

**From Quirky Case**  
*to*  
**Representing Space**  
*Papers in Honor of*  
*Annie Zaenen*

*edited by*  
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Zaenen

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# Do You Always Fear What Frightens You?

BETH LEVIN AND JASON GRAFMILLER

## 3.1 Introduction

English has a rich inventory of psychological verbs, or psych-verbs: verbs that describe the experiencing of some emotion. Of these, few are cited as frequently as *fear* and *frighten*, exemplified in (1).<sup>1</sup>

- (1) a. Indiana Jones feared the snakes.
- b. The snakes frightened Indiana Jones.

Most likely, this verb pair is often used because its members appear to refer to the same emotion and involve the same arguments — often referred to as the experiencer and the stimulus<sup>2</sup> — and yet they associate those arguments with different syntactic positions. The verb *fear* is representative of verbs whose experiencer argument is realized as the subject, so-called experiencer-subject psych-verbs. Conversely, *frighten* represents the experiencer-object psych-verbs, verbs which map their experiencer argument to direct object, as the name implies. The fact that doublets like the pair in (1) involve the same emotion, and os-

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<sup>1</sup>We are pleased to dedicate this paper to Annie Zaenen, whose investigations of unaccusativity, psych-verbs, and impersonal passives have inspired us to think hard about agentivity and related notions, as we hope to have done in this paper. We also thank the reviewers for their comments on an earlier draft.

<sup>2</sup>We use the label ‘stimulus’ (Talmy 1985) only as a way of referring to that argument of a transitive psych-verb that is not the individual experiencing the mental state described by the verb. This use of the term should not be taken to indicate any particular theoretical position.

tensibly refer to the same situation, has led many researchers to treat these verbs as selecting arguments with the same semantic roles. This common semantic role assignment presents a puzzle for theories that assume that a semantic role is mapped to a unique syntactic position, such as those adopting Baker's Uniformity of Theta Role Assignment (1988:46, 1997): Why should the experiencer (or stimulus) argument be mapped to the subject of one verb, and to the object of the other?

Some researchers have approached this puzzle from a syntactic perspective, positing a common syntactic analysis for both verbs despite the surface differences in argument realization. For instance, one verb's realization of these two arguments can be (at least partially) reduced to the other's (Belletti and Rizzi 1988, Postal 1971). Alternatively, other researchers have questioned whether the two verbs really have arguments sharing the same semantic roles; if they do not, then there may not be a mapping puzzle to begin with. These researchers have proposed that the situations described by the two verbs differ in their causal or aspectual structure (Arad 1998, Croft 1993, Grimshaw 1990, Klein and Kutscher 2002, Pesetsky 1995, Reinhart 2001). Zaenen (1993), among others, draws attention to the subject of *frighten* and other experiencer-object psych-verbs, arguing that it is no less a causer than the subject of regular transitive causative verbs such as *break* or *melt* — an analysis not incompatible with the label 'stimulus'.<sup>3</sup> She incorporates Dowty's (1991) proto-role approach into LFG's Lexical Mapping Theory framework (Bresnan and Kanerva 1989). Specifically, she argues that the proto-agent properties entailed by the meaning of *frighten* determine that the stimulus receives an 'intrinsic classification' which guarantees its mapping to grammatical subject. For her, and others utilizing such a proto-role approach (e.g. Davis and Koenig 2000, Klein and Kutscher 2002), causation is among the proto-agent properties entailed by the meaning of *frighten* to hold of its stimulus.

What has received less attention is the status of the object of *fear*, which despite the label 'stimulus', presumably does not qualify as a causer, since otherwise it would be a subject. Even if, as Zaenen (1993), Dowty (1991), and others note, causation is attributed to this argument, its actual semantic contribution has not received the attention that the stimulus of *frighten* has. The precise differences in the types

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<sup>3</sup>These arguments have been based in large part on the syntactic behavior of *frighten* and other experiencer-object psych-verbs, which on closer examination does not parallel that of *fear* and other experiencer-subject psych-verbs (Bouchard 1995, Grimshaw 1990, Pesetsky 1995, Reinhart 2001). For example, experiencer-object verbs pattern with typical transitive causatives with respect to middle formation, resultative predication, and *-er* nominal formation (Chung 1998, Iwata 1995).

of ‘stimulus’ arguments psych-verbs take, and the part these argument types play in shaping the syntactic structures that their verbs are found in, therefore require further study. Building on the groundwork laid out by Zaenen and others, we investigate the nature of these arguments through a corpus study of the verbs *fear* and *frighten* and show that a better understanding of the semantics of so-called ‘stimulus’ arguments of *fear* and *frighten* further supports Zaenen’s overall approach.

### 3.2 *Fear* and *frighten* are not converses

Before turning to the corpus study, we mention an additional clue that the subject of *frighten* and the object of *fear* are likely to be different despite the assignment of the label ‘stimulus’ to both: the paucity of doublets like *fear* and *frighten* in English. Although these verbs are frequently cited together in studies of psych-verbs, they are not representative of a general pattern in the language. Most experiencer-subject verbs lack experiencer-object counterparts referring to the same emotion and vice versa. The only other easily identifiable doublet of this type consists of *like* and *please*, and further doublets are more difficult to discern. Other possible candidates might include: *abhor* or *detest* vs. *disgust* or *revolt*; *dislike* vs. *bother*, *bug*, or *annoy*; and *love* or *enjoy* vs. *delight*.<sup>4</sup> If the stimulus truly bears the same semantic relation to psych-verbs of the two types, then such doublets should be found across the psych-verb inventory. That they are not suggests that the two types of verbs convey different kinds of psychological events, and the title of the paper was chosen to suggest precisely this.

The intuition that the so-called stimulus arguments of *fear* and *frighten* are not semantically quite the same is also supported by changes in acceptability and/or meaning when the two NPs in a sentence with one verb are ‘flipped’ around so they can occur with the other verb, i.e. when the sentence *X fears/feared Y* is changed to *Y frightens/frightened X*, or vice versa. In many instances, such as in (1), rephrasing a sentence involving one verb with the other verb does not affect acceptability. The (a) sentences in (2)-(5) are corpus examples which sound quite natural when switched with their hypothetical *fear* or *frighten* variants, as in the (b) sentences.

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<sup>4</sup>Given the scarcity of doublets such as *fear* and *frighten*, it is not surprising that a single psych-verb does not show the two argument realization options that characterize these two verbs. In this respect, psych-verbs contrast with dative alternation verbs such as *give* or *send* and locative alternation verbs such as *spray* or *load*, which show argument alternations. Our proposal, that experiencer-subject and experiencer-object psych-verbs have fundamentally different meanings, explains the lack of psych-verbs showing these two argument realizations.

- (2) a. The government fears the answers to these questions.  
 b. The answers to these questions frighten the government.
- (3) a. You have people in this country now saying that they fear the Japanese economy . . .  
 b. You have people in this country now saying that the Japanese economy frightens them . . .
- (4) a. The darkness and the black depths frightened me.  
 b. I feared the darkness and the black depths.
- (5) a. Extreme side effects frighten patients.  
 b. Patients fear extreme side effects.

Although these examples suggest that sentences with one of the two verbs can often be rephrased with the other, it is not difficult to find examples with one verb that lack a counterpart with the other. The (b) sentences in (6)-(9), which are the ‘flipped’ counterparts of the naturally occurring (a) sentences, are distinctly odd.

- (6) a. They dropped everything and ran when something frightened them.  
 b. ??They dropped everything and ran when they feared something.
- (7) a. “Sorry if I frightened you last night,” she told me.  
 b. ??“Sorry if you feared me last night,” she told me.
- (8) a. Did you fear a negative response from fans?  
 b. ??Did a negative response from fans frighten you?
- (9) a. He “hesitated fatally on the edge of his own political transformation. . . He feared the new.”  
 b. ??He “hesitated fatally on the edge of his own political transformation. . . The new frightened him.”

These data suggest that far from being a simple ‘flipped’ doublet, the verbs *fear* and *frighten* have differential preferences for certain types of arguments. This is especially clear in (8): the *frighten* variant (8b) can only be understood as presupposing that a negative response has in fact happened, while the *fear* example (8a) carries no such presupposition. In (8a) the experiencer fears merely the possibility of something happening. That is, there was no specific event that happened to cause him or her to become afraid. In the next section we present further evidence that this example represents a general tendency for complements of *fear* to refer to abstractions, e.g. propositions, properties and concepts, and for subjects of *frighten* to refer to more concrete entities,

e.g. humans, physical objects, and events. These differences, we argue, reflect the different semantic relations that the ‘stimulus’ bears to verbs of the two types.

### 3.3 Corpus study

We now present the results of a corpus study examining the verbs *fear* and *frighten*. Data were collected from the Corpus of Contemporary American English (COCA) containing approximately 425 million words of spoken and written varieties of standard American English from 1990 to the present day (Davies 2008-2011).

#### 3.3.1 Notes on data collection and annotation

To construct our corpus, we initially collected 500 examples of each verb from COCA using lemma searches which return hits for all possible inflected forms of the verb (e.g. *fear*, *fears*, *feared*, *fearing*). Sentence tokens that did not include both an experiencer and a stimulus were excluded, e.g. *their intention was to frighten to the point where our nation would not act*, as were examples of *fear for* and *frighten off/away*, which have different semantic properties from their counterparts. Finally, we excluded fixed uses such as *nothing to fear* and *fear the worst*. After removing such tokens we were left with 711 examples (*fear* = 365, *frighten* = 346).

Since this study focused on the types of stimuli involved, coding and annotation was most detailed for these arguments. For each token, the stimulus was coded for properties known to influence argument realization: definiteness, number, syntactic category (pronoun vs. full NP vs. full clause), and most importantly animacy. The animacy categories along with examples from the corpus are provided in Table 1.

#### 3.3.2 Results

The results of animacy coding are presented in Table 2. The most noticeable difference between the two verbs is that *frighten* exhibits a more even distribution of stimulus types, with a preference for more concrete entities (human, animate and physical objects) overall (53.3%). *Fear* in contrast, displays a very strong bias (73.2%) toward abstractions (abstract entities and propositions).<sup>5</sup> Events and activities, which occupy an intermediate position on scales of concreteness or ‘world immanence’, show a tendency to be treated conceptually and linguistically more like concrete objects than abstractions (Asher 2000, Hegarty 2003). In accordance with this tendency, we observe a slight bias toward

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<sup>5</sup>These findings corroborate and extend those of Grimm (2007), who found a similar pattern in data from the British National Corpus.

Animacy Coding	Corpus Examples
Human	‘Husbands and boyfriends’, ‘Afghan women’, ‘the police’
Animate (non-human)	‘God’, ‘crocodilians’, ‘the bear’
Concrete Object	‘chemical weapons’, ‘side effects’, ‘the sound of the wind’, ‘beds’
Event or Activity	‘a direct assault on the city’, ‘an ambush’, ‘my father crying’
Abstract Entity	‘the number 13’, ‘her need’, ‘disapproval’, ‘an impulse’, ‘disgrace’
Proposition	‘that North Korea could collapse’, ‘I couldn’t feel him breathing’

TABLE 1 Animacy categories with examples

event-referring stimuli with *frighten* over *fear*. The collapsed pattern of stimulus animacy is shown in Figure 1.

	<i>Fear</i>		<i>Frighten</i>		Total	
	N	%	N	%	N	%
Human	37	10.1	110	33.3	147	21.2
Animate	10	2.7	13	3.9	23	3.3
Concrete object	20	5.5	53	16.1	73	10.5
Event	31	8.5	49	14.8	80	11.5
Abstract entity	142	38.9	87	26.4	229	32.9
Proposition	125	34.3	18	5.5	143	20.6
Total	365	100	330	100	695	100

TABLE 2 Distribution of stimulus animacy types by verb

Our corpus investigation demonstrates that *fear* heavily favors abstract objects. This preference is reflected not only in the kinds of NP complements it tends to take as in (10), but also in its frequent use with sentential complements, most of which denote yet to be realized propositions as in (11).

- (10) a. Do you fear a quagmire for the international community?  
 b. ... preceding the intervention, markets panicked, fearing an imminent Greek default.  
 c. The authorities fear a possible destabilization ...



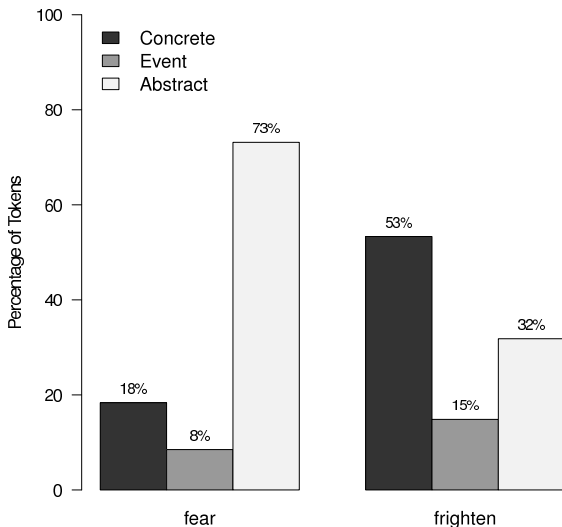


FIGURE 1 Distribution of stimulus animacy types by verb (collapsed)

- (11) a. Space scientists fear that the manned space station ... will divert funds from space science in the '90s.  
 b. They fear that Chinese state-owned enterprises will not hire their employers if they are openly critical.

The future-oriented nature of these uses highlights the evaluative nature of *fear*, which denotes an experiencer's disposition toward some (possibly non-existent) target. Such uses of *fear* are hard to reconcile with analyses of *fear* events that postulate a direct causal relation between the stimulus and the experiencer. Conversely, *frighten*'s frequent occurrence with concrete entities is entirely compatible with its usual treatment as a canonical causative verb.

The broader patterns of usage in Table 2 and Figure 1 are revealing on their own, but a closer look at the nominal stimuli found with the two verbs shows that the differences go even further than the aggregated numbers suggest. For example, a significantly larger proportion of *fear* uses involve indefinite stimuli than *frighten* uses do (Fisher Exact test:  $p < 3.3e^{-10}$ ), as shown in Table 3.

A closer look at these indefinite examples reveals that even with apparent human referents, many objects of *fear* describe abstract conceptualizations of these human types, rather than discourse-new instances of actual individuals (cf. *I fear an earthquake* vs. *I felt an earthquake*).

- (12) a. Most were initially skeptical of this political Euclid and feared

	<i>Fear</i>		<i>Frighten</i>	
	N	%	N	%
Definite	113	49.7	129	85.5
Indefinite	114	50.3	22	14.5

TABLE 3 Distribution of definite and indefinite NP stimuli by verb

- a conservative double agent in their midst.
- b. Everyone fears an Efficiency Ogre!

The same pattern also holds for *fear* complements referring to events.

- (13) a. From all the grumbling, I feared an encounter with a giant Gerald Scarfe demon sitting on a throne . . .
- b. He knew his troops were green and had families at home, and he feared a direct assault on the city . . .
- c. Bill Miller said he feared an ambush.

In contrast to *fear*, indefinite stimuli for *frighten* are quite rare, and where found, they either refer to an existing entity that is simply new to the discourse as in (14), or they involve generic statements expressing a kind of episodic relation in which the stimulus typically causes fear (*Extreme side effects frighten patients*).

- (14) a. Stories of the Holocaust drifted across to America and frightened him.
- b. “They probably dropped everything and ran when something frightened them,” I said. “A bear, maybe.”
- c. Frightened by a blistering barrage of bombs, Russian recruits . . . are shot by their own superiors as they try to jump ship.

As shown in Table 2, the two verbs prefer different types of NPs for their stimulus, with *fear* showing a bias against concrete NPs. Another interesting subset of these stimuli is observed in the interpersonal uses of the two verbs — uses involving a human experiencer and a human stimulus. While there are many fewer instances of *fear* with human stimuli in the corpus data than *frighten*, the numbers do not tell the whole story. The relationship between a human stimulus and an experiencer with *fear* is often qualitatively different than with *frighten*: it frequently involves an imbalance of power between the two participants. In many instances, the stimulus constitutes an authority figure to the experiencer: it is higher than the experiencer on some scale of status, power or other comparable property. Further, this unequal relationship is inherent in the nature of the stimulus, such as when the stimulus is *God* or someone who holds a role that invests him or her with legal,

political, or institutional power. It is not a temporary or accidental relationship that simply holds because of the immediate situation or context, but rather an inherent one that holds of the individuals across contexts.

- (15) a. King Henry is feared by his enemies — and his family.  
 b. He admires yet fears his father.  
 c. It was always wise to fear a wizard whose lips had touched the Holy Grail.

In instances where this unequal relationship is not necessarily inferable from common knowledge, the relation of authority is made clear in the context.

- (16) I'd clawed to a position of respect as an accident reconstructionist. As a consultant, I was valued by law enforcement and insurance companies alike. As a professional witness, I was feared.

This asymmetric relation by no means holds across all uses of *fear*, but the large number of such examples makes sense given the nature of the emotion and the verb's overwhelming tendency to express experiencer dispositions or attitudes directed at some object.

Again, *frighten* contrasts with *fear*. Many of the interpersonal uses of *frighten* involve similar imbalances between participants — not surprisingly, as the verbs denote very similar emotions — but these relations hold due to particular circumstances, rather than being inherent in the relationship between the event participants. Although some human stimuli clearly have roles that put them in an authority relation over the experiencer, many of the examples make clear that the stimulus evokes an emotion in the experiencer by his or her actions, rather than as a consequence of a role invested in him or her, as in the following examples. For example, the bracketed phrases in (17) and (18) explicate the means by which the subject has managed to evoke fear in the experiencer in a particular situation, and represents a common strategy with experiencer-object verbs (Grafmiller in prep.).

- (17) a. House Majority Leader Dick Armey complained that the president was trying to frighten the congressman's grandmother [by demagoguing the impact of Medicaid cuts on nursing-home care].  
 b. Another man looked thin and angry and frightened me [as though he carried a knife although he was full of easy compliments].  
 c. Most of the time she frightened me [because she was old]. . .

- (18) a. Matt frightened me [with his intensity].  
 b. I frightened him [with stories about the missiles that entered buildings and shot up circular stairwells to find their target].

Providing such additional information is often necessary due to the context-specific, circumstantial nature of *frighten* events. In other instances, the stimulus is not truly a stimulus, but is better characterized as the causer of the emotion, and the emotion is directed at something else. For instance, in (19) what the experiencer is actually afraid of are grizzlies, not whoever the subject of the sentence, *they*, refers to. *They* are the cause of her fear only in that they brought to her attention the possibility of grizzlies, i.e. the ‘subject matter’ of her fear (Pesetsky 1995).

- (19) They tried to frighten her with talk of grizzlies, but she just looked out the window at the low, treed terrain. . .

Such examples are not attested among the *fear* sentences and support the causative analysis of *frighten*. Given the causative nature of this verb, this difference in the stimulus–experiencer relationship is to be expected. In any given instance of ‘frightening’ it is possible that any individual could potentially frighten another under the appropriate circumstances.

### 3.4 Conclusion

In the introduction we reviewed the puzzle that doublets such as *fear* and *frighten* pose for theories of argument realization and argued that this puzzle resolves itself in light of claims by Zaenen (1993) and others that experiencer-object psych-verbs like *frighten* entail certain proto-agent properties of their stimuli, most importantly, causation. Conversely, experiencer-subject verbs like *fear* do not. Our corpus study reveals significant differences in the nature of the stimulus noun phrases found with these two verbs, which support these previous claims.

Our study shows that the stimuli found with *frighten* are truly causers of the emotion experienced, thus further supporting the analyses of Zaenen (1993) and Dowty (1991). This characterization receives support from the significantly greater tendency for these stimuli to refer to concrete entities or events in the immediate context. It is further substantiated by the arbitrary connections between stimulus and experiencer typical of many uses of *frighten*. These characteristics of *frighten* sentences reflect the circumstantial nature of the direct causation denoted by this verb.

In contrast, the stimuli found with *fear* represent entities at which a particular emotion can be directed, and the authority inherent in many

of these stimuli simply reinforces this. Inherently fear-inducing entities, events, or abstract notions need not be present in the immediate context, or even exist at all, making a direct causal connection between the stimulus and experiencer difficult to establish. The low degree of causal efficacy possessed by these stimuli, along with the inherent imbalance of authority or power between the experiencer and the stimulus suggests that the experiencer's mental state should be conceptualized as a disposition directed toward something, rather than as a direct reaction to an immediate stimulus.

The question we chose as this paper's title, *Do you always fear what frightens you?*, plays on these fundamental, but distinct properties of *fear* and *frighten*, and was intended to evoke the long-standing controversy over the relation between *fear* and *frighten*: whether they are synonyms which take arguments with the same semantic roles, but expressed differently, as some work has suggested. The appropriate answer to the title question is *No*, precisely because the meanings of the two verbs are different in the way we have laid out. This answer suggests that synonymy analyses cannot be right, and our corpus study reveals not only the reasons why they cannot hold, but also why the question receives the answer it does. These two verbs have distinct meanings, so that you can indeed be frightened by things you do not fear.

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