"Restructuring" and the Order of Aspectual and Root Modal Heads*

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0 Introduction

If functional affixes and particles are interpreted as the overt realization of distinct functional heads (Baker 1985, Pollock 1989, Ouhalla 1988, 1991, Chomsky 1995, chapter 2, among others), there is reason to posit the existence of a substantial number of distinct aspectual heads (ordered among each other):

Cf. the habitual aspect suffixes of Mongolian (Svantesson 1991: 197) and of Central Alaskan Yup'ik (Mithun & Ali 1996: 112f); the predispositional aspect morpheme of American Sign Language (Klima & Bellugi 1979), rendered with 'tends to'; the delayed aspect particle of Uliitian, glossed by Sohn & Bender (1973: 116) as 'finally', and the suffix between the frequentative and the past tense suffixes of Macushi, also rendered as 'finally' by Abbott (1991: 113ff); the frequentative aspect suffix of Yareba (Weimer 1972: 61) and that of Macushi, just mentioned; the repetitive aspect particle ('again') of Hidatsa (Hengeveld to appear, ex. (42)), called by him 'iterative'; the celerative aspect suffix of Fulfulde (Fagerli 1994: 36ff) and the suffixes of Dyirbal and Evenki, glossed as 'quickly' by Dixon (1972: 248) and Nedjalkov (1997: 252); the terminative aspect suffix of Kiribatese (Groves et al. 1985: 58); the continuative aspect suffix of Lezgian, rendered as 'still' by Haspelmath (1993: 140ff) and that of Walmadjarí, rendered as 'keep on' by Hudson (1976: 656); the perfect aspect suffixes of Ponapean (Rehg 1981: 269ff) and Chinese (Smith 1991: 344ff); the retrospective particles of the French creoles reported in Cinque 1999, chapter 3, which are rendered in the literature with 'venir de', 'to have just'); the proximate prefix of Big Numbas (Fox 1979: 64) and the proximate particle of Kwaio (Keessing 1985: 118ff), rendered by both authors as 'soon'; the durative aspect suffixes of Hua (Haiman 1980: 149) and Tauya (MacDonald 1990, §3.2.1.1), meaning 'for a while'; the progressive aspect suffix of Zuñi (Nichols 1993: 104) and Menya (Whitehead 1991: 266); the prospective aspect particle of Gunugbe (Aboh 1996) and the prospective aspect suffixes of Comanche (Robinson & Armagost 1990: 318), meaning 'to be about to'; the inceptive aspect suffixes of Ika (Frank 1990: 57) and Waaorani (Peeke 1994: 276); the conative aspect suffix of Hua (Haiman 1980: 147) and Tauya (MacDonald 1990, §3.2.1.1); the frustrative aspect suffixes of Wayampi, rendered as 'without success' by Jensen (1994: 359ff), and the 'success' aspectual morpheme of Spokane, which Carlson (1996: 59) renders with 'manage'; the completive aspect suffixes of Fulfulde (Fagerli 1994: 19) and Chinese (Smith 1991: 382).

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Discussing a number of such heads, Cinque (1999) arrives (for a subset of them) at a specific order based on the evidence available from their relative order.\footnote{Some of these orders were corroborated by the relative order of the adverbs corresponding to these aspects, taken there to be generated in the specifier position of the relevant functional projections. In a few cases the only evidence available to determine the order between two aspectual heads came in fact from the relative order among the corresponding adverbs. Note the repetition, in (1), of repetitive, frequentative and celerative aspect in two distinct "zones": one quantifying over the event expressed by the sentence, the other over the process, or state, expressed by the V(P).}

\begin{equation}
\text{Asp}_{\text{habitual}} > \text{Asp}_{\text{repetitive (I)}} > \text{Asp}_{\text{frequentative (I)}} > \text{Asp}_{\text{celerative (I)}} > \text{Asp}_{\text{terminative}} > \\
\text{Asp}_{\text{continuative}} > \text{Asp}_{\text{perfect (??)}} > \text{Asp}_{\text{retrospective}} > \text{Asp}_{\text{proximate}} > \text{Asp}_{\text{durative}} > \\
\text{Asp}_{\text{progressive}} > \text{Asp}_{\text{prospective}} > \text{Asp}_{\text{completive (I) (> Voice)}} > \text{Asp}_{\text{celerative (II)}} > \\
\text{Asp}_{\text{completive (II)}} > \text{Asp}_{\text{repetitive (II)}} > \text{Asp}_{\text{frequentative (II)}} \ldots
\end{equation}

Having no cross-linguistic evidence at my disposal concerning the relative orders of the corresponding affixes or particles, I made no systematic attempt there to integrate in this order such aspectual heads as Asp$_{\text{predispositional}}$, Asp$_{\text{delayed}}$ (or "finally"), Asp$_{\text{inceptive}}$, Asp$_{\text{frustrative/success}}$, and Asp$_{\text{nonnative}}$. The positions occupied by root modals with respect to the other heads of (1) were also left partly open.

In what follows, I would like to present some facts, internal to just one language, Italian, which appear to offer some evidence for ordering these heads among each other, and within the larger hierarchy in (1) (at least under the analysis of "restructuring" proposed in Cinque (in preparation), the main features of which will be sketched directly).\footnote{The analyses of "Restructuring" are too numerous to list here. Cf. Rizzi 1982 (chapter 1), Kayne 1989, Roberts 1997 and references cited there.}

No existing analysis of "restructuring" offers, it seems, a natural account of why the transparency effects characteristic of this phenomenon occur across languages with just the classes of modal, aspectual and movement verbs (all analyses assume some form of arbitrary lexical specification, or arbitrary semantic condition). The analysis developed by Cinque (in preparation) centers instead on the fact that these verbs are the only verbs whose meaning happens to correspond to a particular functional head of the universal hierarchy proposed in Cinque 1999 independently of the "restructuring" phenomenon.

If we assume that a verb may either be generated (and licensed) as the head of VP, or, when it "lexicalizes" a particular functional head, directly in that head position, both the monoclausal nature of the phenomenon and the membership of the verb in the "restructuring" class can be naturally derived (I refer to Cinque (in preparation) for a detailed discussion). Moreover, if the various functional heads of the clause are rigidly ordered (Cinque 1999), it follows that "restructuring" verbs should display a rigid relative order among each other when transparency effects obtain (i.e., when they are licensed not as lexical verbs, but as "functional" verbs generated in specific functional heads). This expectation is generally fulfilled. But, as with the order of adverbs, care should be taken to single out those cases where the same verb can be generated in more than one functional head (often with a concomitant change in meaning), for that possibility can give rise to apparent multiple orders with another functional verb. Some cases of this sort will in fact be discussed below.
1. Aspectual Verbs and the Order of Aspectual Heads

I will start with the relative order between the habitual and predispositional aspects, by considering the relative order between the "restructuring" verbs solere (usare) 'use' and tendere (a) 'tend' (cf. (2)–(3), which, I take, lexicalize these aspects in Italian). \(^3\)

(2) Gianni lo soleva/usava dire spesso
G. it used to say often

(3) Gianni ne tendeva a far pochi (di errori)
G. of-them tended to do few (of errors)

When Clitic Climbing or other transparency effects obtain (forcing a monoclausal structure), the order appears to be rigid, with solere (or usare) preceding tendere (a), thus suggesting the order Asp\text{habitual} > Asp\text{predispositional} (cf. (4) and (5)). \(^4\)

(4) a. ?Certe cose le si suole tendere a fare subito
   Certain things them si (one) use to tend to do immediately
b. *Certe cose le si tende a solere fare subito
   Certain things them si (one) tend to use to do immediately

(5) a. (?)Certe cose si sogliono tendere a fare in vecchiaia
   Certain things si (one) use to tend to do when old
b. *Certe cose si tendono a solere fare in vecchiaia
   Certain things si (one) tend to use to do when old

\(^3\) Note that in principle nothing forces a particular lexical verb to be used as a functional ("restructuring") verb. A necessary (but, perhaps, not sufficient) condition appears to be the (close to) perfect match between the verb's semantics and the semantic features of a functional head. While solere and usare (whether used in "restructuring" contexts or not) belong to a rather formal register of Italian (cf. Renzi & Salvi 1991: 521), the "restructuring" use of tendere (a) is felt by some as colloquial.

\(^4\) All of the examples discussed below display transparency effects (so as to force the presence of a monoclausal structure). In many cases, though, the same rigid order is found even in the absence of transparency effects. While for me, and other speakers, the order solere > tendere (a) is the only one available, for Paola Benincà (and possibly other speakers) the other order (tendere (a) > solere) is also admitted. I take this to mean that solere, for the second group of speakers, not only corresponds to the higher, event-related, habitual aspect projection (the one hosting in its specifier such adverbs as di solito/solitamente and abitualmente), but also to the lower, process- or state-related, habitual aspect projection (which can host abitualmente, but not di solito/ solitamente), cf. (i):

   (i) a. Gianni di solito frequentava le stesse persone abitualmente
       G. generally frequented the same persons habitually
   b. *Gianni abitualmente frequentava le stesse persone di solito
       G. habitually frequented the same persons generally
   c. ?Gianni abitualmente frequentava le stesse persone abitualmente
       G. habitually frequented the same persons habitually
In turn, when transparency effects obtain, tendere (a) appears to obligatorily precede tornare (a) ‘do again’, which expresses repetitive aspect. Cf. (6).5

(6) a. Certe cose si tendono a tornare a fare da vecchi
    Certain things si (one) tend to do again when old
b. *Certe cose si tornano a tendere a fare da vecchi
    Certain things si (one) again tend to do when old

These contrasts, then, suggest the partial order of functional heads in (7):

(7) ... Asphabitual > Asppredispositional > Asprecipetitive ...

Consider now the relative order between predispositional aspect and terminative aspect, which in Italian is expressed by the “restructuring” verb smettere (di) ‘stop’ (as well as by the AdvP più ‘no longer’):6

(8) a. Certe cose si tendono a smettere di fare dopo una certa età
    Certain things si (one) tend to stop doing after a certain age
b. *Certe cose si smettono di tendere a fare dopo una certa età
    Certain things si (one) stop to tend to do after a certain age

This gives the order: ... Asppredispositional ... > ... Aspterminative ...7 Where does Aspterminative locate itself with respect to Asprecipetitive, which also follows Asppredispositional? The fact that both orders in (9) appear possible suggests that terminative aspect follows the higher repetitive aspect head, and precedes the lower one (cf. (1)):

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5 As noted in Cinque 1999, repetitive aspect can occupy a higher position, quantifying over the event (between the habitual and frequentative aspects) and a lower one, lower than Voice, quantifying over the process or state expressed by the predicate. Both positions, apparently, follow the predispositional aspect head, given that the order tornare (a) > tendere (a) is not possible (cf. (6b)). The existence of two distinct repetitive aspects (located in two distinct quantificational “zones”) is corroborated by the possibility of having a higher, and a lower, repetitive adverb (e.g., di nuovo/ancora/… ‗again‘) in one and the same sentence:

(i) a. Gianni ha di nuovo alzato il braccio di nuovo (ancora una volta)
    G. has again lifted his arm again (once more)

6 The paraphrase relation between smettere (di) and più is, nonetheless, complex, involving different values of other functional heads. Cf. Aveva smesso di farlo ‗he had stopped doing it‘, with anterior of the past (and imperfect aspect), and Non lo faceva più ‗he didn‘t do it any longer‘, with past tense and imperfect aspect. Terminative aspect (as opposed to completive aspect) expresses the termination of a certain process (or state) at an arbitrary point, rather than at the natural end point of the process (when there is one).

7 By transitivity, given that predispositional aspect follows habitual aspect, we expect that terminative aspect also follows habitual aspect; which is what we find:

(i) a. Certe cose si sogliono smettere di fare dopo una certa età
    Certain things si (one) use to stop doing after a certain age
b. *Certe cose si smettono di soler fare dopo una certa età
    Certain things si (one) stop to use doing after a certain age
(9) a. Certe persone si tornano a smettere di frequentare in certe circostanze
    Certain people si (one) again stop frequenting under certain circumstances

b. Certe persone si smettono di tornare a frequentare in certe circostanze
    Certain people si (one) stop frequenting again under certain circumstances

Altogether, we have thus evidence for the partial order of heads in (10):

(10) \ldots \text{Asp}_{\text{habitual}} > \text{Asp}_{\text{predispositional}} > \text{Asp}_{\text{repetitive (I)}} > \text{Asp}_{\text{terminative}} \ldots (\text{> Asp}_{\text{repetitive (II)}})

(9) is, thus, the first case of an apparent free ordering of two aspectual verbs. As noted, however, it is only an illusion given by the possibility of licensing *tornare (a)* in two different aspectual heads separated by terminative aspect (as well as other aspects). Terminative aspect appears to be ordered before continuative aspect, expressed in Italian by the "restructuring" verb *continuare (a)* (as well as by the adverb *ancora* 'still').\(^8\) See (11), with clitic climbing, and (12) with "long object preposing":

(11) a. Vi smise di continuare ad andare
    There (he) stopped continuing to go

b. *Vi continuò a smettere di andare
    There (he) continued to stop going

(12) a. Certi errori non si smettono mai di continuare a fare
    Certain errors si (one) never stop continuing to do

b. *Certi errori si continuano sempre a smettere di fare
    Certain errors si (one) continue always to stop doing

This gives the partial order in (13):\(^9\)

(13) \ldots \text{Asp}_{\text{habitual}} > \text{Asp}_{\text{predispositional}} > \text{Asp}_{\text{repetitive (I)}} > \text{Asp}_{\text{terminative}} > \text{Asp}_{\text{continuative}} \ldots

(\text{> Asp}_{\text{repetitive (II)}})

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\(^8\) As noted by Cinque (1999, §4.17), if they can cooccur at all, the terminative aspect adverb *più* 'no longer' also has to precede the continuative aspect adverb *ancora* 'still':

(i) a. ?Spero che tu non sia più ancora arrabbiato con me
    (I) hope that you are no longer still angry with me

b. *Spero che tu non sia ancora più arrabbiato con me
    (I) hope that you are still no longer angry with me

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\(^9\) Continuative aspect is apparently to be distinguished from an aspect meaning 'continuously, constantly' (cf. the aspectual suffix *-raku-* of Tuyuka—Barnes 1994: 331). The latter appears to correspond to English *keep*, Italian *seguire (a)*, which, as noted by Freed (1979: 90f) differs from *continuare (a)* in presuppositional content. While *John continued slamming the door all night/John continuò a sbattere la porta tutta la notte* presupposes that someone had been slamming the door earlier, *John kept slamming the door all night/ John seguì a sbattere la porta tutta la notte* does not (though Italian *continuare (a)* can marginally also be used non presuppositionally). I leave the location of this 'continuously' aspect undetermined here.
By transitivity, we expect *continuare (a) to also follow *tendere (a) and *solere. This is indeed what we find. See (14) and (15):

(14) a. Certe cose *si sogliono continuare a fare tutta la vita
   Certain things *si (one) use to continue doing for the all life
b. *Certe cose *si continuano a soler fare tutta la vita
   Certain things *si (one) continue to use doing for the all life

(15) a. Certe cose *si tendono a continuare a fare sempre
   Certain things *si (one) tend to continue doing always
b. *Certe cose *si continuano a tendere a fare sempre
   Certain things *si (one) continue to tend to do always

Given that *tornare (a) can be licensed both in AspRepetitive (I), higher than AspContinuative, and in AspRepetitive (II), lower than AspContinuative, we expect both orders of *tornare (a) and *continuare (a) to be possible. This is again what we find:

(16) a. Certe cose *si tornano a continuare a fare appena è possibile
   Certain things *si (one) again continue to do as soon as is possible
b. Certe cose *si continuano a tornare a fare appena è possibile
   Certain things *si (one) continue to again do as soon as is possible

Consider next the relative order of the conative and frustrative/success aspects, and their order relative to the aspects so far examined. The “restructuring” verbs which express these two aspects in Italian are *provare (a) (tentare (di)/cercare (di)) ‘try’,\(^{10}\) and (non) *riuscire (a) ‘(not) manage’, respectively.

The data in (17)–(18) appear to indicate that frustrative/success aspect precedes conative aspect:

(17) a. Certe cose *non si riescono nemmeno a provare a fare
   Certain things *not si (one) manage to try to do
b. *?Certe cose *non si provano nemmeno a riuscire a fare
   Certain things *not si (one) try to manage to do

(18) a. Le riuscirai almeno a provare a telefonare?
   ‘Will you manage at least to try to call her?’
b. *Le proverai almeno a riuscire a telefonare?
   ‘Will you try at least to manage to call her?’

What about the order of these two aspeccual heads with respect to the aspectual heads in (13)? The following contrasts suggest that AspFrustrative/Success and AspConative are ordered after

\(^{10}\) While all (or the great majority of) speakers have a “restructuring” use of *provare (a), not all accept *tentare (di)/cercare (di) as “restructuring” verbs.
Asp\textsubscript{continuous} (and, a fortiori, after Asp\textsubscript{terminative}, Asp\textsubscript{predispositional}, and Asp\textsubscript{habitual}, which precede Asp\textsubscript{continuous}).\textsuperscript{11}

(19) a. Gianni le continuò a provare a telefonare
    G. her continued to try to call

   b. ??Gianni le provò a continuare a telefonare
    G. her tried to continue to call

(20) a. Gianni li continuò a riuscire a vedere
    G. them continued to manage to see

   b. ??Gianni li riuscì a continuare a vedere
    G. them managed to continue to see

(21) a. ?Gianni la smise di provare a riparare
    G. it stopped trying to repair

   b. *Gianni la provò a smettere di riparare
    G. it tried to stop repairing

(22) a. Gianni non vi smetterà mai di riuscire a convincere...
    G. not you will ever stop managing to convince...

   b. *Gianni non vi riuscirà mai a smettere di convincere...
    G. not you will ever manage to stop convincing...

(23) a. ?Gianni li tende a riuscire a fare
    G. them tends to manage to do

   b. *Gianni li riesce a tendere a fare
    G. them manages to tend to do

(24) a. Gianni gli tende a provare a parlare ogni volta che può
    G. to-him tends to try to speak every time he can

   b. *Gianni gli prova a tendere a parlare ogni volta che può
    G. to-him tries to tend to speak every time he can

(25) a. Gianni li solleva riuscire a convincere
    G. them used to manage to convince

   b. *Gianni li riusciva a soler convincere
    G. them managed to use to convince

(26) a. Gianni li suole provare a chiamare
    G. them uses to try to call

   b. *Gianni li prova a soler chiamare
    G. them tries to use to call

\textsuperscript{11} The non-total ungrammaticality of (19b) and (20b) may be related to the (quite marginal) possibility for continuative aspect to be found below Voice (hence below Asp\textsubscript{ frustrative/active} and Asp\textsubscript{ continuous}). Cf. fn. 14 below for independent evidence concerning this (marginal) possibility.
But where exactly after $A_{\text{spontaneous}}$ are $A_{\text{frustrative/success}}$ and $A_{\text{conative}}$ located in the hierarchy in (1)? There is some evidence that they are located between $A_{\text{prospective}}$ and the $A_{\text{complete}}$ above Voice. As (27)–(28) show $A_{\text{frustrative/success}}$ must follow, rather than precede, $A_{\text{progressive}}$ and $A_{\text{prospective}}$:

(27) a. Gianni gli stava riuscendo a parlare, finalmente
   G. to-him was managing to speak, finally

   b. *Gianni gli riusciva a star(e) parlando, finalmente
   G. to-him managed to be speaking, finally

(28) a. Gianni lo stava per riuscire a convincere
   G. him was about to manage to convince

   b. *Gianni lo riusciva a star(e) per convincere
   G. him managed to be about to convince

This is also true (a fortiori, in the present analysis) for $A_{\text{conative}}$. See (29)–(30):^{12}

(29) a. Gianni la stava provando a riparare
   G. it was trying to repair

   b. *Gianni la provava a star(e) riparando
   G. it tried to be repairing

(30) a. Gianni lo stava per provare a riparare
   G. it was about to try to repair

   b. *Gianni lo provava a star(e) per riparare
   G. it tried to be about to repair

Finally, the fact that $\text{riuscire (a)}$ and $\text{provare (a)}$ always precede $\text{finire (di)}$ (cf. (31)–(32)) suggests that $A_{\text{frustrative/success}}$ and $A_{\text{conative}}$ precede the $A_{\text{complete}}$ above Voice (as well as the one below Voice).^{13}

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^{12} Converging evidence for the location of conative aspect below progressive aspect comes from the relative order of the corresponding suffixes in the Papuan language Hua, under the Mirror Principle. Cf. (i), from Haiman 1980: 147:

(i) hu-ko- bau- mana
do-CONAT-PROG-INCONSEQUENTIAL
'I was trying to do (but it didn’t work out in some way)'

^{13} The evidence for a conative aspect head above Voice, and one below Voice, is given by the possibility of embedding a passive under $\text{finire}$, (ia), and by the possibility of "long passivization" of $\text{finire}$, (ib). (For discussion, cf. Cinque 1997):

(i) a. Le case gli finirono di esser consegnate a marzo
   The houses to-him finished to be handed in March

   b. Ne furono finite di costruire solo due
   Of-them were finished to build only two

(31b) and (32b) are partially rescued if $\text{finire}$ is assigned a terminative interpretation (similar to 'stop'), rather than its complete one (‘finish’/’end’), a possibility open to $\text{finire}$ in Italian, though not to $\text{finish}$ in English. Cf. Cinque 1997.
(31) a. Gianni non la riuscì a finire di imparare a memoria
    G. it did not manage to finish learning by heart

b. *Gianni non la finì di riuscire a imparare a memoria
    G. it did not finish to manage to learn by heart

(32) a. Gianni ne provò a finire di tradurre solo due
    G. of-them tried to finish to translate only two

b. *Gianni ne finì di provare a tradurre solo due
    G. of-them finished to try to translate only two

The evidence that Asp_{frustrative/success} and Asp_{conative} are above Voice comes from the observation that, like all other “restructuring” verbs which are higher than Voice, they resist “long passivization” (cf. (33) and Cinque 1997 for relevant discussion). In essence, their incompatibility with passivization follows from the fact that no lowering is admitted, and that a passive form must raise to Voice to check its marked Voice feature. This implies that only a lexical verb, generated in VP, or a functional verb generated in a head lower than Voice, will be able to passivize. As is well-known only few “restructuring” verbs allow “long passivization” (typically finire (di) ‘finish’ and cominciare (a) ‘begin’—cf. (34) and Cinque 1997 for discussion). The conclusion that only the functional heads corresponding to these “restructuring” verbs are lower than Voice (whence their passivizability) is supported by the independent evidence given in Cinque 1999 for an Asp_{complete} head lower than Voice (see also Cinque 1997).

(33) a. *Quelle case furono riuscite a costruire negli anni cinquanta
    Those houses were managed to build in the ’50’s

b. *Quelle case furono provate a costruire negli anni cinquanta
    Those houses were tried to build in the ’50’s

(34) a. Quelle case furono finite di costruire negli anni cinquanta
    Those houses were finished building in the ’50’s

b. ?Quelle case furono cominciate a costruire negli anni cinquanta
    Those houses were begun to build in the ’50’s

To summarize, the order suggested by the evidence considered so far is the one in (35):

(35) ... Asp_{habitual} > Asp_{predispositional} > Asp_{repetitive (I)} > Asp_{terminative} > Asp_{continuous} ...
     Asp_{progressive} > Asp_{prospective} > Asp_{frustrative/success} > Asp_{conative} > Asp_{complete} (I) >
     Voice > ... Asp_{complete} (II) > Asp_{repetitive (II)}

Consider now inceptive aspect, expressed in Italian by such verbs as cominciare (a)/iniziare (a). In Cinque 1997 some evidence is discussed for positing two distinct inceptive aspect heads, one

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14 Burzio (1981: 591; 1986: 376) takes continuare (a) to marginally allow “long passivization”, cf. (i). This would seem to imply the (marginal) presence of an instance of continuative aspect below Voice. But the status of (i) is far from clear.

(i) ???L’affitto fu continuato a pagare fino alla fine dell’anno
    the rent was continued to pay till the end of the year
lower than Voice, marking inception at the natural starting point of a process, just as completive aspect marks cessation at the natural end point of the process (whence the well-formedness of the “long passivization” of (34b)), and one higher than Voice, marking inception at an arbitrary point, just as terminative aspect marks cessation at an arbitrary point (whence the possibility for cominciare to embed a passive: *l’opera cominciò ad esser rappresentata nel 1950 ‘the opera began to be performed in 1950’). Starting with the inceptive aspect above Voice, we may note that, when transparency effects obtain, cominciare cannot precede solere and tendere (cf. (36)–(37)).

(36) a. Gianni gli soleva cominciare a scrivere dopo mesi
   G. to-him used to begin to write many months later
   b. *Gianni gli cominciava a soler scrivere dopo mesi
   G. to-him began to use to write many months later

(37) a. Gianni ne tendeva a cominciare ad affrontare troppi
   G. of-them tended to begin to confront too many
   b. *Gianni ne cominciava a tendere ad affrontare troppi
   G. of-them began to tend to confront too many

Consider now the relative location of the higher inceptive aspect head with respect to the terminative and continuative aspect heads. Although the judgments are perhaps not very sharp, it seems that the higher inceptive head has to follow the terminative and continuative aspect heads, cf. (38)–(39):

(38) a. ?Ne smisero di cominciare ad esser riparate molte
   Of-them stopped beginning to be repaired many
   b. *Ne cominciarono a smettere di esser riparate molte
   Of-them began to stop being repaired many

(39) a. ?Ne continuaronu a cominciare ad esser riparate molte
   Of-them continued to begin to be repaired many
   b. *Ne cominciarono a continuare ad esser riparate molte
   Of-them began to continue to be repaired many

To judge from (40), inceptive aspect appears to also follow the progressive and prospective aspects:

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15 It seems that it also has to follow the higher frequentative aspect head. This can be seen if, by embedding a passive, we exclude the lower frequentative and inceptive aspect heads. If so, the contrast in (i) suggests the order Asp\text{frequentative} (i) > \ldots > Asp\text{inceptive} (i):

(i) a. Ne tornò a cominciare ad esser riparata una parte
   Of-it again began to be repaired one part
   b. *Ne cominciò a tornare ad esser riparata una parte
   Of-it began to be again repaired one part
(40) a. Ne stavano cominciando/per cominciare ad esser riparate alcune
    Of them were beginning/about to begin to be repaired some

b. *Gianni ne cominciava a star perdendo/per perdere molti (di capelli)
G. of them was beginning to be losing/to be about to lose many (of hair)

By transitivity, inceptive aspect should follow retrospective aspect, which precedes progressive aspect (cf. Cinque 1999, chapters 3 and 4). The Iberian Romance languages allow us to check this prediction, as they lexicalize this aspect with (one use of) the verb acabar ‘finish’. Cf. the case of Catalan, (41), Portuguese, (42), and Spanish, (43):\(^{16}\)

(41) a. En Joan les acaba de començar a construir
    ‘J. has just begun to build them’ (*J. finishes to begin to build them’)

b. ?En Joan les comença a acabar de construir
    ‘J. begins to finish building them’ (*J. begins to have just built them’)

(42) a. Acabam-as de começar a construir
    ‘They have just begun to build them’ (*They finish to begin to build them’)

b. Começam-as a acabar de construir
    ‘They begin to finish to build them’ (*They begin to have just built them’)

(43) a. Juan lo acaba de empezar a leer
    J. it has just begun reading

b. Juan lo empieza a acabar de leer
    J. it begins to finish reading

In the (a) cases, acabar, preceding començar/começar/empezar ‘begin’, must indeed express retrospective aspect (‘to have just V-ed’), which it no longer can when following començar/começar/empezar ‘begin’. See the (b) cases, where the only meaning available is that of ‘finish’ (expressing complete aspect). Inceptive aspect apparently precedes frustrative/success aspect and conative aspect, see (44a) and (45a) (the fact that cominciare can also be found following riuscire and provare — (44b) and (45b) — can be attributed to the fact that it can also lexicalize the lower inceptive aspect head below Voice).\(^{17}\)

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\(^{16}\) I thank Carme Picallo, Pilar Barbosa and Maria Luisa Zubizarreta, respectively, for providing the relevant sentences and judgments.

\(^{17}\) The conclusion that the iniziare/cominciare following riuscire and provare is the inceptive aspect head below Voice seems supported by the contrasts in (i) and (ii), which show that iniziare can be passivized but cannot embed a passive (the judgments, however, are quite subtle):

(i) a. ?Ne riuscirono ad esser iniziati a costruire solo due
    Of them managed to begin to build only two

b. *?Ne riuscirono ad iniziare ad esser costruiti solo due
    Of them managed to begin to be built only two

(ii) a. ?Vi provarono ad esser iniziati a curare
    They in-it tried to begin to cure

b. *?Vi provarono ad iniziare ad esser curati
    They in-it tried to begin to be cured
This allows us to integrate the order in (35) as in (46):

(46) ... \text{Asphabitual} > \text{Asppredispositional} > \text{Asprepetitive(I)} > \text{Aspperminative} > \text{Aspcontinuative} > ... \\
    \text{Aspregressive} ... > \text{Aspprogressive} > \text{Aspperspective} > \text{Aspimperative} > \text{Aspfrustrative/success} > \\
    \text{Asppossessive} > \text{Aspcompletive(I)} > \text{Voice} > ... \text{Aspcompletive(II)} > \text{Asprepetitive(II)}

2 Modal verbs and the position of root modal heads

In Cinque 1999 it was noted that, while the modal heads of alethic necessity and possibility seem to occur higher than the various aspektual heads, the heads corresponding to the so-called root modalities (volition, obligation, ability and permission) seem to be interspersed among the aspektual heads, even though no definite proposal was put forth there. If we consider the relative orders of “restructuring” aspektual and modal verbs when transparency effects obtain, a fixed order emerges, which suggests a particular rigid order of the corresponding functional heads. Starting with the modal verb potere ‘can’, the facts seem to suggest that Mod\text{permission} occupies a position distinct from, and lower than, Mod\text{ability}. Both Mod\text{permission} and Mod\text{ability} precede Asp\text{nonative} (expressed by provare), cf. (47), where the interrogative context in the first person of the present tense forces a (request of) permission reading of potere, and (48), where potere expresses ability:

(47) a. Gliene posso provare a parlare io?
    To-him-of-it can I try to speak myself?

b.

(48) (49) a. Gliene posso provare a parlare io
    To-him-of-it I can try to speak myself

b.

Consider next (49), where again a permission reading of potere is involved. The contrast between the well-formedness of (49a) and the ill-formedness of (49b), suggests that potere of permission follows Aspfrustrative/success.
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(49) a. Vi riuscirà a poter entrare dopo la mezzanotte?
    There will he manage to be allowed to enter after midnight?
b. *(b) Vi potrà riuscire ad entrare dopo la mezzanotte?18
    There will he be allowed to manage to enter after midnight?

The potere of ability, instead, appears to precede Asp\textsubscript{frustrative/success}, and follow Asp\textsubscript{prospective}, see (50) and (51):

(50) a. Li puoi riuscire a convincere solo tu
    'Only you are able to manage to convince them'
b. *Li riesci a poter convincere solo tu
    'Only you manage to be able to convince them'

Here, the context favours an ability reading of potere, and the relevant judgments point to the order: Mod\textsubscript{ability} > Asp\textsubscript{frustrative/success}. The contrast in (51), finally, argues for the order of Mod\textsubscript{ability} after Asp\textsubscript{prospective} (and all higher heads):19

(51) a. Adesso, vi sto per poter sentire
    'Now, I am about to be able to hear you'
b. *Adesso, vi posso stare per sentire
    'Now, I am able to be about to hear you'

The above facts, thus, seem to substantiate the order in (52):

18 While (49b) is unacceptable under a 'permission' reading of potere, it is acceptable (though awkward) with either an 'ability' or a 'possibility' reading (both of which correspond to higher heads).

19 The order Asp\textsubscript{prospective} > Mod\textsubscript{ability} is also attested in (East Lothan) Scottish English. Miller (1980) cites (his example (9b)) a sentence such as: He’s gonna can pass his driving test next week. The head immediately above Asp\textsubscript{prospective} is Asp\textsubscript{progressive} (cf. Cinque 1999, chapters 3 and 4). Interestingly, both Turkish and Ladakhi (Sino-Tibetan) have their modal ability suffix closer to the verb stem than the progressive aspect suffix (cf. (i) and (ii)). Ladakhi, in fact, provides evidence that Mod\textsubscript{obligation} and Mod\textsubscript{permission} too are lower than Asp\textsubscript{progressive} (cf. (iib–c)), and that Mod\textsubscript{ability} is higher than Asp\textsubscript{completes} (cf. (iid)), in accord with (64) (all the Ladakhi examples are from Kossh 1979: 229f).

(i) inan- a- m- yor- um Yavag 1980 :66
    believe-ABIL-NEG-PROG-pers.sg.
    'I can't believe it'
(ii) a. sta-e chu bip- thub-bin- yot-kak
    horse water cross-ABIL-PROG-narrative PAST
    'The horse had been able to cross the water'
b. dopod- ne lok- ste yong-pi\textsubscript{chog}- gin- yot- pin- tshuk
    I Tibet return-having come- PERMISS-PROG-reportive-PAST-EVALUAT
    'I was allowed to come back from Tibet'
c. thug-gue-\textsubscript{pa} to-a\textsubscript{cha\textsubscript{a}-phog- gin- yot- pin- tshuk
    child school go- OBLIG-PROG-reportive-PAST-EVALUAT
    'Children had to be going to school'
d. kho-e l\textsubscript{so}-\textsubscript{tshor- thub-duk- pin
    he work do-COMPLET-ABIL-observed PAST
    'He could complete the work (speaker saw it)'
Guglielmo Cinque

(52) \[\text{Asp}_{\text{prospective}} > \text{Mod}_{\text{ability}} > \text{Asp}_{\text{frustrative/success}} > \text{Mod}_{\text{permission}} > \text{Asp}_{\text{comitative}}\] \[20\]

Consider next the root modal of obligation \textit{dovere}.\[21\] This verb, when transparency effects obtain, apparently follows the prospective aspect head (and all heads higher than that), and precedes the root modal head of ability, cf. (53)–(54):

(53) a. Gli stava per dovere ridare tutti i soldi che le aveva prestato
   To-him he was about to have to give back all the money he lent to her
b. *Gli doveva stare per ridare tutti i soldi che le aveva prestato\[22\]
   To-him he had to be about to give back the money he lent to her

(54) a. Per quel posto Gianni si dovrà poter dedicare al lavoro 16 ore al giorno
   ‘For that job G. will have to be able to devote 16 hours to work’
b. *Gianni si potrà dover dedicare di più al suo lavoro\[23\]
   ‘G. will be able to have to devote himself more to work’

Consider, now, the position of the root modal of volition (\textit{volere}). This appears to be located somewhat higher, possibly after Asp:\textit{frquentative} (t) (as conjectured in Cinque 1999),\[24\] and before Asp:\textit{terminative}, cf. (55)–(58):

(55) a. Non gli soleva voler dare i suoi appunti
   Not to-him he used to want to give his notes
b. *Non gli voleva soler dare i suoi appunti
   Not to-him he wanted to use to give his notes

\[20\] In this connection, it is interesting to note that certain usages of English \textit{ability} \textit{can} (e.g., \textit{Can you hear me?}, where the speaker asks whether there are any external factors hindering his communication with the addressee) cannot be rendered in Italian with \textit{ability} \textit{potere} (*Puoi sentirmi?). They can only be rendered with \textit{riuscire} ‘manage’ (\textit{Riesci a sentirmi?}) (or with the simple \textit{Mi senti?} ‘Do you hear me?’). I interpret this as suggesting that ability \textit{potere} is more restricted than ability \textit{can} (essentially to abilities which depend on the active participation of the subject), with \textit{riuscire} taking over the missing reading (abilities depending on external factors), presumably after raising to the (contiguous) ability modal head.

\[21\] The same verb can also express the higher functional heads of alethic modal necessity (‘it is necessary that. . .’), and epistemic modality (‘it is probable that. . .’).

\[22\] The sentence is possible if \textit{dovere} is interpreted epistemically.

\[23\] The sentence becomes grammatical if \textit{potere} is interpreted alethically (‘it is possible that he will have to. . .’).

\[24\] Frequentative adverbs (\textit{often}, \textit{twice} etc.) appear to precede volitional adverbs (\textit{intentionally}, \textit{willingly} etc.) (cf. Cinque 1999, chapter 1). The non existence of (‘restructuring’) aspectual verbs corresponding to Asp:\textit{frquentative} (t), do not allow us to confirm this ordering. If \textit{affrettarsi} (a) ‘hasten’, which marginally allows “restructuring”, lexicalizes the (higher) celerative aspect head, the contrast in (i) would seem to suggest that Mod:\textit{volition} precedes Asp:\textit{prospective}.

(i) a. 🎯Gianni gli si è voluto affrettare a telefonare
   G. to-him wanted to hasten to telephone
b. *Gianni gli si è affrettato a voler telefonare
   G. to-him hastened to want to telephone

Notice that the well-formedness of (56b), in the text, is expected if \textit{tornare} there is in the lower repetitive aspect head.
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(56) a. Gli tornò a voler dare il suo appoggio
To-him he again wanted to give his support
b. Gli volle tornare a dare il suo appoggio
To-him he wanted to again give his support

(57) a. Gli vorrebbe smettere di parlare
To-him he would want to stop talking
b. *Gli smetterebbe di voler parlare
To-him he would stop wanting to talk

(58) a. Gliene voglio continuare a parlare
To-him-of-it I want to continue to speak
b. *Gliene continuo a voler parlare
To-him-of-it I continue to want to speak

Adding the Mod\text{volition} and Mod\text{obligation} functional heads, we obtain the partial order in (59):

(59) \ldots \text{Mod} \text{volition} \ldots \text{Asp} \text{progressive} > \text{Asp} \text{prospective} > \text{Mod} \text{obligation} > \text{Mod} \text{ability} > \\
\text{Asp} \text{frustrative/success} > \text{Mod} \text{permission} > \text{Asp} \text{conative} \ldots

Having added Mod\text{obligation} and Mod\text{ability} between Asp\text{prospective} and Asp\text{frustrative/success} we must assess their order relative to Asp\text{inceptive}, which was also argued to be between Asp\text{prospective} and Asp\text{frustrative/success} (cf. (46) above). The sentences in (60) suggest that Asp\text{inceptive} precedes both Mod\text{obligation} and Mod\text{ability}:

(60) a. Ci comincia a dover andare anche di notte
There he begins to have to go even at night
b. Lo comincio a poter suonare solo adesso
It I begin to be able to play only now

The well-formedness of (61) is compatible with this conclusion as dovere and potere there appear to have only an epistemic or alethic interpretation ("it is probable" or "it is necessary", and "it is possible"):

(61) a. Gli deve cominciare ad essere garantito il loro appoggio
To-him must begin to be secured their support
b. Questa responsabilità non gli può cominciare ad essere attribuita di nuovo
This responsibility not to-him can begin to be attributed again

Finally, consider the position of so-called 'delayed' (or 'finally') aspect, mentioned by Cinque (1999: 105). If the Italian "restricturing" verb finire (per) 'end up doing' indeed lexicalizes this aspect, we may draw some indication about its position (beyond that deriving from
the position of \textit{finally} in the hierarchy of adverbs. The following contrasts would seem to indicate that it is located between Asp_{habitual} and Asp_{predispositional}.\footnote{Recall from the introduction above that the 'finally' suffix of Macushi is ordered between the frequentative aspect suffix and the past tense suffix, a fact compatible with the orders in (62) and (63).}

(62) a. *Gianni ne finisce per soler accettare molte
G. of-them ends up using to accept many
b. Gianni ne suole finire per accettare molte
G. of-them uses to end up accepting many

(63) a. *Gianni le finirà per tendere a fare da solo
G. them will end up tending to do alone
b. *Gianni le tenderà a finire per fare da solo
G. them will tend to end up doing alone

3 Conclusions

By exploiting the rigidity in relative order of the "restructuring" verbs (when transparency effects obtain), we found some evidence to determine the relative position of a number of aspectual and root modal heads which had remained undetermined in Cinque 1999. In particular, this allowed us to integrate into the partial order proposed there the functional heads corresponding to Asp_{comitative}, Asp_{frustrative/success}, Asp_{inceptive}, Asp_{predispositional}, Asp_{delayed} (or 'finally'), and to refine the positions of the root modal heads within the overall hierarchy in (1). The revised (portion of the) hierarchy thus obtained is given in (64).\footnote{This analysis also predicts the existence of ordering restrictions among the rigid sequence of "restructuring" verbs and different classes of adverbs. If the latter are generated in the Spec position of distinct functional heads (Cinque 1999), it is to be expected that an adverb corresponding to a functional projection higher than the one filled by a certain "restructuring" verb which remains put will not be able to follow the verb. As the examples in (i)–(ii) show, this prediction appears to be confirmed. But the whole question deserves a separate treatment.}

(i) a. Non gli riesce più a continuare a parlare
'I don't manage any longer to continue to speak to him'
b. *Non gli riesce a continuare più a parlare

(ii) a. Lo sta ancora finendo di scrivere
'He is still finishing to write it'
b. *Lo sta finendo ancora di scrivere

In the (a) examples, the "restructuring" verb generated lower than the adverb ('frustrative' aspect is lower than 'terminative' aspect) can come to precede the adverb due to its raising across the adverb in its movement to Tense and Agr. This is not possible in the (b) examples where the "restructuring" verb in question cannot cross the trace of the other "restructuring" verb moved to Tense and Agr.
(64) \ldots \text{Asp habitual} > \text{Asp delayed (or \text{"finally"})} > \text{Asp predispositional} > \text{Asp repetitive (I)} > \text{Asp frequentative (I)} > \text{Mod version} > \text{Asp celerative (I)} > \text{Asp terminative} > \text{Asp continuous} > \text{Asp perfect} > \text{Asp retrospective} > \text{Asp proximate} > \text{Asp durative} > \text{Asp progressive} > \text{Asp prospective} > \text{Asp inceptive} > \text{Mod obligation} > \text{Mod ability} > \text{Asp frustrative/success} > \text{Mod permission} > \text{Asp consensive} > \text{Asp incomplete (I)} > \text{Voice} > \text{Asp celerative (II)} > \text{Asp inceptive (II)} > \text{Asp complete (II)} > \text{Asp repetitive (II)} > \text{Asp frequentative (II)} \ldots \\

\textbf{REFERENCES}


