Psych-notes[*]

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Abstract

Object Experiencer verbs are assumed to be a class apart, both semantically (i.e. they are specified as "psych", or contain an "experiencer" slot in their thematic grid) and syntactically (they differ syntactically from standard transitives, as argued by Belletti and Rizzi 1988). In this paper I argue against both claims. I show that any position can be interpreted as an experiencer, and that sometimes the same position alternates between an experiencer interpretation and that of a theme and a locative. Showing that the special syntactic behaviour of ObjExp verbs arises only on their stative reading, I suggest that the stative reading is headed by a lexical V head (rather than functional v). ObjExp verbs thus shed light on some central questions in the domain of the syntax-lexicon interface: what lexical properties are syntactically relevant, how semantic changes are syntactically realised, what kinds of VPs exist in the language, etc.

1 Introduction

1 Introducing psych verbs

"Psych verbs" is a name assigned to verbs denoting mental states, such as *frighten, love,* or *surprise*. Such verbs have a participant which experiences a mental state, and which is commonly referred to as an *Experiencer*. As was observed by all linguists who worked on the topic, psych verbs fall into two main syntactic groups. In one group the Experiencer is lexicalized as the subject, and in the other it is lexicalized as the object

(for some recent references see Belletti and Rizzi 1988, Grimshaw 1990, Pesetsky 1995). Following the convenient terminology suggested in Pesetsky (1995) I will refer to these groups as Subj(ect)Exp(eriencer) verbs and Obj(ect)Exp(eriencer) verbs:

(1) a. Nina fears / likes / adores this dog.   (Subject Experiencer)
     b. This dog frightens / disgusts / amuses Nina.   (Object Experiencer)

My main concern here is the second group, ObjExp verbs. The starting point of my discussion is Belletti and Rizzi 's 1988 (henceforth B&R) seminal work on psych verbs. B&R note that ObjExp verbs, in spite of their being seemingly identical to standard transitive verbs, differ from them substantially in their syntactic behaviour. B&R identified several syntactic properties which distinguish ObjExp verbs from standard verbs: reflexive *si*, causativiztion and object extraction, to mention just a few. This gives ObjExp verbs a special status in any theory which aims to explore the relationship between verbs' lexical properties and verbs' syntax, i.e., theories of the syntax lexicon interface: first, because ObjExp verbs are lexically unique, specifying one of their arguments as "experiencer", and second, because they also differ syntactically from standard, transitive verbs. The solution suggested in many theories (most notably B&R 1988) is to assign ObjExp verbs a structure unique to them, "psych structure", based on the structure of unaccusative verbs. Given that they are a class apart both semantically and syntactically, this would make sense.
   In this paper I make two main claims:

1. The syntactic peculiarities of ObjExp verbs noted by B&R only exist on their *stative* reading. If an agentive reading is forced, all "psych properties" disappear.

2. ObjExp verbs are not semantically pre-designed as "psych". Many of them are formed out of "normal" predicates (e.g. *give fright*, *take offence*), or have a sense in which they are not "psych" verbs (e.g. *agitate*, *disturb*).

Putting the two together, I suggest that psych verbs are neither lexically nor syntactically unique. They share the same structure as their main predicate (locative, dative etc.), and their unique syntactic properties have to do with their stativity rather than with their being assigned a specific structure.
   The paper is organised as follows: section two presents the three possible reading of ObjExp verbs. Section three shows that the specific syntactic behaviour of psych verbs

only exists with the stative reading. Section four suggests a syntactic analysis of ObjExp verbs. Section five argues against the unaccusative analysis of ObjExp verbs. Finally, section six summarises the import of ObjExp verbs to the theory of the syntax-lexicon interface.

2 The three readings of ObjExp verbs

I suggest that ObjExp verbs such as *frighten* may have three readings, which are distinguished according to two properties:

1. Whether there is an agent, which deliberately does something in order to bring about a mental state in the experiencer.

2. Whether there exists a change of state (i.e., a change of mental state) in the experiencer.

The agentive reading of ObjExp verbs has both an agent, which acts intentionally, and a change of state in the experiencer:

(2) Nina frightened Laura deliberately / to make her go away.

On this reading we have an agent as well as a change of state in the experiencer, who gets frightened.
   The eventive reading is achieved when someone or something are causing some change of mental state in the experiencer, but without intending to. On this reading there is a change of state in the experiencer, but no intentional agent:

(3) a. Nina frightened Laura unintentionally / accidentally.
      b. The explosion / the noise / the thunderstorm frightened Laura.

The stative reading is the typical "psych" reading. It has neither an agent nor any change of mental state in the object. Rather, as argued by Pylkk@nen (1997), it involves perception of some stimulus (the subject) by the experiencer (the object). This perception triggers some mental state in the experiencer:

(4) a. John / John's haircut annoys Nina.
    b. John / John's behaviour / nuclear war frightened Nina.
    c. This problem concerned Nina.
    d. Blood sausage disgusts Nina.

There are several characteristics which distinguish this reading from the other two:

1. There is no agent on the stative reading: neither the triggering of the mental state by the stimulus nor the perception of the stimulus by the experiencer is volitional, or under their control. It is something both "can't help" (cf. 4d): it is something inherent to the stimulus, outside its control, that it triggers a particular mental state in the experiencer. This means that even when the subject is human, it cannot be interpreted as doing something in order to trigger the mental state. It is something *about* it which triggers the mental state. Similarly, the experiencer cannot control the mental state which the stimulus triggers in it. I suggest to compare the situation of the experiencer on the stative reading to someone who is allergic to cats and starts sneezing the moment there is a cat around. Similarly, if blood sausage disgusts Nina, she is at a state of disgust as soon as there is a blood sausage "around" (that is, when it is on her mind: what matters is if she perceives it or thinks of it; it is not necessary that this item physically exists around).[1]

2. On the stative reading there is *no* change of state in the experiencer.[2] Take, for example, *concern*, which is inherently stative: it encodes no single point of change of state, in which the experiencer turns from "unconcerned" into "concerned" (compare this to *surprise*, in which there is a single moment in which surprise seizes the experiencer).

The stative reading thus only asserts that the experiencer is at a specific mental state as long as she perceives the stimulus (or has it on her mind): while Nina thinks of this

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[1]Presumably, the mental state ceases to exist when the stimulus does not exist anymore. In (4d) Nina stops feeling disgust when she does not think of blood sausage, just like the person who is allergic to cats stops sneezing when the cat leaves the room. However, this is not part of what is asserted on this reading. What is linguistically encoded is that there exists a mental state in the experiencer as long as perception of the stimulus holds.

[2]This is evident in Finnish, where the objects are marked with partitive case on the stative reading, but with accusative case on the other two readings. Accusative case in Finnish is sensitive to telicity, or change of state (L. Pylkkänen, p.c.).

problem (4c), she is concerned: [3]

(5) perception of stimulus (problem, blood sausage, etc.):_____

mental state (concern, disgust, etc.):   ....[4]

3. On the non-stative readings the agent/causer have "done their job" as soon as the change of state is achieved. The new state now holds independently of them. On the stative reading, the stimulus has to accompany the mental state constantly in order for it to hold. This entails that on the agentive and eventive reading the stimulus is not part of the event of mental state: it merely brings it about. On the stative reading the stimulus is an inherent part of the event of mental state: the existence of the state depends on it. We can schematise the differences between the stative and non-stative readings as follows:

(6) stative:

a. perception of stimulus: _____stop

   mental state: ....stop

   non-stative:

b. stimulus   mental state

   ---------------> ....(indefinite)

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[3] This representation of the stative reading is taken from Pylkkänen (1997). I have simplified it somewhat, ignoring the habitual use of the stative reading. The diagram in (5) is just a convenient means to present this reading in a more intuitive way. It is not meant to give a semantic representation of this reading or the temporal intervals involved, etc.

[4] A semantic representation of this reading in terms of event semantics (cf. Parsons 1990), based on the one suggested in Pylkkänen (1997), is as follows:

a.   Blood sausage disgusts Nina.
b.   (Et) [t=now & Ee & [perception (e) & perceiver (e, Nina) and perceived (e, blood sausage) & hold (e, t) & (Ee') & [feel disgusted (e') & experiencer (e', Nina) & stimulus (e', blood sausage) & hold (e', t) & Cause (e, e')]]].

This is the episodic reading of *disgust* (I ignore here the habitual reading): a perception event (of blood sausage by Nina) brings about a mental state of disgust in Nina. Both hold at a time t and are co-extensive.

I take here the existence of a state which holds independently to be part of the definition of "change of state". On the stative reading the stimulus induces a state in the experiencer, but this state disappears along with the stimulus. There is thus triggering of a state, but no change of state. Note also that both the stative reading and the non-stative reading are causatives (as is evident by the causative morphology on ObjExp verbs is Finnish, Hebrew and Japanese). The type of causation is different in each case: one is an active causation, causing a change of state, the other is stative causation, or triggering a concomitant state.

4. Although this reading is achieved most easily with bare plurals and imperfective aspect, such as present tense (e.g. *Dogs frighten Nina*), it cannot be reduced to these factors. Note that some verbs allow only the stative, psych reading, regardless of their aspect and the quantificational properties of their subjects: *concern* and *worry* are such examples. On the other hand, there are ObjExp verbs such as *surprise*, which are hard to construe as stative. They inherently encode a change of state in the experiencer. Finally, some verbs, such as *frighten*, allow all three readings.

In what follows I will argue that these three readings are not merely a matter of finer-grained semantics: they also differ syntactically. In particular, all the properties attributed to ObjExp verbs exist with the stative reading, the typical "psych" reading, but none of them exists with the agentive one, in which the predicate behaves like a normal transitive agentive predicate: [5]

(7) stative reading: agentive reading:
     all psych properties   no psych properties

In the following section I will go through the syntactic phenomena which B&R (1988) bring up, and show that they only hold for the stative reading, not for the agentive one.[6]

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[5]Due to limited space I will concentrate here on the two extremes, the stative and agentive reading. The properties of the eventive reading are discussed extensively in Arad (1998).

[6]I will concentrate on reflexivization, causativization and extraction from the object, while leaving aside arbitrary *pro* and passives (see Pesetsky 1995 for some evidence against the relevance of these tests).

3 Teasing apart the agentive vs. the stative reading

3.1 Reflexivization through cliticization

ObjExp verbs, unlike standard transitives, cannot bind an anaphoric clitic in Italian:

(8) a. Gianni   si   lava.
        Gianni   self   washes

    b. *Gianni   si   preoccupa. [7]
        Gianni   self   worries   (B&R 1988)

Suppose that reflexivity is associated with the existence of an agent, or an external argument (cf. Reinhart 1996). The reflexive marker thus marks it that the agent performs the action on himself. It is not surprising, thus, that the reflexive reading is blocked only in cases in which the verb is stative. If we can force an agentive reading on the verb, in which the subject actually aims at frightening, or does something in order to frighten, a reflexive reading is allowed:

(9) a. ??Gianni   si   spaventa.   (on the reflexive reading)
        Gianni   self   frightens

    b.   Gli studenti si spaventano prima degli esami per indursi a studiare di più.
        'The students frighten themselves before exams in order to urge themselves to study harder'.

(9a), which is the stative reading of *frighten*, is strongly marginal or ungrammatical. (9b), which is unambiguously agentive, is grammatical. If reflexivity is indeed agent-oriented, then this pattern is expected: on the stative reading there is no external argument, and therefore the reflexive reading is not available. On the agentive reading, the subject is base-generated at the canonical agent position (spec of the upper *v*), and the reflexive

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[7]Italian *si* has several functions: reflexive, passive, impersonal and unaccusative, or inchoative. It is important to note that (8b) is OK as an inchoative, that is, *Gianni gets worried*, or as an activity, *Gianni worries*. What it cannot mean is, *Gianni worries himself*, that is, Gianni is the cause of his own worries.

reading is allowed.

3.2 The causative construction

B&R (1988) point out that ObjExp predicates cannot be embedded in the causative construction in Italian, a property typical of verbs with no external argument:

(10)   *Questo lo ha fatto preoccupare /commuovere/attrarre ancora di più a Mario
        'This made Mario worry / move / attract him even more'.

Note, now, that if an agentive reading is forced ObjExp verbs can be appear in this construction with no difficulty:

(11)   Gli ho fatto spaventare il candidato per farlo lavorare di più
         'I made him frighten the candidatei to make himi work harder.'

The rationale clause in (11) forces an unambiguously agentive reading: the frightener intended to frighten. In accordance with the pattern exhibited so far, ObjExp verbs are ok in this construction on their agentive reading. The data presented so far indicate that the subjects of ObjExp verbs are generated in different positions on the stative and agentive readings. On the agentive reading the subject is generated externally and therefore patterns with standard agentive subjects. On the stative reading it is generated at a non-external position, and therefore patterns with passives, unaccusatives and other verbs which lack an external argument.

3.3 Extraction from the object

B&R (1988) argue that the objects of ObjExp verbs are not canonical objects. They show that these objects, unlike standard objects, do not allow extraction out of them:

(12)   *La ragazza di cui   Gianni   preoccupa il   padre
          the girl   of which   Gianni   worries   the father (ObjExp)

Note, now, that if an agentive reading is forced extraction from the object is allowed:

(13)   La ragazza di cui Gianni ha divertito / impressionato / spaventato i genitori perchè
        gliela facessero sposare.
        'The girl whose parents Gianni amused / impressed / frightened so that they will
        allow him to marry her.'

Introducing an agent does not affect only the properties of the subject, but also those of the object: from a non-canonical object it becomes transparent to extraction, like standard objects. [8]

3.4 An intermediate summary

The data so far indicate that the agentive and the stative readings have both their subjects and their objects generated at different positions. To put this schematically:

(14)   **stative reading**   **agentive reading**
   1.   no external argument   external argument
   2.   non-canonical object   canonical object
   3.   psych-effects   no psych effects

There is a correlation between semantic/aspectual properties of the predicate and its syntactic realization: when its arguments are canonical event participants (i.e., it has both an agent and change of state) it also has canonical subject and object positions. When it has neither an agent nor change of state, it also does not have canonical subject and object.

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[8]See Arad (1998) for the language-specific behaviour of the objects of ObjExp verbs. In some languages (English, Italian and Finnish) the crucial property for determining the canonical object position is change of state (i.e. non-stativity). In others (Spanish, Greek and Hebrew) it is pure agentivity (or agent intention).
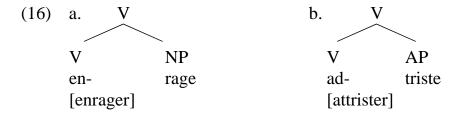
4 The syntax of ObjExp verbs

4.0 We have established the claim that the syntactic peculiarities of ObjExp verbs only occur on their stative reading. Thus, their behaviour could be attributed to their stativity rather than to their specific "psych" satructure. However, before suggesting a structure for ObjExp verbs in section 4.3, I will go in some detail into two relevant phenomena: incorporated vs. non-incorporated forms of psych verbs (4.1) and "psych/non-psych" alternations (4.2).

4.1 Incorporated and non-incorporated ObjExp verbs

In many languages ObjExp predicates are not single verbs. Rather, they are formed out of a (light) verb with a noun or an adjective as its complement. Both types of ObjExp predicates exist in French:

(15)   a. *enrager* (anger); *attrister* (sadden)
       b. *mettre en colère* (lit.: put at anger); *rendre triste* (lit.: turn/make sad)

Following Bouchard (1995), I will refer to forms such as (15a) as *incorporated* forms: a noun (*anger*) or an adjective (*sad*) has incorporated into a verb (lexically null, possibly containing some prepositional element), to form a lexical item which is pronounced like "anger":

(16)   a.   V   b.   V
           ╱   ╲   ╱   ╲
         V   NP   V   AP
        en-   rage   ad-   triste
       [enrager]   [attrister]

The forms in (15b) are non-incorporated: the distinction between the verb (*mettre*, *rendre*) and its nominal or adjectival complement are clear. [9] I assume that incorporated

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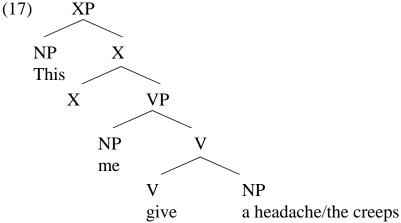
[9]English, too, has some incorporated and non-incorporated forms:
   a.   incorporated: *frighten*, *sadden*, *rejoice*, *gladden*
   b.   non-incorporated: *take fright / offence*, *give a headache*, *turn sad*.

and non-incorporated forms share the same event structure and syntactic structure. They differ only with respect to the morphological spell-out of their lexical items. Therefore, non-incorporated forms can give us an idea about the structure of ObjExp verbs in general. Non-incorporated forms of ObjExp verbs belong to three general types:

1. locative-like (*mettre en colère*)

2. dative-like (*give a headache*).

3. causatives (*faire peur*, *make angry/sad/happy*).

All these forms have three arguments: a giver/locator/causer, a givee/location/causee and a locatum/given object. Let us take the non-incorporated *give*-type forms. I suggest that their structure is as follows:

(17) XP

    NP   X
    This

        X   VP

          NP   V
          me

            V   NP
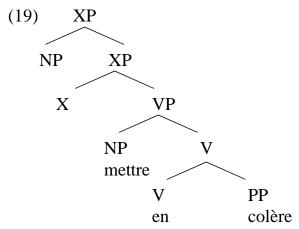   give   a headache/the creeps

  'This gives me a headache/gives me the creeps'.

The structure is identical to that of standard *give*, as in *John gave Mary a book*. The argument at spec, XP is the giver. The NP at the spec of the upper VP is the indirect object, and that at the spec of the lower NP is the direct argument. The indirect object in (17) is unspecified for thematic properties of a goal or an experiencer. It is merely a syntactic position which can accommodate several dative marked elements. The interpretation of the indirect object as a goal or an experiencer will be determined by the combination of the verb and its arguments:

(18)   a. give (Paul, a headache) --> Paul is interpreted as an experiencer.
         b. give (Paul, a book)   --> Paul is interpreted as a goal.

Consider, next, the structure of locative-type ObjExp constructions:

(19)   XP
         /\
      NP   XP
              /\
        X   VP
                 /\
            NP   V
           mettre   /\
                   V   PP
                   en   colère
    'Paul a mis Marie en colère'. 'Paul a mis un livre sur la table'.

The direct object is at the spec of V, while the locative is its complement. The interpretation of the direct object as an experiencer or a theme will depend both on the features of this NP (to be an experiencer it has to be animate) and the properties of the other arguments:

(20)   a. put (NP, at anger)   --> NP is interpreted as an experiencer.
         b. put (NP, on the table)   --> NP is interpreted as a theme. [10]

It turns out that the category "experiencer", although it has some interpretive consequences, seems to be structurally indistinct from themes, goals or locations. Almost any argument position - direct object, indirect object, or a PP (with the exception of external arguments) may be interpreted as an experiencer, depending on the properties of the verb and its arguments.

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   [10]Such alternations in interpretation are common across a number of languages (French, English, Irish, Hebrew - see Arad 1998.

4.2 "Psych-non-psych" alternations

The indistinctness of experiencers from other thematic roles is not limited to non-incorporated forms: there are quite a few verbs which may have both a psych and a "physical" use. English examples of such verbs are *shake*, *agitate*, *disturb*, *hit*, *strike*, *move*, *hurt*, and *bother*:[11]

(21)   a. John disturbed the table.   (table: theme)
        b. John's behaviour disturbed Paul. (Paul: experiencer)

   Following Bouchard (1995), I will assume that any verb can be interpreted as a psych verb, if certain requirements are fulfilled. The first requirement is that the verb must have one argument which is animate. This argument will be interpreted as the experiencer:

(22)   a. Nina turned the TV on.
        b. Nina turned Paul on.

The interpretation of *turn on* as a psych verb or a "normal" verb depends only on the choice of an animate object. However, animacy of one argument is not sufficient for a verb to be assigned a psych interpretation. Consider the examples below:

(23)   a. Le serpent a fasciné sa proie, puis lui a sauté dessus.
            'The snake fascinated its prey, then leapt upon it'.

        b. La beauté d'Ava Gardner fascinait les spectateurs.
            'Ava gardner's beauty fascinated the audience'.   (Ruwet 1972:228)

In these cases a psych interpretation is achieved when the external argument is incapable of physical action. It is thus interpreted as triggering a mental state in the experiencer rather than physically affecting the object. Finally, with non-incorporated forms there is also the requirement that one of the internal arguments be an emotion or a mental state (*psy-chose* in Bouchard 1995):

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[11]Ruwet (1972) lists more than a hundred such verbs for French, including *agiter*, *briser*, *epater*, *blesser*, *gêner*, *heurter* etc.

(24)   a. This child gave Mary a book.
         b. This child gives his parents some worry / enormous joy.

Bouchard argues that whenever a subject cannot be interpreted as agentive or active, the verb will only yield a psych interpretation (or no-interpretation). Bouchard's intuition seems to me to be on the right track. Note that even verbs which do not have a standard psych interpretation, like *kill*, yield a psych interpretation if the subject cannot be construed as agentive (25b):

(25)   a. Oedipus killed his father.
         b. This joke really killed the audience.
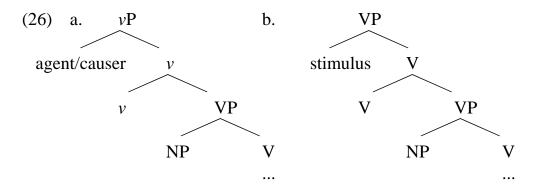
4.3 *v*P-shells and VP-shells

Consider now the structure of the Larsonian VP-shell, as modified in Hale and Keyser (1997) and Chomsky (1995). This VP consists of a *v* head which takes a VP as its complement. The upper *v* is the head projecting the agent: the argument generated in its specifier is interpreted as an external argument. [12] The lower VP is where the object is generated. The VP is thus divided into two domains: the domain of the object/internal argument, which is associated with undergoing change, measuring out the event, telicity etc. (cf. Tenny 1987), and the domain of the external argument, which is associated with acting, causing change etc. Terms like "external" and "internal" arguments refer, under the assumptions made here, to the two structural domains of the VP (i.e. upper *v* and lower V), rather than to variables at some lexical level of argument structure. With respect to their semantic content, I assume these terms refer to the role these arguments play in the event: the internal argument forms part of the temporal path which is *criterial* of the event (i.e., is part of what is linguistically asserted by the predicate). The external argument is external to that temporal path. It may bring it about, but it is not part of it (cf. Ramchand 1997). [13] Given the VP-structure I assume here, internal arguments appear

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[12]*v* has a double status, both as a lexical head, which theta-marks the external argument, and as a functional head which checks accusative case features on the object.

[13]For example, in the event denoted by *paint a wall*, the temporal path which defines the painting event is that during which the internal argument, the wall, is being painted. The external argument, the painter, is not part of that criterial path. The event does not assert anything about it in the same way it

within the lexical VP, while external ones are in the spec of the functional *v*P. Let us assume, now, that only arguments which take part in the temporal path which is criterial of the event may appear within the lexical VP. In other words, I suggest that participation in the temporal path of the event is limited to the lexical projection of the verb, headed by V. Anything outside it, such as spec, *v*P, is external to it.

   With this in mind, let us consider ObjExp verbs. I suggest that what distinguishes the stative from the non-stative reading is the identity of the V which heads their VP: on the non-stative reading, this is *v*, the head projecting the agent/causer. On the stative reading this is a V head, that is, a projection of the lexical verb:

(26)   a.   *v*P   b.   VP

      agent/causer   *v*   stimulus   V

              v   VP   V   VP

                    NP   V   NP   V
                         ...   ...

The essence of my proposal is that beside the standard *v*P shell we have a lexical VP-shell. This VP shell accommodates verbs which, on the one hand, have more than two arguments, but on the other hand have no agent. Stative ObjExp verbs are such a case. The stative reading has no external argument. However, there is still causation on this reading: perception of the stimulus (the subject) by the experiencer (the object) triggers a mental state in the experiencer. This causation is stative: it triggers a state, but does not bring about a change of state.

   The stative causer is not an external argument: we have defined an external argument as the argument at spec, *v*P, which is outside the lexical VP. But this argument is also external to the lower VP, the domain of change of state, which is reserved for the internal argument. Thus, it cannot be interpreted as an affected argument or a measurer, because these properties are only associated with the lower VP. Recall now the representation of the stimulus on the stative and non-stative reading:

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asserts that the wall is painted (cf. Arad 1998).

(27)   stative:
       a. perception of stimulus: _____stop
          mental state: ....stop

       non-stative:
       b. stimulus   mental state
          ---------------->   ....(indefinite)

The fact that the stative causer is generated within the lexical VP is related to the fact that its presence is needed in order for the mental state to hold. The active causer does not form part of the temporal structure of the event. It merely brings about a change of state, and is "dismissed" once it has performed its action. The change of state holds independently of it. On the stative reading the existence of the mental state *depends* on the existence of the trigger/causer. The stative causer, unlike the non-stative one, forms part of the temporal path of the event: the mental only holds as long as the trigger does.

   Spec (upper) VP is internal to the temporal path which defines the event (because it is within the VP), but external to the domain of change of state and measuring out (the lower VP). The stative causer is an "external internal argument". I assume that the upper spec VP thus accommodates arguments which *are* part of the temporal path of the event, but which are external to the domain of change of state and affectedness (i.e. the object domain). I assume that stative causers are the only arguments which can be generated at spec, VP. [14]

   I suggest the structures of the agentive and stative reading are as follows:

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[14]It may be the case that VP shells are also required in cases of transitive verbs which are clearly stative but have some causative sense in them:
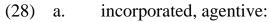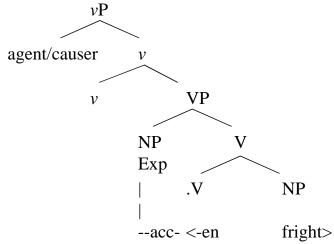   a. This room sleeps five people.
       b. This stew feeds five people.
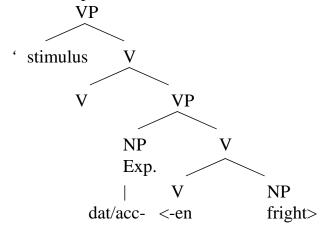   c. The movie stars / features James Dean.
Thanks to Heidi Harley for bringing up this point.
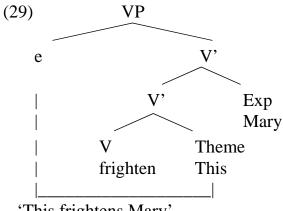
(28)   a.   incorporated, agentive:

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                vP
           ┌────┴────┐
     agent/causer      v
                   ┌───┴────┐
                   v        VP
                        ┌───┴────┐
                       NP        V
                       Exp   ┌───┴────┐
                        |   .V        NP
                        |
                     --acc- <-en   fright>
```

   b.   incorporated, stative:

```
                VP
           ┌────┴────┐
    ' stimulus       V
                 ┌───┴────┐
                 V        VP
                     ┌────┴────┐
                    NP         V
                    Exp.   ┌───┴────┐
                     |    V         NP
                  dat/acc- <-en   fright>
```

The object position is canonical on the agentive reading, and non-canonical (similar to indirect or prepositional objects) on the stative reading. The non-incorporated reading is similar to the incorporated one except that the verb and its NP/AP complement are not reanalyzed as a single verb.

5 Against an inversion account

The analysis of ObjExp verbs which I pursue here differs substantially from that suggested by B&R (1988), as well as several other linguists (most notably Grimshaw 1990). I will refer to their view as the "inversion" hypothesis. This hypothesis is a revival of an old idea that ObjExp verbs are derived from SubjExp verbs through some movement (known as *psych movement*, or *flip*; see Lakoff 1970, Postal 1971). An assumption crucial for the inversion account is that the trigger/causer originates in a position lower in the clause and then moves past the experiencer, into the subject position, thus inverting the D-structure order. According to B&R (1988), ObjExp verbs are in fact unaccusative: their thematic grid includes a Theme and an Experiencer. The Theme is generated as the sister of V, while the Experiencer is adjoined to V':

(29)   VP
         _____
        e   V'
                      _____
        | V'   Exp
        | _____   Mary
        | V   Theme
        | frighten   This
        |_____|

'This frightens Mary'.

It is assumed that the experiencer is associated with inherent accusative Case in the thematic grid. Because there is no agent, no structural accusative Case can be assigned to the Theme (cf. Burzio's generalization). The Theme thus has to move to the subject position to be assigned nominative. This Theme argument is interpreted as causing or triggering the mental state in the Experiencer. With SubjExp verbs no such inversion exists: the Experiencer is generated as an external argument, and the Theme is licensed as an object by the verb.

   Although it maintains a unified mapping of the experiencer role into a fixed position and derives the syntactic peculiarities of ObjExp verb, I believe that the unaccusative account of ObjExp verbs cannot be maintained, for the following reasons:

1. First, as noted by Pesetsky (1995), ObjExp verbs differ from unaccusatives in some important ways. They do not allow *ne*-cliticization, they select *have* auxiliary, like other transitive verbs, rather than *be*, and, unlike unaccusatives, they do passivize.

2. The second argument against an unaccusative account has to do with the status of the theme in ObjExp verbs. Many linguists have noted that ObjExp verbs are causatives (see Grimshaw 1990 and Pesetsky 1995 for some recent references). These verbs are also associated with causative morphology in many languages (e.g. Japanese, Finnish, Hebrew). According to B&R and Grimshaw, the Theme starts off as a direct object and then moves to the subject position where it is interpreted as a causer. Recent work on the syntax-lexicon interface has established the generalization that causation is uniquely associated with external arguments while the internal argument is associated with undergoing change (see, a.o., Tenny 1987, Dowty 1991, Davis and Demirdache 1995). Things being so, it is impossible to imagine a theme which is generated VP-internally and is interpreted as a causer in its surface position.

3. The specific formulation suggested by B&R has also been criticized by Dowty (1991) and Bouchard (1995) for being non-explanatory: Dowty and Bouchard argue that this analysis does not explain what is it about this particular group which makes them syntactically unaccusatives (compare this to true unaccusatives, such as *faint*, which can be characterized in terms of undergoing, proto-patients and other object-related properties).

4. My last objection has to do with the notion of "psych verb" and the reference made by syntactic rules to the "experiencer" role. I have argued that non-incorporated forms of ObjExp verbs are identical to locatives or datives, except for the specific properties of their arguments (i.e., one argument is an emotion vs. a physical object, one argument is human vs. non-human). If we want to maintain an unaccusative account for such verbs we would have to assume that *put* has two lexical representations in French, one unaccusative, to fit the psych use, and one standard, agentive. Such an assumption would make little sense, given the identical constructions in which the two verbs are used. Furthermore, non-incorporated forms also show very clearly that any syntactic position can be interpreted as an experiencer: direct object, indirect object or a locative PP. Crucially, an NP argument of a certain verb, occupying the same position, can be interpreted as an "experiencer", a "goal", a "location" or a "theme", according to the

properties of the other NP (cf. *he gave me a book* with *he gave me a headache*). I therefore believe that making reference to the "experiencer" role in the theta grid is misleading. As shown above, almost any verb can have an experiencer under specific circumstances, including very "agentive" verbs (e.g. *It really killed us*, *What's eating Joyce?*, *An idea hit Mary*). [15]

It remains to be explained why ObjExp verbs on their stative reading exhibit special syntactic behaviour. In my thesis (Arad 1998) I suggested that this fact should be attributed to the presence of accusative case in the lack of an external argument, which exists on that reading. Interestingly, *piacere* verbs, a group of Italian psych verbs which is similar to ObjExp verbs except for the fact that their objects are marked with dative rather than accusative, do not exhibit this special behaviour: they allow reflexive *si*, causatives etc. Similarly, ObjExp verbs themselves behave like standard verbs if they have an external argument. The discussion of *piacere* verbs is beyond the scope of this paper, but see Arad (1998) for an analysis.

6 Summary

The discussion of ObjExp verbs has both empirical consequences concerning psych verbs and the VP projection, and theoretical consequences for the syntax-lexicon interface in general.

Empirical consequences:

1. Psych verbs do not have special syntactic constructions. Syntactic rules do not make reference to role labels in the theta grid, such as "Experiencer". Any argument (DO, IO, PP) and any thematic label (Theme, Location, Goal) can be interpreted as an experiencer in the right context.

2. The analysis of ObjExp verbs is more fine-grained than what is standardly assumed: they have three semantic readings, which correlate with different syntactic structures. All

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[15]One of the main arguments in favour of an unaccusative account is the phenomenon of backward binding. In my thesis (Arad 1998) I give detailed evidence showing that backward binding is not specific to ObjExp verbs or derived subjects, and that it does not fall under standard binding conditions, and thus cannot serve as an indication of argument structure.

properties associated with psych verbs hold, universally, for the stative reading. None of these properties exist with the agentive reading. Some (depending on the language) exist with the eventive reading.

3. Data from ObjExp verbs motivate a position in the VP which is external to the object domain but internal to the lexical VP. This is the stative causer, which is an "external-internal" argument: outside the domain of affectedness and measuring out, but still within the temporal path of the event. It is interpreted as a causer, but instead of causing an independent change of state it triggers a state which only holds as long as the causer is present.

Consequences for the syntax-lexicon interface:

1. Change of state and agentivity turn out to be properties which are relevant for the interface between the lexicon and the syntax. According to the presence or absence of these properties, ObjExp verbs take different syntactic forms. This further corroborates the assumption that aspectual properties are the set of lexical properties which are relevant for the syntax (cf. Tenny 1987, Borer 1994, Arad 1998). ObjExp verbs, a group of verbs which allow readings with both, none or one of these property, were used here as a test case for abstracting away syntactically relevant semantic properties.

2. ObjExp verbs provide a strong motivation for a predicate-based approach to the interface (i.e., an approach in which the syntax in which the predicate is projected has some part in determining its precise meaning, as opposed to projection of syntax from lexical entries): First, a large number of verbs alternate between a psych and a non-psych reading (cf. *strike*). Second, even on their psych reading, they alternate between further three readings which are realized differently. Any attempt to project all this from the lexicon will result in enriching the lexical component - and will be missing the point. I suggest, instead, that a large part of the specific meaning of a verb, in particular its event-contours (agentivity, telicity) are determined by the syntax in which the verb appears.

3. The following division of labour between the lexicon and the syntax emerges: syntactic structures narrow down the set of interpretations that can be associated with a particular tree, and provide a coarse-grained approximation of the possible interpretations it might have. However, the precise interpretation of the verb as a

locative, a dative or a psych verb will be determined according to the properties of the verb and its arguments. The precise interpretation of (the single entry of) *frighten* as stative or an agentive verb will be determined by the identity of the *v*/V head.

References

Arad, M. (1998). *VP structure and the syntax-lexicon interface*. Doctoral dissertation, UCL.

Belletti, A. and L. Rizzi 1988. Psych Verbs and Theta Theory. *Natural Language and Linguistic Theory* 6:291-352.

Borer, H. 1994. The Projection of arguments. In Benedicto, E. and J. Runner (eds.) Functional projections. University of Massachusetts Occasional Papers 17, 19-47. Umass, Amherst.

Bouchard, D. 1995. *The semantics of syntax*. Ill., Chicago: the university of Chicago Press.

Burzio, L. 1986. *Italian Syntax*. Dordrecht: Kluwer.

Chomsky, N. 1995. *The Minimalist Program*. Cambridge, Mass: MIT Press.

Davis, H. and H. Demirdache. 1995. Agents and Events. Talk presented at GLOW 18, Tromsø.

Dowty, D. 1991. Thematic Proto Roles and Argument Selection. *Language* 67: 547-619.

Grimshaw, J. 1990. *Argument Structure*. Cambridge, Mass: MIT Press.

Hale, K. and J. Keyser 1997. The basic elements of argument structure. Ms., MIT.

Lakoff, G. 1970. *Irregularity in syntax*. New York: Holt, Reinhart and Winston.

Levin, B and M. Rappaport Hovav 1995. *Unaccusativity*. Cambridge, Mass: MIT Press.

Manzini, R. and L. Savoia 1998. Clitics and auxiliary choice in Italian dialects: their relevance for the person ergativity split. Ms., U. di Firenze.

Marantz, A. 1984. *On the Nature of Grammatical Relations*. Cambridge, Mass: MIT Press.

Pesetsky, D. 1995. *Zero Syntax - Experiences and Cascades*. Cambridge, Mass: MIT Press.

Postal, P. 1971. *Crossover Phenomena*. New York: Holt, Reinhart and Winston.

Pylkkänen, L. 1997. Finnish psych verbs. Paper presented in the workshop on events in grammar, LSA summer institute, Cornell University.

Ramchand, G. 1997. *Aspect and predication*. Oxford: Oxford University Press.

Reinhart, T. 1996. Syntactic effects of lexical operations: reflexives and unaccusatives. Utrecht working papers in linguistics.

Ruwet, N. 1972. *Theorie syntaxique et syntaxe du français*. Paris: Editions du Seuil.

Tenny, C. 1987. Grammaticalizing Aspect and Affectedness. Doctoral dissertation, MIT.