

# ***The attributory structure, evidential meaning, and the semantics of English SOUND-class verbs\****

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## **Abstract**

This paper discusses a class of English verbs which express a kind of evidential modality and which display a unique kind of predicative complementation, which is here called the “attributory” structure. The different kinds of predicative complementation these verbs show are implicated in their semantics. Recognising the attributory structure helps solve a long-standing problem in the history of these verbs.

## **1 Introduction**

This paper discusses verbs like SOUND, LOOK, FEEL, SMELL and TASTE in English (the SOUND-class verbs) in those constructions where they are complemented by a predicative complement. There are three possible uses of these verbs. The uses are distinguished by the semantic relations that they involve and by the entities that are related. Each use, therefore, conforms to a different sense. The first use is an evidential one where the referent of the subject has properties that provide the evidence for the evaluation as in (1).

- (1) a. he sounds foreign  
b. he looks ill  
c. the fabric feels old  
d. the wine smells delicious

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- (3) a. this music sounds lovely  
b. Peter's face looks lived in  
c. this cloth feels sticky  
d. this food smells spicy  
e. this food tastes rancid

In the attributory use, the semantic relations form a “complex predicate”. Whereas the evidential (raising and control) uses all mean something like “seem, with respect to a particular sensory modality”, the attributory uses mean “is, with respect to a particular sensory modality”. It is impossible to follow the examples in (3) with a phrase like “but it isn't really”. Syntactically, all of the uses are “sharing” patterns where the post-verbal element is an xcomp and the subject of the SOUND-class verb is also the subject of the xcomp, so there is no syntactic difference between the three semantic classes.<sup>1</sup>

The three usages of these verbs can be identified by paraphrases and by other criteria. If we take the examples in (1), it is clear that in (1a), the referent of *he* is the sound-er and his sound is evidence for his being foreign. In (1b) the referent of *he* is the look-er and his appearance is the evidence for his being ill. The same analysis holds for all of the sensory modalities.

The examples in (1) could be paraphrased by those in (4).

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<sup>1</sup> I am assuming a semantic analysis of the distinction between raising and control as in Bowers (1972) and Bach (1979).

- (4) a. to judge by his sound, he is foreign  
 b. to judge by his look/ appearance, he is ill  
 c. to judge by its feel, the fabric is old  
 d. to judge by its smell, the wine is delicious  
 e. to judge by its taste, the food is fantastic<sup>2</sup>

In the paraphrases in (4), the *to judge by* phrase shows that these uses encode a speaker judgement. The relationship between *his* and *he* in (4a-b) and *its* and its anaphoric head in (4c-e) show that it is the sound, look, feel, taste or smell of the subject that provides the evidence for the assertion.

The examples in (2), repeated below, have a different analysis.

- (2) a. I've heard the forecast and tomorrow's weather sounds fine  
 b. I've seen the forecast and tomorrow's weather looks fine

In these cases, the referent of the subject is not an argument of the sense of the verb and it is not the case that the quality of tomorrow's weather is evaluated on the basis of the sensory impression created by the weather. Instead, the sensory modality expressed by the verb identifies the means by which the speaker comes to have the information which leads to the judgement. These examples can be paraphrased as in (5).

- (5) a. to judge by what I've heard, tomorrow's weather will be fine  
 b. to judge by what I've seen, tomorrow's weather will be fine

Again, the *to judge by* phrase shows that this use encodes a speaker judgement. The difference between these examples and those in (1) is that the referent of the subject of the examples in (2) is not the source of the evidence for the proposition expressed by the xcomp.

It is hard to find unequivocal examples of SOUND-class FEEL, SMELL and TASTE that pattern like the examples in (2). However, extraposed subjects of verbs that have xcomps are often taken to be good evidence of this kind of structure as the examples with SEEM, LOOK and SOUND show in (6).

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<sup>2</sup> It might be argued that if food tastes fantastic, it is fantastic, and so the phrase *to judge by* here is inappropriate. This argument cannot be true. A number of elements come into the evaluation of food as fantastic or otherwise: taste, texture, appearance and smell at least. An utterance like *this food tastes fantastic, but in all other respects it is revolting* is fine.

- (6) a. it seems unlikely that she will ever visit now  
 b. it looks unlikely that she will ever visit now  
 c. it sounds unlikely that she will ever visit now

We can see that the examples in (7) with FEEL, SMELL and TASTE fit the bill.

- (7) a. it feels improbable that he will be found guilty  
 b. it smells lovely to roast onions with cumin  
 c. it tastes lovely to melt chocolate on your tongue

I take it, therefore, that FEEL, SMELL, and TASTE have raising meanings as well as SOUND and LOOK.

The attributory use of (3) has a rather different semantic structure from the examples in (1) and (2). I have repeated (3) here.

- (3) a. this music sounds lovely  
 b. Peter's face looks lived-in  
 c. this cloth feels sticky  
 d. this food smells spicy  
 e. this food tastes rancid

In the examples in (3), the *er* (i.e. first argument) of the *xcomp* is the sense of the verb and not the referent of the subject. That is, in (3a) it is the sound of the music that is lovely, not some other quality. It would be reasonable to say (3a) when the referent of *this music* was the score and not the sound of the music. In these cases, the semantic structure is just the same as the semantic structure in *the book weighs a kilo*. In this example, it is the weight that is a kilo and not the book. In the same way, *Peter looks lovely* is not an assessment of Peter's inherent qualities, or his character, or some other lovely aspect of Peter. It is a description of his appearance. The attributory uses of these verbs are more like the control uses than the raising ones in that the referent of the subject of the verb is an argument of the sense of the verb. However, the attributory senses differ from both the raising and the control examples in that the subject of the verb is not directly semantically related to the *xcomp*. Furthermore, the attributory uses cannot be paraphrased by a *to judge...* string as the examples in (8) show.

- (8) a. !to judge by its look, Peter's face is lived in  
 b. !to judge by its sound, this music is lovely

- c. !to judge by its feel, this cloth is sticky

Attributory examples can be paraphrased by the examples in (9).

- (9) a. Peter's face has a lived in look
- b. the cello has a lovely sound
- c. the cloth has a sticky feel

The examples in (8) show that attributory uses do not encode a speaker judgement. The examples in (9) show that the verb and its xcomp form a semantic unit where the sense of the xcomp modifies the sense of the verb. The referent of the subject is then the er of the whole semantic unit. I have called these patterns attributory because semantically they resemble the attributive adjective + noun patterns in (9).

The three possible uses correspond to the different patterns by which the concepts involved can be connected by semantic relations. They therefore correspond to different senses, or subsenses of each of the verbs. In support of the claim that they correspond to different senses, there are factivity differences between the evidential uses and the attributory use. The evidential uses of SOUND-class verbs are non-factive, as is shown by (10) and (11).

- (10) a. he sounds foreign but he isn't
- aa. he sounds foreign and he is
- b. he looks ill but he's as fit as a flea
- bb. he looks ill and he is

- (11) a. he sounds a nice man but he isn't
- aa. he sounds a nice man and he is
- b. he looks a nice man but he isn't
- bb. he looks a nice man and he is

The attributory use, on the other hand, asserts the truth of the proposition. If I show you some sheet-music and utter (12), I am making a nonsensical assertion.

- (12) !this music sounds lovely but it's horrible

As there is not a semantic relation between the xcomp and the subject in these examples, they cannot really be called "factive" because there is no subordinate proposition. The

examples in (13) show that with the attributory structure it is not possible to get a contradiction for all of the sensory modalities.

- (13) a. !this paper looks pink but it's blue  
 b. !this music sounds lovely but it's horrible  
 c. !the cloth feels wet but it's dry  
 d. !this food smells spicy but it's bland  
 e. !this food tastes rancid but it's fresh

In fact, these data are further evidence that attributaries do not involve a subordinate proposition. The judgements in (13) are the same as those for examples like *!Peter ran quickly but he was slow*.

We can, therefore, identify three separate senses of SOUND-class perception verbs. The attributory/evidential distinction can be decided according to factivity. The control/raising distinction is made on the basis of whether there is a semantic relation between the sense of the verb and the referent of its subject or not.

There is a tendency, which comes out clearly when you examine the categories of the xcomps of these verbs and the senses that they are associated with, for raising examples to be associated with the more distal sensory modalities, hearing and sight, and attributory examples to be associated most closely with smelling and tasting. For example, it is only LOOK, and SOUND, as in (2) above, that can have an raising sense when they have a noun as their xcomp. Furthermore, only SMELL and TASTE can have OF as their xcomp. The only semantic structure possible with OF is the attributory one; this point is made in greater detail below.

The semantic approach to the raising/control distinction makes it possible to capture certain atypical facts about these verbs. The first is that the syntactic distinction between raising and control common in the literature leaves the impression that the boundaries are clearly distinguishable. We shall see that in the case of SOUND-class verbs there are examples where it is very hard to establish whether a given construction involves raising or control. The second is that the semantic structure of SOUND-class verbs is richer than that of SEEM. The third is that the analysis below presents a finer grained analysis of the evidential meanings of SOUND-class verbs than I have sketched here.

If we take an example like (14), it is clear that there is at least one other issue that has to be investigated.

- (14) He sounds a nice chap

The semantic relation between ‘a nice chap’ and the referent of *he* is not a simple semantic argument relation. It is the relationship of category membership, “isa” which means “is an instance of”. (14) means that ‘he’ is an instance of the category ‘a nice chap’ subject to the proviso that this is a category assignment based on information the speaker has heard. Isa is the semantic relation of category assignment and it is the relation that you find between the meaning of a number of xcomps and their subjects. It is the relation that you find with all nominal xcomps, for example, irrespective of whether their head is a SOUND-class verb, BE or SEEM. The isa relation is incompatible with the attributory sense of these verbs

## 2 SOUND-class verbs and evidential modality

I have claimed that the raising and control structures with SOUND-class verbs involve a sense that expresses a kind of evidential or epistemic modality. The specific claim is that the meaning of SOUND encodes a belief.

- (15) a. why is John tired (\*to you)?  
       --because he stayed up late  
       --!because he’s yawning  
       b. why does John sound tired to you?  
       --!because he stayed up late  
       --because he’s yawning  
       c. John sounds tired, but I don’t know whether he really is  
       d. \*John is tired, but I don’t know whether he really is

The examples in (15) show that the question *why is John tired?* needs an answer that gives a reason for John’s tiredness whereas the question *why does John sound tired?* requires an answer that refers to the evidence for John’s tiredness. The question in (15b), therefore, is investigating a belief rather than a fact. The evidence in (15c-d) shows that the truth of the subordinate clause in *John sounds tired* can be questioned, whereas *John is tired* asserts the truth of the proposition that John is tired. A further piece of evidence that these verbs encode a belief is that they are non-factive. This means that the speaker neither asserts that the subordinate proposition is true nor asserts that it is false.

Finally, there is a requirement for the xcomps of these verbs to be gradable: this shows that a judgement is being made by the experiencer. In the case of nominal xcomps, the experiencer is making a degree of membership prototypicality judgement. As Lyons

(1977: 797) points out, “[a]ny utterance in which the speaker explicitly qualifies his commitment to the truth of the proposition expressed by the sentence he utters...is an epistemically modal, or modalized utterance.” The requirement for the xcomps of these verbs to be gradable is a requirement for the proposition that the xcomps express to be qualified.

## 2.1 Gradability as evidence for epistemic modality

The requirement that the xcomp of the control and raising senses of SOUND and the other SOUND-class verbs has to be gradable is evidence that these verbs are epistemically modal. Many adjective and LIKE xcomps are automatically gradable. The requirement that the xcomp of a SOUND-class verb has to be gradable is thrown into relief by the behaviour of their noun xcomps. A noun xcomp has to be modified by an adjective if it is to appear as the xcomp of a SOUND-class verb. There are some examples in (16). If the noun is not modified by an adjective, or if it is not in some other way made gradable, it is unacceptable as the xcomp of a SOUND-class verb.

- (16) a. Peter sounds a nice man  
 b. !Peter sounds a man  
 c. Peter looks a nice man  
 d. !Peter looks a man<sup>3</sup>

The crucial fact is that assignment to a category such as ‘man’ does not involve evaluation whereas classification as ‘a nice man’ does. All of the xcomps of raising and control SOUND-class verbs have to be gradable; this fact shows that the sense of the verb involves an element of speaker judgement about the status of the referent of the xcomp.

The reason why the cases where there is an isa relation between the sense of the xcomp and the referent of the subject clarify the issue of whether SOUND-class verbs are epistemic or not is that the category which the nominal xcomp defines must always have degree of membership prototypicality properties. It is not sufficient for them to have degree of typicality properties. To this extent, SOUND-class verbs are different from BE.

BE can also have a nominal xcomp and, when it does, the semantic relation between the

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<sup>3</sup> In (16) I have not included examples of FEEL/P, SMELL/P and TASTE/P with nominal xcomps. This is not because I think that these verbs cannot occur with nominal xcomps but because interference from transitive uses of these verbs means that clear examples are hard to get.



sense of the xcomp and the referent of the subject is also isa. However, the referent of the nominal xcomp of BE is not required to be gradable.

- (17) a. Jane is a teacher  
 b. Jane is a nice person

(17a-b) both involve category assignment. In addition, (17b) states that there is an evaluation of the referent of the xcomp. (17a) is not evaluative, it simply assigns the referent of *Jane* to a class. In (17b), the category that ‘Jane’ is being assigned to is not a clearly delimited category with obvious criteria for inclusion. It is an ad hoc category whose membership is determined by the person making the category assignment. The point that emerges is that the issue of whether an instance of BE is evaluative or not hinges on whether the xcomp of the instance of BE is gradable or not. With a SOUND-class verb, the xcomp of the instance of the SOUND-class verb has to be gradable, so the category assignment has to be evaluable. As far as SOUND-class verbs are concerned, whether or not an assignment is evaluable is contingent on whether degree of membership judgements are possible for the relevant category. An xcomp which is gradable is one that permits degree of membership evaluations.

Taylor (1989) points out that there are two kinds of prototypicality judgement. The first is when categorisation involves making degree of membership judgements. ‘Fool’ is a category which is subject to degree of membership prototypicality. You can be *a right fool*, or *a bit of a fool*. It is possible to be a member of the category ‘fool’ only in part. The second is when there are also goodness and badness of exemplar ratings. For example, a penguin is 100% bird, but it is a poor example of a bird because it does not have all of the typical properties of a bird. Even so, an example like *!the penguin looks a bird* is semantically anomalous because ‘look’ is sensitive to degree of membership prototypicality, not degree of typicality prototypicality.

As far as SOUND-class verbs are concerned, degree of membership prototypicality is signalled by the property of being grammatically gradable. The meaning of LOOK/P exploits the fact that some categories are subject to degree of membership prototypicality, so that when the referent of the subject of an instance of LOOK/P isa the sense of some xcomp of an instance of LOOK/P the isa relation is subject to an evaluative, or epistemically modal, judgement. We can see that the difference between BE and LOOK/P is that LOOK/P involves making an evaluation. BE is only evaluative when it has a gradable xcomp

The senses of raising and control patterning SOUND-class verbs are always evaluative and so they require any isa relation between the referent of the subject and the sense of the

xcomp to link the referent of the subject to a category that allows degree of membership judgements. This is the reason why nominal xcomps of SOUND-class verbs often have to be modified by an adjective. The sense of the noun constitutes a category to which the referent of the subject is assigned. If the category is not one that permits degree of membership assessments, it has to be turned into such a category by the addition of an adjective. If, on the other hand, the category referred to by the noun is a category which does permit degree of membership assessments, that noun can be the xcomp of a SOUND-class verb without adjectival modification. There is an example in (18).

- (18) a. Jane looks a fool  
b. Peter sounds a fool

Both of the examples in (18) are acceptable because the category referred to by *fool* is not an absolute category. Degree of membership judgements are possible, as examples like *a right fool* and *a real fool* show.

The fact that the xcomp has to be gradable shows that there are no possible candidates for a non-evaluative meaning of LOOK/P. If we try to find such possible candidates, we need to consider cases where the referent of the subject of LOOK/P could be properly assigned to a category on the basis of visual information only. If examples like those in (19) were possible, we would have a case where it was possible to have an instance of LOOK/P in which the referent of the subject is the sense of the xcomp but the sense of LOOK/P did not evaluate the possible accuracy of the category assignment.

- (19) a. !vermilion looks a red  
b. !this object looks a painting

I have given the xcomp of *looks* in (19a) as *a red* because the *isa* relation only applies in cases where the xcomp is a physical thing. When colour expressions are adjectives, as they must be when they occur predicatively with no article, the semantic relation between, for example, the sense of RED/adjective and the referent of its subject is *er* rather than *isa*. The fact that *looks* in both (19a) and (19b) could be replaced by *is* shows that the categorisation is not a problem. However, the certainty of the categorisation is at odds with the evaluative element of the meaning of LOOK/P, hence the exclamation mark.

All of the examples show that the noun xcomp has to be gradable. This is because the *isa* relation is not evaluable unless the category assignment in question involves a degree of membership prototype structure as well as a goodness of exemplar one. The important factor here is that the category which the xcomp refers to must be open to degree of

membership evaluations, hence the restriction that the xcomp of a SOUND-class verb must be gradable.

These verbs must be raising or control, rather than attributory, in that they are uninterpretable with the sense of the verb as the isa relatum of the sense of the xcomp. The issue as to whether they are raising or control is a minor one. This is a judgement which can only be made on an instance by instance basis, depending on whether the sensory modality concerned provides the source of the information or not.

The conclusion is, therefore, that all non-attributory instances of SOUND-class verbs are epistemic and that this fact accounts for the limits on the possible xcomps of these verbs. The isa relation only applies to the senses of nominal xcomps of SOUND-class verbs. We have seen that the reason why such xcomps have to be gradable in some way is due to the fact that all instances of SOUND-class verbs are evaluative.<sup>4</sup> If they were not all evaluative, as the sense of BE is not always evaluative, it would be possible for there to be an isa relation between the sense of the xcomp and the referent of the subject in all cases.

## 2.2 The TO-phrase data

In this section, I am looking at the relationship between the experiencer and the sense of SOUND. I take it that the TO-phrase data is evidence of subjectivity and that a subjective interpretation of these verbs is further evidence that they are epistemically modal. By default, when there is no expressed experiencer phrase, the experiencer is assumed to be the speaker. Therefore, in (20) and (21) the TO-phrase is entirely natural and if there were no TO-phrase we would assume that the evaluation was being made by the speaker.

- (20) a. he sounds foreign to me  
 b. he looks ill to me  
 c. the book feels old to me  
 d. the wine smells delicious to me  
 e. the food tastes fantastic to me
- (21) a. it sounds improbable to me that he will be found guilty  
 b. it looks improbable to me that he will be found guilty

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<sup>4</sup> I take it that evaluation is a sub-domain of epistemic modality. In examples like *John left hours ago, he must be in London by now* the epistemic modality of *must* encodes an evaluation about the likelihood of John's being in London.

- c. it feels improbable to me that he will be found guilty
- d. it smells wonderful to me to roast onions with cumin
- e. it tastes wonderful to me to melt chocolate on my tongue

Semantically, the experiencer is an argument of the verb. The semantic relation between the sense of the verb and the referent of the TO-phrase is dictated by the sense of the verb, not the TO-phrase.

There are two issues. The first concerns the exact nature of the semantic relation between the experiencer and 'sounding'. The second concerns how the experiencer is related to subjectivity. A subjective interpretation of SOUND-class verbs supports their analysis as epistemically modal. Apart from the discussion of the example in (22), in Perkins (1983: 43), following a discussion in Lyons (1977: 805), which, Perkins claims, expresses objective epistemic modality, most authors on modality, such as Palmer (1986: 53), agree that epistemic modality is typically subjective. There is a direct correlation between speaker evaluation and the possibility that epistemic modality expresses.

(22) If it is possible that it will rain, you should take your umbrella

The fact that the epistemically modal expression in (22) can be embedded under IF is what makes this an objective epistemic modality for Perkins. Perhaps it is safest to claim that while epistemic modality need not be subjective, an expression that expresses a subjective evaluation is necessarily epistemic. Perkins (1983) does not discuss SOUND-class verbs at all in his, otherwise, very full account of modality.

My claim is that the raising and control senses of SOUND-class verbs locate the epistemic evaluation in the mind of an experiencer. This analysis is similar to Dixon's (1991: 200) observation that these verbs involve an arbiter. By default, that experiencer is the speaker. Otherwise, the experiencer is referred to in the TO-phrase. Given Sweetser's (1990) account of modality, there is an advantage in identifying the similarities between SOUND-class verbs and other instances of modal meaning. Sweetser (1990) notes that there is a force-dynamic relationship between the utterer of an epistemically modal verb and the proposition encoded by the xcomp of the modal which, she shows, resembles the one found in deontic modality.

Deontic modality is clearly force-dynamic. *You must go* involves a force-dynamic relation between the imposer of the obligation and the subject of the verb in that the utterer of a deontic modal is an agonist and the addressee is the antagonist. The situation is slightly different when the subject of a deontic modal is not the addressee. In *all students must pass seven exams*, the force-dynamic relation between the utterer and the subject of

the verb is an indirect one.

Epistemic modality does not involve the imposition of an obligation. However, a force-dynamic relation still exists. In this case, the proposition expressed by the xcomp of a modal verb and its subject imposes itself on the consciousness of the utterer of the modal. In *they must be there by now*, the proposition is the agonist imposing on the consciousness of the utterer. Epistemic modality, in addition to involving a different semantic field from deontic modality, involves a reconfiguration of the force-dynamic relations.

The claim is that epistemic modality is captured not just by its being a (non-prototypical) instance of ‘believing’ but also by its force-dynamic character. Furthermore, it is entirely customary with these verbs for the utterer to be an argument of the sense of the verb, as it is with epistemic modals, and that the semantic relation is the same as with epistemic modals. It is wrong to class the utterer of an epistemic modal as an experiencer. There is nothing we could claim the utterer of *they must be there by now* might experience. The only reason we might have for calling the “experiencer” of a SOUND-class verb the experiencer is that they experience the sensory perception that gives rise to the evaluation. But in the case of raising SOUND-class verbs, there is no sensory perception so there are no grounds for identifying this as an experiencer argument.

I have shown that the utterer of a SOUND-class verb is an argument of the sense of the verb. As in the case of modals, this fact shows that SOUND-class verbs are subjective. Subjectivity is a species of deixis and so involves the utterance and the locutionary act. It is, however, not a term that is clearly defined in the literature. Cognitive Grammar (Langacker 1987: 128; 1990) takes a very different view of subjectivity from the literature on grammaticalisation (Traugott 1982, 1989; Wright 1995). In the case of SOUND-class verbs, when there is no experiencer grammatically present, the speaker is deictically involved in the situation by virtue of being the antagonist.

Without a TO-phrase, the subjectivity of *John sounds charming* is the same as the subjectivity of *John might be charming*. The claim must be that the speaker is the agonist of ‘sounding’ and the proposition the antagonist. We can say that SOUND-class verbs are subjective because, by default, the speaker is a force-dynamic participant in the situation defined by the verb. Because the force-dynamic orientation of these verbs extends beyond the sentence into the speech domain, they are deictic. What is pointed at is the utterer. By default, a SOUND-class verb identifies the speaker as the person whose belief is being expressed. This default can be overridden by a more specific case, an agonist identified in a TO-phrase.

I demonstrate below that the force-dynamic status of the experiencer is a critical issue in looking at the history of these verbs. I also show, in a related discussion, that the force-dynamics of these verbs is crucial to an understanding of their aktionsarts.

### 3 The force-dynamics of SOUND-class verbs and aktionsarts

The fact that the force-dynamic organisation of the sense of SOUND-class verbs is between the proposition and the speaker offers us a natural way of capturing the stativity of the verbs. Typically, I would expect a verb involving a force-dynamic opposition not to be stative, but to be dynamic. I characterise dynamicity as taking place when there is finite energy input on the part of at least one of the participants in a situation type, in our folk characterisation of that situation type. The senses of SOUND-class verbs should, for this reason, be dynamic. The reason why they are not dynamic, however, is that, although there is a force-dynamic opposition, the dynamicity does not involve the referent of the subject as the agonist. Another reason is that SOUND-class verbs are deictic. No verb where this is the case can be dynamic, it seems. Modals, for example, also involve force oppositions yet they are stative. One possible account for this is that the force-dynamic character of the modals is not limited to the referents of the linguistically expressed syntactic valents of the verb.

With this account, we can explain how sometimes these verbs can be dynamic. The diagnostics for agency that I presented were the ability to occur in the progressive and occurrence with a manner adverb like *DELIBERATELY*. Progressivity is not, by itself, a good diagnostic of agency. There are a number of raising constructions that can be progressive. There are progressive passives, and there are constructions with non-referential subjects like *there is ceasing to be any disagreement* and *there are threatening to be more accidents*. Purpose clauses and manner adverbs like *DELIBERATELY* are excellent diagnostics of agency. It is clear that the examples in (23) have agentive subjects. The examples in (23) are, therefore, not instances of the evidential senses of these verbs.

- (23) a. Jane is looking scary (to frighten off the boy she doesn't want to date)  
 b. Jane is sounding angry (to hide the fact she's scared)  
 c. Jane is deliberately looking scary  
 d. the teacher is deliberately sounding scary

In addition, there is a close relation between the agency of the subject and the presence of the TO-phrase. If the subject was agentive, the TO-phrase could not occur. There are examples in (24).

- (24) a. Jane is deliberately looking scary (\*to me)

- b. Jane is looking scary (\*to me) to frighten off the boy she doesn't want to date

The issue is how we capture the variable aktionsart of SOUND-class verbs and whether we can relate the variable aktionsart to the ability of a TO-phrase to occur.

The analysis of the experiencer as a force-dynamic participant in the sense of the verb makes it possible to arrive at a unified analysis of both of these phenomena. Dynamic SOUND must be attributory because it does not encode a belief. Therefore, the attributory sense of SOUND is analysed as involving force-dynamic relationships which are conflated with the more general argument relationships.

This simple statement of the organisation of the force-dynamics of SOUND-class verbs captures a number of problems quite elegantly. First, we can handle the epistemic modality and the subjectivity. Secondly, we can handle the relationship between the dynamic and stative instances of the verb and their ability to occur with a TO-phrase experiencer.

#### 4 SOUND-class verbs with LIKE/preposition and OF

So far, I have discussed SOUND-class verbs with nouns and adjectives as their xcomps. In this section, I look at the behaviour of SOUND-class verbs with the two prepositions that they can have as xcomps. OF can only ever occur with SMELL and TASTE. When it occurs with those verbs, it only occurs with the attributory senses. A LIKE/preposition xcomp, like an adjective xcomp, is able to occur with both the evaluative and the attributive senses of SOUND-class verbs.

LIKE/preposition never occurs with an expletive subject. Even when the subject of the verb is IT, it is still referential. There are some examples in (25).

- (25) a. it looks like Jane  
 b. it sounds like Jane  
 c. it feels like sandpaper  
 d. it smells like ash  
 e. it tastes like chocolate

These examples are ambiguous between evaluative (raising or control) and attributory interpretations. (25b), for instance, could mean “it is making a noise like Jane makes”, where the referent of *it* is the er of the sense of *sounds* and it is the sense of *sounds* that is *like Jane*; or “it appears from everything that I have heard that it must be Jane”; that is, it

has an evaluative meaning. This ambiguity corresponds exactly to the attributory vs the evaluative meaning distinction that I discussed for adjective xcomps of SOUND-class verbs.

The LIKE/preposition xcomp facts are, therefore, very similar to the facts for adjective xcomps, except that with adjective xcomps it was possible for the perception verb to have no semantic relation between the sense of the verb and the referent of the subject. In the case of LIKE/preposition there must be a semantic relation, so the raising sense is never found with LIKE/preposition.

The ambiguity between evaluative and attributory meanings is not available for all of the sensory modalities. When they are complemented by LIKE, SMELL/P and TASTE/P only have an attributory meaning. This fact is related to their behaviour with OF. Only SMELL/P and TASTE/P can be complemented by OF, and this is because OF only occurs in attributory contexts. SMELL/P and TASTE/P are the verbs which are least likely to have an evaluative meaning. There are some examples in (26).

- (26) a. it smells of coffee  
b. it tastes of chocolate

OF has a compositional meaning here. It does not suggest that the referent of *it* smells in a coffee-like way in (26a), nor does it suggest that the referent of *it* tastes in a chocolate-like way in (26b). Instead, what it suggests is that the sense of *of* restricts the range of possible smells or tastes.

We can compare OF with LIKE. *It smells of coffee* means that it has the same smell as coffee. *It smells like coffee* means that its smell is like the smell of coffee. Therefore, (27) is not acceptable.

- (27) it smells like / !of paint but it's actually not paint

If something smells of paint, it has the same smell as paint, therefore in all probability it is paint. The examples in (27) relate to category assignment. Examples like *this coffee smells of paint* suggests the presence of paint, not that the coffee is paint. The fact that the coffee is referred to by a fully referential noun-phrase overrides the category assigning possibility.

(28) shows that the SOUND-class verbs are not exactly like SEEM (in this complementation pattern) in that SEEM does not have an attributory sense.

- (28) it seems like Jane



The only available interpretation of *seems* in (28) is “I infer from all available evidence that it must be Jane”. This is exactly what we should expect, as the evaluative raising and control meanings of SOUND-class verbs are very similar to SEEM, excepting the possibility of an er relation between the sense of the verb and the referent of the subject.

The next issue to consider is the nature of the semantic relation between LIKE/preposition and the referent of its subject, in the evaluative meanings, and the sense of its head, in the attributory meanings. LIKE/preposition is an inherently relational word, so it always has two arguments, an er and an ee (i.e. second argument). We can see that, in (29), the meaning of LIKE/preposition can mediate between two entities, an entity and a situation, and two situations.

- (29) a. Jane is like Peter  
 b. Jane seems like Peter  
 c. Jane ran like Peter  
 d. Jane ran like a rocket launch

In (29a) and (29b), *like* has the referent of *Jane* as its er and the referent of *Peter* as its ee. In (29c), the er of *like* is the referent of *ran* and the ee of *like* is the referent of a running event with ‘Peter’ as er. In (29d), the er is the sense of *ran* and the ee is also a situation: the referent of *a rocket launch*. As with adjectives, er is always the semantic relation to the head or the subject of LIKE, and the semantic relation may have as its relatum things from any ontological class.

The situation is partly complicated by the fact that when the er of LIKE and the ee of LIKE are not in the same ontological category, we have to make an inferential bridge. In (29c) Jane’s running is, of course, not like Peter because there is no way that an event and a person could have sufficient in common that they could be compared. Jane’s running is like Peter to the extent that it is like Peter’s running, which is the only salient aspect of Peter. I take it that this kind of inferential bridging is pragmatic rather than semantic.

There is a second interpretation of (29c) which means “Jane ran just as Peter ran”, where the fact of Jane’s running is compared with the fact of Peter’s running. This interpretation involves an intonational break between *ran* and *like* and it is not relevant to my concerns here.

## 5 The history of SOUND-class verbs

### 5.1 Introduction

The discussion so far has made one innovation in the analysis of predicative complementation in that it has identified the attributory structure. One of the advantages of this innovation, and a further motivation for it, is that it permits a more sophisticated than hitherto analysis of the history of SOUND-class verbs.

There are three problems in the history of these verbs. The first, which I shall not address is the development of the different senses. The second, which I discuss in this section, deals with how the post-verbal element should be analysed. It appears in the early history of these verbs that they require a post-verbal adverb. I argue that the grammatical similarity between *xcomps* and *xadjuncts* makes this a plausible analysis of the constructions. The third issue concerns the establishment of a dynamic sense.

The development of the evidential senses from an attributory sense follows the classic pattern of subjectivisation. The emergence of the control meaning involves the formation of a secondary predicate. Verbs like *LOOK* and *SOUND* move from being verbs that require adverbial modification to being verbs that mediate a relationship between the subject and the predicative complement. Next, the emergence of the raising sense involves the loss of a semantic argument relation between the subject and the verb which is found in the grammaticalisation of the modal auxiliaries, for example. Furthermore, the development of the meanings of these verbs moves from not encoding a speaker judgement to encoding one. The raising sense is, arguably, the most subjective of the three possible senses.<sup>5</sup> The verbs in (1), (2) and (3) in the introduction to this paper appear to confirm Traugott's (1982, 1989) unidirectional hypothesis.

In contemporary English, all three meanings co-exist. However, verbs referring to the more distal senses, such as *sight* and *hearing* appear to prefer an evidential meaning while *SMELL* and *TASTE* prefer the attributory meanings. The fact that all three meanings can co-exist gives rise to a degree of ambiguity in some examples.

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<sup>5</sup> The reason for making this assertion is that the only participants in the situation denoted by a verb with an raising sense are the proposition and the speaker. The control sense, on the other hand, makes the subject a participant in the situation denoted by the verb and so it is less focused on the speaker's interpretation. However, this is not to deny that control senses may also be subjective, and that such fine-grained judgements are subject to other factors, such as what the context offers.

## 5.2 The classification of the predicative complement

Nevalainen (1995), addresses the issue of the word-class of *holwe* (“hollow” or “hollowly”) and what its grammatical relation to *looked* should be in her discussion of *looked* in (30).

- (30) As leene was his hors as is a rake,  
 And he was nat right fat, I undertake,  
 But looked holwe, and therto **sobrelly**.(Gen. Prologue to C. Tales 286-8)

Of this case, she says that Mustanoja considers this to be a Latin-influence literary form in Chaucer but that Jespersen states that “predicative adverbs may occur instead of adjectives with verbs of appearance. This is common with verbs such as LOOK in Shakespeare.” She also says that this usage is common in the Early Modern English section of the Helsinki Corpus (Kyto, 1991), giving the following examples.<sup>6</sup>

- (31) I warrant you Coach after Coach, letter after letter, gift after gift, smelling so **sweetly**; (E2 COME SHAKESP 45)
- (32) and there being another house pretty close to it hight built with such a tower and lanthorn also, with the two churches towers and some other building pretty good made it appear **nobly** at a distance; (E3 TRAV FIENNES 151-2)
- (33) it can receive no Light but at the Doors and Window of the Porch, whereby it looks most **solemnly**; (E3 TRAV FRYER 1, 186)

Nevalainen says that there are two possible analyses of these strings. One is to analyse the predicative complements as adjectives. She does not see this as a plausible strategy, because the low productivity of *-ly* adjectives cannot be squared with the frequency of words ending in *-ly* that occurring in this context. In addition, *-ly* adjectives have “specialised metaphorical and moral senses which are not evident in examples like those in (31)-(33). The other analysis is to see the adverb as a predicative complement of the verb, but only in the context of this small class of verbs. Nevalainen (1995) concludes that

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<sup>6</sup> The citations in (30), (31), (32), and (33) are all from Nevalainen (1995). The material in parentheses locates the text in the Helsinki Corpus according to the conventions of Kyto (1991). Consequently, all Helsinki Corpus material is referred to as Kyto (1991).

predicative complements which look like adverbs are adverbs, and that this pattern constitutes “a weakly codified area of grammar”.

The analysis of (32) and (33) is straightforward. They are cases of SOUND-verbs with attributory senses. Neither of the examples in (32) and (33) could be included in a *to judge by...* paraphrase, as the examples in (34) show.

- (34) a. !to judge by their smell, they are sweet  
 b. !to judge by its appearance, it is solemn

On the other hand, they could be paraphrased by adjective + noun strings, as the examples in (35) show.

- (35) a. they have a sweet smell  
 b. it has a solemn look

In both of the cases in (31) and (33), the verb and its predicative complement form a semantic unit which is then, in turn, predicated of the subject as the examples in (34) and (35) demonstrate. The example in (32) on the other hand is a straightforwardly evidential example. Nevalainen’s Early Modern English examples can, therefore, be accounted for by analysing them as attributory examples of SMELL, and LOOK, whereas APPEAR here has an evidential sense.

The reason why adverbs become less and less common as the predicative complement of LOOK and SOUND is related to the emergence of the evidential senses. These senses result in the predicative complement forming an independent secondary predicate, which takes the referent of the subject of the verb as its *er*. In such cases, in contemporary English, the predicative complement is obliged to be an adjective. It is a rule of English grammar that adverbs can only modify verbs and sentences. Once there is a regular control construction involving the control sense, the predicative complement of these verbs will be obliged to be an adjective. Adjectives, unlike adverbs, are capable of modifying nouns. We can account for the loss of the adverb as a predicative complement in terms of the emergence of the evidential senses.

Some early examples are ambiguous. In (30) above, an adjective and an adverb are conjoined as the predicative complement of *looked*. Assuming the attributory analysis of *looked...holwe*, it is necessary to assume an attributory analysis of *looked sobrely*. In Chaucer, as now, an adjective predicative complement of these verbs can be attributory. Furthermore, there are examples like that in (36), taken from the OED.

(36) So hungriliche and holwe sire Heruy hym loked (1277)

This should be paraphrased as “Sir Hervy had a hungry and hollow look to him”: the *hym* is a reflexive dative. The sense of *looked* in (36) is, therefore, another attributory sense, which *holwe* provides the best evidence for. The story of the predicative complement of LOOK and SOUND is, therefore, not just a story about the grammaticalisation of LOOK and SOUND; it also involves the grammaticalisation of the English adverb system, and the restriction of the environments that they can occur in.

There is a complication to the story, however. In the Nineteenth Century, there is a brief flurry of SOUND-class verbs with adverbs as their predicative complements, but which have evidential senses. By the Nineteenth Century, adverbs have, in all other contexts, become restricted to modifying only verbs and sentences.

- (37) a. On the whole, however, things as yet looked not unfavourably for James (1849)  
 b. It tasked the art of Kneller to make her look tolerably on canvas (1830)  
 c. Things had, by that time begun to look badly for all concerned (1891)

The examples in (37) are taken from the OED. (37b) is interpretable as an attributory example, but the other examples are clearly control or raising examples. I cannot account for this curiosity. It was a short-lived possibility and one that, I think, may have been limited to literary language.

It is a straightforward matter to account for the emergence of a raising pattern. These verbs develop with initial attributory meanings, and the emergence of evidential meanings is a later development. The raising meanings develop from the control meanings. The earliest raising example for LOOK that I have found is in (38) (from the OED).

- (38) How base a thing it is, and how unnaturally it looks, that men should value Money  
 than the Law of God. (1433)

The extraposition in (38) shows that this is an example of raising, in this case with an adverb as the predicative complement. The possibility of adverbs as the predicative complements of these verbs derives from their having an attributory construction as their first, and initially most frequent, construction. In time, the possible predicative complement of these verbs becomes limited to adjectives. As is to be expected in a case of grammaticalisation, there is a considerable degree of overlap between the senses and the complementation pattern. Once adverb predicatives are not possible, these verbs fall in line with other raising and control verbs in English.

It is also worth looking at changes in contemporary English. I have claimed that the



control and raising verbs, these verbs become more subjective. We would assume that, by default, they expressed a speaker opinion.

Given that they always encode a subjective judgement, either that of the speaker or the referent of the TO-phrase, we need to identify how the speaker is encoded into the meaning of the verbs. I have argued that the speaker/TO-phrase argument of the verb is a force-dynamic argument of the verb as in Sweetser's (1990) analysis of deontic and epistemic modality. In Sweetser's (1990: 39) analysis of MUST, she says that epistemic MUST compels the speaker to reach the conclusion embodied in the sentence. That is, there is a force-dynamic relationship between the proposition and the speaker encoded by MUST in examples like that in (41).

(41) Jane must be in Manchester by now -- she left four hours ago.

This analysis of epistemic modality is clearly relevant to the analysis of raising and control LOOK and SOUND. If I state something like (42a), I am compelled to the conclusion in the proposition by Jane's appearance. If I state something like (42b), I am compelled to the conclusion in the subordinate proposition by some information that is visually available to me.

- (42) a. Jane looks drunk (to me)  
b. tomorrow's weather looks good for a sailing trip

On this basis, therefore, I conclude that the speaker (or referent of the TO-phrase, who may be the speaker) is a force-dynamic argument of the sense of LOOK or SOUND or similar verbs when they have a raising or control sense.

There is, however, evidence that these verbs are undergoing a process of desubjectivisation. Rogers (1973) claims that these verbs are always stative and that the subject of the verb is never an agentive argument of the verb. He claims, that they can never be progressive, that they cannot be the complement of FORCE or PERSUADE and that they cannot occur with manner adverbs. However, although it was not possible for Rogers or his informants to have these verbs in these contexts, I find the examples in (43) all perfectly acceptable.

- (43) a. Jane is looking drunk  
b. I persuaded Jane to look drunk  
c. Jane deliberately looked drunk, in order to fob off the attentions of the man she disliked

Ljung (1980) notes that the progressive is perfectly natural with SOUND-class perception verbs. The examples in (43) are all perfectly acceptable. However, the examples in (44b-c) are unacceptable.

- (44) a. Jane is looking drunk to me  
 b. !I persuaded Jane to look drunk to me  
 c. !Jane deliberately looked drunk to me

(44a) is acceptable, but only on the basis that the progressive is construed non-agentively. Such a construal of the progressive would depend on interpreting it as referring to a temporally limited situation although it could possibly be an example of the experiential progressive in Wright's (1995) terms.

When a verb occurs in the frames indicated in (44b-c) what is being investigated is the agentivity of the subject. In these cases, the subject is being construed as an agentive element, responsible for its appearance. Furthermore, the agentive subject is incompatible with the presence of the TO-phrase. In addition, it blocks the interpretation of such sentences as speaker judgements when there is no speaker indicated.

In these cases, what has happened is that the subject has come to be interpreted as being force-dynamically responsible for the situation. If we accept Rogers' data we can only assume that the reanalysis of the force-dynamic relations is a modern phenomenon. Even if we do not accept Rogers' data, it is fair to assume that the establishment of an agentive and dynamic variant of the attributory sense of these verbs is a modern phenomenon.

There is a further point. The establishment of a dynamic agentive attributory sense is at odds with Traugott's (1982, 1989) unidirectional hypothesis. While the development of the evidential senses from the attributory sense is consonant with her hypothesis, the development of a dynamic attributory sense reinforces the propositional (in Traugott's terms) nature of attributory SOUND-class verbs. For the unidirectional hypothesis to be borne out, it would be necessary for the attributory senses to disappear eventually.

Clearly, the fact that these verbs are not unequivocally agentive unless they occur in agentive contexts shows that this nature of the subject as an agentive element in the meaning of the verb has not become fully encoded in the grammar. The necessity for agentive contexts suggests that what is found in examples like (43) is a case of what Traugott calls pragmatic strengthening. But, nevertheless, it is clear that it is necessary to consider whether desubjectivisation is a phenomenon elsewhere in the grammar.



## **6 Conclusions**

In this paper, I have shown that SOUND-class verbs have three senses: an attributory sense, and two evidential senses. I have shown how the presence of the attributory sense can account for the historical presence of a predicative adverb and how the evidential senses are later developments than the attributory sense. I have also shown how these verbs show increasing subjectivity associated with their grammaticalisation. Finally, I have discussed the current changes in the force-dynamic status of these verbs arguing that in agentive contexts, the subject of the verb is construed as being a force-dynamic participant whereas in non-agentive contexts, the force-dynamic relations hold between the speaker and the proposition as in cases of epistemic modality. This last process is a form of desubjectivisation.

## References

- Bach, E. (1979) "In Defense of Passive." *Linguistics and Philosophy* 3, 297-342.
- Bowers, J. (1972) MIT PhD dissertation.
- Gisborne, N. (1996) *English perception verbs*. UCL PhD dissertation.
- Kyto, M. (1991) *Manual to the Diachronic Part of the Helsinki Corpus of English Texts: Coding Conventions and Lists of Source Texts*. Helsinki: Department of English, University of Helsinki.
- Langacker, R.W. (1987) *Foundations of Cognitive Grammar, vol. 1*. Palo Alto, CA: Stanford University Press.
- Langacker, R.W. (1990) "Subjectification." *Cognitive Linguistics* 1, 5-28.
- Ljung, M. (1980) *Reflections on the English Progressive*. Gothenburg: Gothenburg Studies in English 46, University of Gothenburg.
- Lyons, J. (1977) *Semantics*. Cambridge: CUP.
- Nevalainen, T. (1995) "The Process of Adverb Derivation in Late Middle and Early Modern English." University of Helsinki ms.
- Oxford English Dictionary, 2nd edition, (1989) Oxford: OUP.
- Perkins, M. (1983) *Modal Expressions in English*. London: Pinter.
- Rogers, A. (1973) *Physical Perception Verbs in English: A Study in Lexical Relatedness*. PhD dissertation, UCLA.
- Sweetser, E.V. (1990) *From Etymology to Pragmatics*. Cambridge: CUP.
- Taylor, J.R. (1989) *Linguistic Categorisation: Prototypes in Linguistic Theory*. Oxford: Clarendon Press.
- Traugott, E.C. (1982) "From Propositional to Textual and Expressive Meanings: Some Semantic-Pragmatic Aspects of Grammaticalization." in Lehmann, W.P. and Y. Malkiel, eds., *Perspectives on Historical Linguistics*. Amsterdam: Benjamins 245-271.
- Traugott, E.C. (1989) "On the Rise of Epistemic Meanings in English: a Case Study in the Regularity of Language Change." *Language* 40, 31-30.
- Wright, S.M. (1995) "Subjectivity and Experiential Syntax." In Stein, D. and S.M. Wright, eds. *Subjectivity and Subjectivisation: Linguistic Perspectives*. Cambridge: CUP.