"Non-Agentive" Verbs Presupposing an Action. Psych-Verbs and Agent-Oriented Adverbs

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1. The problem

As is well-known, only a subset of causative psych-verbs is compatible with what Geuder (2000) and Bonami et al. (2004) call Agent-oriented manner adverbs (AOMAs) like *cautiously*, *patiently*, or *relentlessly*.[1] The data used here are taken from French, but the contrast is arguably easily replicated in other languages :

(1)   a. Il les a encouragés attentivement.
           He encouraged them carefully.

           b. ? ?Il les a enthousiasmés attentivement.
           ? ?He filled them with enthusiasm carefully.

           b' ? ?Il les a convaincus/persuadés attentivement.
           ? ?he convinced/persuaded them carefully.

(2)   a. Marie l'a séduit prudemment.
           Marie seduced him cautiously.

           b. ? ?Marie l'a attiré/fasciné prudemment.
           ? ? Marie fascinated him cautiously.

(3)   a. Il m'a ennuyée avec acharnement.
           He bored/teased me relentlessly.

           b. ? ?Il m'a énervée avec acharnement.
           ? ?He irritated me relentlessly.

I will call verbs in sentences (a) *encourager*-verbs and verbs in sentences (b) *enthousiasmer*-verbs. By their incompatibility with adverbs like *cautiously*, the "*enthousiasmer*-verbs" resemble achievement verbs:

(4)   ?*Il a trouvé la solution prudemment.
           *?*He found the solution cautiously.*

What has been less noted though is that *enthousiasmer*-verbs are incompatible with a special kind of agent-oriented adverbs only, coined "attentional adverbs" by Jayez (1996):

Attentional agent-oriented adverbs
prudemment, attentivement, patiemment, avec acharnement, studieusement, consciemment, avec vigilance...
cautiously, carefully, patiently, relentlessly, studiously, consciously, vigilantly...

encourager-verbs	enthousiasmer-verbs
séduire	*attirer, persuader, convaincre*
embêter	*irriter*
S = Agent	**S = Causer**

Table 1: A first solution

Non-attentional agent-oriented adverbs
intelligemment, stupidement...
cleverly, stupidly...

(5) OK Il a énervé ce chien stupidement.
     OK *He irritated this dog in a stupid way.*

(6) OK Ils les a convaincus/persuadés intelligemment.
     OK *He convinced/persuaded them cleverly.*

(7) OK Il a trouvé la réponse intelligemment.
     OK *He found the answer cleverly.*

2. A previous solution: Agent *versus* Causer

Remark: "S" symbolizes the entity denoted by the subject of causative verbs, and "O" the entity denoted by their object.

• Di Desidero (1993) and van Voorst (1995) among others: *enthousiasmer*-verbs are unacceptable with AOMAs because the entity denoted by the subject of so-called "non-agentive psych-verbs" (*stimulate*-verbs) is not a real Agent, but only a Causer (cf. table 1).

> "**Agents of *amaze* verbs** [our *enthousiasmer*-verbs] **cannot act with sufficient intent, volition and control** to provoke the expected reaction of the Experiencer." (Di Desidero (1993), p. 18)

> "We are often condemned to uncertainty as far as our real knowledge of other's feelings is concerned. **Given this uncertainty, it is difficult to imagine that we would be able to control these feelings**" (van Voorst (1995), p. 22, my translation)

• Problems:
1. No independent evidence that e.g. the Seducer, but not the "Fascinator", is a Controller
2. No difference made between attentional and non-attentional agent-oriented adverbs.
3. Most importantly, even when the context makes clear that S is an Agent, the possibility to have an AOMA is not guaranteed:[2]

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[2] *Cure* is analysed as an achievement by Ryle (1949), who distinguishes the achievement verbs like *cure* from what he calls task verbs like *treat*.

(8) Le médecin m'a soigné attentivement.
The doctor treated me patiently.

(9) ??Le médecin m'a guéri attentivement.
??The doctor cured me carefully.

Even more strikingly, some *enthousiasmer*-verbs like *persuader* strongly suggest that S is an Agent:

(10) Chomsky m'a convaincu de devenir linguiste.
Chomsky convinced me to become a linguist.

(11) Chomsky m'a persuadé de devenir linguiste.
Chomsky persuaded me to become a linguist.
(Strongly suggests that Chomsky *intentionally tried* to persuade me to become a linguist)

Conclusion: the possibility for S to be an Agent is a necessary, but not sufficient condition for the attentional AOMAs to be acceptable.

Goal of the talk: show that

> – a verb can *assert* or *presuppose* an event
>
> – *encourager*-verbs can assert the action of S, while *enthousiasmer* always presuppose it, if any.
>
> – the compatibility with manner adverbs also depends on the *informational structure* of the predicate
>
> – events whose occurrence is *presupposed* by the verb (as is the action of S by *enthousiasmer*-verbs) can be modified by adverbs only in restricted conditions.

Plan of the talk:

Section 3. More about (the different readings of) adverbs.
Section 4. Differences in the informational structure of *encourager*-verbs and *enthousiasmer*-verbs
Section 5. Why *enthousiasmer*-verbs do not take attentional AOMAs
Appendix: semantic representation of *enthousiasmer*-verbs.

3. More about Agent-Oriented Adverbs

3.1. Agentive adverbs *versus* Manner Adverbs

As is well-known, adverbs such as *cautiously/ cleverly* have two readings, as illustrated in (12):

(12) Peter cautiously opened the door.

> i. It was cautious of Peter to open the door (agentive adverb)
>
> ii. Peter opened the door in a cautious way (Agent-oriented manner adverb)

Geuder (2000) and Bonami et al. (2004) call the first type of adverb "agentive adverbs" and the second type "Agent-oriented manner adverbs" ("AOMAs" for short here). Agentive adverbs can only appear preverbally, while AOMAs can also appear postverbally:

(13) He cleverly acted stupidly.

      i. It was clever of him to act in a stupid way.

     ii. #It was stupid of him to act in a clever way.

Whereas it is generally admitted that AOMAs are predicates of events, the nature of the argument of agentive adverbs are still matter of debate: Wyner (1997) defines them as predicates of facts, Geuder (2000) as predicates of abstract entities (akin but different of propositions), etc. Here I will simply assume that only AOMAs are predicates of the event introduced by the verb.

• *enthousiasmer*-verbs are compatible with *cautiously* when this adverb is used as an agentive adverb, but not when it is used as an Agent-oriented manner adverb:

(14) Pierre l'a (prudemment) persuadé (??prudemment).
Peter (cautiously) persuaded him (??cautiously).

    a. It was cautious of Peter to persuade him.

    b. ??Peter persuaded him in a cautious way.

3.2. Attentional Manner Adverbs *versus* Non-Attentional Manner Adverbs

3.2.1. Control

• *Cautiously*-adverbs, but not *cleverly*-ones, suggest that the Performer of the event e to which they apply *controls* every (relevant) part of e. This is why they are not compatible with verbs like *fall* or *wake up*, which normally denote an event which cannot be controlled during its development:

(15) Il est tombé intelligemment/??attentivement/??studieusement.
He fell cleverly/??cautiously/??studiously.

(16) Je me suis réveillée stupidement/??attentivement/??soigneusement.
He woke up in a stupid way/??cautiously/??studiously.

One can capture this property of *cautiously* by the following axiom:

(17) $\forall e \forall e' \forall x [\mathsf{Agent}(x, e) \land \mathsf{Cautious}(e) \land e' \sqsubseteq e \rightarrow \mathsf{Control}(x, e')]$

3.2.2. Awareness

• *Cautiously*-adverbs, but not *cleverly*-ones, suggest that the Performer x *is aware* of the fact that he does an action e of type P during the development of e. As an immediate proof of this epistemic condition, we note that when this condition is violated, the sentence sounds strange:

(18) En fermant la porte, j'ai déplacé le tapis.
In closing the door, I moved the carpet.

(19) J'ai fermé la porte attentivement,?? et ainsi, sans le savoir, j'ai déplacé le tapis attentivement.
I cautiously closed the door, ??and in doing so, without knowing it, I cautiously moved the carpet.

• On the other hand, *cleverly*-adverbs can be used when S does not display awareness or consciousness:

(20) OK L'ordinateur a résolu le problème d'une manière stupide/intelligente.
OK *The computer solved the problem in a stupid/clever way.*
$\nrightarrow$ The machine knew it was doing its task when doing it.

3.2.3. Postverbal *cleverly*-Adverbs do not always qualify the action of S

While postverbal *cautiously*-adverbs always seem to qualify the action of S, postverbal *cleverly*-adverbs seem to have a second reading where they qualify the state that the agent is in while performing or planning the action, cf. (21)-(22)):[3]

(21) Il a répondu intelligemment, mais sa réponse elle-même n'était pas intelligente.
He answered cleverly, but his answer itself wasn't clever.

(22) #Il a répondu prudemment, mais sa réponse elle-même n'était pas prudente.
He answered cautiously, but his answer itself wasn't cautious.

Conclusions:

- *enthousiasmer*-verbs are incompatible with postverbal *cautiously*-adverbs only
- contrary to postverbal *cleverly*-adverbs, postverbal *cautiously*-adverbs (i) imply control of S, (ii) imply awareness of S and (iii) always qualify the action of S

4.   The presupposition of *enthousiasmer*-verbs

• Several authors have proposed the idea that achievement verbs like *win* or *find* lexically presuppose the action of S (Engelberg (2000), Zybatow (2004), Martin (2006), Malink (2006), Piñón (2006)), and assert only the outcome of this action. The idea that these verbs presuppose the action of S is supported by the fact that the existence of such an action is preserved under negation:

(23) Mary didn't win the game.
$\rightarrow_P$ Mary participated in the game.

(24) Peter didn't find the key.
$\rightarrow_P$ Peter was looking for the key, or did something that could have made him find the key.

• Proposal (Martin (2006)): all *enthousiasmer*-verbs ('stimuler' *stimulate*, 'persuader' *persuade*, 'énerver' *irritate*) mentioned here also presuppose the action of S.

For instance, 'guérir/ persuader' (*cure/persuade*) seem to presuppose ($\rightarrow_P$) the occurrence of the event that is asserted by 'soigner/ essayer de persuader' (*treat/ try to persuade*):

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[3]Thanks to Torgrim Solstad for having pointed out this possibility to me.

(25) Pierre n'a pas essayé de me persuader.
Pierre didn't try to persuade me.
$\not\to_P$ Pierre did something.

(26) Pierre ne m'a pas persuadé.
Pierre didn't persuade me.
$\to_P$ Pierre did something.

(27) Le médecin ne l'a pas soignée. Elle n'a pas pu aller à l'hôpital.
The doctor didn't treat her. She couldn't go to the hospital.
$\not\to_P$ The doctor did something.

(28) Le médecin ne l'a pas guérie. ?Elle n'a pas pu aller à l'hôpital.
The doctor didn't cure her. She couldn't go to the hospital.
$\to_P$ The doctor did something.

In the same way, *enthousiasmer* seems to systematically presuppose the action of the subject (if any), while *encourager* asserts it, at least under its agentive reading:

(29) Il est possible que Pierre l'ait encouragé$_1$.
It is possible that Pierre encouraged her.
$\not\to_P$ Pierre did something.

(30) Il est possible que Pierre l'ait enthousiasmé.
It is possible that Pierre filled her with enthusiasm.
$\to$ Pierre did something.

Hyp. 1:

- while *encourager*-verbs assert the action of S and the resulting change of state, the "fake non-agentive" *enthousiasmer*-verbs" only asserts the change of state e of the Experiencer, and presuppose the action a of S, if any.

- *encourager*-verbs are predicates of action, and *enthousiasmer*-verbs are predicates of change of state

(31) $\begin{bmatrix} Assertion \\ \begin{bmatrix} Presupposition \end{bmatrix} \end{bmatrix}$

(32) $enthousiasmer \Rightarrow \lambda y \lambda x \lambda e \begin{bmatrix} \mathsf{Enthousiasmer}(e) \wedge \mathsf{Exp.}(y,e) \\ \begin{bmatrix} \exists e'[\mathsf{Agent}(x,e')] \end{bmatrix} \end{bmatrix}$

(33) $encourager \Rightarrow$
$\lambda y \lambda x \lambda e' \exists e \begin{bmatrix} \\ \mathsf{Encourager}(e') \wedge \mathsf{Agent}(x,e') \wedge \mathsf{Cause}(e',e) \wedge \mathsf{Etre\ enc.}(e) \wedge \mathsf{Exp.}(y,e) \end{bmatrix}$

Note that on this view, *enthousiasmer*-verbs *semantically* resemble unaccusative verbs if we take into account their asserted component only and are plainly causative verbs only if we take also into account their presupposed part (this can be linked to the intuition that some Object Experiencer Psych-Verbs are unaccusative, cf. Belletti and Rizzi (1988)).

5. Manner adverbs and Presupposed events

Hyp. 2: an adverb can modify an event whose occurrence is presupposed by a verb if and only if it also modifies the event(s) whose occurrence is asserted by a verb.[4]

Prediction 1: Postverbal *cleverly* adverbs are compatible with *enthousiasmer*-verbs (cf. *He irritated them stupidly*) because

  i. they do not have to qualify the action a of S

  ii. even when they qualify a, they can arguably qualify the (asserted) resulting psychological process (a psychological reaction can be clever; we can find ourselves stupid in the way we are irritated, persuaded, etc.), because *cleverly*-adverbs do not imply control from the participant of the 'clever' event. Hence, according to Hyp. 2, as they can qualifiy the asserted event, they can also apply to the presupposed action:

(34) Il a guéri intelligemment.
      He cured cleverly.

(35) Une guérison intelligente.
      a clever curing.

(36) Je me suis énervée stupidement.
      Lit.*I irritated myself stupidly.*

(37) un énervement stupide.
      A stupid irritation.

Prediction 2: Postverbal *cautiously* adverbs are incompatible with *enthousiasmer*-verbs (cf. *He irritated them cautiously*) because as they must qualify the (presupposed) action of S. However, to do so, they should be able to qualify the (asserted) resulting psychological process. But the change of state denoted by these *enthousiasmer*-verbs e cannot be cautious (or studious, etc.), because arguably, an Experiencer does not *control* every (relevant) part of them:

(38) ??Il a guéri attentivement.
      He cured cautiously.

(39) ??Une guérison attentive.
      ??A cautious curing.

(40) ??Je me suis énervée attentivement.
      I felt irritated cautiously.

(41) ??Un énervement attentif.
      ??A cautious irritation.

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[4]Cf. also Martin (2006) and Piñón (2006) for a related proposal.

6.   Conclusions

I have argued that

- while *encourager*-verbs assert the occurrence of the action a of S and of the result e of this action, *enthousiasmer*-verbs presuppose the occurrence of a (hyp.1)

- Manner adverbs must modify at least the asserted event (they cannot modify the presupposed event without modifying the asserted one in the same way)

- Given their respective semantics, *cleverly*-adverbs, but not *cautiously*-ones can qualify psychological changes of state, and not only actions triggering these changes of state.

- Together, hyp. 1 and 2 contribute to explain better the distribution of Agent-Oriented adverbs.

7.   Appendix: semantic representation of *enthousiasmer-verbs*

A technical difficulty: find a way to formulate the lexical presupposition that fits the positive *and* the negative sentences (when the sentence is negated, we cannot simply define the action of S as an action 'causing' the negated resulting change of state, since no event has been caused).

7.1.   The treatment of right achievement verbs by Piñón (2006)

Piñón adopts the type of representation used by Malink (2006), where the top formula of the two-dimensional array corresponds to the assertion and the bottom formula to the lexical presupposition, as suggested in (42). He proposed the representation (46) for $find_1$ (the nominal arguments are abstracted away for the sake of clarity).[5]

(42) $\left[\begin{array}{c} Assertion \\ Presupposition \end{array} \right]$

(43) $find_1 \Rightarrow \lambda e \left[\begin{array}{c} \mathsf{Find}_1(e) \wedge \tau(e) \sqsubseteq t_r \\ \exists e'[\mathsf{Search}(e') \wedge t_r \sqsubseteq \tau(e')] \end{array} \right]$

In this array, the assertion is that e is a finding event whose run time $\tau(e)$ is included in the reference time t_r and the presupposition is that there is a searching event event e' whose run time $\tau(e')$ includes t_r. The need for the reference time will become more evident when we consider negative sentences.
• The next step is to ensure that finding events are right boundaries of searching events. This is ensured by the axiom below, where r-b(e,e') indicates that e is the right boundary of e':

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[5] $find_1$ presupposes a search and is distinguished from $find_2$ which denotes an "accidental" finding. Languages like ancient Greek and Latin argue for such a distinction, since they translate $find_1$ and $find_2$ in two different ways. The Latin verb *invenire* and its Greek correspondant *entunchanô* mean "find by accident", while *reperire* and *heuriskô* mean "find after a search".

(44) $\forall e \forall t_r[(\mathsf{Find}_1(e) \wedge \tau(e) \sqsubseteq t_r) \rightarrow \exists e'[\mathsf{Search}(e') \wedge t_r \sqsubseteq \tau(e') \wedge \mathsf{r\text{-}b}(e,e')]]$

This axiom renders the presupposition in (46) redundant in the case of a positive sentence, but not in the case of a negative sentence, as we will see below. The next step is to show how positive sentences with *find* are derived. This consists in existentially binding the event variable of the assertion. This operation gives the following result:[6]

(45) $\begin{bmatrix} \exists e[\mathsf{Find}_1(e) \wedge \tau(e) \sqsubseteq t_r] \\ \exists e'[\mathsf{Search}(e') \wedge t_r \sqsubseteq \tau(e')] \end{bmatrix}$

Applied to the array in (46), the negation operator gives the following result:

(46) $\begin{bmatrix} \neg \exists e[\mathsf{Find}_1(e) \wedge \tau(e) \sqsubseteq t_r] \\ \exists e'[\mathsf{Search}(e') \wedge t_r \sqsubseteq \tau(e')] \end{bmatrix}$

Here, we really need the presupposition, since the axiom in (44) doesn't ensure the existence of a searching event in the absence of a finding event. Plus, as the temporal trace of the search must include the reference time, we make sure that a very old search (with the same participants, etc.) doesn't satisfy the presupposition.

• In sum, the trick is to put the information that e is the right boundary of e' not in the presupposition (because we don't want to assume that e is the right boundary of the searching e' in the case of negative sentences), but in an independent axiom.

7.2. Application to Presuppositional Object Experiencer Psych-Verbs

We can easily apply the same strategy to define the lexical presupposition of causative psychological verbs which presuppose the action of S. Here is the semantic representation and the axiom we propose to associate to the presuppositional OEPV *enthousiasmer*:[7]

(47) $enthousiasmer \Rightarrow \lambda y \lambda x \lambda v \begin{bmatrix} \mathsf{Enthousiasmer}(v) \wedge \mathsf{Exp.}(y,v) \wedge \tau(v) \sqsubseteq t_r \\ \begin{bmatrix} \exists v' \exists v''[\mathsf{Participt}(x,v') \wedge \mathsf{Percevoir}(v'') \wedge \\ \mathsf{Exp.}(y,v'') \wedge \mathsf{Theme}(v',v'') \wedge \\ (\tau(v') \oslash t_r \vee \tau(v') < t_r)] \end{bmatrix} \end{bmatrix}$

(48) $\forall x \forall y \forall v \forall t_r[\mathsf{Enthousiasmer}(v) \wedge \mathsf{Experiencer}(y,v) \wedge \tau(v) \sqsubseteq t_r \rightarrow$
$\exists v' \exists v''[\mathsf{Participant}(x,v') \wedge \mathsf{Percevoir}(v'') \wedge \mathsf{Experiencer}(y,v'') \wedge$
$\mathsf{Theme}(v',v'') \wedge \mathsf{Cause}(v',v) \wedge (\tau(v') \oslash t_r \vee \tau(v') < t_r)]]$

Note that according to this representation, not only the action of S, but also its *perception* by the Experiencer is presupposed. This seems to be justified by the interpretation of negative sentences containing an *enthousiasmer*-verb:

(49) Pierre ne m'a pas enthousiasmé.
Pierre didn't fill me with enthusiasm.
→ Pierre did something that could have filled me with enthusiasm and I perceived this action.

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[6]In the limiting case where the temporal trace of the (punctual) finding event is identical with t_r, t_r is simply the right boundary of the temporal trace of the searching event.
[7]$v \oslash v'$ means that v begins before v' and that v and v' overlap at least partially.

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