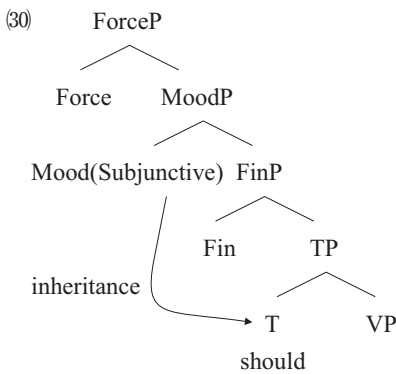
From these examples, it follows that mood tends to be bound up with nominal elements and activates in MoodP to introduce a complementizer in the head of FinP as a mood marker.

5. Subjunctive Mood

In English, the complement of verbs expressing demand, proposal, request, hope, desire, and so on is associated with subjunctive mood, and the verb in it is required to be bare infinitives in American English and is required to introduce *should* in British English. This *should* in British English is so-called emotional *should*.

- (29) a. We desire that they (should) visit us more often.
- b. They proposed that the hospital (should) be built.
- c. We want that they (should) come to the party.

Demand, proposal, request, hope, and desire are closely related to mood. Therefore, they get active in MoodP and are inherited to T in the complement Mood dominates. Modal auxiliaries like *should* occur in T. Realization of *should* in T of the subjunctive complement is a typical example of overt feature inheritance from MoodP to T.



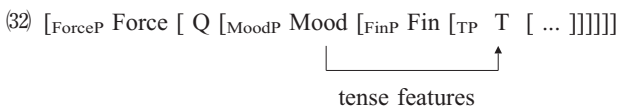
In Early Middle Japanese, where the same pattern as in British English was exhibited, an auxiliary, *mu*, occurred in T in tandem with a mood marker *ka*.

- (31) Early Middle Japanese
 Toriidete-mo sama asikara mu ka.
 take something out Part. manner bad Aux. Part.
 “The manner of his / hers will be bad.”

(*Ochikubo Monogatari (The Tale of Ochikubo)*)

This is also a typical example of the feature inheritance from MoodP to T.

Tense specification, as mentioned before, is also a cognition operation. Therefore, tense features are inherited from MoodP to T, as in the same manner presented above.



To sum up, features concerning mood, modality, and tense are all inherited from MoodP to T.

As mentioned before, features in MoodP can be stratified. When multiple features are inherited from MoodP to T, they keep their hierarchy. For example, in the development of

modal auxiliary, a modal auxiliary of root meaning is acquired first and then a modal auxiliary of epistemic meaning is acquired, forming the hierarchy Modal(epistemic) > Modal(root). This hierarchy, for example, was exhibited in the history of English and was explicitly observed in Middle English in the diachronic development of modal auxiliary.

- (33) I shall not konne answeere.

“I shall not be able to answer.”

(Geoffrey Chaucer, *The Canterbury Tales*, B 2902)

This case shows that the inherited features keep their hierarchy and realize as they are in the structure.

6. Complementizer as Mood-marker

Let’s take a look at the relation between mood and complementizer next. The complementizers in European languages are etymologically derived from demonstratives or relative pronouns, as shown below.

(34) Germanic Languages

Language	Complementizer	Relative Pronoun	Demonstrative
English	that	that, who, which, whose, whom	this, that
Danish	at	som, der	denne(this), dette(that)
German	dass	der(m.), des(f.), das(n.), die(pl.)	dieser (this, m.), diese(f.), dieses(n.), diese(pl.) der(that, m.), die(f.), das(n.), die(pl.)
Frisian	dat	dy’t (com.), dat(n.)	dizze (this, m), dit(n.), dizze(pl.) dy (that, com.), dat(n.), dy(pl.)
West Flemish	da	die(subj.), da	deze(this) die(that)
Bavarian	dass	der(m.), die(f.), des(n.), die(pl.)	des(this) das(that)
Yiddish	as	vos	der doziker (this) yener(that)

Icelandic	að	er, sem	Þessi(this, m.), þessi(f.), þetta(n.) sá(that, m.), sú(f.), það(n.)
Norwegian	at	som	denne(this), dette, desse den(that), det, dei
Swedish	att	som	den (this) /det/ de(pl), här den (that) /det/ de(pl), där
Afrikaans	dat	wat	hierdie(this) haardie(that)

(35) Romance Languages

Language	Complementizer	Relative Pronoun	Demonstrative
Latin	quod	qui(m.), quae(f.), quod(n.), qui(m., pl.), quae(f., pl.), quae(n., pl.)	hic(this, m.), haec(f.), hoc(n.) ille(m.), illa(f.), illud(n.)
French	que, qui	qui, que, où, dont	ce(this), ceci, cela celui(that, m.), celle(f.), ceux(m., pl.), celles(f.pl.)
Spanish	que	que	éste(this, m.s.), ésta(f.s.), esto(n.s.) éstos(m.pl.), éstas(f. pl.) aquél(that, m.s.), aquélla(f.s.), aquello(n.s.) aquéllos(m.pl.), aquéllas(f.pl.)
Portuguese	que	que	este(this, m.), esta(f.), estes(m.pl.), estas(f.pl.) aquele(that, m.), aquela(f.), aqueles(m.pl.) aquelas(f.pl.) isto(this, n.) aquilo(that, n.)

Italian	che	che, cui, chi, il che, ciò che	questo(this, m.), questa(f.) quello(that, m.), quelli(f.)
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The table presented above shows that in Germanic languages, a complementizer is derived from demonstratives and in Romance languages, it is derived from relative pronouns. However, both Germanic languages and Romance languages have a common property in that they have a complementizer and the complementizer is a nominal element as in the case of Bantu languages.

The complementizer *that* in English was originally a demonstrative, as explained in *The Oxford English Dictionary (OED)*.

- (36) a. He once lived here: we all know that.
 b. That (now this) we all know: he once lived here.
 c. We all know that (or this): he once lived here.
 d. We all know that he once lived here.
 e. We all know he once lived here.

As in (36a, b, c), the sentence containing a demonstrative *that* forms a paratactic structure with the other sentence and *that* indicates *he once lived here*. Chronologically, the paratactic structure turned into a subordinate structure as in (36d) and *that* worked as a conjunction with losing its demonstrative property. Eventually, *that* disappeared as in (36e). *That* in (36c) belonged to the matrix clause, and then was merged into the embedded clause by way of reanalysis.

- (37) [... V that [...]] → [... V [that [...]]]

Gelderen (2011) shows that when *that* was merged into the embedded clause, it was merged into the Spec position of CP in the embedded clause between the period of Old English and that of Late Middle English, and that it was finally merged into the head of CP.

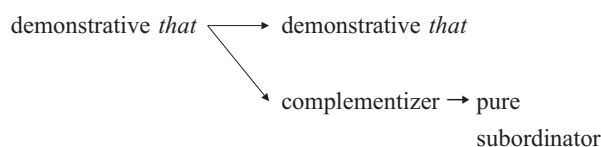
- (38) a. ... [CP that [C' C [TP ...]]]
 b. ... [CP [C that] [TP ...]]

The process shown above is the grammaticalization of *that*, which was once used as a demonstrative. The complementizer *that* began as a demonstrative, which was once a content word. According to Hopper and Traugott (1993), a content word will go through the process of grammaticalization as follows:

- (39) content item > grammatical word > clitic > inflectional affix > (zero)

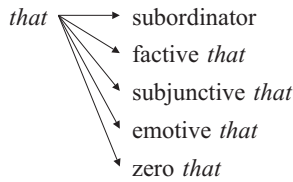
Based on this analysis, we assume that the demonstrative *that* was weakened and then was bifurcated into a demonstrative as an original item and *that* as a complementizer.

- (40)



That has been working as a demonstrative property since its first use. However, we propose here that the complementizer *that* as a pure subordinator was bifurcated into not only a pure subordinator but other functional items as follows:

(41)



Factive verbs obligatorily introduce the complementizer *that* in their complement clause as in the case of the complement clause of manner of speaking verbs.

(42) Manner of Speaking Verbs

- a. Bill muttered *(that) John was playing too much poker.
- b. Ben sighed *(that) he was sick of not getting fed.
- c. John whispered *(that) we should turn down the stereo.

(43) Factive Verbs

- a. He regrets *(that) Mary married his brother.
- b. He admitted *(that) they went to abroad.
- c. I forgot *(that) he was arrested.
- d. Bill mentioned *(that) John was fired.
- e. John noticed *(that) they accepted special requests.

As mentioned before, *that*, in the case of the complement of factive verbs, is associated with the proposition the presupposed clause forms and thus works as a marker of its operation with its realization in the head of CP (more precisely, FinP here). The proposition of the complement clause in (43) is presupposed. Presupposition activates in the head of MoodP and communicates with the head of FinP. The complementizer *that* is introduced as realization of the presupposition. In fact, in Greek, the marking of presupposition occurs by introducing a special complementizer in the complement clause.

(44) Greek

- a. Oli kserun oti/pos i Maria ine engios.
everybody know 3pl.INP that the Maria is 3pl.INP
pregnant
“Everybody knows that Maria is pregnant.”
- b. I Maria metaniose pu ipe tin alithia.
the Maria regret 3sg.PP that tell 3sg.PP the truth
“Maria regretted for telling the truth.”

(Staraki (2017: 29))

In Greek, the special complementizer *pu* is introduced in the complement clause of factive verbs. Otherwise, an ordinal complementizer *oti* or *pos* is introduced in the embedded clause. In (44b), the special complementizer *pu* marks the complement clause as a presupposed clause, in contrast to (44a), where *oti* or *pos* is introduced and the complement clause is not presupposed.

In the complement clause of verbs exhibiting command,

requirement, necessity, insistence, and inevitability, the complementizer *that* is obligatorily introduced.

- (45) a. We require that he {come / should come} to the office.
- b. I suggested that he be more optimistic.

These complement clauses exhibit subjunctive mood by introducing *that* in them and thus *that* works as a subjunctive marker. The same type of subjunctive marker is observed in Romanian.

(46) Romanian

- a. El spune că citește o carte
he says COMP read(3SG INDIC) a book
“He says that he’s reading a book.”
- b. El vrea să citească o carte
he wants COMP read(3SG SUBJUN) a book
“He wants to read a book.”

(Noonan (1985))

In the complement clause of response stance verbs (e. g. *accept*, *agree*, *deny*, *admit*, *verify*, *confirm*, etc.), *that* is obligatorily introduced.

- (47) She denied that his statement was true.

Response stance verbs express response to the opinion somebody provided to the speaker. In this case, the complement clause of the verbs is presupposed and thus *that* is introduced as a marker of presupposition as in the case of the complement clause of factive verbs.

In the case of the complement of the matrix verb expressing a negative meaning, *that* is introduced.

- (48) Mary didn’t know that John was guilty.

The complement clause in (48) is presupposed and *that* works as a marker to express the presupposition. In Spanish, the complement of the matrix verb expressing a negative meaning exhibits subjunctive mood, not indicative mood in the complement clause. The mood is realized in the verb with a subjunctive morpheme in the complement clause.

(49) Spanish

- a. Creun [que en Miquel treballa]
they-believe that the Miquel works-ind
“They believe that Miquel is working / works.”
- b. No creuen [que en Miquel treballi]
not they-believe that the Miquel works-subj
“They don’t believe that Miquel is working / works.”

In this case, the complementizer *que*, which is not deleted in Spanish, is introduced to express subjunctive mood provided by the matrix verb, though it is not a special complementizer unlike Romanian. From this fact, it follows that English introduces the complementizer *that* as a marker of subjunctive mood and presupposition, though its form is not different from *that* as a subordinator. Gradual use of the null *that* began in 16th century, but *that* was obligatorily introduced in the embedded

clauses before the late 16th century. This suggests that *that* as a subordinator is not a content item and thus resulted in the occurrence of the null *that*. The complementizer *that*, which bears presupposition or subjunctive mood, cannot be deleted (i.e. no introduction of null *that*) because it works as a marker of presupposition or subjunctive mood. *That* as a marker of presupposition or subjunctive mood occurs in the head of FinP as in the case of *that* as a subordinator, though.

We have seen that subjunctive mood, emotion, negation, tense, and presupposition are specified in the head of MoodP. The features concerning them undergo inheritance from the head of MoodP to T (Neg of NegP in the case of neg-feature inheritance). Now let's stratify the features in MoodP we have proposed. As mentioned before, in the development of modal auxiliary, a modal auxiliary of root meaning is acquired first and then a modal auxiliary of epistemic meaning is acquired, forming the hierarchy Modal (epistemic) > Modal (root). This hierarchy was exhibited in the history of English and was explicitly observed in Middle English in the development of modal auxiliary.

(50) I shall not konne answeze.

“I shall not be able to answer.”

(Geoffrey Chaucer, *The Canterbury Tales*, B 2902)

This fact suggests that the acquired features dominate the non-acquired features. According to *The Oxford English Dictionary* (CD-ROM, the 2nd edition), the feature concerning emotion was acquired early and the feature concerning subjunctive, the feature concerning negation, and the feature concerning presupposition followed in that order, as shown below.

(51) Subordinator

c888 K. *Ælfred Boeth.* v. § 3 Ic wat þæt ælc wuht from Gode com.

(52) Emotion (Exclamation, Sorrow, etc.)

c888 K. *Ælfred Boeth.* ix, Eala þæt nanwuht nis fæste stondendes weorces.

(53) Subjunctive Mood

a900 tr. *Bæda's Hist.* ii. xi. [xiv.] § 1 Þær se biscop oft.. wæs, þæt he fulwade þæt folc in Swalwan streame.

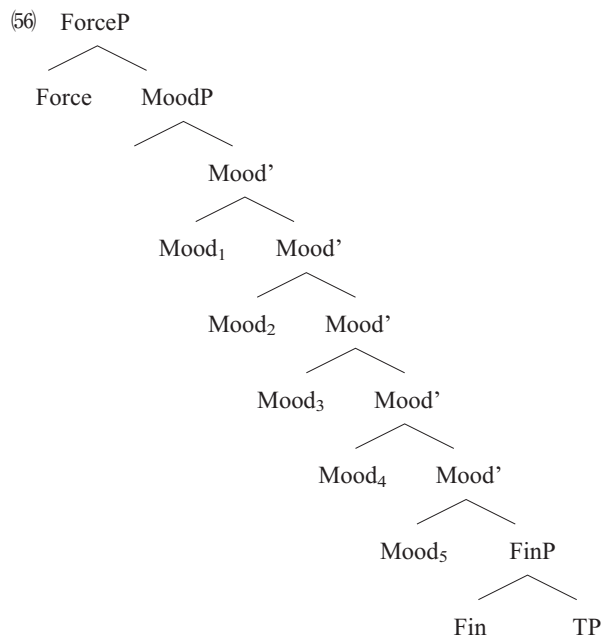
(54) Presupposition

c1000 *Ælfric Exod.* v. 2 Hwæt ys se drihten, þæt ic hym hiran scile and Israela folc forlætan?

(55) Negation

c1000 *Ælfric Saints' Lives* (1885) I. 378 Man *æc*wæman ne mæ^æ twam hlaforðum æt-somme þæt he ne forseo þone oðerne.

Tense dominates negation. From these facts, it follows that the features in MoodP we have proposed here are stratified as follows:



Mood₁: Emotion

Mood₂: Subjunctive Mood

Mood₃: Presupposition

Mood₄: Tense

Mood₅: Negation

When Emotion, Subjunctive Mood, Presupposition, and Negation activate in MoodP, they are associated with the head of FinP. The complementizer *that* is introduced in the head of FinP as their overt marker. The complementizer bears the same morpheme as the subordinator *that*. English exhibits this idiosyncrasy, contrary to languages such as Greek, Romanian, Russian, etc., where mood exhibits morphologically different complementizers in the head of FinP.

7. Conclusion

This paper has shown that the projection MoodP associated with mood and modality occurs between Q and FinP in the left periphery of clauses. The field of MoodP forms a hierarchy of mood and modality. In the case of interrogatives, modality concerning uncertainty activates in MoodP and expresses the uncertainty of truth value. Factive complement, sentence subject, and the complement of a noun involve definiteness. Definiteness is associated with presupposition. Presupposition involves mood and modality and thus occurs in MoodP. Emotion (exclamation, sorrow, etc.), subjunctive mood, presupposition, tense, and negation are all included in mood and thus their features occur in the head of MoodP, being stratified as follows in MoodP:

(57) Emotion > Subjunctive Mood > Presupposition >
Tense > Negation

These features undergo feature inheritance from MoodP to T (in

the case of neg-feature, the head of NegP). Emotion (exclamation, sorrow, etc.), subjunctive mood, presupposition, and negation are associated with the head of FinP and introduce a complementizer in the head of FinP as their overt marker.

Notes

¹ Rizzi and Bocci (2017) propose that a wh-phrase moves up to the Spec position of Int(errogative), and that the position of Q, more precisely, Q_{emb}, serves as the position for the embedded question formation (this position was called Wh in Rizzi (2004)).

(i) [ForceP [TopP* [Int [FocP [TopP* [Q [FinP [TP [vP ...

However, we regard this Q position as the position for all wh-interrogatives for convenience here, and thus a wh-phrase moves up to the Spec position of this Q without distinction of a matrix wh-interrogative or an embedded wh-interrogative, contrary to the analysis of Rizzi and Bocci (2017).

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