English posture verbs

An experientially grounded approach

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This paper considers a number of linguistic properties of English SIT, STAND, and LIE which are argued to be the cardinal posture verbs of English. The distinctiveness of just these three posture verbs is evidenced by their relatively high frequency within the class of posture verbs in English and matched by grammaticalization facts in other languages. The paper considers the difficulty of differentiating action and state senses of these verbs and explores the use of posture verbs with inanimate subjects. It is argued that human experiential realities of posture motivate a number of these facts.

Keywords: posture verbs, verbal aspect, locative predicates, grammaticalization, corpus linguistics, experiential reality

1. Introduction[1]

Posture verbs, such as SIT, STAND, and LIE in English, occupy a special place within the class of verbal predicates.[2] The postures that these verbs refer to are so salient and recurrent in our everyday lives that the concepts of 'sit', 'stand', and 'lie' are good candidates for "basic-level categories" of events, comparable to how concepts such as 'dog' and 'chair' have been proposed as basic-level categories of things (cf. Lakoff, 1987, pp. 31–38, pp. 46–54). As can be expected of basic-level categories, they are commonly relied upon as sources for metaphorical extension whereby a less familiar, or more abstract, entity is conceptualized in terms of the more familiar, more concrete. And, indeed, posture verbs in many languages are sources of metaphorical extension. Above all, but by no means only, posture verbs can be extended to conceptualize existence and location of inanimate objects. In the typology of languages arrived at through research on the "basic locative construction" carried out by the Language and Cognition Group of the Max Planck Institute for Psycholinguistics, for example, 'sit', 'stand', and 'lie' verbs play a key role.

Annual Review of Cognitive Linguistics 7 (2009), **30–57**. DOI 10.1075/arcl.7.02new
ISSN 1572–0268 / E-ISSN 1572–0276

They are the prototypical verbs which define a language type, namely, the type in which a small set of contrastive verbs occur in locative constructions (Ameka and Levinson, 2007, p. 864). The same class of verbs has inspired a great variety of other linguistic observations, as found in the chapters of Newman (2002). In English, SIT, STAND, and LIE give rise to a great variety of metaphorical extensions with meanings sometimes far removed from their original human posture senses, as in *Parliament is sitting*, *sit on a matter* (as opposed to *act on a matter*), *stand on ceremony*, *can't stand someone*, *stand firm on an issue*, *lie fallow*, *her strength lies in her character* etc. The same verbs appear in derived forms such as *understand*, where, again, the semantic connection to the human posture sense of STAND is by no means transparent.[3] In short, human posture verbs are a particularly rich source of data on human conceptualization as studied through linguistic expression.

In this paper I explore a few key points relating to the English posture verbs, relying upon usage data where possible. Section 3 introduces data to support the idea that the three verbs SIT, STAND, and LIE are indeed the most common posture verbs in English and, hence, are naturally studied as a group. The distinctiveness of these verbs in terms of their frequency of usage is matched by a variety of grammatical facts from other languages which treat the equivalents of these three verbs in some distinctive way. Section 4 discusses the distinction between action and state uses of the posture verbs, a distinction which can be quite subtle in English. Section 5 explores the extension of English posture verbs to their co-occurrence with inanimate subjects through a close examination of the examples in which SIT and STAND co-occur with HOUSE as the head of the subject noun-phrase. By studying many instances of such combinations as they occur in a large corpus of English, it is possible to identify tendencies which might otherwise be overlooked. I adopt an approach which seeks to motivate various linguistic facts about English posture verbs by appealing to human experiential realities associated with these postures. This approach is familiar in the Cognitive Linguistics tradition which often makes reference to "embodied language", even if it remains a dubious strategy to those linguists committed to viewing language as an autonomous object of study. Section 2 briefly introduces these everyday experiential realities of human postures.

2. English SIT, STAND, LIE

I offer a number of pre-theoretical observations about the kinds of behaviours and expectations associated with the static human postures of sitting, standing, and lying, based on my ordinary experience of these postures (cf. also Lemmens, 2002, pp. 104–106; Lemmens, 2006, pp. 265–268 for similar observations). I acknowledge that there can be more methodical and more scientifically based approaches

to identifying the key experiential factors associated with the postures, e.g., the experimental methodology followed by Gibbs et al. (1994) and Gibbs (2002, pp. 391–397).[4] My present purpose, however, is to merely remind the reader of the common experiential realities associated with these postures, in the expectation that some of these observations may help to guide us in seeking motivations for patterns in the linguistic data. The pre-theoretical observations to be made here do not, in any way, constitute the "data" of the paper but are potentially relevant considerations in helping us to interpret the data collected. The primary data for this study are the various corpora which are the basis for the frequency and distributional facts about posture verbs.

I will consider the following dimensions ("domains") as a way of organizing my observations: the spatio-temporal domain, the force dynamics domain, the active zone associated with each predicate, the socio-cultural domain. The spatio-temporal domain refers to the overall spatial configuration which presents itself and is maintained through time. With all three of these postures there is a strong sense of the extension of a state through time and a strong contrast between the spatial configurations involved: a compact shape associated with sitting; an upright, vertical elongation with standing; a horizontal elongation in the case of lying. These three distinct spatio-temporal configurations constitute strong spatial images in human conceptualization and often play a part in motivating alternative categorizations of entities, as discussed below.

The force dynamics domain refers to the manner in which entities exercise force or are subjected to forces. All three states are typically entered into through relatively brief movements, such as lowering oneself onto a chair or bed, or rising from a chair or bed. The states themselves, however, are typically maintained for longer periods (hence, we call them "at-rest" positions) and may be maintained with no physical movement on the part of the person involved. Nevertheless, there are clear differences between these states in terms of the sensorimotor control which is needed in order to maintain the position. In the case of standing, both upper torso and lower torso need to be sturdy and held vertical; with sitting it is the upper torso which needs to be held vertical while the lower torso can be quite relaxed, or even paralyzed; and with lying no part of the body needs to be exercising any muscular or sensorimotor control at all. In terms of degree of control needed, then, there is a gradation from standing (requiring most control), through sitting, to lying (requiring least control). Notice that this gradation in degree of control required corresponds, in reverse order, to stages by which children develop, namely lying, then sitting, then standing. And of the three, the standing position, without any additional support, is the one which humans are least able to maintain for long periods of time. The control which needs to be exercised is not just a matter of force being exerted upon any particular object, rather it is a

combination of control over one's own body and the exercise of balance in a vertical position.

Langacker (1987, pp. 271–274) has proposed the term *active zone* for the salient subpart of the overall meaning which is most directly involved in the interaction of entities or maintenance of a state. For example, eyelids constitute the active zone of the predicate BLINK, while a foot would be the active zone of the predicate KICK. In the case of SIT, the active zone which suggests itself is the buttocks and, to some extent, the upper torso, these being the parts of the body which appear to be most relevant to maintenance of the sitting position. In the case of STAND, it is the legs in particular which are crucial, along with the upper torso which needs to assume a particular vertical shape. With LIE, a side of the body would be the active zone since it is a side that typically comes into contact with a flat surface.

The states play very different roles in the socio-cultural domain. Sitting is a relatively comfortable position and combines both the opportunity to work with the hands, to look ahead and around easily, to eat and drink normally, while at the same time not becoming tired through prolonged exercise of the leg muscles. Standing allows a greater exercise of physical power, vision over a greater distance and is a prerequisite for walking, running etc. Lying is the least compatible with physical action and is associated with rest, sleep, sickness, and death.

3. Salience of sitting, standing, and lying

Of all the verbs which could conceivably be labelled as posture verbs in English, SIT, STAND, and LIE verbs occur with the highest frequency in usage and may be rightly called the *cardinal posture verbs* of English. Obtaining corpus-based frequency counts of such verbs in English is not easy, since the polysemy which attaches to each of these words means that various idiomatic and non-posture senses may be included in any form-based frequency counts. The most obvious intrusion of unwanted uses concerns the 'tell a lie' senses found with *lie(s)* and *lying*. In addition, the past tense *lay* is identical to some forms of the transitive verb *lay*. Both *stand* and *lie* are used as nouns in English (*take a stand on something*, *a stand of trees*, *tell a lie*) whereas the focus of this study is on posture verbs, not nouns. Ideally, one would like to search for words in specific senses in a semantically tagged corpus in order to exclude such unwanted senses. Two corpora of English are available in such a semantically tagged form, SemCor and the Princeton WordNet Gloss Corpus, applying the principles of WordNet (Fellbaum, 1998). SemCor 3.0 consists of almost 700,000 running words in 352 texts of the BROWN corpus in which all verbs are lemmatized and sense-tagged according to Princeton WordNet 3.0.[5] SemCor is based on written usage of American English. The Princeton

WordNet Gloss Corpus of more than 1.6 million words is more unusual as a corpus — it consists of the glosses of the WordNet 3.0 dictionary, where a "gloss" is understood as the definition of a word and any example sentences. Hence, this corpus does not directly reflect usage, but rather reflects usage in the (presumably, American English) discourse employed to talk about and illustrate words. For either corpus, deciding on which sense to recognize for a particular usage is not without its difficulties. In the case of *lie*, for example, the senses 'be located or situated somewhere; occupy a certain position' and 'be lying, be prostrate; be in a horizontal position' must be distinguished in WordNet. These senses are not always easy to tease apart in actual usage. It is a matter of degree which of these two senses is more relevant.

Frequency figures for the simple verbs SIT, STAND, and LIE, as used in specific senses in these two corpora, are given in Table 1. The frequency counts are the frequencies of these lemmas when used statively without any accompanying verb particle such as *up*, *down*, *back*, etc.[6] The frequencies in the Gloss Corpus were obtained through online WordNet 3.0 searches.[7] WordNet sense numbers for these verbs are included in the second column. The results show that SIT, STAND, and LIE are the three most frequent verbs in both corpora and lend support to our decision to regard them as the cardinal posture verbs of English. Furthermore, it is SIT and STAND which clearly dominate within this set. Even so, the figures show that a verb like HANG is not that far behind the three cardinal posture verbs in its frequency of usage.

The distinctiveness of English SIT, STAND, and LIE vis-à-vis the other posture verbs has counterparts in grammaticalization tendencies in other languages, as discussed by Newman and Rice (2004, pp. 359–361). The authors cite three kinds of cross-linguistic data which point to the distinctiveness of these three verbs as far as grammaticalization is concerned. First of all, it can happen that it is just the counterparts of these three verbs that evolve into locational and/or existential predicates in a language. In Dutch, *zitten* 'sit', *staan* 'stand', and *liggen* 'lie' have developed such existential/locational uses, as discussed by Lemmens (2002, pp. 103ff). In Mbay (Nilo-Saharan), locational and existential constructions typically involve one of the three verbs *ndì* 'sit', *dà* 'stand' and *tò* 'lie' (see Keegan, 2002, for details of usage). Secondly, in some languages it is precisely these cardinal posture verbs that have been extended to tense/aspect markers. Again, Dutch provides evidence of this (cf. Lemmens, 2005). Dutch posture verbs can enter into a progressive or progressive-like construction, as shown in (1).

(1) *Onze ploeg stond lamlendig te hockeyen.*
our team stood sluggishly to play hockey
'Our team was playing hockey sluggishly.' (Lemmens, 2005, p. 185)

Table 1. Frequencies of English posture verbs with specific senses in SemCor and the Princeton WordNet Gloss Corpus

verb	WordNet sense number and meaning	sample usage	total in SemCor	total in Gloss Corpus
STAND	1'be standing, be upright'	*John stood above him.*	133	169
SIT	1 'be sitting'	*We sat on split bamboo mats.*	124	134
LIE	2 'be lying, be prostrate, be in a horizontal position'	*She lay under the covers.*	46	58
HANG	1 'be suspended or hanging'	*The flag hung on the wall.*	27	35
LEAN	1 'incline or bend from a vertical position'	*She leaned over the banister.*	19	24
SQUAT	1 'sit on one's heels'	*The women squatted by the river on washday.*	8	8
KNEEL	1 'rest one's weight on one's knees'	*I found him kneeling in a back pew.*	7	9
CROUCH	2 'sit on one's heels'	*He crouched down behind the wall.*	4	7
STOOP	1 'bend one's back forward from the waist on down'	*The young man stooped to pick up the girl's purse.*	4	7
SPRAWL	1 'sit or lie with one's limbs spread out'	*Six girls sprawled on one bed.*	4	8
PERCH	1 'sit, as on a branch'	*The birds perched high in the tree.*	4	6
BEND	4 'bend one's back forward from the waist on down'	*He bent down, a black cranelike figure, and put his mouth to the ground.*	3	3
LOUNGE	1 'sit or recline comfortably'	*He was lounging on the sofa all afternoon.*	2	2

In Kxoé (Khoisan), it is just the verbs meaning 'sit', 'stand', and 'lie' which function as present tense markers especially when referring to an action performed while sitting, standing, or lying respectively (Köhler, 1962, p. 545; Köhler, 1981, p. 530; Heine and Kuteva, 2002). The third type of extension pattern exhibited by 'sit', 'stand', and 'lie' predicates involves their redeployment as the basis of a classifier system. In Euchee (previously known as Yuchi; an Amerindian isolate, possibly Siouan), the morpheme *ǰi* 'sit, stay', *fa* 'stand', and *ʔe* 'lie' form the basis of a three-way noun-classification system (Wagner, 1933–1938; Watkins, 1976, pp. 35–36; Linn, 2000). The three forms function as articles/demonstratives occurring with singular inanimate nouns, e.g., *ya* 'tree', but *ya-fa* 'the/this/that tree' (literally, 'tree-stand').

All of these grammaticalization facts reflect the cardinality of 'sit', 'stand', and 'lie' as opposed to 'crouch', 'kneel', 'lean', etc., a cardinality that can be detected in English through frequency counts present in both written and spoken corpora. Presumably, a factor motivating all these phenomena is the relative salience of sitting, standing, and lying in our consciousness of human at-rest positions. Claims about the relative salience of some parts of our experience versus other parts are admittedly not easily substantiated in objectively quantifiable ways. However, the easily accessible and quantifiable corpus facts we are establishing for English could be taken as linguistic correlates of experiential embodiment.

4. Action vs. state

4.1 Differentiating action and state

One may reasonably inquire as to whether particular uses of posture verbs are understood as referring to inchoative actions or continuing states. The transition from upright, standing position to a seated position, such as on a chair, would be the inchoative action associated with sitting. The inchoative phase of sitting may be contrasted with the continuing state of being seated, for example on a chair. In choosing to inquire into action and state interpretations of posture verbs, I do not assume that one must assign these two phases to two distinct subsenses of SIT (and similarly for other English posture verbs). While there may be some basis for recognizing the action and state interpretations as distinct subsenses, it seems just as plausible, at least as an initial hypothesis, that these interpretations result from a single, vague sense. Wierzbicka's (2009) discussion of the status of 'eat' and 'drink' interpretations of a single 'consume' verb in some languages is pertinent here (cf. also the overview of the "vagueness" issue in Evans and Green 2006, pp. 340–342). Wierzbicka argues convincingly for a unitary sense of the Kalam (Papuan) verb *ñb-* which includes as part of its semantics a reference to the idea of a person "doing something to something with their mouth for some time" (Wierzbicka, 2009, p. 72). She cautions against assigning two distinct subsenses 'eat' and 'drink' as part of the semantic structure of *ñb-*. Likewise, for English SIT and the other posture verbs, one should not jump to the conclusion that there should be two distinct subsenses reflecting the action and state phases, even though it is conceptually possible to differentiate such interpretations. I return to the question of subsenses of the posture verbs in Section 4.5.

There is a close and specific kind of relationship between the inchoative action and the resulting state, described in some detail in Newman and Yamaguchi (2002, pp. 44–46). For one thing, we enter the state of sitting typically through

a conscious, controlled, intentional (though brief) sitting action. Furthermore, when we are in a sitting position, we typically maintain that position for some time — we are not in the habit of momentarily being seated and then standing up. In other words, the action of sitting typically implies the continuing state of sitting, consequent to the action. The reverse implication seems not nearly as strong, since it is quite possible to imagine a seated person without having to also associate that state with the action of sitting down.

Even in languages where the two meanings are clearly differentiated in form, e.g., German, there is still typically an implication of the continuing state of being seated when the action form is used (cf. the discussion of the experiential realities of sitting behaviour in Newman and Yamaguchi (2002, pp. 44–46) and Enfield (2002, pp. 29–30)). Consider (2), extracted from the German COSMAS corpus.

(2) *Es kommt vor, daß ich mich dann für einige Augenblicke hinsetze und zu erraten versuche, was gerade passiert.* [*Mannheimer Morgen*, 30.04.2002; *Lo und Lu Roman eines Vaters*]
'So I sit down [action predicate] for a few moments then and try to guess what just happened'

Note the cooccurrence of the durative temporal phrase *für einige Augenblicke* 'for a few moments' in (2), as a modifier of the action predicate *sich hinsetzen* 'to seat oneself'. Further indication of the close association between the inchoative action and the continuing state ensuing as a result of the action is given in (3), once again using the unambiguous action predicate *sich hinsetzen* (all taken from MO2 of the COSMAS Corpus). In (3a–b), the second, coordinate verb in each example refers to an action undertaken while seated. In (4a–b), the *um…zu* construction refers to an action carried out while seated and as the purpose of the sitting down.

(3) a. *keinen freien Augenblick, um sich hinzusetzen und nachzudenken*
'no free moment to sit down and reflect'
b. *dachte, die Kinder würden sich hinsetzen und malen*
'thought that the children would sit down and paint'

(4) a. *habe sich der jetzige Präsident hingesetzt, um sich auszuruhen*
'the current president sat down to rest'
b. *jeden Tag, wenn ich mich hinsetzen will, um etwas zu schreiben*
'every day, if I want to sit down to write something'

There are, too, occasional uses of the state forms in German — *sitzen* 'be in a sitting position', *stehen* 'be in a standing position', *liegen* 'be in a lying position' — being used to refer to the act of moving into the posture. Compare examples such as *aufs Pferd sitzen* 'sit on the horse' with an accusative case of *das Pferd* 'the horse', signalling the action of sitting rather than the state of being seated (Grimm and

Grimm, 1878, p. 1299).[8] Clearly, the action and state uses of the posture verbs are closely related — a relationship grounded in experiential realities. It is not surprising that languages might use aspectual morphology to derive one form from the other, as in German (cf. Talmy, 2000, pp. 79–82; Tatevosov, 2002).

4.2 Action and state 'sit' in the history of English

In English, the action and state uses of the posture verbs are not as clearly delineated as in some other languages. In Old English, both state and action phases of the 'sitting' scenario have been expressed by SITTAN (also SYTTAN, SITTON; principal parts *sæt*, *sæ:ton*, *seten*), the formal precursor of the modern verb SIT. One may note that the state verb SIT/SITTAN has long been used in contexts where there is clearly an action meaning, with or without *down*, as shown in the quotations from the O.E.D. in (5).

(5) a. *Com sytt! soyn shall we se.* (*c*1460)
b. *Syt you downe here.* (1535)

To gain a better sense of the historical use of SIT in the action sense, I examined earlier renditions of selected passages of the Bible which strongly suggest the inchoative action sense or, alternatively, a state sense. The Biblical passages in (6) illustrate the action sense. In Wulfila's Gothic Bible, all these instances are translated with a form of GA-SITAN, the unambiguous action verb 'to sit down'. (6a–c) are also translated with a form of the unambiguous action verb SICH SETZEN in the German (Luther) Bible; (6d), as in Anglo-Saxon, is translated with the 'ride' verb. The passages are quoted in the King James version (modern spelling). The examples in (7), on the other hand, have been chosen to illustrate the state sense and are clearly translated as such in the Gothic and German translations of these passages.

(6) a. *And he closed the book, and he gave it again to the minister, and* ***sat down****. And the eyes of all them that were in the synagogue were fastened on him.* Luke 4:20
b. *For which of you, intending to build a tower,* ***sitteth not down*** *first, and counteth the cost, whether he have sufficient to finish it?* Luke 14:2
c. *And he said, An hundred measures of oil. And he said unto him, Take thy bill,* ***and sit down*** *quickly, and write fifty.* Luke 16:6
d. *And Jesus, when he had found a young ass,* ***sat thereon****; John* 12:14

(7) a. *The neighbours therefore, and they which before had seen him that he was blind, said, Is not this he that* ***sat*** *and begged?* John 9:8
b. *Then Martha, as soon as she heard that Jesus was coming, went and met him: but Mary* ***sat*** *still in the house.* John 11:20

c. *But to **sit** on my right hand and on my left hand is not mine to give; but it shall be given to them for whom it is prepared.* Mark 10:40
d. *And Peter followed him afar off, even into the palace of the high priest: and he **sat** with the servants, and warmed himself at the fire.* Mark 14:54

In Tables 2 and 3, successive translations of these passages in six different versions of the Bible are shown, extending from the West Saxon Gospels *c*990 to the 1611 King James Bible, relying upon the online *Bible in English* resource.

Table 2. Selected translations of action 'sit'

	Luke 4.20 3Sg. Past	**Luke 14.28 3Sg. Present**	**Luke 16.6 Sg. Imperative**	**John 12.14 3Sg. Past**
West Saxon Gospels *c*990	*sæt*	*sytt*	*site*	*[rad on-uppan þam]*
West Saxon Gospels *c*1175	*sæt*	*sit*	*site*	*[rad on-uppan þam]*
John Wycliffe Bible *c*1384	*sat*	*[sittinge]*	*sitte*	*sat on him*
William Tyndale NT 1530–1534	*sate doune*	*sytteth doune*	*syt doune*	*sate thero*
Great Bible 1540	*sate downe*	*sytteth downe*	*syt doune*	*sate theron*
King James Bible 1611	*sate downe*	*sitteth downe*	*sit downe*	*sate thereon*

Table 3. Selected translations of state 'sit'

	John 9.8 3Sg. Past	**John 11.20 3Sg. Past**	**Mark 10.40 2Dual Pres. /Inf.**	**Mark 14.54 3Sg. Past**
West Saxon Gospels *c*990	*sæt*	*sæt*	*(gyt) sitton*	*sæt*
West Saxon Gospels *c*1175	*sæt*	*sæt*	*(gyt) sitten*	*set*
John Wycliffe Bible *c*1384	*sat*	*sat*	*(to) sitte*	*sat*
William Tyndale NT 1530–1534	*sate*	*sate*	*(to) sit*	*sat*
Great Bible 1540	*sat*	*sate*	*(to) syt*	*sat*
King James Bible 1611	*sate*	*sate*	*(to) sit*	*sate*

The state sense of sitting has been nearly always translated with the simple form of the *sit* verb, as seen in Table 3. An exception might be seen in the use of a *set* form in one case in the West Saxon Gospels 1175. However, this instance seems so idiosyncratic that one would prefer, I believe, to view it as a misspelling of *sæt*, rather than as an instance of the (different) verb *set*. There is a more interesting pattern which emerges with the renditions of the action senses, however. Up to and including the Wycliffe Bible *c*1384, it is the plain form of SIT, without any accompanying *down*, which consistently translates the action sense of sitting. According to the O.E.D., *down* appeared only in late Old English (*dúne*, *dú*; originally a variant of Old English *adúne* 'adown', itself a weakened form of *of dúne* 'off the hill or height'). The adverb occurs with verbs of motion (Brinton, 1988, pp. 220–221), e.g., with the verb 'fall' in *Þa feol he adune* 'Then he fell down' (Ælfric's *Catholic Homilies* I, 22.316.28, *c*1000, cited and discussed by Fischer, van Kemenade, Koopman, and van der Wurff, 2000, p. 180). Although one might expect, similarly, to find *down* and its precursors used also with SIT at this time, this combination is not attested in Healey's online Old English Corpus. SIT is, however, used with a *down* adverbial in Middle English (cf. the online Middle English Dictionary in MacSperran's Middle English Compendium and the O.E.D. (1989)). The consolidation of the combination of SIT and *down* in the Middle English period takes place in the same period in which the English verb + particle construction fully establishes itself (Fischer et al., 2000, pp. 180–210; Brinton and Traugott, 2005, pp. 123–125) and it may be that the emergence of the SIT *down* combination is facilitated by the emergence of a larger productive pattern of verb particle combinations. In any case, by the 1500's, *down* appears in combination with SIT as the standard way of translating the action sense expressed in the passages quoted in (6) above. Even so, as (6a) shows, plain SIT continued to also be used to express the action sense without *down*.

One might also note the existence of a weak verb SETTAN in Old English, the precursor of SET. This verb is cognate with the transitive verb which is the main verbal component of the usual action verb of sitting in some Germanic languages, e.g., German SICH HINSETZEN. Although SET/SETTAN has a transitive use throughout the history of English (formally, a transitive counterpart to the intransitive 'sit' verb), it has a well documented intransitive use in the action sense of 'sit' in English, e.g., *I set downe, I rest me on a seate* (1530) according to the O.E.D. The first citation of this use is dated 1205 in the OED. Even when *set* developed an intransitive action sense of sitting, however, it was not selected to render this sense in any of the passages quoted above at any time.

4.3 Action and state 'sit' in contemporary English

To explore the usage of English SIT, two corpora of New Zealand English were utilized: the Wellington Corpus of Written New Zealand English (WWC) and the Wellington Corpus of Spoken New Zealand English (WSC). WWC consists of one million words of written New Zealand English (1986 to 1990). It is designed along the same lines as the Brown Corpus of written American English (1961) and the Lancaster-Oslo-Bergen corpus (LOB) of written British English (1961). WSC is also one million words and consists of spoken New Zealand English collected in the years 1988 to 1994. Although Wellington corpora are much smaller than some corpora currently available, such as the British National Corpus. They have the advantage of being well-balanced in terms of written versus spoken representativeness, and they are small enough for an analyst to undertake a comprehensive examination of all occurrences of a relatively frequent verb such as SIT. One issue which arises immediately in the case of any corpus-based study of SIT is the polysemy of the verb. The Wellington corpora are not semantically tagged and so the occurrences of *sit*, *sits*, *sitting* etc. need to be examined individually to ascertain whether the word is being used to refer to an animate entity participating in an event in either the action or state senses.

Differentiating action and state senses of English SIT using a corpus-based approach proves to be a difficult task. In some cases, it is hardly possible to insist on either interpretation. Consider, for example, the use of *sit* illustrated in (8).

(8) *He comes to sit beside me on the sofa and I bob like a dinghy on a wave.* [WCC]

Clearly, the sentence as a whole suggests that there is a downward sitting motion on the sofa, a suggestion reinforced by the second part of the sentence describing the resulting bobbing motion. Nevertheless, the actual contribution that the individual parts make to this larger image is not so clear. *Sit* in the combination *comes to sit* could be interpreted as the action predicate. Alternatively, *sit* could be interpreted as the state predicate, with the reader/listener interpolating the action of sitting as a way of connecting the motion to the sofa and the consequent sitting state. At best, the most we can achieve in reflecting on our construal of such a sentence is the presence or absence of a sitting action as part of the interpretation of the whole sentence.

We may distinguish a number of factors which lead one, as a reader or addressee, to construe the event as involving the action of sitting (cf. the discussion of factors disambiguating senses of Lao 'sit' in Reid, 2002). The relevant examples are shown in Table 4. In determining whether there is an action of sitting involved, one must remember that a consequent state of sitting will typically accompany this kind of event. Hence, we are not attempting to find only an action sense, but typically an action sense along with an ensuing state sense.

Table 4. Examples illustrating factors favouring an action interpretation of SIT

Motion verbs	
[wwc]	will poke a hole in him. He comes to **sit** beside me on the sofa and I bob like a
Imperative	
[wwc]	You asked us to be… **'Sit** down, young man. There are things you talk
Motion verb and Imperative	
[wwc]	can't quite believe it. Come and **sit** down. I'll get you a drink. You feel the .
Indirective	
[wwc]	to 6. The old man motions you to **sit** down. He tells you that you have chosen
Manner adverbials	
[wwc]	not you. Do you understand? He **sat** down heavily, and gestured for me to sit
[wwc]	and in a smooth movement he **sat,** then thrust his legs out, hands still in
Path adverbials	
[wwc]	quickly told him to shut up and **sit** down. The fat, the fat, the good butter.
Miscellaneous	
[wwc]	With profuse apologies we **sat** next to a man without a single hair on
[wwc]	a mug of coffee in front of Derek and **sat** at the far end of the table.

The most obvious examples, perhaps, are those in which there is motion of the animate entity to the location. This is the case above all with motion verbs such as *come* and *go*, e.g., *At last he came to sit beside me*. The transition from motion to a location and the sitting condition requires that there be the action of sitting. Imperative uses, such as *Sit! And not another word out of you*, are equally compelling in that the animate entity must move into a sitting state, typically from a standing state. The combination of motion verb and imperative, as in *Come and sit down!* presents a particularly strong image of motion and transition to a sitting state. Indirect kinds of commands, which one may call 'indirectives', are another category where a sitting action constitutes a part of the overall meaning, as in *They quickly told him to shut up and sit down*. Certain adverbial and prepositional phrases can highlight the action of sitting, as in *He sat down heavily, and gestured for me to sit opposite* and *In a smooth movement he sat, then thrust his legs out.* Here, the adverb *heavily* and the phrase *in a smooth movement* describe the sitting action, not the state of sitting.

Turning to state interpretations, the presence of a durative phrase indicating an extended period of time encourages or even forces a state interpretation, since it is the state phase, not the action phase, which is naturally extended, e.g., *We would sit for the better part of an hour*. A second set of examples concerns the use

of *sit* with an associated *-ing* form of a verb, e.g., *I would invariably sit chewing the end of my pen* and *He sat clasping and unclasping his hands*. The verb in the *-ing* form suggests an ongoing kind of activity and it is the state phase of sitting which is most easily reconciled with such an activity. The *sitting* form, without an accompanying *down*, seems consistently to attract a state interpretation in the examples shown in Table 5. Adverbials explicitly referring to the lack of motion clearly force the state interpretation, e.g., *Men like stones — who sat all day without moving* and *He sat quite still*. Other miscellaneous examples make reference to various kinds of schemas which are associated with the state phase of sitting, e.g., sitting while blood is being drained.

Table 5. Examples illustrating factors favouring a state interpretation of SIT

Durative phrase			
[wwc]	of 1983. Some days workers would	**sit**	around their smoko huts for seven hours,
[wwc]	and persuaded the vicar to	**sit**	for 50 hours on top of the 15-metre high
ING form of an associated verb			
[wwc]	time came around I would invariably	**sit**	chewing the end of my pen, wondering
[wwc]	in the executive offices, the mayor is	**sitting**	at his desk eating fish and chips, dipping
[wwc]	and now the knowledge was bitter. He	**sat**	clasping and unclasping his hands. Then,
Plain *sitting* (without *down*)			
[wwc]	dressed only in a pair of jeans, was	**sitting**	behind the steering wheel, his head lying
Motionless adverbials			
[wwc]	the corner Mrs Alfred Hedges is	**sitting**	absolutely still. She has a silver fox stole ..
[wwc]	For me to see this he	**sat**	quite still, allowing it, gazing out over the
[wwc]	Men like stones — who	**sat**	all day without moving. Telling lies to get
Miscellaneous			
[wsc]	us both men and women needing to	**sit**	and question what are our attitudes and
[wsc]	cos you have to sort of um tut	**sit**	there while they drain the blood and

While many different forms of SIT appear in both state and action usages, as seen in Tables 4 and 5, the contrast between *sit/sat down* and BE *sitting* (without *down*) is very strongly associated with an action versus state contrast, the former being associated with an action sense and the latter with a state sense. In the corpus used for this study, these forms are consistently associated in this way with these meanings. That is, a non-progressive form of the verb reinforced with an accompanying path adverbial invariably induces the action sense; the progressive *-ing* form of the verb without any accompanying path adverbial induces the state sense. This observation accords with a practice sometimes found in (careful) bilingual dictionaries

which differentiate the action and state senses of the 'sit' concept as 'to sit down' versus 'to be sitting' in English definitions. This same contrast proved to be a useful distinction in the study of posture verbs carried out by Newman and Rice (2004). In this study, the authors examined the verbs collocating with SIT in the frames *sat down and V-ed* and *sitting and V-ing* (and similarly for the other posture verbs). Some verbs were common to both frames, such as WATCH, WAIT, LOOK, and THINK. Verbs such as START and TRY, however, were more strongly associated with the *sat down and V-ed* frame, reflecting the commencement of a new activity after the completion of the action of sitting (a distinction even more evident in the case of *stood up and V-ed* versus *standing and V-ing*).

4.4 *Sitting down*

The combination *sitting down* presents a particularly interesting challenge in interpretation. As noted in the previous section, plain *sitting*, without any accompanying *down* particle, is invariably associated with the state interpretation. The presence of a path adverbial/particle, on the other hand, is strongly associated with the transitional action phase. It is interesting, then, to consider what happens when *sitting* and *down*, with their contrasting effects, are combined. Table 6 lists all instances of *sitting down* in the two corpora.

In some cases, the context seems to require an interpretation of the action (with ensuing state). *Within one minute of us sitting down…*, for example, refers to an elapse of one minute from the time of the action of the sitting; *Walking into the steamy pit, sitting down in the glamorous dinginess…*, suggests a sequence of actions. The larger context of the example *dropping the bag of bones on the table and sitting down opposite Fat Boy* makes it clear that it is the action of sitting that is being referred to. In other cases, it appears to be the state only which is being referred to: *Pauline and I were sitting down having a big gossip* suggests a gossip session taking place over an extended period of time in a seated position without any image of the action phase as part of this session. Similarly, *sitting down having a rest* and *sitting down in the shade and watching* suggest the state only.

4.5 Summary

Both action and state senses have long been associated with English SIT, beginning in Old English. Although the adverb *down* came to play a role in helping to separate the two senses in the sixteenth century, with SIT DOWN favouring the action sense, there never emerged a strict lexical separation of SIT (without DOWN) with the state sense and SIT DOWN with action sense. A close study of contemporary use of SIT shows that the action vs. state interpretation of SIT clauses depends very

Table 6. All instances of *sitting down* in the corpora

Written			
[wwc]	the risk. This Christmas, how about	**sitting down**	and talking to your family. Plan
[wwc]	the bag of bones on the table and	**sitting down**	opposite Fat Boy. Tag watched the
[wwc]	a much enjoyed asset to my parents.	**Sitting down**	on January 22 with them a
[wwc]	cinema, walking into the steamy pit,	**sitting down**	in the glamorous dinginess, watching
Spoken			
[wsc]	he doesn't look in great nick at all	**sitting down**	on the deck and the
[wsc]	oh yeah	**sitting down**	you can have it fairly short if you only
[wsc]	. that's that's pretty freaky fucking	**sitting down**	[word] see them come up and sit
[wsc]	yeah he's er he's	**sitting down**	but receiving attention at the moment
[wsc]	in when i'm	**sitting down**	oh
[wsc]	probably just	**sitting down**	eh having a rest yes sh …
[wsc]	so it might be worth just	**sitting down**	one day and seeing how fa whether
[wsc]	made and stuff and you feel like	**sitting down**	and having a sort of laugh about it for
[wsc]	within one minute of us	**sitting down**	my wife's immediate attitude was i
[wsc]	yesterday pauline and i were	**sitting down**	having a big gossip
[wsc]	. oh then when we were	**sitting down**	and she said oh i'll have to
[wsc]	the incident where you were	**sitting down**	in the shade and watching
[wsc]	tut oh good are you	**sitting down**	having cups of tea

much on tense and aspect, as well as various lexical and syntactic choices within the clause. It may be that there are, indeed, sufficient distinguishing properties to warrant the recognition of 'action' and 'state' subsenses of SIT. Gries' (2006) proposal for identifying distinct subsenses of a verb (in his case, English *run*) suggests itself as a methodology for exploring the SIT facts, though this would require a much more comprehensive examination of all the relevant facts than has been undertaken here. The review of the SIT facts offered here could be taken as a pilot study pointing to the desirability for a larger and more systematic study of the kind envisaged by Gries. Although the history and contemporary use of STAND (UP) and LIE (DOWN) were not similarly explored, it is reasonable to assume that the same trends apply to all three of the posture verbs, since all three participated in the same historical development of collocating with a path adverb.

Dunn, Margetts, Meira, and Terrill (2007, pp. 889–890) suggest that posture verbs which are used with essentially static, at-rest meanings (as opposed to deriving from active change-of-state meanings) are more likely to lead to locative functions. They take the English posture verbs to be essentially static in their

meanings–a point which is not at all obvious when one considers usage–and hence likely to lead to locative meanings. However, the English posture verbs, to the extent they develop locative meanings, do so in relatively limited ways and it may be that the fluctuation in action/state interpretations of these verbs is relevant to understanding the limited nature of this type of extension.

5. Semantic extensions

5.1 HOUSE + SIT/STAND in COCA

Semantic extensions of the posture verbs offer a rich source of data for linguists interested in figurative language, metaphor, idiomatic usage, and grammaticalization. The stative meanings of posture verbs, in particular, are worthy of study from this point of view since it is these meanings which would appear to be more productive as sources for semantic extensions (cf. the remarks above, based on Dunn et al., 2007). The figurative and metaphorical extensions of the postural senses are, of course, rooted in key properties of the source concepts, or image schemas, associated with the postures. As already observed, Lemmens (2002, 2006) and Schönefeld (2006) provide very useful summaries of these key properties. One could take these salient features or image schemas to be the starting point for a copus-based analysis, establishing the degree to which such properties underlie the usage of posture verbs, along the lines of what Lemmens and Schönefeld do. I recognize the value of that approach, but here I have opted for a rather different approach in which I focus attention on just one particular kind of extension and its usage in a corpus, without any attempt to study all the metaphorical uses of the posture verbs and how the various image schemas play into that behaviour.

As mentioned above, a corpus-based approach to researching the semantic extensions of English posture verbs presents challenges. One approach to narrowing down searches to specific senses is to search "by-proxy", using a sequence of forms which more or less capture a specific use. This is the approach adopted in Newman (2001b), where sequences of forms such *sitting in*, *sitting on* etc. were searched in the expectation that the *-ing* form of the posture verb immediately followed by a prepositional phrase would effectively eliminate the change-of-state uses of such verbs and target stative uses (with animate or inanimate subjects). Alternatively, one can search for all the forms of the posture verbs and inspect all results, as Schönefeld (2006) seems to have done for English, German, and Russian posture verbs. This is only practical with a smallish size corpus and a manageable number of hits. Schönefeld's corpora were each roughly 3 million words in size, resulting in about 1,300 English examples requiring inspection. This approach has

the clear advantage of providing data on the multiple factors which can vary in these constructions: subject, tense-aspect-modality marking on the verb, preposition etc. Here, yet another methodology will be explored, one which attempts to understand an extension of particular posture verbs with a particular lexical item as its subject (or "figure" in a figure-ground relationship). The verbs in question are SIT and STAND and the lexical item occurring as subject is HOUSE. The motivation for this choice arises from an awareness that expressions like *the house sits on a hill* and the *house stands on the corner* both are possible and unremarkable in English as locative constructions (whereas *the house lies on the hill* or *the house lies on the corner* do not, hence LIE is excluded form this study). By narrowing down the scope of the study to HOUSE occurring with SIT/STAND, one might hope to discover trends of usage at a "micro-level", trends which might not be easily discoverable when one tries to take a snapshot at the "macro-level" tracking all posture verbs in all their uses.

In order to explore the usage of SIT/STAND with HOUSE as subject in English, use was made of the Corpus of Contemporary American English (COCA).[9] COCA has three significant advantages when it comes to investigating the phenomenon: its size, the diversity of genres included, and accessibility. COCA contains more than 360 million words of text which is sufficient to give some sense of trends which are relatively infrequent. Secondly, COCA is more or less equally divided among spoken, fiction, popular magazines, newspapers, and academic texts, i.e., about 70 million words in each genre, enabling the research to discover any genre-based skewing in its usage. Finally, COCA is free and accessible through the Internet allowing for easy confirmation and follow-up by other researchers. One limitation of COCA–a limitation shared with almost all corpora–is the lack of differentiation of senses of words in the markup of the text. Texts in COCA are marked for part of speech and lemmatized which is helpful in searching for, say, all singular and plural forms of the noun lemma HOUSE. However, this limitation means that we are unable to zero in directly on the uses of SIT/STAND with, say, inanimate subjects. By narrowing the scope of the study to the occurrence of the posture verbs with the noun lemma HOUSE, however, we are in effect restricting the search to inanimate subjects. The verbs are restricted to those cases where one of the forms {*sit, sits, sitting, sat*} or {*stand, stands, standing, stood*} occurs within a window of three words to the left or right of HOUSE. This search yielded more than 500 hits which were subsequently inspected in order to limit the results to just those cases where HOUSE was the head of the subject NP associated with the verb SIT/STAND. Among the excluded hits were a number of examples of metonymy featuring the White House, seat of the American presidency, when the reference was to the person(s) in the White House rather than to the building per se. Thus, examples such as (9a–b) were excluded, while (9c–d) were included

(9) a. *So the White House is sitting tight.*(excluded)
b. *Well, the White House is still standing by Rove and his comments* (excluded)
c. *The 1758 Cupola House sits on South Broad Street in the heart of the business district.*(included)
d. *…the hill on which the Santa Fe Opera House stands* (included)

Table 7 summarizes the results of this search in the five genres which represented in COCA. To better appreciate the uneven distribution of HOUSE + SIT/STAND in the different genres, we consider also the distribution of HOUSE in the same five genres. HOUSE itself is not equally distributed in all genres and so one must take this fact into consideration when considering whether the distribution of HOUSE + SIT/STAND is unexpectedly high or low within a genre. More precisely, one should consider the occurrence of HOUSE as the subject of a clause in the five genres, though COCA is not tagged for grammatical relations such as subject. As a working assumption, the frequency of HOUSE as subject is taken to be a fixed proportion of the frequency with which HOUSE occurs in all positions. The frequency of HOUSE in each of the five genres of COCA is shown in Table 8. If both SIT and STAND occur as a fixed proportion of the frequency with which HOUSE occurs, then the distribution of HOUSE per million words can be taken to represent the "expected" relative distribution of HOUSE + SIT and HOUSE + STAND, while the distributions in Table 7 represent the "observed" distributions (for HOUSE + SIT one-way $\chi^2 = 74.3061$, $df = 4$, $p < .001$; for HOUSE + STAND one-way $\chi^2 = 198.3425$, $df = 4$, $p < .001$).

Table 7. Raw frequency of HOUSE + SIT/STAND in COCA

	ACAD	FIC	MAG	NEWS	SPOK
HOUSE + SIT	8	75	39	55	19
HOUSE + STAND	17	149	59	48	19

Table 8. Frequency of HOUSE in COCA

	ACAD	FIC	MAG	NEWS	SPOK
per million words	154.9	784	464.5	577.2	725.1
subcorpus size (millions of words)	73	69.6	78.1	73.4	76.6
raw frequency	11318	54581	36267	42385	55522

The two mosaic plots in Figure 1 offer a convenient visualization of this data. A mosaic plot represents the relative proportions of data in a cross-tabulation. The left panel represents the expected frequencies of HOUSE + SIT/STAND, based on the relative frequencies per million words of HOUSE in five genres (Table 8). The right

panel represents the observed frequencies of HOUSE + SIT/STAND (Table 7). From Figure 1, we observe (1) there is a greater use of STAND than SIT, (2) both combinations are overrepresented in fiction, and (3) both combinations are underrepresented in the construction in the spoken genre. In the academic genre, there is a relatively small proportion of instances of HOUSE + SIT/STAND, but approximately the same proportion as one might expect, given the frequency of HOUSE in this genre. That is to say, academic writing makes relatively little use of such everyday, ordinary words such as HOUSE. The spoken genre makes much more use of HOUSE than does academic writing, and the underrepresentation of HOUSE + SIT/STAND in the spoken genre indicates a distinct dispreference for this usage in ordinary conversation.

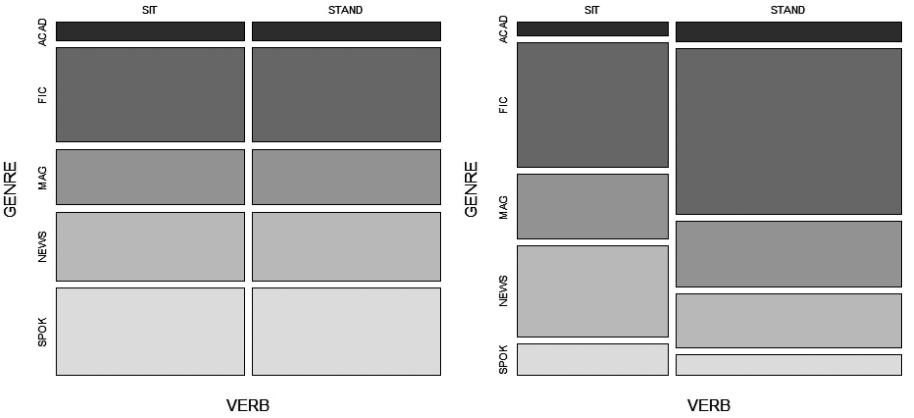

Figure 1. Mosaic plots showing relative proportion of HOUSE + SIT/STAND in 5 genres, as expected given the frequency of HOUSE in the 5 genres of COCA (left panel), and as observed (right panel).

5.2 Modifiers of HOUSE + SIT/STAND

We may differentiate the type of modifier found with HOUSE + SIT/STAND by its semantic function: *locative* (locating the house as a figure, with respect to some ground), *manner* (describing the appearance or other attribute of the house), and *temporal* (referring to a time when the house existed, ceased to exist, or continued to exist). In a few instances, there are no such modifiers. The examples in Table 9 illustrate these modifiers and some of the possible combinations found in the data.

Table 9. Examples of modifier types of HOUSE + SIT/STAND

Modifier type	Example
Zero	*And I don't even know if the house* ***is standing****.*
locative	*They were building a house* ***sitting next to the waterfall,****…*
manner	*The little houses* ***sat hunched and still,****…*
temporal	*It also means the houses* ***will sit a little longer****.*
locative + manner	*It* ***sat toadlike down in its swale,****…*
locative + temporal	*The house* ***now sits on a small, weed-choked plot with the nearest neighbor a mile away.***
locative + manner + temporal	*those houses* ***sat under water for the longest amount of time there in St. Bernard Parish and there****…*
manner + temporal	*Clapboard houses that* ***once sat empty*** *are being restored.*

Table 10. Frequency of modifier types with HOUSE + SIT/STAND

	SIT	STAND
Zero modifier	0	9
Single modifier	167	107
Multiple modifiers	29	186
Total	196	292

As can be seen from Table 10, the majority of SIT uses (167/196) occur with single modifier types, whereas the majority of STAND uses (186/292) occur with multiple modifier types. That is to say, STAND is more commonly multi-functional, introducing multiple modifier types, when it is used with HOUSE + SIT/STAND. Furthermore, and consistent with the greater multi-functionality of STAND, the zero modifier type is found only with this verb, illustrated in (10). In these examples, STAND contributes a sense of 'be upright, be intact'. In all these examples, the context seems to be one in which houses have been destroyed or under threat and that the houses remain intact in spite of adverse conditions. Compare the reference to poor-white St. Bernard Parish in (10a) or the image of a single house remaining in (10c).

(10) a. *Poor-white St. Bernard Parish had hardly a house standing.*
b. *What happened at first was the restoration of the houses as they stood: the street grid remained and the houses, which were largely of brick…*
c. *I'm the only house standing. It's lonely. All of my friends are gone, …*

Table 11 summarizes the frequencies of the three modifier types, as single modifiers, with SIT and STAND. The frequencies are shown for simple tenses (Simple Present, Simple Past) versus other types of tense-aspect marking in English

(Progressive, Perfect, and participial *-ing* forms without any accompanying auxiliary verb). For the STAND frequencies (Modifier × Tense) in Table 11, $\chi^2 = 36.8508$, df = 2, $p < .001$; frequencies < 5 in the cells for SIT make the χ^2 test for significance unsuitable. Again, mosaic plots help us to visualize this data, as in Figure 2.

Table 11. Single modifier frequencies with HOUSE + SIT/STAND in Simple Tense and Other Tense. L = locative, M = manner, T = temporal.

	Simple Tenses			Other Tenses		
	L	**M**	**T**	**L**	**M**	**T**
SIT	132	12	1	18	3	1
STAND	108	30	10	17	12	20

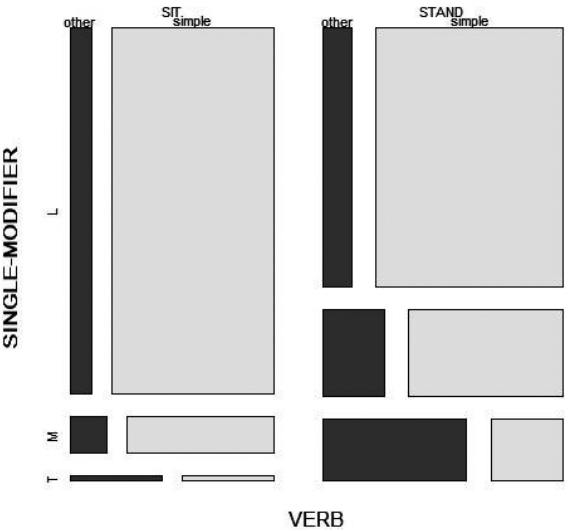

Figure 2. Mosaic plots showing relative proportions of verb inflections (simple tenses vs. others) and single modifier types (L = locative, M = manner, T = time) with HOUSE + SIT/STAND in COCA.

The first observation to be made about Figure 2 is the high proportion of locative modifier types with HOUSE + SIT, compared with HOUSE + STAND. The latter allows a greater proportion of manner and temporal modifiers, though still the locative modifier type dominates. This observation goes hand in hand with the earlier observation that it is STAND that occurs more frequently with multiple modifier types. A second observation which can be made is that the simple tenses (in grey) dominate with both HOUSE + SIT and HOUSE + STAND. However, there is an increasing proportion of the other tenses as one proceeds from locative > manner > temporal, and this is true for both HOUSE + SIT and HOUSE + STAND in quite parallel ways.

It is possible to identify additional tendencies in the use modifiers with SIT and STAND in the examples from COCA. When STAND occurs with a temporal modifier type, either as a single modifier or in the presence of other modifier types, the most common recurring temporal expression is the adverb *still*. Temporal modifiers with SIT are few in number and no one temporal expression dominates. The use of *still* contributes, or reinforces, the sense of persistence over time which can be noted for STAND even in the absence of any modifiers.

5.3 Summary

Focusing on the occurrence of single modifier types with HOUSE + SIT/STAND enables us to appreciate a number of properties of these usages which might not be so apparent in a study encompassing many subject types. There is clearly an underrepresentation of such usages in the spoken genre and an overrepresentation in fiction. Usages such as *the house sits on the hill* are unlikely, therefore, to be offered as first choices (or even offered at all) in tasks designed to elicit a "basic locative construction" in English. English counts as a Type I language in the typologies proposed by Ameka and Levinson (2007, p. 863), whereby there is one verb used in many locative constructions (in English a copula, making English more precisely Type Ia). The "non-basic" locative use of SIT and STAND is no less interesting for being so restricted or marginal in English and, in fact, highlights the need to go beyond toolkits such as the Topological Relations Picture Series from the Max Planck Institute for Psycholinguistics. Ameka and Levinson (2007, p. 862) explicitly acknowledge a role for corpora in supplementing the elicitation methodology. In cases where the particular usage is skewed towards one genre, such as fiction writing, the study of that genre is clearly a necessary source of data, rather than supplemental. One could go further and conclude that it is not just corpora that need to be studied to explore more marginal uses of posture verbs but corpora representing different genres. Unless one is able to compare, say, spoken language, fiction writing, and academic writing, then one will not have the comparative data to support the genre biases in the use of such verbs. Schönefeld's (2006) study of posture verbs, for example, fails to do justice to the role of genre in the case of English SIT and STAND, despite the many interesting results in that study from English, German, and Russian.

The two verbs SIT and STAND show different tendencies in their functions in HOUSE + SIT/STAND. For one thing, STAND occurs with more of the non-locative modifier types (manner and time) and STAND, but not SIT, can occur without any modifier. The greater multi-functionality of STAND, syntactically, goes hand in hand with its greater range of meanings.[10]

6. Conclusion

The three aspects of English posture verbs reported above — the special status of SIT, STAND, LIE in their frequency of usage, the difficulty of distinguishing action and state senses, and the use of posture verbs with concrete, inanimate subjects — should not be seen as a random collection of observations about these verbs. The findings from all three of these areas of interest are, in varying degrees, motivated by the observations made in Section 2 concerning everyday experiential realities associated with at-rest positions.

Sitting, standing, and lying (and the variants in some cultures, such as squatting) seem, intuitively, to be the most familiar and recurring at-rest states in the lives of ordinary human beings. Hanging from trees, floating in water, being in a kneeling position, on the other hand, seem less familiar as basic human states. It is this simple (simplistic, even) intuition that leads one to single out SIT, STAND, and LIE as a set of verbs of potential linguistic interest. This was the original reasoning in the case of my decision to make just these verbs a focus of study in Newman (2002). That simple intuition, however, is matched by the findings from corpus-based studies of the frequency of occurrence of these verbs (in their posture senses) — it is these three verbs, the cardinal posture verbs of English, which occur with the highest frequency of all at-rest verbs. The familiarity of the sitting, standing, and lying postures, likewise, make these postures strong images which are readily available as sources for figurative extensions, e.g., extensions to uses in locative constructions.

The force dynamics associated with the three verbs motivate a number of the linguistic facts reported above. The at-rest states do not simply "occur" in our lives — we enter into them, typically through controlled, brief actions which result in longer maintained states. The preceding action together with the ensuing state constitute an integrated whole, a "frame", which can be seen as motivating the ease with which an unambiguously action verb such as German *sich hinsetzen* 'to enter the seated state' occurs with temporal adverbs referring to the duration of the ensuing state (rather than the duration of the action itself). The availability of both action and state interpretations of posture verbs in earlier stages of English and contemporary English can also be seen as reflecting the experiential realities of the action-state frame. Another aspect of the force dynamics of the posture verbs concerns the different kinds of physical realities associated with standing versus sitting. Standing requires more physical effort to maintain than sitting does and is the posture most associated with force and power. These experiential differences could be seen as motivating some of the differences in nuances found with extensions of STAND and SIT. Both SIT and STAND, as we have seen above, can be used with a concrete, inanimate noun HOUSE as the head noun of its subject, but there

are important differences in the constructions. With STAND, our corpus-based study revealed a number of contexts where the survival (of the house) in the face of adversity was a strong component of the meaning. The frequency of an adverb such as *still* is a further indication of this nuance, emphasizing persistence where one might have expected disappearance, as in *their two-storey town house is still standing*. These are not nuances found with SIT.

Motivation does not equate with prediction but is often the more appropriate concept to work with when trying to make sense of linguistic facts. Certainly, the kind of pre-theoretical observations I appeal to in motivating the facts about English posture verbs could not, strictly speaking, predict anything about these verbs. But the observations, nevertheless, can be seen as motivating some linguistic facts. There remain other facts about the English posture verbs which are not easily seen as being motivated by any experiential realities, such as the genre skewing of some uses of the verbs and particular preferences for occurrence in locative, manner, and temporal constructions. Many of the usage facts about the English posture verbs are only now being revealed and Section 5 offers a glimpse into one more methodology that might be employed in such research. As more and more corpora become available for language research, we can expect to see a more complete account of English posture verbs based on actual usage rather than constructed and artificial language examples.

Notes

1. An earlier version of this study was presented to a conference on "The expressions of motion and location in Germanic languages" held on October 24 2008 at the Facultés universitaires Saint-Louis, Brussels. I am grateful to participants at that conference and two reviewers of this article for their comments on the ideas in this study.

2. I use small caps (SIT) for the lemma, italics for the actual word forms (*sit, sits, sat* etc.), and single quotation marks for meanings ('sit').

3. Cf. Newman (2001a) for a discussion of the history of *understand*.

4. Compare, too, the overview of image schemas associated with the postures in Schönefeld (2006, pp. 302–304), drawing upon the work of Gibbs as well as Johnson (1987), Grady (2001), and Croft and Cruse (2004).

5. SemCor is available at http://www.cs.unt.edu/~rada/downloads.html#omwe.

6. In Newman and Rice (2004), the frequency counts for these verbs were based on a smaller part of SemCor (just the 166 texts in which only verbs were sense-tagged) and the frequencies there are smaller than reported here, but still show the dominance of SIT, STAND, and LIE.

7. The WordNet homepage is http://wordnet.princeton.edu/.

8. The Internet provides a number of prescriptively unacceptable examples of the state forms being used with accusative case of the ground. Sometimes, the intended sense seems to be an action with implied ensuing state, as in (a) and sometimes it refers to the state only, as in (b):

a. *Wir schliessen die Zimmertüre hinter uns, sitzen aufs Bett, atmen erstmal tief durch und putzen die schwarzen Nasen.*
'We close the doors behind us, sit on the bed, breathe deeply for the first time and clean our black noses.'
b. *Drei Vampire sitzen auf einen Baum und unterhalten sich. Dem ersten wird es langweilig.*
'Three vampires are sitting on a tree and are having a chat. The first one gets bored.'

9. http://www.americancorpus.org/

10. The greater syntactic functionality and polysemy of STAND in HOUSE + SIT/STAND is in accord with Schönefeld's (2006) statistics on the relative frequency of SIT/STAND with concrete nouns (a category which includes HOUSE), occurring as the syntactic subject in her corpus: STAND occurred with concrete subjects 62 times (8.8% of all instasnces of STAND), while SIT occurred 14 times (3.9%).

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