'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 and Ali 1996, 112f); the predispositional aspect morpheme of American Sign Language (Klima and Bellugi 1979), rendered with 'tends to'; the delayed aspect particle of Ulithian, glossed by Sohn and Bender 1973, 116 as 'finally', and the suffix between the frequentative and the past tense suffixes of Macushi, also rendered by Abbott (1991, 113ff) as 'finally'; 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, Groves and Jacobs 1985, 58); the continuative aspect suffix of Lezgian, rendered by Haspelmath (1993, 140ff) as 'still', and that of Walmadjari, rendered by

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Hudson (1976, 656) as 'keep on'; the perfect aspect suffixes of Ponapean (Rehg 1981, 269ff), and Chinese (Smith 1991, 344ff); the retrospective particles of the French creoles reported in Cinque 1997a, chapter 3, which are rendered in the literature with 'venir de', 'to have just'); the proximate prefix of Big Nambas (Fox 1979, 64), and the proximate particle of Kwaio (Keesing 1985, 118ff), rendered by both authors as 'soon'); the durative aspect suffixes of Hua (Haiman 1980, 149) and Tauya (MacDonald 1990, §3.3.2.1), meaning 'for a while'); the progressive aspect suffix of Zuni (Nichols 1993, 104) and Menya (Whitehead 1991, 266); the prospective aspect particle of Gungbe (Abloh 1996), and the prospective aspect suffixes of Comanche (Robinson and Armagost 1990, 318), meaning 'to be about to'; the inceptive aspect suffixes of Ika (Frank 1990, 57) and Waorani (Peeke 1994, 276); the conative aspect suffix of Hua (Haiman 1980, 147) and Tauya (MacDonald 1990, §3.3.2.1); the frustrative aspect suffixes of Wayampi, rendered by Jensen (1994, 359ff) as 'without success', 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).

Discussing a number of such heads, Cinque (1997a) arrives (for a subset of them) at a specific order based on the evidence available from their relative order:²

\[
\begin{align*}
\text{Asp}_{\text{habitual}} & > \text{Asp}_{\text{repetitive(I)}} > \text{Asp}_{\text{frequentative(I)}} > \text{Asp}_{\text{celerative(I)}} > \text{Asp}_{\text{terminative}} \\
\text{Asp}_{\text{proterime}} & > \text{Asp}_{\text{perfect(?)}} > \text{Asp}_{\text{retrospective}} > \text{Asp}_{\text{proximate}} > \text{Asp}_{\text{durative}} \\
\text{Asp}_{\text{progressive}} & > \text{Asp}_{\text{proterime}} > \text{Asp}_{\text{complective(I)}} (> \text{Voice}) > \text{Asp}_{\text{celerative(II)}} > \\
\text{Asp}_{\text{complective(II)}} & > \text{Asp}_{\text{repetitive(II)}} > \text{Asp}_{\text{frequentative(II)}} 
\end{align*}
\]

² 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 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).
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_{predispositional}, Asp_{delayed} (or 'finally'), Asp_{inceptive}, Asp_{frustrative/success}, and Asp_{conative}. 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 to order 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).³

No existing analysis of 'restructuring' offers, it seems, a natural account of why the transparency effects characteristic of this phenomenon occur across languages just with the classes of modal, aspectual and movement verbs (all analyses assume some form of arbitrary lexical specification, or arbitrary semantic condition). The analysis developed in 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 (1997a) 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 detailed discussion). Moreover, if the various functional heads of the clause are rigidly ordered (Cinque 1997a), 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

³. The analyses of 'Restructuring' are too numerous to list here. Cf. Rizzi (1982,chapter 1), Kayne (1989), Roberts (1997), and references cited there.
posibility 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.4

(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_{habitual} > Asp_{predispositional} (cf. (4) and (5)).5

4. 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 and Salvi 1991,521), the 'restructuring' use of tendere (a) is felt by some as colloquial.

5. 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 Beninca (and possibly other speakers) the other order (tendere (a) > solere) is also admitted.
(4) a  ?Certe cose le si suole tendere a fare subito  
Certain things them si (one) uses to tend to do immediately
b  *Certe cose le si tende a soler fare subito  
Certain things them si (one) tends 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 soler fare in vecchiaia  
Certain things si (one) tend to use to do when old

In turn, when transparency effects obtain, *tendere (a)* appears to obligatorily precede *tornare (a)* 'do again', which expresses répétitive aspect. Cf. (6):^6

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^6. 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'

^6. As noted in Cinque (1997a), 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. (6)b).

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:
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(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)  
   ... Asp\textsubscript{habitual} > Asp\textsubscript{predispositional} > Asp\textsubscript{repetitive} ...

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').

(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: ... Asp\textsubscript{predispositional} ... >... Asp\textsubscript{terminative} ...

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

7. The paraphrase relation between smettere (di) and più is, nonetheless, complex, involving different values of other functional heads. See: Aveva smesso di farlo 'he had stopped doing it', with anterior of the past and perfect 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).

8. 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
Where does $\text{Asp}_{\text{terminative}}$ locate itself with respect to $\text{Asp}_{\text{repetitive}}$, which also follows $\text{Asp}_{\text{predispositional}}$? 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)):

(9)  
\begin{align*}
\text{a} & \quad \text{Certe persone si tornano a smettere di frequentare in certe circostanze} \\
& \quad \text{Certain people si (one) again stops to frequent under certain circumstances} \\
\text{b} & \quad \text{Certe persone si smettono di tornare a frequentare in certe circostanze} \\
& \quad \text{Certain people si (one) stops to frequent again under certain circumstances}
\end{align*}

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

(10)  
\begin{align*}
\text{... Asp}_{\text{habitual}} & \text{ > Asp}_{\text{predispositional}} \text{ > Asp}_{\text{repetitive(1)}} \text{ > Asp}_{\text{terminative}} \\
& \quad \text{..... (> Asp}_{\text{repetitive(1)})}
\end{align*}

(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 $\text{tornare (a)}$ 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 $\text{continuare (a)}$ (as well as by the adverb $\text{ancora 'still'}$).\(^9\) See (11), with clitic climbing, and (12) with 'long object preposing':

(11)  
\begin{align*}
\text{b} & \quad \text{*Certe cose si smettono di soler fare dopo una certa età} \\
& \quad \text{Certain things si (one) stop to use doing after a certain age}
\end{align*}

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\(^9\). As noted in Cinque (1997a, §4.18), if they can cooccur at all, the terminative aspect adverb $\text{più 'no longer'}$ also has to precede the continuative aspect adverb $\text{ancora 'still'}$: 
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(11) a  ?Vi smise di continuare ad andare
There (he) stopped to continue going
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 to continue doing
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):

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

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

\[ \text{(i) a} \]

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

\[ \text{(i) b} \]

*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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10. Continuative aspect is apparently to be distinguished from an aspect meaning 'continuously, constantly' (cf. the aspectual suffix -\text{ruku} of Tuyuca - Barnes 1994, 331). The latter appears to correspond to English keep, Italian seguitare (a), which, as noted in Freed (1979, 90ff) differs from continue/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.
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 Asp_{repetitive(I)}, higher than Asp_{continuative}, and in Asp_{repetitive(II)}, lower than Asp_{continuative}, 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 continues to do as soon as is possible

b Certe cose si continuano a tornare a fare appena è possibile
   Certain things si (one) continues to again do as soon as is possible

Consider next the relative order of the conative and 'frustative/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', and (non) riuscire (a) '(not) manage', respectively.

The data in (17)-(18) appear to indicate that frustative/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

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11. 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.
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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 aspectual heads with respect to the aspectual heads in (13)?

The following contrasts suggest that Asp_{trustative/success} and Asp_{conative} are ordered after
Asp_{continuative} (and, a fortiori, after Asp_{terminative}, Asp_{predispositional}, and Asp_{habitual}, which
precede Asp_{continuative}).\textsuperscript{12}

(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 to repair

\textsuperscript{12} The non total ungrammaticality of (19)b-(20)b may be related to the (quite marginal) possibility
for continuative aspect to be found below Voice (hence below Asp_{trustative/success} and Asp_{conative}). Cf.
fn.16 below for independent evidence concerning this (marginal) possibility.
(22) a Gianni non vi smetterà mai di riuscire a convincere...
   G. not you will ever stop to manage 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 soleva 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

But where exactly after Asp_{continuous} are Asp_{frustrative/success} and Asp_{coative} located in the hierarchy in (1)?

There is some evidence that they are located between Asp_{prospective} and the Asp_{completive} above Voice. As (27)-(28) show Asp_{frustrative/success} must follow, rather than precede, Asp_{progressive} and Asp_{prospective}:

(27) a Gianni gli stava riuscendo a parlare, finalmente
   G. to-him was managing to speak, finally
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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 Asp_{conative}. See (29)-(30):¹³

(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 riuscire (a) and provare (a) always precede finire (di) (cf. (31)-(32)) suggests that Asp_{frustative/success} and Asp_{conative} precede the Asp_{completive} above Voice (as well as the one below Voice):¹⁴

¹³ 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)'
(31)  
a  Gianni non la riuscì a finire di imparare a memoria  
G. it did not manage to finish to learn 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 $Asp_{\text{frusative/success}}$ and $Asp_{\text{conative}}$ 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 (1997b) 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 $\text{finire (di)}$ 'finish' and

\[\text{(i) a Le case gli finirono di esser consegnate a marzo} \]
\[
\text{The houses to-him finished to be handed in March}  
\]
\[
\text{(i) b Ne furono finite di costruire solo due}  
\]
\[
\text{Of-them were finished to build only two}  
\]

\[\text{(31)b-(32)b are partially rescued if finire is assigned a terminative interpretation (similar to 'stop'),} \]
\[\text{rather than its completive one ('finish?end'), a possibility open to finire in Italian, though not to} \]
\[\text{finish in English. Cf. Cinque (1997b).} \]
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cominciare (a) 'begin' - cf. (34), and Cinque 1997b for discussion.\textsuperscript{15} 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 (1997a) for an Asp\textsubscript{complete} head lower than Voice (see also Cinque 1997b).

\begin{enumerate}
\item[(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
\end{enumerate}

\begin{enumerate}
\item[(34)] a  
Quelle case furono finite di costruire negli anni cinquanta  
Those houses were finished building in the '50's  
b  
?Quelle case furono cominciata a costruire negli anni cinquanta  
Those houses were begun to build in the '50's
\end{enumerate}

To summarize, the order suggested by the evidence considered so far is the one in

\begin{enumerate}
\item[(35)] .... Asp\textsubscript{habitual} > Asp\textsubscript{predispositional} > Asp\textsubscript{repetitive(I)} > Asp\textsubscript{terminative} >  
Asp\textsubscript{coasiative} .... Asp\textsubscript{progressive} > Asp\textsubscript{prospective} > Asp\textsubscript{frustrative/success} >  
Asp\textsubscript{coasive} > Asp\textsubscript{complete}(I) > Voice > .... Asp\textsubscript{complete}(II) > Asp\textsubscript{repetitive}(II)
\end{enumerate}

Consider now inceptive aspect, expressed in Italian by such verbs as cominciare (a)/iniziare (a). In Cinque (1997b) some evidence is discussed for positing two distinct inceptive aspect heads, one lower than Voice, marking inception at the natural starting point of a process, just as completive aspect marks cessation at the natural end

\textsuperscript{15} 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.

\begin{enumerate}
\item[(i)] a  
?(!?) L'affitto fu continuato a pagare fino alla fine dell'anno  
(Lit.) the rent was continued to pay till the end of the year
\end{enumerate}
point of the process (whence the well-formedness of the 'long passivization' of (34)b), 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))."\(^{16}\)

\[
\begin{align*}
(36) & \quad \text{a} & \text{Gianni gli soleva cominciare a scrivere dopo mesi} \\
& & \text{G. to-him used to begin to write many months later} \\
& \quad \text{b} & \text{*Gianni gli cominciava a soler scrivere dopo mesi} \\
& & \text{G. to-him began to use to write many months later} \\
(37) & \quad \text{a} & \text{Gianni ne tendeva a cominciare ad affrontare troppi} \\
& & \text{G. of-them tended to begin to confront too many} \\
& \quad \text{b} & \text{*Gianni ne cominciava a tendere ad affrontare troppi} \\
& & \text{G. of-them began to tend to confront too many}
\end{align*}
\]

Consider now the relative location of the higher inceptive aspect head with respect to the terminative and continuative aspect heads.

Although the facts are perhaps not crystal clear, it seems that the higher inceptive head has to follow the terminative and continuative aspect heads. Cf. (38)-(39):

\[
\begin{align*}
(38) & \quad \text{Ne tornò a cominciare ad esser riparata una parte} \\
& & \text{Of-it again began to be repaired one part} \\
(39) & \quad \text{Ne cominciò ad esser riparata una parte} \\
& & \text{Of-it began to be again repaired one part}
\end{align*}
\]

\(^{16}\) 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}\(>\) Asp\text{inceptive}:

\[
\begin{align*}
(\text{i}) & \quad \text{a} & \text{Ne tornò a cominciare ad esser riparata una parte} \\
& & \text{Of-it again began to be repaired one part} \\
& \quad \text{b} & \text{*Ne cominciò a tornare ad esser riparata una parte} \\
& & \text{Of-it began to be again repaired one part}
\end{align*}
\]
'Restructuring' and the order of aspectual and root modal heads

(38) a  Ne smisero di cominciare ad esser riparate molte
        Of-them stopped to begin to be repaired many

       b *Ne cominciarono a smettere di esser riparate molte
           Of-them began to stop to be repaired many

(39) a  Ne continuarono 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:

(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 1997a, 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 ((43)), Portuguese ((44)), and Spanish ((45)):17

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

17. I thank Carme Picallo, Pilar Barbosa and Maria Luisa Zubizarreta, respectively, for providing the relevant sentences and judgements.
(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 começar/começar/empezar 'begin', must indeed express retrospective aspect ('to have just V-ed'), which it no longer can when following começar/começar/empezar 'begin'. See the b. cases, where the only meaning available is that of 'finish' (expressing completive aspect).

Inceptive aspect apparently precedes frustrative/success aspect and conative aspect. See (44)a-(45)a (the fact that cominciare can also be found following riuscire and provare - (44)b-(45)b - can be attributed to the fact that it can also lexicalize the lower inceptive aspect head below Voice).\textsuperscript{18}

\textsuperscript{18} 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 judgements, however, are not very sharp):

(i) a ?Ne riuscirono ad esser iniziare a costruire solo due 
Of-them managed to be begun to build only two

b *?Ne riuscirono ad iniziare ad esser costruite solo due 
Of-them managed to begin to be built only two
"Restructuring" and the order of aspectual and root modal heads

(44) a Gianni ne cominciava a riuscire a tradurre molti
G. of-them began to manage to translate many

b Gianni ne riusciva a cominciare a tradurre molti
G. of-them managed to begin to translate many

(45) a Gianni ne cominciò a provare a tradurre uno
G. of-them began to try to translate one

b Gianni ne provò a cominciare a tradurre uno
G. of-them tried to begin to translate one

This allows us to integrate the order in (35) as in (46):

(46) ... Asp_{habitual} > Asp_{predispositional} > Asp_{repetitive(I)} > Asp_{terminative} > Asp_{continuative}
> ... Asp_{retrospective} → Asp_{progressive} > Asp_{perspective} > Asp_{inceptive} >
Asp_{reactive/successive} > Asp_{assertive} > Asp_{completive(I)} > Voice > ... Asp_{completive(II)}
> Asp_{repetitive(II)}

2. Modal verbs and the position of root modal heads. In Cinque (1997a) it was noted that, while the modal heads of alethic necessity and possibility seem to occur higher than the various aspectual heads, the heads corresponding to the so-called root modalities (volition, obligation, ability and permission) seem to be interspersed among the aspectual heads, even though no definite proposal was put forth there.

If we consider the relative orders of 'restructuring' aspectual and modal verbs when transparency effects obtain, a fixed order emerges, which suggests a particular rigid order of the corresponding functional heads.

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

b *?Vi provarono ad iniziare ad esser curati
They in-it tried to begin to be cured
Starting with the modal verb *potere* 'can', the facts seem to suggest that Mod$_{permission}$ occupies a position distinct from, and lower than, Mod$_{ability}$.

Both Mod$_{permission}$ and Mod$_{ability}$ precede Asp$_{constative}$ (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  *Gliene provo a poter parlare io?
      To-him-of-it do I try to be allowed to speak myself?

(48)  a  Gliene posso provare a parlare io
      To-him-of-it I can try to speak myself
   
   b  *Gliene provo a poter parlare io
      To-him-of-it I try to be able to speak myself

Consider next (49), where again a permission reading of *potere* is involved. The contrast between the well-formedness of (49)a, and the ill-formedness of (49)b, suggests that *potere* of permission follows Asp$_{frustrative/success*}$

(49)  a  Vi riuscirà a poter entrare dopo la mezzanotte?
      There will he manage to be allowed to enter after midnight?
   
   b  (*VI *(*)potrà riuscire ad entrare dopo la mezzanotte?\19
      There will he be allowed to manage to enter after midnight?

The *potere* of ability, instead, appears to precede Asp$_{frustrative/success*}$, and follow Asp$_{prospective*}$. See (50) and (51):

(50)  a  Li puoi riuscire a convincere solo tu
      Only you are able to manage to convince them

---

19. While (49)b 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).
"Restructuring' and the order of aspeccual and root modal heads

b  *Li riesci a potere convincere solo tu
    Only you manage to be able to convince them

Here, the context favors an ability reading of potere, and the relevant judgements point to the order: Modability > Aspfrutuative/success*.

The contrast in (51), finally, argues for the order of Modability after Aspprogressive (and all higher heads):20

20. The order Aspprospective > Modability is also attested in (East Lothian) Scottish English. Miller (1980) cites (his example (9)b) a sentence such as: He's gonna can pass his driving test next week.
The head immediately above Aspprospective is Aspprogressive (cf. Cinque 1997, 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)a).
Ladakhi, in fact, provides evidence that Moddubious and Modpermission too are lower than Aspprogressive (cf. (ii)b-c), and that Modability is higher than Aspcumulative (cf. (ii)d), in accord with (59) (all the Ladakhi examples are from Koshal 1979,229ff):

(i)  inan-a-unt-yor-um  Yavas (1980,66):
    believe-ABIL-NEG-PROG-1pers.sg. 'I can't believe it'

(ii)a  sta-e  chu  bin-thub-bin-yot-kak
    horse water cross-ABIL-PROG-narrative PAST
    'The horse had been able to cross the water'

b  napod-ne  lok-ste  yon-nor  thog-gin-yot-pin-tshuk
    I  Tibetan return-having come-PERMISS-PROG-reportive PAST-EVALUAT
    'I was allowed to come back from Tibet'

c  thug-ru  le-pa  -a  -phog-gin-yot-pin-tshuk
    child school  go-OBLIG-PROG-Reportive PAST-EVALUAT
    'Children had to go to school'

d  kho-e  le  -tshor-thub-duk-pin
    he  work do-COMPLET-ABIL-observed PAST
    'He could complete the work (speaker saw it)'
(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):

(52) \[ \text{Asp}_{\text{prospective}} > \text{Mod}_{\text{ability}} > \text{Asp}_{\text{resultative/success}} > \text{Mod}_{\text{permission}} > \text{Asp}_{\text{conative}} \]  

Consider next the root modal of obligation *dovere*. 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 dover ridare tutti i soldi che le aveva prestato
To-him he was about to have to give back the money he lent to her

b *Gli doveva stare per ridare tutti i soldi che le aveva prestato*  

To-him he had to be about to give back the money he lent to her

---

21. In this connection, it is interesting to note that certain usages of English ability *can* (e.g. *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 ability *potere* (*Puoi sentirmi?*). They can only be rendered with *riuscire* 'manage' (*Riesci a sentirmi?*) (or with the simple *Mi senti?* 'Do you hear me'). I interpret this as suggesting that ability *potere* is more restricted than ability *can* (essentially to abilities which depend on the active participation of the subject), with *riuscire* taking over the missing reading (abilities depending on external factors), presumably after raising to the (contiguous) ability modal head.

22. 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...').

23. The sentence is marginally possible if *dovere* is interpreted epistemically.
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(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\(^24\)
    G. will be able to have to devote himself more to work

Consider, now, the position of the root modal of volition (volere). This appears to be located somewhat higher, possibly after Asp\(_{\text{frequentative(1)}}\) (as conjectured in Cinque 1997a),\(^25\) and before Asp\(_{\text{terminative}}\). 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

(56)  a  Gli tornò a voler dare il suo appoggio
       To-him he again wanted to give his support

\(^{24}\) The sentence becomes grammatical if potere is interpreted alethically ('it is possible that he will have to...').

\(^{25}\) Frequentative adverbs (often, twice, etc.) appear to precede volitional adverbs (intentionally, willingly, etc.) (cf. Cinque 1997a, chapter 1). The non existence of (restructuring) aspectual verbs corresponding to Asp\(_{\text{frequentative(1)}}\) do not allow us to confirm this ordering.

If affrettarsi (a) 'hasten', which marginally allows 'restructuring', lexicalizes (the higher) celerative aspect head, the contrast in (i) would seem to suggest that Mod\(_{\text{volitional}}\) precedes Asp\(_{\text{celerative}}\):

(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 fastened to want to telephone

Notice that the well-formedness of (56)b, in the text, is expected if tornare there is in the lower repetitive aspect head.
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\textsubscript{volition} and Mod\textsubscript{obligation} functional heads, we obtain the partial order in (59):

\[
(59) \quad \ldots \text{Mod}_{\text{volition}} \ldots \text{Asp}_{\text{progressive}} > \text{Asp}_{\text{progressive}} > \text{Mod}_{\text{obligation}} > \text{Mod}_{\text{ability}} > \text{Asp}_{\text{frustrative/success}} > \text{Mod}_{\text{permission}} > \text{Asp}_{\text{conservative}} \ldots
\]

Having added Mod\textsubscript{obligation} and Mod\textsubscript{ability} between Asp\textsubscript{progressive} and Asp\textsubscript{frustrative/success} we must assess their order relative to Asp\textsubscript{inceptive}, which was also argued to be between Asp\textsubscript{progressive} and Asp\textsubscript{frustrative/success} (cf. (46) above). The sentences in (60) suggest that Asp\textsubscript{inceptive} precedes both Mod\textsubscript{obligation} and Mod\textsubscript{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'):
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(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 in Cinque (1997a) and fn. 2 above. If the Italian 'restructuring' 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 finally in the hierarchy of adverbs).

The following contrasts would seem to indicate that it is located between Asp<sub>habitus</sub> and Asp<sub>predispositional</sub>\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) below.}

(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 (1997a). In particular, this allowed us to integrate into the partial order proposed there the functional heads corresponding to $\text{Asp}_{\text{frustative/success}}$, $\text{Asp}_{\text{inceptive}}$, $\text{Asp}_{\text{predispositional}}$, $\text{Asp}_{\text{delayed}}$ (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):27

\[
\begin{align*}
\text{(64)} \quad & \ldots \text{Asp}_{\text{habitual}} > \text{Asp}_{\text{delayed (or finally)}} > \text{Asp}_{\text{predispositional}} > \text{Asp}_{\text{repititive(I)}} > \\
& \quad \quad \quad \quad \quad > \text{Asp}_{\text{frequency(I)}} > \text{Mod}_{\text{volition}} > \text{Asp}_{\text{celerative(I)}} > \text{Asp}_{\text{terminative}} > \text{Asp}_{\text{continuative}} \\
& \quad \quad \quad \quad \quad > \text{Asp}_{\text{perfect}} > \text{Asp}_{\text{retrospective}} > \text{Asp}_{\text{proximative}} > \text{Asp}_{\text{durative}} > \text{Asp}_{\text{progressive}} > \\
& \quad \quad \quad \quad \quad \quad \quad \text{Asp}_{\text{prospective}} > \text{Asp}_{\text{inceptive}} > \text{Mod}_{\text{obligation}} > \text{Mod}_{\text{ability}} > \text{Asp}_{\text{frustative/success}} > \\
& \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{Mod}_{\text{permission}} > \text{Asp}_{\text{comitative}} > \text{Asp}_{\text{comitative(I)}} > \text{Voice} > \text{Asp}_{\text{celerative(II)}} > \\
& \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{Asp}_{\text{inceptive(II)}} > \text{Asp}_{\text{comitative(II)}} > \text{Asp}_{\text{repetitive(II)}} > \text{Asp}_{\text{fruzitative(II)}} \ldots
\end{align*}
\]

27. 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 1997a), 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 riesco più a continuare a parlare
   I don't manage any longer to continue to speak to him
   b  *Non gli riesco 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 ('frustative' 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.
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