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MEANING AND CONTRASTIVE STRESS

Steven E. Boër

With the possible exception of intonation contour and its obvious connection with generic illocutionary force, the contribution of the *phonological* features of sentences to their overall significance has not received much attention from philosophers of language. One of the few philosophers to recognize the importance of phonological considerations in philosophical linguistics is Fred Dretske, whose pioneering studies [5] and [6] not only provide a rich source of provocative data concerning the phenomenon of contrastive stress but also attempt to weave these data into semantic theory in the large. The resulting theory of the semantic role of contrastive stress is then alleged to have novel and far-reaching consequences for epistemology and metaphysics. Since contrastive stress seems to provide a paradigm case of phonological features affecting our interpretation of utterances, it behooves us to understand its workings aright. Accordingly, my aim in this essay is twofold: first, to criticize Dretske's account of his data and its alleged philosophical fallout; second, and more importantly, to discern the source of Dretske's error and to erect a correct theory of the effect of contrastive stress on our interpretation of utterances.

Section I offers an overview of the salient features of Dretske's theory of contrastive stress. Section II points out some unpleasant consequences of adopting such a view. Section III locates Dretske's error at the methodological level and introduces a crucial consideration about the "ranking" of his data. In light of this ranking, it is argued that contrastive stress can play three importantly different roles in our interpretation of utterances: a syntactic role, detailed in Section IV; a semantic-pragmatic role, detailed in Sections V–VI; and a purely pragmatic role, detailed in Sections VII–VIII.

I

Assuming that contrastive stress is a property of sentence-tokens, and that sentence-types are individuated without regard

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Page 2 of 37

to it, let us say that two tokens of a given sentence-type *S* are *allomorphs* of *S* just in case either (*a*) one is contrastively stressed and the other is not, or (*b*) both evince contrastive stress, but at different points. Thus, where boldface indicates contrastive stress, (2*a*–*d*) represent four distinct types of allomorphs of (1):

(1) Alice sent Bob the tickets.

(2) *a.* **Alice** sent Bob the tickets.
b. Alice **sent** Bob the tickets.
c. Alice sent **Bob** the tickets.
d. Alice sent Bob **the tickets.**

Tokens of these four forms (2*a*–*d*) are respectively what we would expect as answers to the questions (3*a*–*d*):

(3) *a.* Who sent Bob the tickets?
b. How did Alice get the tickets to Bob?
c. To whom did Alice send the tickets?
d. What did Alice send to Bob?

(In the interest of brevity, I shall henceforth abbreviate talk about tokens of a given form by talk about the displayed form itself. Thus, for example, I shall say that (2*a*–*d*) are allomorphs of (1) and that (2*a*–*d*) are typical answers to (3*a*–*d*) respectively.)

Now each of the allomorphs (2*a*–*d*) of (1) emphasizes a different aspect of the situation neutrally presented by (an unstressed token of) (1). Yet we are disinclined to say, on that account, that (2*a*–*d*) describe different situations from that described by (an unstressed token of) (1). In general, the various allomorphs of a sentence seem to differ from one another only pragmatically, not semantically. At the intuitive level, the various allomorphs of (1) appear to have exactly the same truth-conditions. But, Dretske insists, there are numerous sentence-embedding contexts in which sentential allomorphs, in spite of their apparent synonymy, *cannot* replace one another without altering the meaning of the containing sentence. Such sentence-embedding contexts are said to be *allomorphically sensitive.* The expression "Tom was appalled that _____ " affords such a context. The allomorphs (4*a*) and (4*b*), we are told, express distinct propositions, since we can supposedly imagine a difference in their truth-values:

(4) *a.* Tom is appalled that Alice **sent** Bob the tickets.
b. Tom is appalled that Alice sent **Bob** the tickets.

Imagine, for example, that it was explicitly agreed beforehand

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Page 3 of 37

that *Bob* (rather than anyone else) should get the tickets, but that Tom had carefully instructed Alice to deliver them *in person.* Alice proceeds to mail the tickets to Bob and reports this fact to Tom. What bothers Tom is, as we would say, not *who* got the tickets, but *how* he got them: hence (4*a*) is true and (4*b*) is false.

At this point a brief digression is necessary. Dretske's talk about a "meaning change" between (4*a*) and (4*b*) can easily be misinterpreted, so it will be useful to adopt some prophylactic terminology. Let us distinguish between the *linguistic meaning* of a sentence-type and the *occasion*-meanings which might be possessed by its various tokens. The following example will serve to explain the intended distinction. In point of meaning, all tokens of "I hate you" have something in common: a general significance which we understand merely by understanding English and without reliance on knowledge of the circumstances of any particular tokening. This common semantic feature is the linguistic meaning of the sentence-type of which they are tokens (which, of course, is *their* linguistic meaning as well). Yet tokens of "I hate you" may also differ in point of meaning, depending on the identities of speaker, hearer, and time of utterance: such contextual differences allow tokens with the same linguistic meaning to express different propositions. The propositions thus expressed are the occasion-meanings of the tokens. Accordingly, we may think of the linguistic meaning of a sentence as a *rule* for determining the occasion-meanings of its tokens from information about the circumstances of their utterance. Formally, the linguistic meaning of a sentence S may be represented by a (compositionally determined) partial function F_s from admissible utterance-contexts to propositions, and the occasion-meaning of a token S^* of S, produced in a context C, will be the proposition F_s (C). (For expository convenience, I am assuming that S is neither syntactically nor semantically ambiguous.)

When Dretske says that (2*a–d*) have the same meaning but that (4*a–b*) do not, we must construe him to be talking about *occasion*-meaning, since (4*a–b*) are plainly allomorphs of the same sentence-type, as are (2*a–d*). His claim, then, is that (tokens of the forms) (2*a–d*) all express the same proposition, whereas (tokens of the forms) (4*a*) and (4*b*) express distinct propositions owing to the allomorphic sensitivity of "Tom is appalled

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Page 4 of 37

that _____ ". Consequently, to say that a sentence-embedding construction $\phi(\ )$ is "allomorphically sensitive" is to say that, for any admissible sentential complement S, the function $F_{\phi(S)}$ reckons in its input—as part of what constitutes an utterance-context for a token of $\phi(S)$—particular patterns of contrastive stress which a token of S might exemplify in a token of $\phi(S)$. The upshot for semantic theory is that the pattern of contrastive stress in a sentence-token is a semantically relevant contextual feature on a par with the identity of its utterer, the time of its utterance, and the like.[1]

Supposing for the moment that Dretske's conclusions are warranted, let us now look at their alleged impact on epistemology and metaphysics. The epistemological fallout becomes evident when we are informed that talk about evidence, justification, explanation, and knowledge is also allomorphically sensitive. We have seen that, in the absence of information about their stress-patterns, we cannot specify the occasion-meanings of tokens of (5); the same, we are told, is true of tokens of (6)–(8):

(5) Tom is appalled that Alice sent Bob the tickets.

[1] Of course we could *make* the difference between (4*a*) and (4*b*) into one of linguistic meaning by adopting a different way of individuating sentence-types. If, e.g., we count contrastive stress as part of abstract syntactic structure (represented, say, by "stress-markers"), then we can say that (1) and (2*a*–*d*) on the one hand, and (4*a*) and (4*b*) on the other, respectively represent distinct sentence-types. The allomorphs of a sentence-type S would then be those sentence-types which differ from S only in arrangement of stress-markers. Stress-markers themselves would not be morphemes (since, e.g., (2*a*–*d*) are alike in linguistic meaning) but semantically uninterpreted syntactic "flags" which would be taken into account by allomorphically sensitive constructions. Allomorphic sensitivity would then be sensitivity to the syntactic structure of the sentential complement. Consequently, (4*a*) and (4*b*) could be said to differ in linguistic meaning, since their linguistic meanings would be a function not only of the interpretation of their parts but of the distribution of stress-markers over those parts as well. Construed in this way, Dretske's view would have a different upshot for semantic theory: instead of demanding relativization to a new contextual parameter, it would introduce a new structural parameter and force us to complicate our picture of how the linguistic meaning of a sentence is compositionally determined. I have not pursued this interpretation in the text because (*i*) regarding contrastive stress as a feature of tokens rather than types seems to me more natural, and (*ii*) none of the problems which I raise for Dretske in Section II is really avoided by this alternative. (See note 3 below.)

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Page 5 of 37

(6) Tom is justified in believing that Alice sent Bob the tickets.

(7) Tom has strong evidence that Alice sent Bob the tickets.

(8) Tom explained why Alice sent Bob the tickets.

Consider, for example, (8) and two of its allomorphs, (9) and (10):

(9) Tom explained why Alice **sent** Bob the tickets.

(10) Tom explained why Alice sent **Bob** the tickets.

To establish that (9) and (10) can differ in truth-value, we are to imagine a scenario like the following. Tom volunteers, "She put the tickets in the mail to Bob because she was too sick to make the trip to his house." Tom, it seems, has explained why she chose a certain mode of delivery, but not why Bob rather than someone else was the object of that mission. Accordingly, there is some force to the suggestion that, in this context, (9) would be true and (10) would be false, hence that they must express distinct propositions. There is thus the promise that many epistemic disputes might be settled, and many epistemic problems clarified, by noting these subtle ambiguities. It may turn out, for example, that the disputants are tacitly thinking of different allomorphs of sentences like (6)–(8), hence that they are not even debating the same question!

On the metaphysical side, Dretske is even more ambitious, promising not only to render more subtle our conception of events and causation, but to cast them in a whole new light, forcing us to abandon the conventional wisdom that *events* are the relata of causal relations! His basic strategy is disarmingly simple. We frequently refer to events via nominalized sentences like "John's hitting Mary," and nominalizing various allomorphs of a given (unembedded) sentence does not appear to affect the reference of the result. Thus "John's **hitting** Mary" and "John's hitting **Mary**" look to be co-referential, and the sentential allomorphs from which they derive are alike in occasion-meaning (supposing other contextual factors held constant). But then we discover that these ostensibly coreferential expressions cannot be interchanged in the way we would naturally expect. Consider, for instance, (11*a*–*b*):

(11)*a.* John's **hitting** Mary caused the uproar.

b. John's hitting **Mary** caused the uproar.

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Page 6 of 37

Suppose John hit Mary in front of an audience consisting of people who thought nothing of a person's being violent towards a member of the same sex, but who abominated the very idea of a person's being violent towards a member of the opposite sex. Then, so the story goes, we would expect (11*b*) to be true and (11*a*) to be false: the cause of the uproar was not so much *what* John did as *to whom* he did it. Yet how can this be?

Dretske answers that we must distinguish between events themselves and such features of events as "occurring at a certain time," "occurring at a certain place," and so on. Instantiations of these event-features by events he calls *event-allomorphs,* and he goes on to maintain that nominalized sentential allomorphs like those in (11*a–b*) refer not to events but to event-allomorphs. This is admittedly obscure (a fact which will exercise us later), but is as close as Dretske comes to a strict definition. Perhaps the following passages will be helpful:

> Events fragment into a multiplicity of causal entities. . . . The reason for this fragmentation is that causes (and, I might add, effects) are *facets* or *features* of events, not the events themselves. . . . [W]ithin the framework of causal discourse events multiply or diversify into allomorphic events. . . . To refer to an event is to refer to something which occurs at a particular time, in a particular place, and in a particular manner. A reference to the allomorphs of this event is a reference, not to the event which occurs at that time, in that place, and in that manner, but to *its occurring at that time, in that place, or in that manner.*[2]

The apparent allomorphic sensitivity of causal contexts—attested by the allegedly different occasion-meanings of (11*a–b*)—is then to be explained by regarding event-allomorphs, not events themselves, as the proper relata of causal relations. Dretske concludes with a bold hypothesis, namely, that reference to different event-allomorphs also offers the ultimate explanation of the odd semantic behavior of sentential allomorphs in sentence-embedding contexts like (4*a–b*). The key to this hypothetical explanation lies in his conjecture that *all* allomorphically sensitive sentence-embedding contexts have a *causal* component in the proper analysis of their linguistic meaning, so that we are forced, in computing occasion-meanings, to consider the identity of the event-allomorphs designated by the nominalizations of the embedded sentential allomorphs. If

[2] [6], pp. 96–97; final italics are mine.

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Page 7 of 37

true, this conjecture would provide a uniform answer to the question of why allomorphic sensitivity arises in the first place, and would neatly assimilate it to the familiar phenomenon of *reference*-shifts between tokenings of a given sentence. In what follows, I shall trace out some unpleasant consequences of the view here summarized, attempt a diagnosis of the difficulties, and offer an alternative explanation of Dretske's data in this light.

II

The startling announcement that one can know that John hit **Mary** without knowing that John **hit** Mary, and that causation is not a relation between events, is by itself reason to be suspicious of Dretske's interpretation of his linguistic data. But, of course, counterintuitive theses sometimes do turn out to be true, so the counterintuitiveness of Dretske's epistemological and metaphysical results is scarcely a compelling argument against their validity. Nevertheless, it will prove useful to observe some additional odd consequences of Dretske's conclusions, by way of motivating the subsequent attack on his linguistic premisses.

One consequence of Dretske's view is an unpleasant complication of semantic theory. If N is a nominalization functor and S is a sentence, one would expect the reference of $\ulcorner N(S) \urcorner$ to be uniformly predictable from the identity of the proposition expressed by S (where this may be determined in part by the context of utterance). Now according to Dretske, sentential allomorphs like (2*a–d*) express the same proposition when utterance-time and references of ingredient singular terms are held constant (namely, the proposition that Alice sent Bob the tickets). But then it appears impossible to account for the semantics of nominalization in the ordinary, compositional way. For if S_1 and S_2 are two different allomorphs of a given sentence-type, not containing any allomorphically sensitive constructions, they will express the *same* proposition relative to any single context, so that $\ulcorner N(S_1) \urcorner$ and $\ulcorner N(S_2) \urcorner$ ought to have the *same* reference. Yet Dretske tells us that, for example, "John's **hitting** Mary" and "John's hitting **Mary**" refer to distinct event-allomorphs! How can this be? Given that there is no plausibility to claiming that

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Page 8 of 37

(2*a–d*) differ in occasion-meaning for a given context, the only apparent way out for Dretske is to claim that the semantics of nominalization is much more complicated than anyone ever suspected. The reference of ⌜*N*(*S*)⌝ will have to be regarded not only as a function of the occasion-meaning of *S* but also as a function of whatever pattern of contrastive stress is contextually supplied. Such a semantic theory may be possible, but it promises Byzantine complexity. (What would a perfectly *general* semantical rule for *N* look like?)[3]

Then too, there is the substantive problem, alluded to earlier, of explaining just *what* these mysterious "event-allomorphs" are. At one point Dretske tells us that sentences like (12*a–b*), insofar as they designate at all, designate two different allomorphs of the event designated by "*e*":

(12)*a.* *e*'s occurring at noon, January 1, 1947.

b. *e*'s occurring at the North Pole.

But we are not enlightened as to the ontological category of the designata. That event-allomorphs are distinct from events is all that we can be certain of. Sometimes Dretske talks as if they were *properties*. But what would they be properties *of*? Indeed, neither of the phrases (12*a–b*) even looks capable of being used to refer to a property. *Occurring* at the North Pole is surely a property (of an event), but there is no clear sense to saying that *that event's* occurring at the North Pole is a property of anything. The only other remotely plausible candidates are "facts" or "states-of-affairs"; and Dretske occasionally talks in this vein too. This interpretation at least has the virtue that the fact of *e*'s occurring at a given time is intuitively different from the fact of *e*'s occurring at a given place. But it is hard to see how this reading will help us with the cases that really interest us, namely, (13*a–b*):

(13)*a.* John's **hitting** Mary.

b. John's hitting **Mary.**

[3] It might seem that the alternative interpretation of sentential allomorphs mentioned in note 1 would avoid this problem. All that would be accomplished, however, is a recasting of the problem. Now we would have to explain how the interpretation of *N* scans the syntactic structure of *S* (as well as *S*'s linguistic meaning) to yield the linguistic meaning of ⌜*N*(*S*)⌝. Given that *S* may be of any degree of complexity and may contain any number of stress-markers for any number of different positions, the task of writing an intelligible semantical rule for *N* seems just as formidable as before!

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Page 9 of 37

Now what fact or state-of-affairs could be designated by (13*a*) that is not also designated by (13*b*)? The only answer that comes to mind is that (13*a*) designates the fact that *e* (= the event of John's hitting Mary) is a hitting, whereas (13*b*) designates the fact that *e* has Mary as victim. Although it is not obvious that these "facts" are distinct, let us grant for the sake of argument that some plausible criterion of fact-identity can be provided to distinguish them. Even so, we immediately face a difficulty occasioned by the circumstance that facts, unlike events, do not straightforwardly have dates or locations. Sentence-frames like "_____, which occurred $\left\{\begin{matrix}\text{at noon}\\ \text{in the foyer}\end{matrix}\right\}$, shocked everyone" may meaningfully be filled by either (13*a*) or (13*b*) but *not* by expressions like "the fact that *e* is a hitting" or "the fact that Mary is the victim of *e*." But this result plainly does not square with the assumption that the former pair of expressions respectively designate what is designated by the latter pair.

Of course, this objection assumes that the sentence-frames in question are *extensional* with respect to what occupies their blanks. Perhaps Dretske really thinks of these allomorphically sensitive constructions as *intensional*; perhaps, that is, event-allomorphs are to be thought of as intensional entities associated with ordinary events. Then the extensions of (13*a*) and (13*b*) would be the same, namely, the event *e*; but their intensions would differ in involving different facts about *e*. Allomorphically sensitive contexts, being intensional, would then semantically operate on these different intensions so as to produce different propositions. This neatly avoids the stated objection, since, for example, (13*b*) and "the fact that Mary is the victim of *e*" would no longer be coextensive: the former is an event-designator, the latter a fact-designator. And the extension of "the fact that Mary is the victim of *e*" becomes (part of) the intension of (13*b*). But the stated objection is avoided only at the cost of relocating the difficulty elsewhere. For "John's hitting **Mary,** which occurred at noon, shocked everyone" intuitively entails "There is something which occurred at noon and which shocked everyone." The suggested procedure, however, blocks this entailment; for what occurred at noon was an *event* (the extension of "John's hitting **Mary**"), but what shocked everyone was a *fact* (the event-allomorph which is

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Page 10 of 37

the intension of "John's hitting **Mary**"). Though the premiss could be true, the conclusion will thus always be false. In general, so long as event-allomorphs are distinct from events, we would never be able to affirm of one and the same thing that it both has some extensional event-property *and* enters into such-and-such a causal relation. And this seems an exorbitant price.

In short, Dretske's interpretation of his data seems to foist upon us yet another creature of darkness, the "event-allomorph," which resists unproblematic identification with anything familiar. Whatever they may be, event-allomorphs appear to be *sui generis.* (One is reminded at this point of the mysterious "objects" of the *Tractatus,* likewise posited to fit the demands of a semantic theory.)

As a final example of the unpalatable consequences of Dretske's view, let us look at what would happen if we were to swallow his conjecture that allomorphic sensitivity is ultimately to be explained by overt or covert reference to causal connections. The result, I submit, is that we would be led on a fruitless chase after "causal analyses" of locutions which are not plausibly construed as causal in character. Consider, for example, purely logical properties and relations like consistency, entailment, and presupposition. It would be a considerable shock to discover that any of these formal relations among statements covertly involved some *causal* component! Yet, if Dretske is right, we are due for just such a shock when we consider the effect of contrastive stress on sentences like (14*a*) and (14*b*):

(14)*a.* The statement "All the President's children are asleep" merely **presupposes** that the President has children.

b. The statement "All the President's children are ɔ" asleep" merely presupposes **that the President has children.**

By telling an appropriate story about the context, we can easily bring out the parallel between (14*a–b*) on the one hand and (4*a–b*) and (9)–(10) on the other. Suppose we claim, in the presence of a good Strawsonian, that "All the President's children are asleep" *entails* that the President has children. Our Strawsonian replies by uttering (14*a*) and goes on to give the familiar arguments for rejecting the entailment-claim and replacing it with the presupposition-claim. We accept his arguments and conclude that he said something true when he uttered (14*a*).

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Page 11 of 37

But we will reject the suggestion that (14*b*) would also express a truth. For, as newly converted Strawsonians, we now believe that "All the President's children are asleep" presupposes *more* than that the President has children: it also presupposes that there is at present at least one President. So we conclude that (14*b*) would express a falsehood.

By parity of reasoning, then, we ought to conclude that presupposition-statements, being allomorphically sensitive, call for isolation of a hidden causal component. The search thus initiated does not look any more promising than the search for "variable numbers" to serve as the designata of variables in number theory. ((14*a*–*b*) have obvious affinities with other examples of Dretske's which involve predicate modifiers like "by accident" and "by mistake," and they call for similar treatment. I shall return to this topic in Section IV below.)

So far, we have seen that Dretske's views lead to untold complications of semantic theory, apparent ontological proliferation, and dubious research projects. This, I think, is sufficient warrant for suspecting that something is deeply wrong with Dretske's arguments. There remains, however, the twofold task of ascertaining what in particular is amiss and providing a better explanation of the linguistic data from which Dretske sets out.

III

It is important to distinguish within the discipline of pragmatics two subdivisions, which we might (following Cresswell [4]) call "semantic" pragmatics and "pragmatic" pragmatics. Semantic pragmatics is the study of those features of language use which are officially recognized by a sentence's linguistic meaning in computing its occasion-meaning relative to various tokenings. In other words, semantic pragmatics concerns itself with those features of utterance-contexts which have genuine semantic impact by virtue of feeding into (constituting the domain of) the linguistic meaning functions for sentences. Thus, for example, the study of token-reflexives properly belongs to semantic pragmatics. Pragmatic pragmatics, on the other hand, focuses on those features of language use which, though not affecting the identity of a sentence's occasion-meaning, have

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Page 12 of 37

impact on what (over and above occasion-meaning) is *communicated* to an audience by the utterance of a sentence. The theory of Speech Acts and Grice's theory of Conversational Implicature thus belong to pragmatic pragmatics. For a sentence's linguistic meaning is indifferent both to the illocutionary forces with which its tokens may be invested and to the sundry conversational implicatures which their utterance may engender: to ascertain the identity of the *proposition* expressed by an utterance of "You will accompany me to see the chief" one does *not* have to know whether the speaker is commanding, requesting, predicting, or promising—let alone what he might thereby be implicating.

It should be clear that Dretske's own theory, as articulated above, belongs squarely within *semantic* pragmatics, demanding further contextual relativization of our semantic apparatus. In the erection of his theory, however, Dretske rides roughshod over what seems to me to be an important methodological principle of philosophical linguistics: namely, that one ought whenever possible to try to account for pragmatic data in ways which eliminate or at least minimize the need for further complication of one's antecedent syntactic and semantic theories.[4] In other words, semantic pragmatics should not be invoked to explain such data until various resources of purely pragmatic pragmatics have been exploited. (Searle's theory of indirect speech acts (Searle [14]) is a paradigm of the beneficial results

[4] This is not to suppose that syntax, semantics, and pragmatics subsist in mutual isolation. As is noted in the text, pragmatics interacts with grammar (e.g., in pragmatically conditioned syntactic and phonological rules) and with semantics (e.g., in the theory of context-dependent expressions). And, if Generative Semanticists are right, syntactic processes themselves operate on semantically interpreted deep structures ("logical forms"). Nevertheless, it is important to bear in mind that syntax and semantics (including semantic pragmatics) are prior to pragmatic pragmatics in the way that the rules of chess are prior to considerations of strategy in playing chess. Although considerations of structure and interpretation are occasionally influenced by considerations of use, the former provide the general background for the latter: the relation is that of core to shell. And the methodological principle urged in the text is merely a particular instance of the more general conservative maxim to the effect that recalcitrant data should whenever possible be absorbed by modifications at the periphery rather than by fundamental revisions at the core. (For further discussion of the application of this maxim of semiotic studies, see [3].)

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 13 of 37

of adhering to this principle.) Dretske, however, never seriously considers the possibility of exploiting the rich resources of pragmatic pragmatics. All the difficulties enumerated at the close of the preceding Section stem, I think, from this methodological error. In what follows, I shall attempt to support this claim by showing in detail how Dretske's linguistic data can (with one exception) be readily accommodated within pragmatic pragmatics, and how such an explanation avoids the aforementioned problems.

Before getting down to cases, there is an important general point to be made: *not all allomorphically sensitive contexts are equally sensitive.* Although Dretske does not address the issue, the fact remains that our ability to "hear" the alleged meaning-shifts differs markedly from one case to the next. In (15)–(20) below I have arranged Dretske's chief types of example in order of decreasing felt strength.

(15)*a.* John **shot** the horse by mistake.
b. John shot **the horse** by mistake.
(16)*a.* If Ted hadn't **married** Alice, he'd have lost his inheritance.
b. If Ted hadn't married **Alice,** he'd have lost his inheritance.
(17)*a.* Tom explained why Bob **hit** Alice.
b. Tom explained why Bob hit **Alice.**
(18)*a.* John's **hitting** Mary caused the uproar.
b. John's hitting **Mary** caused the uproar.
(19)*a.* John persuaded Mary to **steal** the bicycle.
b. John persuaded Mary to steal **the bicycle.**
(20)*a.* Tom knows that Bob **hit** Alice.
b. Tom knows that Bob hit **Alice.**

(15*a–b*) are in a class by themselves; I have yet to find anyone who does not report a strongly felt meaning-difference between them. (16*a–b*) and (17*a–b*) follow in a tie for second place; a small amount of prodding succeeds in getting most people to hear a similar meaning-shift. (18*a–b*) and (19*a–b*) are engaged in a similar tie for third place; hearing the alleged meaning-shift in these cases, while not too difficult, requires rather more story-telling and stage-setting. Finally, (20*a–b*) rank a poor fourth; some people report a total lack of perceived difference

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 14 of 37

between them only after a good deal of story-telling.

What the foregoing ranking suggests is that contrastive stress may be playing a variety of roles in these sentences, and that no single explanatory scheme can be expected to give an adequate account of the data. In fact, I will argue that there are at least three distinct linguistic functions being served by contrastive stress in these examples, hence that Dretske was mistaken in lumping them all together.

IV

Let us now consider the specific cases, in the order given. My reason for saying that (15*a–b*) are "in a class by themselves" is that, unlike the other pairs, they point to a clear-cut underlying *syntactic ambiguity*. The expression "by mistake" is a predicate-modifying adverbial, and as such it is subject to *scope*-distinctions. The difference between shooting-by-mistake the horse and shooting-the-horse by mistake is a simple difference in scope and betokens a genuine difference in occasion-meaning. Oddly enough, Dretske considers precisely such an explanation of (15*a–b*) but concludes that it would not affect his program because it would still be the case that the occasion-meaning is "controlled" by the relative position of the stress. But this is to put the cart before the horse: the different stresses in (15*a–b*) are phonological *symptoms* of the underlying scope differences, not determinants of it. On the orthodox view, the phonological component of a Grammar takes syntactic structure into account when assigning a phonological representation, with the result that orthographically identical surface structures may be assigned different phonological representations relative to different possible syntactic derivations (from distinct deep structures). (15*a–b*) differ in stress pattern *because* they derive from different deep structures (and express different propositions), not the other way around. What is "controlled" by overt stress is not occasion-meaning itself but rather our *recognition* of occasion-meaning. By running the rules in reverse, we are able to remove potential scope-ambiguities and to identify the "right" reading, namely, the one which officially dictates the stress pattern in question.

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 15 of 37

Moreover, and quite apart from the issue of what controls what, an explanation in terms of syntactic scope-distinctions surely *is* inimical to Dretske's program, for it would make a hash of the notion of an "allomorphically sensitive *context.*" If scope is admitted, then it is highly misleading to call "_____ by mistake" a "context" at all, since the adverbial may operate on different portions of the sentence filling the blank. Talking of "contexts" in this way invites a confusion of superficial grammar with logical form: "_____ by mistake" is at best a superficial sentence-frame, not a logical context like "It is not the case that (_____)." Filling the blank in the former may produce, on different occasions, sentences having divergent general logical forms, but this cannot happen with the latter, which always produces negations. What was supposedly significant about allomorphically sensitive sentence-embedding contexts was that they represented a syntactically unitary sentence-forming *operator* which seems to produce outputs with distinct occasion-meanings for inputs with identical occasion-meanings; and this fact supposedly leads us to relativize the semantics of the operator to the stress pattern of its sentential input. But if the invocation of scope is permitted, "_____ by mistake" will not represent any such unitary operator at the level of logical form, where semantic interpretation takes place. In logical form, "by mistake" modifies not sentences but predicates and certain parts of predicates, and the very fact of its having scope obviates the need for any relativization of its semantics to stress—thus undoing the very pattern of analysis pushed by Dretske. Correctly viewed, (15*a*–*b*) have not the slightest tendency to support novel claims about relativization to stress.

These considerations suffice to explain why Dretske's "causal" conjecture generated the problem anent (14*a*–*b*). "Merely" is likewise a predicate-modifying adverbial, and the difference between (14*a*) and (14*b*) is grounded in a simple scope-distinction. There is no need to go looking for a causal analysis of "_____ merely presupposes _____" and for mysterious "event-allomorphs" to explain why (14*a*) and (14*b*) differ in occasion-meaning. Had Dretske not lumped together (15)–(20) as examples of one and the same phenomenon, the problem would never have arisen in the first place.

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 16 of 37

Now (16)–(20), in contrast to (15), do not obviously involve any syntactic ambiguities. Whatever contrastive stress is doing in these cases, it is not just passively reflecting underlying scope-distinctions. On the contrary, contrastive stress seems to be playing there an active role in determining "meaning," in some yet-to-be-explained sense of that much-abused word. Let us turn, then, to the counterfactual conditionals (16*a*) and (16*b*). These provide some of Dretske's best examples of allomorphic sensitivity and also suggest an obvious link to his conjecture about the "causal" source of such sensitivity.

V

While reading (16*a*–*b*) we are asked to imagine that Ted's late father left a clause in his will stipulating that Ted be cut off without a cent unless married by a certain date. We may also imagine that Ted has been engaged to marry Alice for many years. Ted in fact marries Alice just in time to satisfy the will, thus gaining his inheritance. In such a situation, (16*a*) would supposedly express a truth, since if their lengthy engagement had not terminated in marriage (but had merely resulted in, say, cohabitation), Ted would indeed have been cut off. But (16*b*) would supposedly express a falsehood in these surroundings, for Ted could just as well have gotten the money by marrying Alice's sister or any other woman.

It must be admitted that we *do* tend to hear a meaning-shift of some sort when different allomorphs of a sentence are embedded in a counterfactual conditional, but this tendency can easily be accounted for in terms of our knowledge of the context-dependent semantics of such conditionals together with our sensitivity to certain pragmatic implications connected with contrastive stress. Assuming that Lewis [11] is basically right about the proper truth-conditions for counterfactual conditionals, such a conditional will have a definite truth-value (express a definite proposition) *only if* we provide some criterion for assessing "overall comparative similarity" of possible worlds. Accordingly, we may think of the linguistic meaning of a counterfactual conditional as a function whose contextual input includes an "intended" similarity measure on worlds. Other

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 17 of 37

contextual parameters being held constant, the occasion-meaning of (a token of) a counterfactual conditional will vary with different choices of similarity measures.[5]

Now contrastive stress enters the picture in the following way. By stressing one item rather than another, the utterer of a counterfactual conditional pragmatically conveys a certain conclusion about the "intended" similarity measure. The audience, knowing the linguistic meaning of his sentence, seizes upon this pragmatic clue and plugs in the suggested similarity measure, obtaining a particular occasion-meaning for his utterance. The original utterance is then deemed to have the truth-value of its alleged occasion-meaning. Let us see how this works in the case of (16*a*–*b*).

Knowing the contents of the will and hearing someone utter (16*a*), we engage in some simple pragmatic reasoning. The utterer presumably knows, and knows that we know, the linguistic meaning of (16*a*). So it is a matter of mutual knowledge that a similarity measure is needed to determine the occasion-meaning of (16*a*). It is likewise a matter of mutual knowledge that contrastive stress is a conventional device for phonologically signalling intended contrasts, and by using it on "married" in (16*a*) the speaker has thus officially raised the issue of a contrast between marriage and other salient relations between Ted and Alice. What could be the *point* of his doing so? It immediately occurs to us that, in light of the contents of the will, worlds in which Ted does not marry Alice are of two relevant sorts: those in which he marries someone else and those in which he remains single. The point of contrasting marriage with other relations is now obvious: the speaker is suggesting that the relevant ante-

[5] The idea that, in practice, *different* similarity measures may be invoked by different speakers, though allowed in [11], is only exploited by Lewis in subsequent writings. I do not know whether Lewis would approve of the rather liberal use I make of this idea, but something like it seems demanded by the fact that judgments of overall comparative similarity are heavily influenced by people's variable *purposes*. For the present discussion, we could think of the various similarity measures in question as involving minor differences in detail from some more or less "standard" measure which is taken for granted unless the context (e.g., the occurrence of certain contrastive stresses) dictates otherwise. The intuitive adjustments made to accommodate these contextual clues would then be expected to involve the smallest possible deviation from the "standard" measure.

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 18 of 37

cedent-worlds (=worlds in which Ted does not marry Alice) are of the latter sort, that is, worlds in which Ted stays a bachelor. In other words, the requisite similarity measure is such that antecedent-worlds falling within the relevant sphere of similarity are those in which Ted does not marry. (The story, of course, requires that the will and all supporting machinery be in force in all these worlds as well.) The utterer of (16*a*) is presumably aware that we will reach this conclusion, and has done nothing to dissuade us. So, borrowing a term from Grice [10], we may say that the utterer has *implicated* that he intends the foregoing sort of stricture on similarity of antecedent-worlds. (The pragmatic phenomenon discussed here has affinities both to Grice's "conversational implicatures" and to his "conventional implicatures," but is identical with neither. Rather than invent additional terminology, I shall simply extend Grice's term "implicature" by fiat to cover the data in question.) Plugging the implicated criterion into the linguistic meaning of (16*a*), we compute that Ted loses his inheritance in all antecedent-worlds within the resultant sphere (since he remains single in all these worlds), hence that the utterance of (16*a*) expresses a *true* proposition—that is, that "what the speaker said" was true.

It should be clear that exactly parallel pragmatic reasoning would lead the hearer of (16*b*) to the conclusion that the special stress on "Alice" betokens an intended similarity measure which narrows down the relevant antecedent-worlds to those in which Ted gets married, but not to Alice. But, given our knowledge of the will, Ted will *not* lose his inheritance in those worlds. Plugging in the implicated sort of similarity measure produces a *false* proposition as occasion-meaning for (16*b*), whereupon the hearer concludes that "what the speaker said" was false.

One likely misunderstanding must be guarded against here. I have *not* claimed (as Dretske does) that (16*a*) and (16*b*) actually *do* have different occasion-meanings: I have merely provided a mechanism for explaining why an audience would *perceive* them as having different occasion-meanings. For all I have said, it is still perfectly possible that (16*a*) and (16*b*) should have identical occasion-meanings (express one and the same proposition). There is no reason to assume a priori that the mechanisms determining the values of a sentence's contextual parameters

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 19 of 37

"must" yield values identical with those pragmatically suggested by its utterance. It might be objected, however, that one cannot *mean* by uttering (16*a*) what one would normally *mean* by uttering (16*b*); so how can they express the same proposition? This objection has some intuitive appeal, so it is worth answering in detail.

The objection trades on a conflation of occasion-meaning with *speaker*-meaning. This is tantamount to confusing speaker-meaning with sentence-meaning, since what I have called occasion-meaning is just the meaning of a sentence qua tokened in a particular context. It is indeed true that, in a practical sense of "cannot," one cannot mean by (16*a*) what one would normally mean by (16*b*); but this fact is harmless. Typical analyses of speaker-meaning construe it in terms of intending to get one's audience to believe a certain proposition or to perform a certain action, and intending to bring this about in certain complicated ways having to do with the recognition of one's intentions (see Grice [7], [8], [9], and Schiffer [13]). And speaker-meaning usually coincides with occasion-meaning. In a straightforward assertive case, the speaker wants his audience to believe the proposition which is the occasion-meaning of his utterance, and he relies on their knowledge of linguistic meaning and extralinguistic context to accomplish this. Hence it is not surprising that a speaker must be careful about contrastive stress, lest he generate implicatures which will frustrate his primary communicative intention. Suppose the speaker intends the sort of similarity measure whose acceptance he would implicate by uttering (16*a*), but that he utters (16*b*) instead. Then, insofar as he knows what he is doing, he can foresee that people will attribute to him the wrong kind of measure, hence reach the wrong conclusion about the occasion-meaning of his utterance. To the extent that he has the standard desire to get his audience to believe the proposition *p* which results from applying his real choice of similarity measure, he cannot seriously *mean* that *p* by uttering (16*b*)—just because he cannot seriously expect them to identify the intended measure when he knows full well that he will have led them, by implicature, in the wrong direction. None of this, however, has any tendency to show that (16*a*) and (16*b*) cannot express the same proposition: it merely shows that,

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 20 of 37

if they do express the same proposition, then one of them will not be a pragmatically useful means of communicating that proposition to others. Contrastive stress does not objectively affect *the meaning* of what we say, but it can put practical constraints on our ability to *mean* what we say.

VI

The explanation of the perceived meaning-shift between (17*a*) and (17*b*) is very similar to that offered above with respect to (16*a–b*). The only difference is in the identity of the relevant contextual parameter. I have argued elsewhere (in [1] and [2]) that WH-clauses of the sort found in (17*a–b*) evince *teleological* relativity: interpretation of the sentence as a whole requires, *inter alia,* a specification of purposes-in-mind, and the sentence's truth-value can change with a shift in the supplied purposes. Thus, "John knows who wrote *Word and Object*" may be true relative to the purpose of finding the author in the card index but false relative to that of picking out the famous author at a convention: John may know the author's name but be unable to recognize the bearer on sight. There simply is no such thing as "knowing who" *simpliciter.* Similarly, "explaining why" should be understood in terms of giving an explanation *adequate to the purpose at hand.* What counts as successful explaining-why depends on what questions are contextually at issue. The most obvious example of this concerns the "depth" required of an explanation. Suppose the question is "Why did John get lung cancer?" A superficial explanation-why might take the form of pointing out that John was a heavy smoker and that heavy smokers have a high incidence of lung cancer. To the casual inquirer, who has no particular interest in the causal mechanisms involved, such an explanation-why is perfectly adequate: relative to *his* purposes, the speaker *has* explained why John got lung cancer. But a cancer researcher would not be so easily satisfied. No doubt he would grant the statistical correlation between heavy smoking and lung cancer, but he wants to know about the causal mechanisms responsible for this correlation. Relative to the cancer researcher's purposes, the speaker has *not* explained why John got lung cancer.

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 21 of 37

The parallel between "knowing-who" and "explaining-why" can also be brought out in a more general way. A person who entertains the purpose *P* and who asks "Who *F*'d?" will not accept as final any answer which fails to block a regress of *P*-based "who"-questions. A *P*-satisfying answer must identify the *F*-er in such a way as to obviate the need to ask "But who is *that*?"; further "who"-questions would only be relevant if different purposes were at issue. Similarly, a *P*-satisfying explanation-why must block any potential regress of "why"-questions on the part of those entertaining *P*—although, of course, "why"-questions backed by other purposes might still be in order. The simple explanation via statistical syllogism is not final for the cancer researcher precisely because his purpose is such that he can continue to ask "why"-questions, based on the same purpose, regarding its major premiss.

The application of these remarks to (17*a*–*b*) should be obvious. Contrastive stress is a pragmatic clue to the identity of the speaker's envisaged purpose, hence to the identity of the proposition he is expressing. The stress on "hit" in (17*a*) conveys, by the same pragmatic reasoning invoked for (16*a*–*b*), the idea that Tom's success in explaining why Bob hit Alice is to be measured against its satisfaction of a special purpose, namely, that of wanting to know why, of all the things Bob might have done to Alice in that situation, hitting was the particular action he performed. On the other hand, the stress on "Alice" in (17*b*) pragmatically conveys a different criterion of success: the explanation must account for its being Alice, rather than any other bystander, who was hit by Bob. Since different purposes are suggested, it is easy to see how only one might be satisfied in a given case. Suppose Tom had said, "Bob hit Alice because he was mad at the world and had to take it out on somebody; *Alice happened to be the only other person handy.*" Tom, it seems, has satisfied the purpose suggested by (17*b*): to one who is concerned with Bob's choice of victim, but not his choice of action, such an explanation will probably do; in light of the italicized clause, such a person has no reason to ask "But why Alice?" But Tom has not satisfied the purpose suggested by (17*a*), for his explanation sheds no light on the answer to the question, "Why hit her rather than, say, strangle or kick her?" Accordingly, (17*a*) is false rela-

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 22 of 37

tive to the purpose which its utterance would normally suggest, and (17*b*) is true relative to the distinct purpose which *its* utterance would suggest. As with (16*a–b*), it is the actual value of the contextual parameter, possibly distinct from the one suggested by contrastive stress, which determines the occasion-meaning of (17*a–b*). (17*a*) and (17*b*) could well have the same occasion-meaning by virtue of being uttered against a similar background of purposes. But, given the effect of stress on possible speaker-meanings, it would be a practical impossibility for a *speaker* to mean one and the same thing by both. Once again we see how disentangling various notions of "meaning" enables us to relegate contrastive stress to its proper place in pragmatics, and to resist any temptation to complicate our semantic theory further by "relativization to stress."

VII

(18*a–b*) and (19*a–b*) form a transitional grouping which is susceptible of either a "strong" explanation (which assimilates them to earlier cases) or a "weak" explanation (which assimilates them to cases like (20*a–b*)). The strong explanation relies on a substantive premiss, namely, that counterfactual conditionals are the key to the analysis of causation (see, for example, Lewis [12]). If this premiss is granted, then it could be claimed that (18*a–b*) and (19*a–b*) entail certain counterfactual conditionals, whose shifting of truth-values relative to pragmatically suggested changes in contextual parameters accounts for the perceived differences within each of these pairs. I shall not pursue this kind of explanation here. Not only does it rest on a controversial premiss, but it also escalates the degree of inferential complexity far beyond what was involved in (16*a–b*). For we cannot simply point to obvious candidates like (21) as the strategic entailments of sentences like (18*a–b*):

(21) If John hadn't hit Mary, there wouldn't have been an uproar.

The problem, of course, is that (21) is not entailed by (18*a–b*); if anything, the entailment goes in the opposite direction. The most we could hope for in the abstract is the entailment of a long *chain* of counterfactual dependencies connecting "John didn't hit

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 23 of 37

Mary" at one end with "There was no uproar" at the other, where the identity of the intermediate links cannot be determined from the truth-conditions of (18*a–b*) alone. And the indeterminate nature of these intermediate links stymies the kind of simple pragmatic reasoning which we applied to (16*a–b*). If we were antecedently given an elaborate story about the context, it might be possible to produce some plausible pattern of reasoning which would lead to the identification of these intermediaries, thus allowing application of the pragmatic reasoning associated with (16*a–b*). But the resulting picture would be too baroque to be very convincing. The more intricate an alleged piece of pragmatic reasoning becomes, the less plausible it is to adduce it as the explanation of an immediately (or almost immediately) felt meaning-shift. (This fact will prove to be important in connection with my subsequent remarks about (20*a–b*).)

We are left, then, to develop the weaker sort of explanation. In the earlier cases, we were dealing with genuine instances of context-dependent semantics, in which various pragmatic implicatures fed directly into the hearer's semantic interpretation of an utterance. But in (18*a–b*) and (19*a–b*) such context-dependence seems lacking: there do not appear to be any semantically relevant contextual parameters at which stress-generated implicatures might aim. So, if we are to find an explanation for our differing reactions to (18*a*) and (18*b*) on the one hand, and to (19*a*) and (19*b*) on the other, which is consistent with the claim that the allomorphs of a sentence are alike in meaning, we must leave the domain of semantic pragmatics and forage in that of pragmatic pragmatics.

The key to explaining why, in the cases of the (allegedly synonymous) sentence-pairs in question, we are sometimes tempted to call one member true and the other member false, lies in considerations drawn from Searle's theory of Indirect Speech Acts. I shall argue that, in certain specified circumstances of the sort that arise in the stories Dretske tells, the members of these sentence-pairs acquire distinct *indirect* illocutionary act-potentials, with the result that the utterance of one member of a pair, although it would constitute the same "direct" assertion as would the utterance of the other, would count as making an *indirect* assertion *distinct* from that made in the utterance of

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 24 of 37

the other. If this is correct, then the mystery about (18*a–b*) and (19*a–b*) vanishes. For, where S_1 and S_2 are sentences with the same occasion-meaning, but which are respectively used in the indirect assertion of distinct (and logically independent) propositions, it is to be expected that we might have occasion to respond to one utterance with "That's true" and to the other with "That's false." For, as Searle points out, it is characteristic of indirect speech acts that the hearer responds to the *indirect* act rather than to the "literal" or "direct" act, since it is the former which reflects the true point of the utterance. Consider, for example, (22):

(22) It is my sad duty to tell you that your son is dead.

What is literally asserted in an utterance of (22) is that it is the speaker's sad duty to tell the addressee that the latter's son is dead. If the hearer believes that his son is alive, he will usually react negatively to (22), that is, he will regard the utterer of (22) as having said something false—*even when* he believes that it really is the speaker's sad duty to tell him the opposite! When the speaker does have the sad duty in question, but when the addressee's son is *not* dead, it would be a serious (though understandable) mistake to think that (22) is literally false just because "That's false" is an appropriate response from an informed hearer. For the hearer's truth-valuation is directed towards what was indirectly asserted, not towards (22)'s literal assertive content. What I am claiming is that Dretske makes precisely this kind of mistake about (18*a–b*) and (19*a–b*): he is led to suppose that members of these pairs can have different truth-values—hence must express different propositions—because he fails to see that the divergent truth-valuations evoked by his illustrative stories are *not* directed at the occasion-meanings of these sentences but at the different propositions which are indirectly asserted in their use.

To appreciate the plausibility, much less the correctness, of the foregoing diagnosis, it is important to have a clear picture of the way contrastive stress fits into the dialectic of ordinary conversation. The first thing to notice is that contrastively stressed sentences like (18*a–b*) and (19*a–b*) invariably sound odd when uttered "out of the blue," that is, without benefit of any antecedent conversational stage-setting. The oddity is phonological—hence "grammatical" in the technical sense in

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 25 of 37

which a formal grammar contains a phonological component—and it derives from the fact that grammatical processes are sometimes sensitive to pragmatic input. Just as the intonation contour of a sentence reflects the illocutionary force with which the speaker (supposedly) intends to invest it, so too the use and placement of contrastive stress reflects the way in which the speaker is (supposedly) trying to "fit" his utterance into the conversational context. This is where the intuitive connection between contrastive stress and *questions* becomes crucial.

Let us distinguish, with respect to a given contrastively stressed statement *S*, between two sorts of related WH-questions for *S*. An interrogative sentence *Q* will be called an *internal* WH-question for *S* just in case *Q* is merely the WH-question derived from *S* by substitution of the appropriate WH-term for the stressed word or phrase in *S*. Thus, for instance, (23*a*) and (24*a*) are internal WH-questions for (23*b*) and (24*b*) respectively:

(23) *a.* Whom did John kiss?
b. John kissed **Mary.**

(24) *a.* What did John do to Mary?
b. John **kissed** Mary.

Now there are obviously many sorts of noninternal WH-questions that can be formed from a sentence—for example, "why"- and "how"- questions—and of these one sort in particular will interest us. Unlike internal WH-questions, these are not purely syntactically definable. Let us say that an interrogative sentence *Q* is an *external* WH-question for a (contrastively stressed) statement *S* just in case the following three conditions are satisfied: (*a*) *Q* is a WH-question formed from *S*; (*b*) anyone who uttered *Q* would, for that reason, normally be taken to be willing to assert the unstressed version of *S*; and (*c*) the utterance of *S* would normally count as one appropriate way of answering the question posed by *Q*. Thus (25*a*) and (26*a*) will qualify as external WH-questions for (25*b*) and (26*b*) respectively:

(25) *a.* What did Paul find objectionable about John's kissing Mary?
b. Paul found it objectionable that John **kissed** Mary.

(26) *a.* What did John regret about losing his wife to Paul?
b. John regretted losing his wife to **Paul.**

Interestingly, the only contrastively stressed statements which

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 26 of 37

have corresponding external WH-questions seem to be those in which some (possibly nominalized) sentential allomorph S' is embedded within an "allomorphically sensitive" context $\phi(\ )$. An external WH-question for $\phi(S')$ then typically asks, concerning the state-of-affairs or event described by the unstressed version of S', what there is about *it* in virtue of which it has the "property" expressed by ϕ. And S' itself answers the question by stressing a word or phrase which picks out the salient ingredient in that state-of-affairs or event.

Given the notions of internal and external WH-questions corresponding to contrastively stressed statements, we can get a clearer picture of the phonological conventions governing the use of contrastive stress in statements. Apart from its role as a signal of scope-distinctions or a clue to the value of contextual parameters, there seem to be five standard situations in which such stress is conventionally appropriate. These may be taxonomized as follows.

(*A*) Where the speaker believes that an *internal* WH-question for his stressed statement S has either been explicitly asked or is at least "in the air," and either
  (*i*) believes that this question has not yet been answered (even incorrectly), or
  (*ii*) believes that this question has been answered *in*correctly by a statement like S except for containing a different expression in the same stressed position;

and intends his placement of stress in S to signal that the stressed item provides the correct answer to (i.e., correct replacement of the WH-term in) the WH-question.[6]

[6] Sometimes the allegedly incorrect statement will not contain any contrastive stress. If so, and if no corresponding question has previously been asked, then the incorrect statement and the contrastively stressed statement S will appear to be related merely as assertion to counterassertion. The connection with WH-questions here is not lost, but only submerged. For although the utterer of the disputed statement may not be addressing any particular WH-question, nevertheless his statement must, if true, convey sufficient information to enable one to answer its related *internal* WH-questions. The corrective statement S, by changing a word or phrase in the original and then contrastively stressing the new item, indicates *which* of these WH-questions has (supposedly) not been answered correctly—viz., the internal WH-question

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 27 of 37

(*B*) Where the speaker believes that an *external* WH-question for his stressed statement *S* has either been explicitly asked or is at least "in the air," and either
  (*i*) believes that this question has not yet been answered (even incorrectly), or
  (*ii*) believes that this question has been answered incorrectly by a statement like *S* except for
    (*a*)containing a different expression in the same stressed position, or
    (*b*)placing the stress in a different position,
and intends his placement of stress in *S* to signal that the stressed item provides the correct answer to the WH-question (i.e., what should, possibly in grammatically altered form, be put for the WH-term in forming the corresponding indicative reply).

This taxonomy has the advantage of letting us see just what sort of context is tacitly imagined to surround Dretske's sample sentences. If we are not to have a simple case of "talking past" one another, the respective utterers of, for example, (18*a*) and (18*b*) must be imagined to be addressing one and the same WH-question. This rules out the (*A*)-contexts immediately, since rival answers to a common *internal* WH-question cannot evince different placements of stress: they stress the same position but provide different occupants for that position. The stress shift between (18*a*) and (18*b*) likewise rules out (*B-ii-a*), in which the occupant of the stressed position rather than the relative placement of stress is challenged. We are left, then, with three possibilities: (18*a*) and (18*b*) are related either as independently given initial answers (Case (*B-i*) twice over), as initial answer

for *S* itself—and proceeds to give the supposedly correct answer to *it*. (Hearing the incorrect assertion in conversation, we sometimes feign partial deafness and explicitly ask the appropriate internal WH-question, thus politely giving the speaker a chance to correct his assertion before we do it for him. So we have dialogues like the following (Where *Y* believes that Fred alone hit Mary):

X: "John hit Mary."
Y: "*Who* hit Mary?"
X: "John did."
Y: "No! **Fred** hit Mary!")

I omit mention of this sort of case in the text, since the sentence-pairs that interest us will *both* contain contrastive stress (and in different positions as well).

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 28 of 37

to corrective answer ((*B-i*) combined with (*B-ii-b*)), or as mutually corrective answers ((*B-ii-b*) twice over). Fortunately, it is not important which of these three contexts is involved, for it turns out that *all* of the (*B*)-contexts are capable of supporting indirect speech acts, whereas none of the (*A*)-contexts (taken merely by themselves) are capable of doing so. This is obvious for the (*A*)-cases: one who utters, for example, (26*b*) in direct answer to "To whom did John regret losing his wife?" or as a corrective to a disputed answer like "John regretted losing his wife to **Fred**" has intuitively asserted no more and no less than that John regretted losing his wife to Paul. (Of course, insofar as he is asserting something incompatible with a previous answer, he is *denying* something too; but "denying" in this way is not a separate speech act.) In these cases (26*b*) would be judged to convey a truth (and to be the correct answer) if and only if John in fact regretted losing his wife to Paul. There is no apparent divergence of assertion and occasion-meaning. Matters are different with the (*B*)-contexts, in virtue of the special kind of question involved.

To appreciate the possible involvement of indirect speech acts in the (*B*)-contexts, we need a brief reminder of what is essential to the generation of an indirect speech act. What justifies our saying that *X*'s utterance of a sentence *S* on a given occasion counts as the indirect performance of some speech act? Stripped to basics, the answer seems to lie in the joint satisfaction of the following four conditions (where "*F*(*p*)" abbreviates the schematic expression "the speech act whose illocutionary force is that of *F*-ing and whose propositional content is *p*"):

(*C-1*) Taken in isolation from what we believe about the context of utterance, the syntax and occasion-meaning of *S* are of the sort conventionally appropriate for performing *F*(*p*).

(*C-2*) Given what we believe about the context, it would be pragmatically odd if *X* were merely trying to perform *F*(*p*) in uttering *S*.

(*C-3*) Proceeding from the assumption that *X* is trying to

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 29 of 37

produce a syntactically, semantically, *and* pragmatically nondeviant utterance, we can infer from certain pragmatic canons of appropriateness that X has some *ulterior illocutionary point* in uttering S—i.e., we can infer that for some F^* and p^*, X's primary intention in uttering S was to perform $F^*(p^*)$, where either $F^* \neq F$ or $p^* \neq p$ (or both).

(*C-4*) Using relevant clues from Speech Act Theory, together with the previous data, we are able to *identify* X's ulterior illocutionary point—i.e., for some F^* and p^*, we infer (and are justified in believing) that X's primary intention in uttering S was to perform $F^*(p^*)$.

Where (*C-1*)-(*C-4*) are satisfied, we are entitled to say that X has *indirectly* performed $F^*(p^*)$, in addition to "directly" performing $F(p)$.

Let us see, in outline, how these considerations apply in the (*B*)-cases, where a contrastively stressed indicative sentence S is uttered by X against the background of an external WH-question for S. Suppose that p is the occasion-meaning of the unstressed version of S. Then, since we are assuming that contrastive stress does not affect occasion-meaning, p will also be the occasion-meaning of S itself; and S, in virtue of being an indicative, will be a sentence of the sort conventionally appropriate for asserting that p. Given, however, that X is supposed to be uttering S in a (*B*)-context, it would be pragmatically odd if X were merely trying to assert that p. For, in a (*B*)-context, S will be a sentence of the form $\phi(S')$, and the related external WH-question will ask, concerning the event or state-of-affairs E described by S', what there is about E in virtue of which it has the property expressed by ϕ. But *this* question—unlike an internal WH-question—obviously cannot be answered merely by asserting S's propositional content p. From the assumption that X is trying to behave in a way appropriate to a (*B*)-context, we can infer that X has an ulterior illocutionary point, that is, that X's primary intention in uttering S is to be answering the related external WH-question (either initially or by way of correcting

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 30 of 37

an incorrect answer already given).[7] At this point we take our clues from Speech Act Theory. A WH-question is (roughly) a request to fill in the blank in an open (indicative) sentence—the blank being occupied by the WH-term in the question. To *answer* such a question is to comply with the request, and to comply with the request is to *assert* the proposition q expressed by the sentence which results from filling the blank in the queried indicative with (what one takes to be) the correct expression (that is, the one which is contrastively stressed in S). So we are enabled to identify X's ulterior illocutionary point as one of asserting that q (where $q \neq p$). And we conclude that X, in uttering S, indirectly asserted that q. Where two rival answers are given—stressing different items or putting different items into the same stressed position—correspondingly different propositions will be indirectly asserted, since in each case a different (and presumably nonsynonymous) word or phrase will be signalled as the one to occupy the blank in the queried open sentence. Consequently, the authors of the rival answers may indirectly assert propositions having different truth-values.

Now it is clear from Dretske's presentation that (18*a–b*) and (19*a–b*) are to be thought of as pairs of *rival* assertions. In view of their divergent placements of contrastive stress, this rivalry must take place in a (*B*)-context—otherwise they would be phonologically odd. From the assumption that a (*B*)-context is involved, we can use our background knowledge to erect a plausible hypothesis about the external WH-question at issue.

[7] In the cases studied by Searle in [14], condition (*C-3*) gets satisfied through Gricean considerations—i.e., the "pragmatic canons" in question are identified as Grice's Cooperative Principle and the attendant Conversational Maxims. In cases involving contrastive stress, however, the canons include certain pragmatically conditioned phonological rules. I do not know whether Searle would countenance the use of these hybrid rules alongside Grice's Maxims, but I can see no good reason not to. Of course, *not every* pragmatically conditioned phonological rule could qualify as a "pragmatic canon" for use in (*C-3*): e.g., the rules governing intonation contour connect it directly with "literal" (direct) illocutionary force and so are appropriate to (*C-1*) rather than to (*C-3*); and the rules governing the "inverted commas" tone likewise seem out of place in (*C-3*), for it is arguable that they affect the occasion-meaning of an utterance. The rules of contrastive stress, however, have no such predetermined impact on either direct illocutionary force or literal propositional content—and therein, I suspect, lies their suitability for use in (*C-3*).

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 31 of 37

In the case of (18*a–b*), the shared question would seem to be something like (27):

(27) What was it about John's hitting Mary in virtue of involving which it caused the uproar?

In the case of (19*a–b*), we make use of our background knowledge about the mechanics of persuasion: to persuade *X* to do *A* is a matter of getting *X* to decide on doing *A* by prompting and urging *X* in various ways, ranging from rational argumentation to naked threats. Though it be admitted that John's urging caused Mary's decision to steal the bike, it may still be wondered how much of this decision was prefigured in John's intentions, as opposed to being an unforeseen effect. Thus we infer that the external WH-question at issue is probably something like (28):

(28) What part of Mary's decision to steal the bicycle did John intend to produce when he brought about this decision by his urging?

Now the literal content of (18*a–b*) is that John's hitting Mary caused the uproar, and the literal content of (19*a–b*) is that John persuaded Mary to steal the bicycle. Clearly, the mere assertion of these literal contents cannot constitute an answer to the questions (27) and (28). If, however, the disputants are trying to behave appropriately to a (*B*)-context, each will have the primary intention of placing contrastive stress so as to convey an answer to the related external WH-question. In light of what Speech Act Theory tells us about such questions and their answers, we conclude that the primary intention of each disputant is to assert the content of a certain indicative derived from the WH-question by putting the stressed item for the WH-term. Accordingly, we conclude that the utterers of (18*a*) and (18*b*) are indirectly asserting (29*a*) and (29*b*) respectively:

(29) *a.* It was in virtue of its involving hitting that John's hitting Mary caused the uproar.

b. It was in virtue of its involving Mary that John's hitting Mary caused the uproar.

Similarly, we conclude that the utterers of (19*a*) and (19*b*) are indirectly asserting (30*a*) and (30*b*) respectively:

(30) *a.* In bringing about Mary's decision to steal the bicycle by his urging, John intended to produce that part of the decision pertaining to stealing.

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 32 of 37

b. In bringing about Mary's decision to steal the bicycle by his urging, John intended to produce that part of the decision pertaining to the bicycle.

Of course (29*a*) and (29*b*) may differ in truth-value, as may (30*a*) and (30*b*), with the result that the utterer of one member of the two pairs (18*a–b*) and (19*a–b*) may be construed as "saying something false" while the utterer of the other member of that pair may be construed as "saying something true." Yet at no point are we forced to say that the respective members of these pairs have different occasion-meanings.

It should be noted in passing that the above result squares nicely with an intuition felt by many people, namely, that the utterer of a sentence like (18*a*) seems to be saying *more* than he would say in merely uttering the corresponding *un*stressed sentence. For each of the propositions indirectly asserted via the foregoing stressed sentences *is* logically stronger than the proposition expressed by the corresponding unstressed sentence. But the invocation of indirect speech acts frees us from the tendency to suppose that these stronger propositions are actually the occasion-meanings of the sentential allomorphs used indirectly to assert them.

VIII

Finally, we must see how the indirect assertion analysis extends to (20*a–b*) and, in particular, how it can be reconciled with the fact that the alleged meaning-shift between (20*a*) and (20*b*) is so much more difficult to hear than that between, say, (18*a*) and (18*b*).

At this point we should reconsider Dretske's claim that allomorphic sensitivity originates in "causal" considerations. Although we have seen that this claim is literally false (in light of sentences like (15*a–b*)), it nonetheless seems to contain a germ of truth. For when we put aside cases involving syntactic scope-shifts and dangling contextual parameters, most if not all of the remaining examples *do* appear to have a causal flavor. (18*a–b*), of course, are overtly causal; and (19*a–b*) can certainly be given a plausible causal analysis, as can virtually all similar examples involving factive and nonfactive emotive verbs. This connection with causality is reflected in the tenor of external WH-questions:

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 33 of 37

they ask which ingredient in a certain event or state-of-affairs plays the most prominent or decisive role in making it the case that this event or state-of-affairs has a certain complex property. And this complex property typically is, or importantly involves, a causal property of some sort. Indeed, when there is no obvious connection with causality, it becomes very difficult (though not always impossible) to frame a sensible external WH-question for a contrastively stressed sentence, hence very difficult to generate the chain of pragmatic reasoning supportive of an indirect speech act. Consider, for example, (31*a–b*):

(31) *a.* John believes that Bob **hit** Alice.
b. John believes that Bob hit **Alice.**

There is no felt meaning-shift between (31*a*) and (31*b*). Presented as a pair, they seem to call for an (*A*)-context, in which they are answers to different internal WH-questions, and in which no indirect speech acts are generated. Intuitively, we find it hard to imagine a suitable (*B*)-context precisely because there is no natural candidate for the role of shared external WH-question. Since "believe" is not a factive verb, there may not be any such event as Bob's hitting Alice; and, unlike such emotive verbs as "regret" and "suspect," "believe" does not overtly indicate any causal relation between the having of propositional attitudes and the occurrences of certain "feelings." So the closest we could come to an external WH-question for (31*a–b*) would be something like "What is it about what John believes (that is, that Bob hit Alice) in virtue of involving which it is believed by John?" But it is not even clear what this question *means,* much less how (31*a*) and (31*b*) could be plausibly construed as offering competing answers to it! Small wonder, then, that no felt meaning-shift is evident in this case.

Now (20*a–b*) are not quite so badly off in this regard. We can recover a plausible external WH-question for them, but at the cost of enriching our common sense background beliefs with a certain amount of more or less tendentious philosophical theorizing. If, for example, we may take it as given that knowledge that *p* is a matter of being *caused* (in certain specified ways) to believe that *p* by the "fact" that *p,* then the obvious candidate for the role of shared external WH-question for (20*a–b*) is (32):

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 34 of 37

(32) What is it about Bob's hitting Alice in virtue of involving which it causes (in the preferred way) John's belief that Bob hit Alice?

This is a perfectly intelligible question, to which (20*a*) and (20*b*) could be regarded as indirectly supplying divergent answers. For what makes the causal relation between Bob's hitting Alice on the one hand and John's belief on the other a causal relation *of the required sort* may well be some fact about John's being related in a special way to one of the constituents of the event of Bob's hitting Alice. And contrastive stress may serve to identify this constituent.

But although it is a fair piece of common sense that, for instance, persuading *X* to do *A* is a matter of getting *X* to decide to do *A* by urging *X* in various ways, the causal analysis of knowledge-claims can scarcely be counted as part of our common-sense patrimony. The chain of reasoning required to squeeze indirect assertions out of (20*a–b*) in *this* way will not even get started unless one is firmly attached to a causal theory of knowledge at the outset! We would expect that the kind of story-telling needed to produce a felt meaning-shift here is precisely the kind of story-telling which lends credence to a causal theory of knowledge. Those who have never seriously considered the possibility of such an analysis could not be expected to hear any such shift. In general, when some people do, and others flatly do not, hear a meaning-shift in cases of this kind, it is likely that the former group is availing itself of some specialized background beliefs which have not occurred to the latter group. And when the shift *is* heard, but only very weakly, this fact may be attributed to the hearer's ability to frame a sensible external WH-question on the basis of available background hypotheses to which he himself is not inclined to subscribe.

IX

The foregoing account has shown that all of Dretske's data can be accommodated within a framework which rejects the assumption that contrastive stress affects the linguistic meaning or occasion-meaning of sentences. This result, of course, only establishes its claim to be a viable alternative explanation.

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Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 35 of 37

The further claim that it is a *superior* explanation is supported by three facts.

First, it avoids the unpleasant consequences attaching to Dretske's view. Since contrastive stress is no longer regarded as altering meaning, we can avoid the manifold complications which would attend rewriting our semantical rules to take account of possible stress-patterns. In the case of nominalization operations, this saves us from the attendant temptation to posit mysterious "event-allomorphs" to provide our distinctions with a difference. Dretske's "causal hypothesis"—although unacceptable as a universal claim about allomorphic sensitivity—is shown to be plausible when construed in connection with a special class of cases.

Second, the favored, tripartite account has greater explanatory power: it can explain, as Dretske's view cannot, why the alleged meaning-shifts associated with divergent contrastive stresses come in *degrees* of felt strength. An emphatically marked scope-distinction is easier to hear than any distinction involving different suggested values for contextual parameters, since the latter requires more knowledge and thought to identify than does the former (a simple piece of syntactic reasoning versus a combined piece of syntactic-semantic-pragmatic reasoning). And distinctions involving different suggested values for contextual parameters are in turn somewhat easier to hear than those involving diverse indirect assertions, since the focal point of the former (the contextual parameter whose value is sought) is antecedently identified by the semantics of the language, whereas the analogous focal point of the latter (the internal or external WH-question at issue) requires for its identification a combination of syntactic, semantic, and pragmatic reasoning (to establish that a (*B*)-context is involved at all). Moreover, even within the cases involving indirect assertion, variations in the degree of acceptance of available background hypotheses can produce corresponding variations in the felt strength of the "meaning-shift."

Third, the tripartite account, though superficially more complicated than Dretske's unified semantic account, is methodologically preferable in that it requires no renovation of our

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 36 of 37

antecedent syntactic and semantic theories.[8] The additional complexity is incurred instead at the pragmatic level. Even here, however, no real novelties are encountered: the basic concepts employed are already familiar to students of pragmatics.[9]

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[8] I am assuming here that the account of contextual parameters in Sections V–VI may be counted as part of our "antecedent" semantic theory.

[9] I am indebted to William G. Lycan for useful comments on an earlier draft of this paper. I also wish to thank the referees for pointing to a number of needed revisions in the original manuscript.

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Cerence Operating Company, Ex. 2010
Samsung Electronics Co., Ltd. etc. v. Cerence Operating Company, IPR2025-00459
Page 37 of 37