Temporal Homogeneity in Romance Languages

Italian durative *per*-adverbials (for) and *da*-adverbials (since) are found in complementary distribution within atelic predicates. Consider the following sentences containing the state predicate "essere buio" (to be dark)

<table>
<thead>
<tr>
<th><em>per</em>-adverbial</th>
<th><em>da</em>-adverbial</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1a) ?? È buio per due ore</td>
<td>(1b) È buio da due ore</td>
</tr>
<tr>
<td>Is-PRES dark for two hours</td>
<td>Is-PRES dark since two hours</td>
</tr>
<tr>
<td>(2a) ?? Era buio per due ore</td>
<td>(2b) Era buio da due ore</td>
</tr>
<tr>
<td>Was-IMP dark for two hours</td>
<td>Was-IMP dark since two hours</td>
</tr>
<tr>
<td>(3a) Fu buio per due ore</td>
<td>(3b) ?? Fu buio da due ore</td>
</tr>
<tr>
<td>Was-PRE dark for two hours</td>
<td>Was-PRE dark since two hours</td>
</tr>
</tbody>
</table>

As shown by the (a)-examples, *per*-adverbials combine felicitously with the Passato Remoto but not with the Presente and the Imperfetto; on the contrary, as you see from the (b)-examples, *da*-adverbials combine with the Presente and the Imperfetto but not with the Passato Remoto. This distribution is the first thing we want to account for. We will show that Giorgi and Pianesi's (2001) recent analysis of the Italian system cannot be the correct one and that it cannot account for the above facts. We will follow Dowty's (1979) definition of durative adverbials by assuming that they measure the length of the reference time introduced by tenses. *Per*-adverbials combine with temporal predicates to give temporally non-homogenous predicates; *Da* adverbials introduce an extended now interval (McCoard (1978), Dowty (1979), von Stechow (1999), von Stechow (2002)) and they combine with temporal predicates to give temporally homogeneous predicates. Given that, we will assume that the contrasts above depend on the properties of tenses in Romance languages. We claim the Imperfetto and the Presente select for temporally homogeneous predicates, therefore they can combine with *da*-adverbials but not with *for*-adverbials. On the other hand, the Passato Remoto selects for temporally non homogeneous predicates, therefore it can combine with *for*-adverbials but not with *da*-adverbials. In order to implement this idea, I postulate that the tenses are to be decomposed into a predicate restriction, the head of the tense projection which introduces the homogeneity condition, and a temporal variable, which occupies the spec-TP position and introduces a temporal reference.

Predicate Restriction: The homogeneity restrictions

(3) $||\text{HOM}\|_{g,c}(P) = P$ when $P$ is temporally homogeneous (i.e. if $\forall i [P(i) \rightarrow \forall i' [i' \subset i \rightarrow P(i')]]$, undefined otherwise.
(4) $||\text{N-HOM}\|_{g,c}(P) = P$ when $P$ is temporally not homogeneous (i.e. if $\forall i [P(i) \rightarrow \neg \forall i' [i' \subset i \rightarrow P(i')]]$, undefined otherwise.

Temporal Variables (Heim 1994):

(5) $||\text{PAST}\|_{g,c} = g(i)$ when $g(i) < t$, undefined otherwise
(6) $||\text{PRES}\|_{g,c} = g(i)$ when $\neg g(i) < t$, undefined otherwise

Example:

(7) Mario era malato
Mario was (*Imperfetto*) sick

Moreover I will distinguish between state and event predicates (Katz 1995). Being state predicates, predicates of times, they can be directly saturated by the time variable introduced by tense. Event predicates need to be type shifted into a predicate of time in order to be saturated by tense. I assume that this is done by implicit aspectual operators which localize an event with respect to a time (Klein, (1994), Stechow, (2001), Musan, (2000))

(8) Perfective $\rightarrow$ $||\text{PFV}\| = \lambda P \alpha \exists e (t \supset e(\tau) & P(e))$  
(9) Imperfective $\rightarrow$ $||\text{IPV}\| = \lambda P \alpha \exists e (e(\tau) \supset t & P(e))$

A temporal property formed via the IPV operator will always be homogeneous, therefore we expect it to combine with
(10) Mario corse nel parco, *e sta ancora correndo
Mario ran-P.REMOTO in the park, *and he is still running

Example:

(11) Mario corse nel parco
Mario ran-P.REMOTO in the park

(12) Mario fu malato
(a) Mario was sick (terminative reading)
(b) Mario got sick (inchoative reading)

Both readings are the result of shifting an homogeneous predicate into non homogeneous one in order to satisfy the non homogeneity condition introduced by the Passato Remoto. Reading (a) is obtained by the application of the covert maximality operator: MAX: λP[λt(P(t) & ¬∃t′((t ⊆ t′ & P(t′)))); reading (b) by the application of the covert "achievementizing" operator: BECOME =: λP λe (become_e(P)) -the event e is a becoming with result P, where P is a state

(13) LF for the inchoative reading of (12)

(14) LF for the terminative reading of (12)

Interestingly, the analyses predicts that the result state can hold up to speech time under an inchoative reading, as shown by the sentence below (Bertinetto (2001))

(15) La sua squadra preferita aveva perso. Gianni ne ebbe un forte mal di pancia che ancora non gli è passato
His favorite team had lost. Gianni had a strong stomach ache that still hasn't gone away
Bennett, Michael and Partee, Barbara [1972]. Toward the Logic of Tense and Aspect in English. System Development Corporation, Santa Monica, California.


Heim, Irene [1994]. Comments on Abusch's theory of tense, MIT.


