Restructuring and Implicative Properties of *volere*[*]

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Abstract

This paper deals with a puzzling interaction between Italian *volere* (*want*) and viewpoint aspect. With perfective aspect (but not with imperfective), *volere* acts like an implicative predicate (such as *manage*): the proposition expressed by its complement clause has to hold in the actual world, and not merely, as expected from a standard semantics for desire predicates (cf. Hintikka 1962, Heim 1992), in the subject's desire worlds. I show that this peculiar effect can be explained by invoking the restructuring properties of *volere*. In particular, I take Italian restructuring constructions to be monoclausal (Wurmbrand 2001) and involve a single Tense and Aspect projection, resulting in a single event quantification. This single event quantification yields a single event, which has to occur both in the actual world and in all of the subject's desire worlds. I further show that *volere*'s lack of implicative behavior with imperfective aspect arises from an additional layer of modality associated with the imperfective.

1   Introduction

This paper discusses the intriguing interaction of Italian *volere* (*want*) with viewpoint aspect. Perfective aspect on *volere* seems to force the proposition expressed by its complement clause to hold in the actual world, and not merely, as expected from standard semantics for desire predicates (cf. Hintikka 1962, Heim 1992, a.o.), in all of the subject's desire worlds. As shown in (1), denying that the complement clause took place in the actual world yields a contradiction, but not in (2):

(1)   Gianni   ha voluto   parlare   a   Maria,   #ma   non   lo   ha fatto.
       Gianni   want-pst-**pfv**   talk   to   Maria   But   not   it   do-pst-pfv
       'Gianni wanted to talk to Maria, #but he didn't do it.'

(2)   Gianni   voleva   parlare   a   Maria,   Ma   non   lo   ha fatto.
       Gianni   want-pst-**impf** talk   to   Maria   But   not   it   do-pst-pfv
       'Gianni wanted to talk to Maria, but he didn't do it.'

The first question that this data raises is why the perfective, a mere aspectual marker (i.e., a quantifier over events), forces the actualization of the complement, but not the imperfective. As we will see, the same puzzle arises with root modals (Bhatt 1999, Hacquard 2006). Perfective aspect on a root modal (such as ability *can*) yields what Bhatt calls an 'actuality entailment', that is, an undefeasible inference that the proposition expressed by the modal's complement took place in the actual world. Actuality entailments with root modals can be found in many languages that show a morphological distinction between perfective and imperfective aspect (such as Italian, French, Hindi…). The following Italian examples illustrate:

(3)   Gianni   ha potuto   parlare   a   Maria,   #ma   non   lo   ha fatto.
       Gianni   can-pst-**pfv**   talk   to   Maria   but   not   it   do-pst-pfv
       'Gianni was able to talk to Maria, #but he didn't do it.'

(4)   Gianni   poteva   parlare   a   Maria,   ma   non   lo   ha fatto.
       Gianni   can-pst-**impf**   talk   to   Maria   but   not   it   do-pst-pfv
       'Gianni was able to talk to Maria, but he didn't do it.'

I will first show that actuality entailments with *volere* involve the same ingredients as with root modals, and that the solution Hacquard (2006, 2007) offers for the latter can straightforwardly be extended to *volere*. Relating the implicative behavior of *volere* to that of root modals raises, however, a second question: if root modals' actuality entailments are to be found in many languages that have a morphological perfective/imperfective distinction, why don't the counterparts of *volere* in those languages also yield actuality entailments with perfective? As shown in the following example, French *vouloir* (*want*) is never implicative, regardless of aspect:

(5)   Gianni   a voulu   parler   à   Maria,   mais   il ne   lui   a pas parlé.
       Gianni   want-pst-**pfv**   talk   to   Maria   but   he NE   her   talk-pst-pfv

(6)   Gianni   voulait   parler   à   Maria,   mais   il ne   lui   a pas parlé.
       Gianni   want-pst-**impf** talk   to   Maria   but   he NE   her   talk-pst-pfv
       'Gianni wanted to talk to Maria, but he didn't do it.'

I will argue that what sets *volere* apart from its French (or Hindi) counterpart, and underlies its implicative behavior, is structural in nature: while both *volere* and *vouloir* share the same modal component (quantification over desire worlds), *volere*, unlike *vouloir*, is a 'Restructuring Predicate'. As such, I will argue, *volere* is not a verb (i.e., a

predicate of events), but rather a functional element, which forms a single clause with its complement, with just one tense and aspect projection, and thus a single event quantification. Thus, while (5) involves two events, a *wanting* event and a *talking* event, (1) describes a single event of *talking*, which occurs both in the actual world and in the desire worlds of the subject.

This paper will be organized as follows: in section 2, I will provide some background assumptions on the semantics of tense, aspect and desire predicates. Section 3 will be devoted to actuality entailments with root modals. In section 4, I will discuss restructuring and implicative properties of *volere* and show how to derive actuality entailments with *volere* in section 5.

2   Background Assumptions

In this section I first provide background assumptions on tense and aspect, and then discuss a standard semantics for *want*.
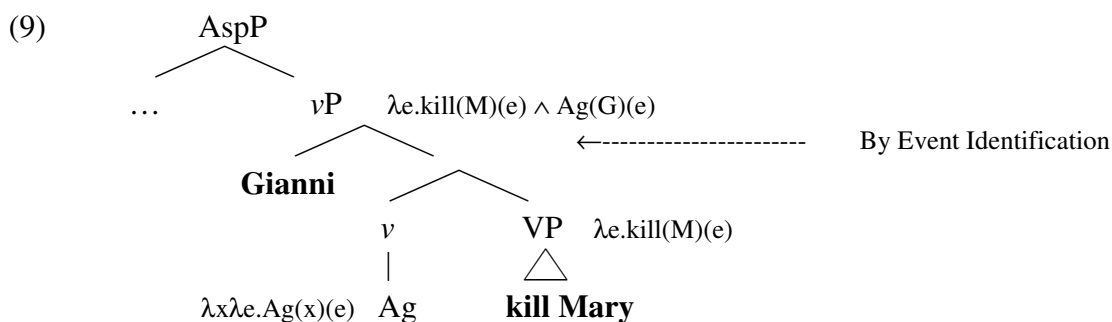
2.1   Semantics for *tense* and *aspect*

I assume that **Tenses** are referential (i.e., they are not parameters), and thus explicitly represented in the syntax (cf. Partee 1973). The following entries are from Kratzer (1998), where the overlap/anteriority relation with the speech time t* is given as a presupposition: the context has to provide a salient time interval t which overlaps/precedes the speech time:

(7)   a. $[[pres]]^c$ only defined if c provides an interval $t \approx t^*$. If defined $[[pres]]^c = t$.
         b. $[[past]]^c$ only defined if c provides an interval $t < t^*$. If defined $[[past]]^c = t$.

In the Davidsonian tradition, I take **verbs** to be predicates of events. Following Marantz (1984), and Kratzer (1996), I further assume that there is an asymmetry between the external and internal arguments of the verb, such that the external argument is not an argument of the verb, but is introduced via a *voice* projection (vP), headed by an Agent relation, which combines with the VP by a rule of Event Identification:

(8)   a. $[[kill]] = \lambda x\, \lambda e.\, kill(x)(e)$
         b. $[[kill\ Mary]] = \lambda e.\, kill(Mary)(e)$
         c. $[[Agent]] = \lambda e\, \lambda x.\, Agent(x)(e)$

(9)   AspP

   …   *v*P   λe.kill(M)(e) ∧ Ag(G)(e)

                                      ←---------------------- By Event Identification
        Gianni

             v   VP   λe.kill(M)(e)

             | △
      λxλe.Ag(x)(e) Ag   **kill Mary**

Aspects are quantifiers over events; they locate the running time of the event described by the vP with respect to a reference time provided by Tense (cf. Klein 1994; Kratzer 1998). I will assume the following lexical entry for perfective aspect (from Hacquard 2007), according to which perfective existentially quantifies over the vP event, and locates its running time (t(e)) within a time interval t, later provided by tense. We will briefly turn to imperfective aspect in section 3.

(10) $[[\text{PERFECTIVE}]]^w = \lambda P_{<et>}.\lambda t_i. \exists e\ [e\ in\ w\ \&\ t(e) \subseteq t\ \&\ P(e)]$

The following example illustrates a simple sentence:

(11) $[[\text{Gianni escaped}]]^w = 1$ iff $\exists e[e\ in\ w\ \&\ t(e){\subseteq}t\ \{t{<}t^*\}\ \&\ e\ is\ an\ escape\ by\ G\ in\ w]$
         where $\{t{<}t^*\}$ is the presupposition of 'past'
         'There is an event contained in a salient past interval of Gianni escaping'.

2.2   Semantics for *want*

In the Hintikka tradition, desire predicates are treated as universal quantifiers over possible worlds: worlds compatible with the desires of the subject. More precisely, attitude verbs like *want* (as opposed to *wish* or *would like*) have been argued to quantify over desirable doxastic alternatives of the subject, as opposed to mere desire worlds (cf. Heim 1992, Portner 1994, Giorgi and Pianesi 1997, a.o). To illustrate this point, consider the following pairs of sentences, where the infelicity of (a) shows that *to want p*, *p* has to be compatible with the subject's beliefs: (For more detailed arguments, notably some involving presupposition projection facts, see Heim 1992):

(12)   a.   #Gianni wants the Earth to be flat.
         b.   Gianni would like the Earth to be flat.

To formalize this insight, we take *want* to quantify over doxastic alternatives of the subject, further ordered by a bouletic ordering source (the following entry is adapted from von Fintel 1999), where BEST$_{desire}$ picks out the most desirable worlds, as determined by the bouletic ordering source (*desire*), among the doxastic alternatives of the subject:

(13) $[[x \text{ want } p]]^W = 1$ iff $\forall w' \in \text{BEST}_{desire}(\text{DOX}(x,w))$: $p(w')$

Lastly, *want* is a verb and, like other verbs, it should be treated as a predicate of events: it needs to be in the scope of Tense (for instance to yield past desires), and to combine with Aspect (to provide quantification over its event argument). I thus propose to modify the above entry, as to give *want* an event argument. Note that, as stated in the preceding section, I assume that the external argument (the agent of the *wanting* event) will later combine with the VP via a *voice* projection:

(13') $[[\text{want}]]^W = \lambda p.\ \lambda e.\ \text{want}(e)\ \&\ \forall w' \in \text{BEST}_{desire}(\text{DOX}(\text{Ag}(e),\tau(e),w))$: $p(w')$

The following example illustrates. Note that in this English sentence, the complement clause seems future-oriented (the escaping event happens in the future of the wanting event). For reasons of space, I'll simply assume, without giving a precise treatment, that, because the complement of *want* is a full proposition, we could add a covert future tense in the complement clause:

(14)   a. Gianni wanted to escape.
        b. $[_{TP}$ T $[\text{perf } [\text{ want } [\ [_{TP} \text{ G. escape }] \ ] \ ] \ ] \ ]$
        c. $[[(a)]]^W = 1$ iff $\exists e_1[\ e_1 \text{ in } w\ \&\ t(e_1) \subseteq t\{t<t^*\}\ \&\ e_1$ is a wanting by G., s.t. in
                $\forall w' \in \text{BEST}_{desire}(\text{DOX}(G,\tau(e),w))$: $\exists e_2[e_2$ is an escape by G in w']]
        d. *'There is a past wanting event by Gianni, s.t. in all of his most desirable doxastic alternatives at that wanting time, there is an event of G. escaping.'*

We see that we obtain an escaping event by Gianni in all of his desire worlds. These truth conditions do not imply that Gianni does (or will) escape *in the actual world*. This is exactly what we want for English (or French or Hindi...): a sentence like '*John wanted to escape, but he never did*' is not a contradiction. However, this cannot account for the implicative behavior of Italian *volere*. Recall that, as illustrated in examples like (1), repeated below, the complement of *volere* with perfective aspect seems to be forced to hold in the actual world:

(15)   Gianni ha voluto   parlare   a   Maria, #ma   non   lo   ha fatto.
        Gianni want-pst-**pfv** talk   to   Maria   but   not   it   do-pst-pfv
        'Gianni wanted to talk to Maria, #but he didn't do it.'

As mentioned in the introduction, this behavior is reminescent of Bhatt's *actuality entailments* with perfective on root modals, to which we now turn to.

3   Actuality entailments with root modals

We saw in the introduction that root modals behave like implicative predicates (their complement is entailed to hold in the actual world) with perfective aspect, but not imperfective (Bhatt 1999). Examples (1) and (2) are repeated below:

(16)   Gianni   ha potuto   parlare   a   Maria, #ma   non   lo   ha fatto.
         Gianni   can-pst-**pfv**   talk   to   Maria   but   not   it   do-pst-pfv
         'Gianni was able to talk to Maria, #but he didn't do it.'

(17)   Gianni   poteva   parlare   a   Maria,   ma   non   lo   ha fatto.
         Gianni   can-pst-**impf**   talk   to   Maria   but   not   it   do-pst-pfv
         'Gianni was able to talk to Maria, but he didn't do it.'

In this section, I will go over the proposal I offered in Hacquard (2006, 2007) to explain this data. There, I argued that actuality entailments arise in a particular configuration of aspect and a modal element, namely, when aspect takes scope over a modal (which happens when the modal receives a root interpretation, as opposed to an epistemic one), and when no other modal element takes scope above it. This is so because Aspect is anchored to a world of evaluation (cf. (9), repeated below, where the relevant anchoring is in boldface):

(18) $[[\text{PERFECTIVE}]]^w = \lambda P_{<et>}.\lambda t_i. \exists e\ [\textbf{e in w}\ \&\ t(e) \subseteq t\ \&\ P(e)]$

When aspect is outside the scope of the modal, its world argument is the matrix world of evaluation (the actual world), thus the event it quantifies over has to occur in the actual world, thereby yielding an actual event. Hacquard (2007) assumes that root modals are merged below tense and aspect (cf. Cinque 1999, Brennan 1993, Butler 2003): they take a predicate of events and return a predicate of events:

(19) $[[\text{can}_{root}]]^w = \lambda P_{<set>}.\lambda e.\ \exists w'$ compatible with circumstances in w s.t. P(w')(e)

Putting these elements together in a sentence, we obtain an actuality entailment as follows:

(20) $[[(16)]]^w = 1$ iff $\exists e[e$ in w & $\tau(e) \subseteq t\{t<t^*\}$ & $\exists w'$ compatible with
                            circumstances in w s.t. e is a talk-to M. by G. in w']
         '*There is an **actual event** located in a past interval which, in some world compatible with the circumstances is an event of talking to Maria by Gianni.*'

Now, what the truth conditions in (20) tell us is that there was an actual event, which, in *some* accessible world, is an event of talking to Maria. We are not yet getting an actual event *of* talking to Maria. To get the full actuality entailment, Hacquard (2007) proposes the principle of Event Identification across Worlds in (21), which relies on the

assumption that the same event will receive the same description across worlds, unless otherwise indicated (as in the case of counterfactuals, which are usually marked with particular morphology, e.g., subjunctive or *conditionnel*):

(21)   **Event Identification across Worlds:**
        For any w_1, w_2, if an event e occurs in w_1 and w_2, and e is a P-event in w_1,
        it is a P-event in w_2 as well.

Assuming that such a principle holds, we obtain an actuality entailment for (16) as follows: we know that e occurs in w* (via the world assigned to aspect). We further know that e is a talking_to_Maria event in some world w. We therefore conclude that that same e is a talking_to_Maria event in w*. In section 5, we will return to some evidence that such a principle holds, after we discuss the case of *volere*.

The last puzzle that needs to be resolved is the lack of actuality entailments with imperfective aspect. If imperfective worked exactly like the perfective, and only differed in durational properties it assigns to the event it quantifies over, we should expect actuality entailments there as well. But, as (17) illustrates, this is not the case. However, it has been shown that imperfective morphology is cross-linguistically (and independently of these facts) associated with a modal element (e.g., progressive, counterfactual, generic; cf. Bhatt 1999, Cipria & Roberts 2000, Ippolito 2004, Hacquard 2006, a.o.). Following Bhatt (1999), Hacquard (2006, 2007) takes the imperfective to reflect the presence of an additional modal operator e.g., a counterfactual modal. A counterfactual modal picks out worlds as similar as possible to the actual world, in which an (antecedent) if-clause holds (cf. Lewis 1973). This modal takes scope over aspect, and thereby anchors the event to the worlds it quantifies over. We obtain an event of talking to Maria in all counterfactual worlds (e.g., worlds as similar as possible to the actual world, but where Gianni had a desire to talk to Maria), but, crucially, not necessarily in the actual world; hence we avoid an actuality entailment:

(22)   a.   (Se lo voleva,)   Gianni poteva   parlare a Maria, ma non lo ha fatto.
        b.   (If he wanted to,) Gianni can-past-**impf** talk   to M., but not it do-past-pfv.
        c.   [$_{ModP}$ **CF$_2$** [$_{TP}$ past [$_{AspP}$ Asp$_1$ **w$_2$** [$_{ModP}$ can$_3$ [$_{VP}$ talk-to-M.-by-G.(w$_3$)(e$_1$)]]]]
        d.   *'In all counterfactual worlds w (similar to the actual world, but where G. wants to talk to M.), there is a past event, which in some world compatible with the circumstances in those counterfactual worlds is an event of talking to M. by G.'*

We thus see that the recipe for actuality entailments with a modal involve three main ingredients: (i) a particular configuration of aspect and a modal (the aspect quantifying over the vP event has to scope over the modal element); (ii) some principle of event identification across worlds that allows the same event to keep its description across worlds; (iii) a lack of any other modal element above aspect. We now turn to *volere* to see how we could apply the same recipe.

4   Restructuring and implicative properties of *volere*

In this section we will look at what sets Italian *volere* from its counterpart in a language like French that might explain why the former, but not the latter, behaves like a root modal. The crucial difference I would like to exploit is that *volere*, unlike *vouloir*, is a 'Restructuring Predicate' (RP). The term *Restructuring* (Rizzi 1978) applies to those constructions where the infinitival complement 'appears to be a transparent domain for syntactic phenomena that are otherwise quite local (clause bound)' (Wurmbrand 2001: 1). I will hypothesize that *volere* is not a verb (i.e., a predicate of events), but just a functional head (like a modal), and that as a RP, it shares a single tense and aspect projection with its complement, while *vouloir*, as a full verb, takes its own event argument, and lets its complement have its own tense and aspect projection, as schematized below:

(23)   **Italian**: T Asp_1 *volere* $VP(e_1)$
        French: T Asp_1 *vouloir*(e_1) T Asp_2 $VP(e_2)$

4.1   Restructuring predicates and their complement form a single clause

In this section, we will look at evidence from the literature that Restructuring Predicates form a single clause with their complement. Two phenomena that seem to argue for this single clause architecture in Italian are '*clitic-climbing*', where a clitic pronoun selected as the object of the embedded VP can appear before the RP (24), and '*auxiliary switch*', where the auxiliary that appears in the matrix is sensitive to the type of verb in the complement clause. As (25) shows, when an unaccusative verb—which selects for auxiliary *be* both in French and in Italian—appears in the complement of *volere*, it is auxiliary *be* that appears in the matrix, while *vouloir* always takes auxiliary *have*, regardless of the type of verb that appears in the complement:

(24)   a.   Gianni la   vuole sposare.   (Italian)
        b.   *Gianni la   veut   épouser.   (French)
              Gianni her wants marry
              'Gianni wants to marry her.'

(25)   a.   Gianni **è**   voluto   andare.   (Italian)
              Gianni **is**   wanted   leave
        a'.   Gianni **a**   voulu   partir.   (French)
              Gianni **has**   wanted   leave
              'Gianni wanted to leave.'
        b.   Gianni **ha**   voluto   mangiare.   (Italian)
              Gianni **has**   wanted eat
        b'.   Gianni **a**   voulu   manger.   (French)
              Gianni **has**   wanted eat
              'Gianni wanted to eat.'

Wurmbrand (2001) takes these kind of phenomena to argue that a sentence with a RP is monoclausal. It involves a unique functional part, that is, a single CP, TP, and vP layer. As we will see in section 4.3, I will further assume that they involve a single Aspect Phrase as well. Before turning to some evidence that *volere*, unlike *vouloir*, contains a single tense and aspect projection, I first want to show that the difference between *volere* and *vouloir* that is responsible for their difference in implicative behavior is tied to restructuring, as opposed to, say, some general difference in the semantics of French and Italian desideratives. *Restructuring* seems necessary for actuality entailments: First, other Italian non-restructuring desiderative predicates, illustrated in (26), don't yield actuality entailments. Furthermore, when *volere* takes a CP (subjunctive) complement, as shown in (27), it doesn't behave like a RP (no clitic climbing nor auxiliary switch allowed), and doesn't yield actuality entailments either[1]:

(26) a. Gianni ha desiderato parlare a Maria, ma non lo ha fatto.
         Gianni desire-pst-pfv talk   to Maria, but not it did-past-pfv.
         'Gianni desired to talk to Maria, but he didn't do it.'
      b. Gianni ha avuto   voglia di parlare a Maria, ma non lo ha fatto.
         Gianni has-past-pfv want   to talk   to Maria, but not it did-pst-pfv.
         'Gianni had want to talk to Maria, but he didn't do it.'

(27) Gianni ha voluto   che   piovesse, ma non ha piovuto.
      Gianni wanted-pfv that rain-subj, but not rain-pst-pfv.

This data seems to indicate that actuality entailments with *volere* are due to structural, and not purely semantic factors.

4.2   Single tense and single aspect projection

RP seem to involve a single Tense projection (Wurmbrand 2001). Unlike its French counterpart (28), or other desiderative predicates that are not restructuring predicates (29), with *volere*, the embedded event cannot be located at a different time than the matrix event (30). Consider the following scenario: Gianni can't make up his mind about when to go on vacation. A month ago, he wanted to leave last week, and then…

(28) Il y a une semaine, Gianni a voulu partir le lendemain.   (French)
      A week ago, Gianni wanted-pfv leave the next day.

(29) Una settimana fa Gianni ha desiderato partire il giorno dopo.   (Italian)
      A week ago, Gianni desired-pfv leave the next day.

(30) *Una settimana fa Gianni è voluto partire il giorno dopo.   (Italian)
       A week ago, Gianni wanted-pfv leave the next day.

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[1]For some Italian speakers, sentences like (27), while not as bad as those like (15), are not perfect. I leave a more detailed investigation of sentences with subjunctive complements for future research.

I would now like to argue that *volere* and its complement share a single aspect projection. A sentence with a restructuring predicate like *volere*, unlike *want* or *vouloir*, seems to involve only ONE event. To see this, we need to consider scenarios involving the adverb *again*. *Again* takes a predicate of events P and an event *e* and presupposes the existence of a prior P-event (von Stechow 1996, Beck and Johnson 2002):

(31)   [[again]]$(P_{<\varepsilon,t>})(e)$ = 1 if P(e)   & $\exists e'[e'<e$ & P(e')]
                                          = 0 if ~P(e) & $\exists e'[e'<e$ & P(e')]
                                          undefined otherwise

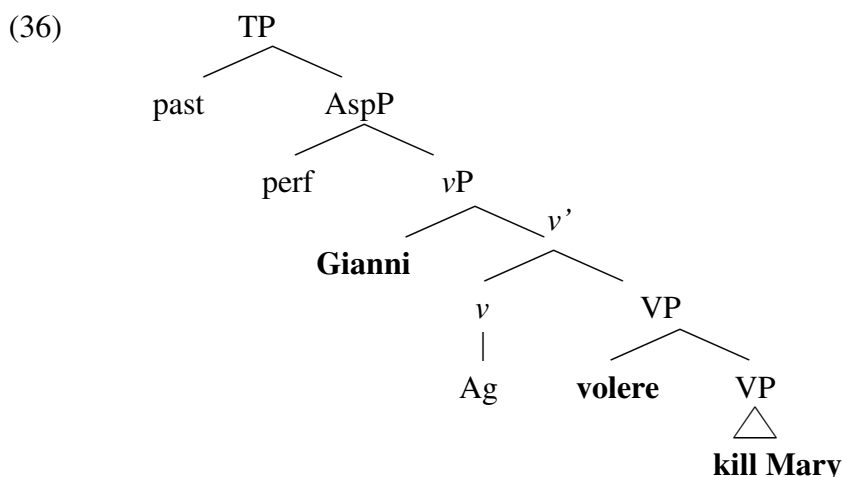Consider the following scenarios (adapted from Wurmband 2001)[2]:

(32) **Scenario 1**:   Gianni and Maria eloped in their twenties. The honeymoon over, they quickly became disenchanted and divorced. Years later, Gianni realized that Maria was the woman of his life and…

(33) **Scenario 2**:   Gianni fell in love with Maria and wanted to marry her, but before he could propose, she moved to another country. Years later, he saw her again and...

(34)   Gianni a voulu épouser Maria à nouveau.   (French)
        Gianni wanted-pfv marry Maria again.

(34) is compatible with both scenarios, showing that when *again* modifies *want/vouloir*, it licenses two possible prior events (previous marriage or previous desire). However, when *again* modifies *volere* with perfective aspect, scenario 2 is incompatible with (35): one can only generate a previous marriage presupposition:

(35)   Gianni ha voluto sposare Maria di nuovo.   (Italian)
        Gianni wanted-pfv to marry Maria again.

It thus appears that, unlike its counterparts in other languages, *volere p*, being a restructuring construction, only involves a single Tense and Aspect projection. Why should this be? I would like to claim that this is because *volere* is not a verb: this is why it doesn't select its own auxiliary. Instead, *volere* (like a root modal) combines with a predicate of events (VP), via *Intensional Functional Application* (cf. Heim & Kratzer 1998) and returns a predicate of events (VP), as shown below:

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[2]The argument using *again* is inspired by Wurmbrand (2001). However, Wurmbrand uses *again* to argue that RP involves *2* events. Her examples use present tense on *volere*, which, I believe, involves an additional modal layer (*per* imperfective), in turn responsible for the illusion of a second event. For discussion, see Hacquard 2006.

(36)

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                 TP
               /    \
            past     AspP
                   /     \
                perf      vP
                        /    \
                   Gianni     v'
                            /     \
                           v       VP
                           |      /   \
                          Ag   volere  VP
                                        △
                                     kill Mary
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I thus propose the lexical entry in (37), which minimally differs from the one in (13')
for *want* (repeated in (38)) in that *want* takes an event argument, and a proposition
complement, while *volere* takes a predicate of events as its sole argument:

(37) $[[\text{volere}]]^w = \lambda P_{<set>}. \lambda e. \forall w' \in \text{BEST}_{desire} (\text{DOX}(\text{Ag}(e),\tau(e),w)): P(w')(e)$

(38) $[[\text{want}]]^w = \lambda p.\lambda e. \text{want}(e) \& \forall w' \in \text{BEST}_{desire}(\text{DOX}(\text{Ag}(e),\tau(e),w)): p(w')$

5   Deriving actuality entailments with *volere*

Now that we have a lexical entry for *volere*, let us see what happens when we combine
it with perfective aspect:

(39)   a. Gianni ha voluto parlare a Maria.
           'Gianni wanted to talk to Maria.'
       b. $[[[_{VP} \text{volere} [_{VP} \text{talk to M.}]]]^w = [[\text{volere}]]^w (\lambda w'. [[\text{talk to M.}]]^{w'})$ *(by IFA)*
           $= \lambda e.\forall w' \in \text{BEST}_{desire} (\text{DOX}(\text{Ag}(e),\tau(e),w)): e \text{ is a talk to M. in } w'$
       c. $[[(a)]]^w = 1$ iff $\exists e[e \text{ in } w \& \tau(e) \subseteq t \{t<t^*\} \& \text{ Gianni is the agent of } e \text{ s.t.:}$
                     $\forall w' \in \text{BEST}_{desire} (\text{DOX}(\text{G.},\tau(e),w)): e \text{ is a talk to M. in } w']$
           *There was an actual event by Gianni which in all of his most desirable
           doxastic alternatives was a talking to Maria event.*

We obtain an **actual** past event by Gianni, which in all of his desire worlds is an event
of talking_to_Maria, in the same way we obtained an actual event with root modals. We
further obtain that this actual event is a talking_to_Maria, via the Event Identification
across Worlds Principle in (21), repeated below:

(40)   **Event Identification across Worlds:**
        For any w_1, w_2, if an event *e* occurs in w_1 and w_2, and *e* is a P-event in w_1,
        it is a P-event in w_2 as well.

Finally, we can further derive a lack of actuality entailments with imperfective by invoking, as we did for root modals, the extra layer of modality associated with imperfective morphology. In the following example, we take this extra modal element to be a counterfactual modal:

(41)   a.   Gianni voleva parlare a Maria (se lei avesse avuto tempo).
        b.   Gianni want-past-**impf** talk to Maria (if she had had time).
        c.   [$_{ModP}$ **CF$_2$** [$_{TP}$ past [$_{AspP}$ Asp$_1$ **w$_2$**   [$_{VP}$ volere$_3$ [$_{VP}$ talk-to-M.(w$_3$)(e$_1$)]]]]]
        d.   *'In all counterfactual worlds w (which are as similar to the actual world, but where Maria has time to talk), there is a past event by Gianni, which in all of his most desirable doxastic alternatives in those counterfactual worlds is an event of talking to Maria'*

We obtain an event of Gianni talking to Maria in all of the counterfactual worlds. This does **not** imply that Gianni did or will talk to Maria in the actual world, hence we avoid an actuality entailment. Note that this sentence still only involves a single event. However, crucially, this single event doesn't have to occur in the actual world.

The upshot of my proposal can be summarized as follows. What underlies actuality entailments with root modals and *volere* is a particular configuration between aspect and the modal element. When aspect takes scope over a root modal/*volere*, it yields an actual event, unless some additional modal takes scope over aspect. This, however, crucially relies on the Event Identification principle: the actual event has the same description in the actual world as it does in the accessible worlds in which it also occurs. In the remaining of this section, I will provide further support for this principle with scenarios that force a violation of the principle of Event Identification. This happens when the description of the event in the desire worlds doesn't match that of the event in the actual world. As we will see, in these cases, it won't be possible to use a sentence with *volere* with perfective aspect. Instead, we will need some counterfactual marking to indicate the mismatch in event descriptions.

As argued for *want* in section 2.2., *volere* quantifies over doxastic alternatives of the subject (belief worlds of the subject). What we want to explore here is what happens when the event denoted by the embedded VP doesn't have the same properties in the actual world as in the subject's doxastic alternatives. Consider the following scenario:

(42)   **Scenario 1**: Gianni is in a very good vegetarian restaurant. He looks at the table over and tells the waitress that he wants the same dish, which he thinks is meat, but is actually tofu. He eats it to the last bit.

Given this scenario, we see that the event in the actual world can be described as an

event of *eating tofu*. In Gianni's doxastic alternatives, however, this event should be one of *eating meat*. There is thus a mismatch in the descriptions of the same event. As shown in (43), this mismatch leads to ineffability: it is neither possible to describe the event as a meat_eating, nor as a tofu_eating event.

(43)   a.   #Gianni ha voluto mangiare della carne, (ma si trattava di tofu).
             Gianni wanted-pfv eat meat, (but it was tofu).
       b.   #Gianni ha voluto mangiare del tofu.
             Gianni wanted-pfv eat tofu.

The following scenario makes the same point:

(44)   **Scenario 2**: Gianni is convinced the French president is responsible for all of the world's misery, and decides to kill him. He, however, thinks that George W. (who, we all know, is actually the American president) is the French president. He goes to the G8 meeting and kills George W.

Here again there is a mismatch in the description of the same event in the actual world and in Gianni's doxastic alternatives: in the actual world, George W is the US President and the event is an event of killing the US President; in Gianni's doxastic alteratives, George W is the French president, and the event is an event of killing the French president. As (45) shows, neither (a) nor (b) is expressable in Italian.

(45)   a.   #Gianni ha voluto assassinare il presidente francese.
             Gianni wanted to kill the French President.
       b.   #Gianni ha voluto assassinare il presidente americano.
             Gianni wanted to kill the American President.

Note that, given these scenarios, in order to express a valid sentence, one would need some counterfactual morphological marking, which seems necessary in order to indicate that there is a mismatch in event descriptions across worlds. In Italian, counterfactuality is expressed either by the *conditionnel* mood, or, as we saw earlier, by the imperfective (cf. Ippolito 2004):

(46)   Gianni voleva assassinare il presidente francese, ma ha assassinato quello americano.
       Gianni wanted-**impf** kill the French president, but he killed the American one.

These facts seem to lend support to the principle of Event Identification across Worlds, such as the one proposed in (21). Such a principle may, at first blush, appear to overgenerate (cf. Hacquard 2007), in the face of counterfactuals, given that their very function seems to be to give the same events or individuals (or counterparts of these events or individuals under a Lewisian view) different descriptions across worlds.

However, data like (43)-(46) show that mismatches in description across worlds are the marked case, and require special morphology.

6   Conclusion

In this paper, I have hoped to show that the implicative behavior of *volere* is structural in essence and derives from the same factors underlying other restructuring phenomena: it shares with its complement a single tense and aspect projection. While a sentence with its French (and English) equivalent involves 2 event quantifications (2 aspects), *volere p* involves a single one: we obtain one *p* event, in the actual world and in all of the subject's desire worlds. Finally, the lack of actuality entailments with imperfective can be argued to arise from an additional layer of modality associated with imperfective morphology, as has been argued to be the case for root modals (Bhatt 1999, Hacquard 2006).

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