

Spanish aspect and pluractionality

Pluractionals are markers which indicate that the verb denotes two or more events (Lasersohn 1995, van Geerhoven 2005). The combination of *ir* (to go) + gerund is a pluractional marker in Spanish.

SP with a plural argument:

1. a. Los chicos fueron entrando.

the children GO-pret enter-gerund

‘The children entered one by one / gradually’

- b. Truth conditions: the children in the context entered and this macro-event of children-entering is divided into sub-events of entering such that in each of them one or more child entered until all of them entered and these sub-events are distributed in time intervals temporally ordered and which do not overlap.

SP without a plural argument:

2. a. Pedro irá armando el rompecabezas.

P. GO-fut set up-gerund the puzzle

‘Pedro will solve the puzzle little by little’

- b. Truth conditions: Pedro will solve the puzzle and this event is subdivided in puzzle-solving stages distributed in time intervals that do not overlap such that each of the stages gets the event closer to its telos.

Analysis: scalarity is central to the analysis of SP. Scales: set of points totally ordered along some dimension (Hay, Kennedy & Levin 1999, Piñón 2000). In some cases, this dimension will be size, surface, volume or length of a path; in others, we claim, individuals in plurals may also project as points. The event moves along the points to the tune of time. SP either finds or builds a scale. Once it finds it or builds it with elements present in the sentence, it imposes a requirement on it: the scale has to have a minimum of two intervals in it, i.e., a minimum of three points.

2. SP, scales and verb classes

- Incremental theme verbs:

3. Pedro irá armando el rompecabezas.

P. GO-fut set up-gerund the puzzle

‘Pedro will solve the puzzle little by little’

H,K&L: incremental theme verbs involve a gradable property which is defined by the spatial extent of this theme (volume, area, mass and others). In 3, each puzzle-solving stage adds to the area of what will become the solved puzzle. The (increasing) surface of the puzzle provides the points and to each, again, a stage of puzzle-solving is associated. SP changes the relation between the object, the degree and the event :

4. a. el ordenador armará el rompecabezas.

SIMPLE FUTURE

‘the computer will solve the puzzle’

b. el ordenador irá armando el rompecabezas.

FUTURE SERIAL PROGRESSIVE

‘the computer will solve the puzzle little by little’

If a computer solved puzzles instantly, this event can be described with 4a but not with 4b, because SP imposes the two interval requirement. With an instantaneous puzzle solving, the scale has just two degrees, the starting and the final ones. SP needs at least three and, as a result, what the computer does cannot be described as *ir armando*.

- Achievements: an unordered set, the children; SP builds a scale out of this unordered set, whose members are ordered when interpreted as the agent-theme of a series of entering events ordered temporally.

Jackendoff (1996): plurals project into an axis one (or more) elements at a time ; this axis is linked pragmatically to the event axis and divides it into child entering events, or the event distributes over these individuals.

The scale has to be built using all the children in the set, i.e, the group of children has to be exhausted (example from Borgonovo & Bosque 2002-B&B).

5. a. #los chicos fueron entrando pero no todos.

the children go-pret come in-ger but not all

‘the children entered gradually/one by one but not all of them’

In order to form an SP with achievements a definite quantized plural DPs is needed (exs 19-20)

6. *el niño fue entrando.

‘the child entered progressively one by one’

A suitable scale cannot be build out of a one-membered set. The set of children are associated to child-entering events, which are ordered along the temporal dimension, such that the initial point is the first child and the last point is the last child and no recycling of children occurs.

- Achievements without a plural argument but with a preparatory phase: SP turns them into accomplishments (see Piñón 2000 for *gradually*) :

7. a. P. fue llegando a la cima.

P. go-pret arrive-ger to the top

‘P. gradually arrived to the top’

b. P. se fue muriendo.

P. himself go-pret die-gerund

‘P. died little by little’

SP sub-divides the pre-*telos* portion of the event into the stages it needs to build a scale. In 7 we have a change of location verb. The path provides the scale and to points in this path are associated stages of the arriving-to-the-top event. The position of the theme along the path is encoded as a function of time such that for any arbitrary moment, there is a corresponding position of the theme in this path, + the three moment-points condition.

- Achievements without a preparatory phase :

8. *P. fue estornudando.

‘P. WENT-sneezing’

- degree achievements:

9. el vaso se fue llenando.

‘the glass filled progressively’

Degree achievements introduce a degree argument as part of their semantics (HK&L1999, Piñón 2000,2007): *to fill* is a three-place predicate between events, degrees and objects; ‘the

‘(s)he drank whisky in all the bars in the city one after another’

SP forms a scale out of the set of rooms and out of the set of bars by making them the location of a temporally ordered series of sand-finding and whisky-drinking events; again, the set of rooms and the set of bars have to be exhausted.

SP is scalar. Following Krifka (1990), we assume a transfer of reference properties from the theme to the event ; with Jackendoff (1996), we add certain agent-themes whose reference properties can also be transferred to the event. Our own addition : plural elements such as locations that also order events.

Confirmation : non delimited activities and (certain) states become acceptable once the scale is explicitly supplied in the form of an adjunct:

15. a. P. fue cantando *(cada vez más fuerte)

P. Go-Pret sing-Ger each time more loud

‘P. sang progressively louder and louder’

b. P. fue sabiendo *(más y más) física.

P. Go-Pret know-Ger more and more physics

‘P. knew more and more physics’

In 15 there can be one event of singing in which Peter gets progressively louder or several events of singing distributed over time. Each sub-event or event is paired with points in a loudness scale and SP works. There are states associated with an intensity scale (*respect a little or a lot*) and states which are not (**know the answer a little*); the first ones can to be modified by an explicit scale and, hence, accept the SP (Piñón 2000).

If SP builds two different scales, the result could be potentially ambiguous (from B&B):

16. el barbero les fue cortando el pelo a sus clientes.

‘gradually, the barber cut his all his clients’ hair’

‘the barber gradually cut his clients’s hair’

Reading 1: the scale is formed from individuals that make up the plural goal and we get an ordered set of clients, each one of them the goal of a hair cutting event *cortar el pelo* (but not of an *ir cortando* event). The barber could have the Unique Instantaneous Hair Cutting

Machine and the macro-event could still be described as *ir cortando*, though each individual event cannot. In the second reading, each hair-cutting event is sub-divided into stages until the telos is reached (the hair is cut); in this case, the barber *va cortando* each client's hair. (i.e., the SP distributes among the plural goals) and no instant hair cutting machine is necessary. Hair is construed in this case as a decremental theme. Evidence: the elided V' has to receive the interpretation forced by the antecedent:

17. A los clientes de la mañana, el barbero les fue cortando el pelo con el famoso cortapelos instantáneo; #a los de la tarde, en media hora cada uno.
 'The barber *went-cutting* his morning's clients hair with the Famous Instantaneous Hair Cutting Machine; in the afternoon, in half an hour each'

Collectives and objects divisible into parts are actually acceptable in lieu of a plural in SP, since both types of noun can be coerced into providing the individuals that SP needs, in the following way: in 18a, the encyclopedia is found one volume at a time; in 18b, the subject hugs each family member one by one (from B&B).

18. Fue encontrando { *un lápiz/ la enciclopedia }.
 'S/he *went-finding* { *a pencil/ the encyclopedia (volume by volume) }'
 b. Fue abrazando { a su familia / *a Pepe }
 'He *went-hugging* his family (one by one) / *Pepe'

Nature of the plural: quantized plural definites:

19. a. los niños fueron entrando / *el niño fue entrando
 'the children *were-entering*; the child *was-entering*'
 20. *algunos niños fueron entrando ; ??fueron entrando niños (compare to : entraron niños).
 'several children , children *were-entering*'
 los niños / los tres niños / #tres niños / ?? unos niños / #muchos niños fueron entrando.
 'the children , the three children, three children, some children, a lot of children *went-entering*'

3. SP and its aspectual properties: the imperfective paradox

SP does not exhibit the imperfective paradox, i.e., the inference from the past SP to the simple past is always valid with accomplishments (B&B, Laca 03).

21. a. Juan se estuvo muriendo (durante dos meses) ∅ Juan se murió.
 'J. was dying for two months J. died'
 ... but he saw a witch doctor and he was cured.

22. Juan se fue muriendo \subset Juan murió.

‘Juan WENT-dying \subset Juan died’

*but he saw a witch doctor and he was cured.

The telos is an entailment and not merely an implicature: it cannot be cancelled. Since the imperfective paradox has been taken to be one of the central components of the meaning of the progressive and since SP does not show it, we conclude that SP is not aspectually progressive.

3.2. SP and the sub-interval property

The SP does not exhibit the sub-interval property either:

23. a. Los chicos fueron entrando entre las 12 y las 18 \Rightarrow los chicos fueron entrando entre las 12 y las 14.

‘the children entered gradually between 12 and 18 \Rightarrow the children entered gradually between 12 and 14’

b. Los veinte chicos fueron entrando entre las 12 y las 18 $\neq \Rightarrow$ los veinte chicos fueron entrando entre las 12 y las 14.

‘the twenty children entered gradually between 12 and 18 $\neq \Rightarrow$ the twenty children entered gradually between 12 and 14’

Plural definites are acceptable in both sides of the \Rightarrow sign in a., but the extension of the DP is not the same. The universe of discourse is changed in each sub-interval (from 12 to 18 is the first sub-interval, from 12 to 14 the second) and the corresponding proposition is true in each universe though it is not true if the extension of the DP to the left of \Rightarrow is maintained constant.

24. Fue armando el rompecabezas la semana pasada $\neq \Rightarrow$ fue armando el rompecabezas entre el lunes y el miércoles. INCREMENTAL THEME

‘P. went-solving the puzzle last week $\not\subset$ P. went solving the puzzle from Monday to Wednesday’

25. Fue encontrando oro en los quince armarios de la casa entre marzo y noviembre $\neq \Rightarrow$ fue encontrando arena en los quince armarios de la casa entre marzo y junio. DEL. ACTIV.

'He went-finding gold in the fifteen cupboards of the house one after another between March November \Rightarrow he went-finding gold in the fifteen cuboards in the house between March and June'.

26. El río fue creciendo entre las 12 y las 18 \Rightarrow el río fue creciendo entre las 12 y las 14.
b. El vaso se fue llenando entre las 12 y las 13 \Rightarrow el vaso se fue llenando entre las 12 y las 12:30.

ATELIC AND TELIC DEGREE ACHIEVEMENT

SP does not change the telicity properties of the base. The SP having or not the sub-interval property is then a function of the base predicate.

3.3. SP and adverbial compatibility

in an hour + telic SP is ungrammatical (B&B, Laca 03):

27. a. *los chicos fueron entrando en una hora.
'The children WENT-entering in one hour' (entered one by one in an hour)
b. *Juan fue armando el rompecabezas en tres meses.
'J. WENT-solving the puzzle in three months'

Paradox: the sub-interval property and the lack of imperfective paradox are hallmarks of telicity; *in an hour* is the traditional telicity diagnostic test. The reason for the ungrammaticality of 27 is that *in an hour* is not the right kind of adverbial to combine with SP because SP requires the gradual reaching of the telos by imposing the three degree requirement on the scale which makes up the third argument SP needs. *In an hour* looks at an event as an undivided unit and does not permit getting inside the macro-event in its development, which is crucial to the semantics of SP; it telescopes the event. The unacceptability of these adverbials does not constitute an argument against telicity but stems from a finer grained semantic incompatibility and provides indirect support for our analysis. There are other adverbials that are perhaps more explicit in precluding development of the events they are predicated of; one such adverbial is *de un tirón* (in one sitting). It conceives the event as a compact unit though its running time can be long (ex in Laca):

28. Leyó *En búsqueda del tiempo perdido* de un tirón en una semana.
'He read *Remembrance of things past* in one sitting in a week'
29. *P. fue leyendo *En búsqueda del tiempo perdido* de un tirón.

‘He *went*-reading *Remembrance of things* past in one sitting little by little’

SP rejects an explicit difference value with degree achievements (noticed in B&B):

30. a. el avión bajó dos mil metros.
‘the plane came down two thousand meters’
b. *el avión fue bajando 2000 metros.
‘the plane *went*-coming down 2000 meters’

Same reason as 27 and 29: the event is conceived as without development by making explicit the end result of the change with respect to the initial state, without intermediate stages. If the adverbial specifies the size of each increment (decrement, actually), SP is acceptable:

31. el avión fue bajando de a 50 metros
‘the plane *went*-coming down 50 meters at a time’

In an hour improves slightly when preposed (Laca 03, 05):

32. ?en dos meses, J. fue construyendo su casa.
‘in two months, J. *went*-building his house’ (built it gradually)

These adverbials are interpreted as frame adverbials that limit the Assertion instead of restricting the Event time. Effect? In two months it came about that J. built his house gradually. Demirdache & Uribe-Etxebarria (2002): Assertion Time is syntactically represented and it is an interval that the head Aspect orders with respect to Event time; it is higher up in the tree than VP. Given the left position that the adverbial requires in order for the sentence to be (more) acceptable, it is clear that position, hence height, are essential for it to be interpreted as limiting the Assertion Time.

4. The syntax of SP

Semantic effect similar to adverbials such as *one after another* studied in the Dog after dog paper by Beck & von Stechow () and adverbials such as *gradually* (Piñón 2000). SP pluractionalizes neither through verbal morphology per se (as Greenlandic Inuktitut does) nor via an adjunct. It does so with what looks like a functional layer, as Catalan and Italian but not French (from B&B) :

33. a. les tortues deviennent de plus en plus lentes.
b. las tortugas se van volviendo lentas.
‘Turtles get progressively slower’

SP is monoclausal. Restructuring:

34. a. P. lo fue armando por las tardes. CLITIC CLIMBING
 P it-acc cl solving by the afternoons
 ‘Pedro gradually solved it in the afternoons’
- b. Los edificios se iban construyendo de a dos. LONG OBJECT PREPOSING
 the buildings cl went-imp building of to two
 ‘The buildings were gradually built two at a time’

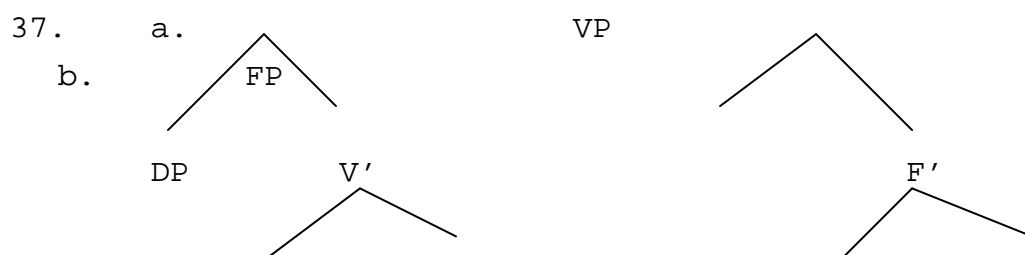
Restructuring is obligatory, i.e., as opposed to (at least some instances of) infinitival restructuring, there is no correspondence a la Rizzi between clitic climbing and non separability of V and gerund, clitic below and separability. The finite verb and the gerund cannot be split by pseudo-clefting or by A’-movement, whether the clitic climbs or remains below:

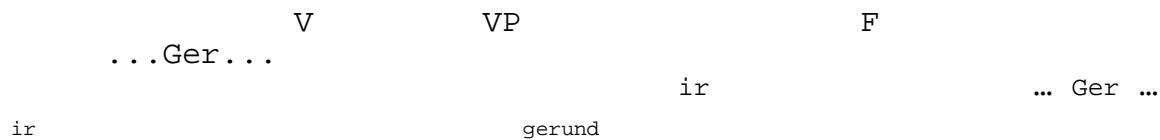
35. a’. *fue armando que lo fue. PSEUDO-CLEFTING + CLITIC CLIMBING
 b. *fue armándolo que fue. PSEUDO-CLEFTING + CLITIC BELOW
 c. -*¿qué / cómo lo fuiste? WH-MOVEMENT + CLITIC CLIMBING
 ‘what / how did you go it?’
 c’. -* armando.
 ‘solving’
 d. -*¿qué / cómo fuiste? WH-MOVEMENT + CLITIC BELOW
 d. -*armándolo.

There are no functional projections between the inflected verb and the gerund:

36. a. *Pedro fue no cortándoles el pelo a sus clientes.
 ‘P. went-not cutting his clients’ hair’
- b. *Pedro fue habiendo cortando el pelo a sus clientes.
 ‘P. went-having cut his clients’ hair’

The two main hypotheses widely discussed in the literature regarding restructuring verbs are Wurmbrand’s (a) and Cinque’s (b):





Both are problematic with regards to SP. Wurmbrand proposes a uniform V+ VP structure, and distinguishes between lexical Vs and functional Vs but in both cases the complement is a VP. The problem with SP is that there is no evidence of constituenthood for the gerund: there is no VP preposing, no VP topicalization, no contrastive focusing and no VP deletion:

38. a. *armando el rompecabezas fue Juan.
 b. *ARMANDO EL ROMPECABEZAS fue Juan y no desordenándolo.
39. *Pedro va armando el rompecabezas pero María no irá hasta las ocho.
 P. goes solving the puzzle but M. not (*will go) until the eight
 'P. goes-solving the puzzle but M. won't until eight'
 (Compare to: M. empezó a escribir y P. empezará en media hora.
 'M. started to write and P. will start in half an hour')

If there was a VP, or a maximal projection, adverbial could adjoin to it and separate *ir* and the gerund but no lexical material can intervene:

40. P. irá ??mañana / *el jueves / *en casa armando el rompecabezas.
 P. was tomorrow the Thursday in home solving the puzzle
 'P. will go-solving the puzzle tomorrow / Thursday / at home'
 (P. irá armando el rompecabezas mañana / el jueves / en casa)
 Compare to: P. armará mañana / el jueves / en casa el rompecabezas.

No syntactic evidence points to the VP status of the gerund. As for Cinque, he proposes that restructuring heads are actually heads in the functional sequence, i.e., they are not verbs but the grammaticalization of functional heads. He proposes a strict ordering among them and that's where the attractiveness of the system lies, in the fact that this ordering is universal. Problem : there are alternative orderings with regards to other functional heads, which undermines the theory:

41. a. dejó de ir armando el rompecabezas.
 'he stopped going-solving the puzzle' (=he stopped solving the puzzle gradually)

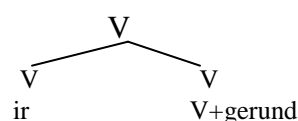
- b. fue dejando de armar el rompecabezas.
 ‘he *went*-stopping solving the puzzle’ (=he gradually stopped solving the puzzle)
- c. quería (cada vez más) ir construyendo su propia casa.
 ‘he wanted (more and more) *go*-building his house’ (=wanted to build gradually)
- d. iba queriendo (cada vez más) construir su propia casa.
 ‘he *went*-wanting more and more build his own house’ (=gradually wanted to build)
- e. ?termina de ir armando el rompecabezas.
 ‘he finished *going*-solving the puzzle’ (=finished solving the puzzle gradually)
- f. va terminando de armar el rompecabezas.
 ‘he *goes*-finishing solving the puzzle’ (=he gradually finishes solving the puzzle)
- g. empezaba a ir perdiendo altura (Laca 200)
- ‘he started *going*-losing altitude’ (=started to gradually lose altitude)
- h. iba empezando a perder altura.
 ‘he went-starting to lose altitude’ (=gradually started to lose altitude)

Laca (2003) divides aspectual heads in two groups: a first group, higher in the functional tree, which expresses syntactic aspect and a second, lower group which modifies the temporal structure of the eventuality and which corresponds with inner aspect. In the first group, ordering among heads is rigid but they do not impose restrictions on the eventualities they combine with. The second level heads exhibit different orderings with semantic repercussions and the heads involved are highly selective of the lexical verbs they combine with. *Ir* clearly belongs in this second group: as we have shown, it is highly selective with respect to the Vs it combines with and it modifies the eventuality it combines with. This might solve the Functional sequence problem but not the constituenthood problem.

With head to head adjunction (as in Neeleman 1996, Williams 2003 and others) we get: one argument structure (which the Functional analysis would have given us), no VP projection (which the other hypotheses cannot rule out), no material intervening (which the other hypotheses cannot rule out either).

Proposal:

42.



Problem: fue construyendo las casas en cuatro horas cada una. Les fue cortando el pelo a sus clientes en tres minutos: if there are discrete events, each one of them can be modified by a frame adverbial. Is this evidence of a gerund VP? Both the macroevent and the microevent can be modified, both of them are syntactically visible. Does this necessarily entail constituency?

Todos los días corría a su casa en tres minutos: here you have a habitual, with an adverbial which modifies the macroevent and an adverbial which modifies each of the events that, together, make up the habitual. There are no separate V and VP constituents here; we have maybe an event time modification and an assertion time modification. Exactly the same can be proposed for the SP.

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