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Edited by

Peter W. Culicover

Center for Cognitive Science and
Department of Linguistics
The Ohio State University
Columbus, Ohio

Louise McNally

Facultat de Traducció i Interpretació
Universitat Pompeu Fabra
Barcelona, Catalonia

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ON RHEME AND KONTRAST

*ENRIC VALLDUVÍ**
MARIA VILKUNA†

**Institute for Research in Applied Linguistics*
Universitat Pompeu Fabra
Barcelona, Catalonia

†*Research Institute for the Languages of Finland*
and University of Helsinki
Helsinki, Finland

1. INTRODUCTION

The purpose of this chapter is to outline and establish a conceptual distinction between two interpretive notions, the informational **rhematicity** and the quantificational **kontrast,** that often hide behind the single term *focus.* The distinction is empirically supported with data from the syntactic realization of rhematicity and kontrast in Finnish and Hungarian. These data are then contrasted with data from Catalan and English. It is shown that the effect of both rhematicity and kontrast is present in the structure of these languages as well. If the distinction between these two categories is taken into account, many of the problems that plague *focus* disappear and the disagreement between the semantic and the pragmatic literature on focus is explained away.

The pairing of interpretive categories and structural strategies (the meaning–structure mapping) is complex and cross-linguistically diverse. The fact that structural evidence in English for the existence of both rhematicity and kontrast is perhaps not overwhelming is a result of the limited structural resources of natural language and should not be taken to mean that one or the other category are not needed in a description of English. Similarly, the weak structural motivation for

kontrast in Catalan does not necessarily mean this category is absent from Catalan grammar.

The chapter is structured as follows. Section 2 provides some background, defines the notions of rheme and kontrast, and discusses briefly their structural properties in English. In section 3 the syntactic realization of kontrast and rheme in Finnish is discussed. Finnish provides solid syntactic evidence against a unified category "focus." Section 4 is devoted to analyzing the syntax of focus in Hungarian, and section 5 reviews the apparent lack of a structural correlate of kontrast in Catalan in light of the arguments in sections 2 and 3. Section 6 contains a general discussion of the facts and offers some remarks about the relation of meaning and structure in light of the behavior of kontrast and rhematicity in language.

2. BACKGROUND

Terms like *contrast, focus, topic,* and *theme* inhabit a terminological minefield that has hindered research in pragmatics and discourse for decades. In recent years, different research traditions have become interested in something called *focus,* and a great deal has been written on the topic within phonology, syntax, semantics, pragmatics, psycholinguistics, and computational linguistics. Nevertheless, it is an impossible task to bring together in a coherent way all claims made about focus, unless we conclude that people, consciously or unconsciously, are in fact using the word focus to talk about different concepts. We are concerned with two distinct concepts that have been called focus in the literature. We will show that by teasing these two categories apart we get a clearer picture of some semantic and pragmatic phenomena and of the mapping between meaning and sentence structure in language.[1]

One category denoted by the term focus originates in the pragmatic tradition, going back to the early Prague School. Let us call this category **rheme,** following Firbas (1964, 1971) and Contreras (1976), among others. Rheme has been defined as the new information of the sentence (Välimaa-Blum, 1988), the elements in the sentence that are contextually unbound (Sgall & Hajičová, 1978; Rochemont, 1986), and as what pushes the communication forward (Firbas, 1964), or what is asserted rather than presupposed (Lambrecht, 1994). Rhematicity has to do with the dynamics of text structure or else of discourse representations or information states, depending on whether the analyst's perspective is textual or cognitivist. In section 2.1 the cognitivist perspective defended in Vallduví (1992a, 1994) is discussed and the concept of rhematicity explored further.

The second category denoted by the term focus is often found in research of a more formal semantic nature. From this perspective, focus is generally defined

as an operator-like element, whose exact semantic import varies from author to author, for example, exhaustiveness (Szabolsci, 1981; Svoboda and Materna, 1987), contrastiveness (Rooth, 1992), identificational operator (Horvath, 1986; Kiss, 1986). We will refer to this semantic category, which we will define further in section 2.2, as **kontrast.** The terminological choice wants to reflect the fact that the category we refer to is in spirit not unlike Rooth's focus, and the idiosyncratic spelling indicates that the term is not to be understood as covering all instances of what has been dubbed contrast in semantics, syntax, and phonology.

Rheme and kontrast have occasionally been discussed in the literature as separate categories, but in general there has been a tendency to unify them under one single concept. Most work in the semantic tradition has leaned toward assimilating the informational concept of rheme to a formally defined quantificational element (Jacobs, 1984; Krifka, 1991–1992). Problems and exceptions have been noticed, but left aside as "discourse quirks." In contrast, and not surprisingly, work in the pragmatic tradition has tried to dissolve the concept of kontrast into the informational rheme, giving whatever operator-like properties were observed the status of an epiphenomenon (as a conversational implicature, for instance [Horn, 1981; Vallduví, 1992a]). The facts discussed in the following sections, however, show that the wisest move is to maintain two distinct categories.

2.1. Rheme

The concept of rhematicity belongs to the domain of information packaging (Chafe, 1976; Vallduví, 1992a). Information packaging indicates how linguistically conveyed information is to be added to a (hearer's mental model of the) context or discourse, given the speaker's assumptions about it. From a dynamic perspective, contexts can be seen as information states and utterances as providing information updates (e.g., Veltman, 1990). Two utterances with identical propositional content may display different packagings if they update different information states. In fact, information states determine the felicity of particular types of packaging, the so-called packaging instructions. A packaging instruction consists of an element which corresponds to the actual update potential of the utterance—the rheme—and, optionally, of an element that spells out how the rheme is to be anchored to the input information state—the theme.

Consider the English paradigm in (1), from Vallduví and Engdahl (1996, p. 463) (R-labeled brackets delimit the rheme and capitals indicate an item associated with nuclear stress):

(1) a. What about the pipes? In what condition are they?
The pipes are [$_R$ RUSTY].
b. What about the pipes? What's wrong with them?
The pipes [$_R$ are RUSTY].

c. Why does the water from the tap come out brown?
[$_R$ The PIPES are rusty].
d. I have some rust remover. You have any rusty things?
[$_R$ The PIPES] are rusty.

The answers in (1) express one and the same propositional content, but realize different packaging instructions that are not interchangeable in context. The question that precedes each sentence is meant to approximate the (relevant) contents of the particular input information state that licenses the use of each instruction.

Let us take information states to be representations containing a set of discourse referents and a list of conditions or descriptions about these referents, reminiscent of the constructs in the Discourse Representation Theory (DRT) of Kamp and Reyle (1993) (see Heim, 1982, for a different theory along analogous lines). A given input information state S_1 models the hearer's knowledge and attentional state at the time of utterance (as hypothesized by the speaker): the set of discourse referents in S_1 is the set of those referents that are familiar (hearer known) at the time of utterance; conditions in S_1 record information about these referents that is available to the hearer at the time of utterance. Information packaging (rheme/theme) is concerned with how the information recorded in these conditions is updated.

We depart from standard DRT in allowing conditions to be underspecified (see e.g., Asher, 1993). Thus, an information state S_1 may contain conditions like (a) rusty(the pipes) but also like (b) λx.rusty(x) and (c) $\lambda P.P$(the pipes). If the hearer knows or believes (or so the speaker assumes) that the pipes are rusty, S_1 will contain (a). If the hearer knows or believes that perhaps something is rusty, but does not know what it is, S_1 will contain (b). Finally, if the hearer knows or believes that perhaps the pipes have some property that is relevant at the time of utterance, but does not know which property this is, S_1 will contain (c).

We can then say that, in order for (1d) to be felicitous, S_1 must contain, among other things, a condition like (b) λx.rusty(x); what sentence (1d) contributes is an instantiation, *the pipes,* of parameter x in condition (b). In contrast, for (1b), S_1 must contain a condition like (c) $\lambda P.P$(the pipes); the update potential of (1b) is realized through the rhematic *are rusty,* which instantiates P. It is these underspecified conditions in S_1 that the different contextualizing questions used in (1) make explicit. In each case, the theme indicates to what condition in S_1 the rheme is anchored. Rhematicity and thematicity, then, are relational notions. The update potential of (1d), for instance, does not lie in the denotational force of the rhematic NP per se (*the pipes* denotes a familiar entity), but rather in the fact that it instantiates an open parameter in condition (b) in S_1. The fact that each of the sentences in (1) has different rheme or theme partitions (i.e., different update potentials) implies that each of them requires a different information state as input. Nevertheless, all the sentences in (1) yield, ceteris paribus, the same information state as output: the output information state (S_2) for all the sentences in (1) contains condition (a) rusty(the pipes). This convergence to S_2 reflects the truth-conditional equivalence of (1a–d). The sentences in (1) differ informationally (they represent different update instructions), but not truth conditionally (see Vallduví, 1994, for details).

Rheme and theme are structurally realized in different ways in different languages. Languages may use syntactic, prosodic, or morphological strategies to realize informational categories. English, as is well known and as illustrated by the examples in (1), exploits intonation heavily: different rheme–theme partitions are associated with one constant syntactic structure but with different intonational contours. The intonation–packaging mapping is, very roughly, as follows: elements remaining within some prosodic domain associated with nuclear stress (following Steedman, 1991, a high tone pitch accent [H*]) are rhematic, whereas elements outside this prosodic domain are thematic. The projection of nuclear stress to create this prosodic domain ("focus projection") is found in many languages and is responsible, for instance, for the rhematic ambiguities in (1a,b) and (1c,d). There has been a great deal of work devoted to the characterization of what a possible prosodic domain for rhematic H* is, but the details need not detain us here (see Bresnan, 1971; Ladd, 1980; Culicover and Rochemont, 1983; Selkirk, 1984, among others, for details in the syntax–intonation interface in nuclear stress projection).[2]

Catalan, in contrast, exploits syntax rather than intonation: roughly, elements remaining within the sentential core (within IP) are interpreted as rhematic, whereas elements outside the sentential core (adjoined in clause-peripheral slots) are thematic. In Catalan intonational structure remains constant (H* is always located on the righthand core clause boundary), whereas several syntactic structures are associated with different rheme–theme partitions. The position of a constituent in the structure will vary according to its rhematic or thematic standing: within the sentential core if rhematic, in a clause peripheral slot if thematic.[3]

2.2. Kontrast

As noted above, we are using kontrast as a cover term for several operator-like interpretations of focus that one finds in the literature: identificational foci, exhaustiveness foci, contrastive foci, contrastive topics, and also interrogative wh-words, which have been seen as paradigmatic "foci" by many semanticists and syntacticians (see Erteschik-Shir, 1986, for discussion). As such, our definition of kontrast will have to remain fairly underspecified.

The basic idea behind the notion of kontrast is the following: if an expression a is kontrastive, a **membership set M** = {. . . ,a, . . .} is generated and becomes available to semantic computation as some sort of quantificational domain. We are roughly adopting the basic semantic import of "focus" in alternative seman-

tics (Rooth, 1985, 1992): a set of alternatives for the focused constituent is generated as an additional denotation. M is a set of objects matching **a** in semantic type. Furthermore, the members of M have to be "comparable" to **a** (Krifka, 1991–1992: 19). The limitation to comparable objects is meant to capture ontological and contextual restrictions. Take, for example, sentence (2) from Rooth (1985: 11), where *Bill* is kontrastive ("focus"):

(2) John introduced BILL to Sue.

Kontrast generates a membership set M = {Bill, Carl, Mark}. The exact membership of M is determined both ontologically and contextually. In the case of (2), for instance, only individuals that had dinner at John's the other night are comparable to Bill (e.g., if the topic of conversation is restricted to this set of individuals).

The semantic availability of M = {. . . ,a, . . .} for a given kontrastive expression a allows us to derive alternatives for a proposition P(a) by substituting other members of M for **a** in P(a). In the case of (2) we obtain alternatives to introduce(john,bill,sue) by substituting *Carl* and *Mark* for the kontrastive *Bill*. The effect of kontrast in examples like (2) is merely "identificational": Rooth (1985) paraphrases it as follows: if a proposition of the form "John introduced *x* to Sue" is true, then "John introduced Bill to Sue" is true. Let us informally define it as in (3):

(3) Identificational kontrast: if M = {a,b,c} and P($x \in$ M), then P(a).

Just as in Rooth's work, we assume it is M that operators like *only* utilize to express their meaning. *John only introduced BILL to Sue* means that if a proposition of the form "John introduced *x* to Sue" (where *x* is a member of M) is true, then it is "John introduced Bill to Sue" and no other. Kontrast on *Bill* generates M and M, in turn, gives rise to alternative propositions, while *only* provides the exhaustiveness. Operators like *only* crucially depend on the existence of a kontrast to be able to express their meaning.

Some authors (e.g., Svoboda and Materna, 1987), argue that the identificational effect of kontrast does not exist. Rather, kontrast is inherently exhaustive (no need for an overt operator like *only*). If this perspective were correct, the effect introduced by a kontrastive element could be described as in (3′):

(3′) Exhaustiveness kontrast: if M = {a,b,c} and P($x \in$ M), then $\neg$(P(($y \in$ M) $\neq$ a)).

According to (3′), sentence (2) above inherently means that John introduced no one other than Bill (among the members of M) to Sue. Horn (1981) and Vallduví (1992a) argue that this view is too extreme and that the exhaustiveness feeling exuded by sentences like (2) is better analyzed as a conversational implicature of

the identificational effect. In any event, the boundary between identificational and exhaustive kontrast is often blurred, especially in the Hungarian literature.

The only clear structural correlate of kontrastiveness in English seems to be stress. Kontrasts are generally accentually prominent, like *Bill* in (2). Thus, Rooth (1985: 19) states that "a pitch accent is the phonological interpretation of the focus feature" and Krifka (1991–1992: 17) that "in phonology, the focus feature is spelled out by sentence accent." Nuclear stress also happens to be the structural correlate of rhematicity in English and other Germanic languages: an item within the rheme must be associated with a H* pitch accent. Most likely, the fact that both kontrast and rhematicity exploit pitch accent as a structural correlate in English has contributed to the blurring of the distinction between rheme and kontrast, although they are not by far the only interpretive categories to correlate with intonation. Illocution, referential status, global discourse structure, and even metalinguistic factors may be conveyed by means of intonation. In addition, whereas a rheme is always associated with an H* accent, kontrasts, as we will see next, may be associated with other types of suprasegmental prominence or even with no prominence whatsoever, especially when they co-occur with certain kontrast-sensitive operators (see Vallduví and Zacharski, 1994, for a discussion). Furthermore, as noted, rhematic accents give rise to structural ambiguities ("focus projection"), where a number of the constituents that dominate the accent can be interpreted as rhematic. Typical cases are VP and object NP on the one hand and IP (sentence) and subject NP on the other. Kontrastive accents, in contrast, seldom project to VP or IP; they are most often associated with "narrow foci."

Kontrastiveness as defined here is orthogonal to informational rhematicity and thematicity. A kontrast may indeed be coextensive with a sentential rheme, in which case, of course, a given expression is doubly "focal" in the sense of being rhematic and kontrastive. Alternatively, a kontrast can be coextensive with a substring of the rheme. Consider (4a) and (4b), the latter adapted from Nevalainen (1987, p. 148):

(4) a. What did you see?
I saw only [$_R$ the DOG].
b. Why are you so excited?
[$_R$ There's only a month till CHRISTMAS now].

In (4a) the object NP is rhematic in the context of the question it answers. Also, under the assumption that *only* requires a kontrast to associate with, *the dog* is a kontrast. Similarly, in (4b) *only* requires *a month* to be a kontrast. *A month,* however, is only a substring of the rheme, as indicated by the pertinent question contextualization, rather than a complete rheme. Note, in addition, that *a month* is unaccented here. Unless a distinction between kontrast and rheme is made, examples like (4b) can be accounted for only if one allows for the possibility of having foci-within-foci (e.g., Krifka, 1991–1992).

The distinction between kontrast and rheme is also helpful in putting an end to a well-known dilemma concerning interrogative wh-expressions. As noted above, interrogative wh-expressions have been identified by many as paradigmatic examples of "focus" (see Horvath, 1986; Rochemont, 1986; Puskás, 1992). The arguments are both empirical and conceptual. On the one hand, in Hungarian, for example, interrogative wh-expressions and "foci" appear to have the same structural realization. On the other, it is well known that the "focus" of an answer generally instantiates the wh-expression of the corresponding question. Other authors, however, have made the empirical observation that in wh-questions the wh-word is not identical to the structural rheme (e.g., Wunderlich, 1981; Erteschik-Shir, 1986; Prince, 1986:215). In English, for example, the wh-word in wh-questions is not associated with nuclear stress, a fact that would distinguish wh-rhemes from all other rhemes (Rochemont, 1986:37). We would agree with the claim that interrogative wh-words are generally *part of* the structural rheme in a wh-question, but it is clear that they do not necessarily make up the rheme by themselves (see also Kuno, 1982).

If wh-words are taken to be rhemes, then this empirical observation requires explanation. Our claim is that interrogative wh-words can be called "foci" insofar as they are kontrasts, not rhemes. Interrogative wh-words are naturally treated as kontrasts because they generate a "wh-set," a domain over which they "quantify," which is analogous to our membership set M. We believe this is the intuition researchers have aimed to capture in stating that interrogative wh-phrases are "foci." In fact, Rooth (1992) extends his theory of "focus" to cover question–answer pairs, too, given the parallelism between his set-of-alternatives denotation and the wh-set. The semantic value of a question, *Who did John introduce to Sue?* can be seen as a set of propositions that arises from the different potential instantiations of the wh-phrase. The potential instantiations of the wh-phrase come from the restricted wh-set M introduced by the wh-phrase. Let us informally represent the effect of interrogative kontrast as in (5):

(5) Interrogative kontrast: if M = {a,b,c} and P($x \in$ M), then ?x P(x).

The description in (5) simply states that the potential instantiation of x in P(x) must come from M. The answer to the question sketched out in (5) will identify which member of M, if any, has property P.

The wh-phrase in a wh-questions, then, should be treated as a kontrast and not as a rheme. Thus, canonical wh-questions are parallel to configurations like (4b), where the wh-phrase is a kontrast within a larger rheme. This would explain, for instance, the accentual properties of wh-questions in English. However, some wh-questions are parallel to (4a) instead, in that the wh-phrase is coextensive with the rheme (see Wunderlich, 1981; Vallduví, 1992a:102). In this case, the wh-word is associated with nuclear stress.

The orthogonality of kontrast and rheme is further shown by the fact that kontrasts may be thematic as well. In fact, there is a well-defined type of kontrast that is by definition thematic: "contrastive topics" (Szabolcsi, 1981; Gundel, 1989). "Contrastive topics" have given rise to a great deal of discussion. Given their kontrastive nature, they are often called *foci* or *new* despite being thematic. Carlson (1983), for instance, calls them new/old rather than simply old, and Rooth (1992) consistently treats them as foci. But in what sense are they focal? Our claim is that since they are, by definition, thematic, they cannot be rhematic, but they can indeed be kontrastive. Thematic kontrast, just as any other kontrast, introduces a set M = {. . . ,a, . . .}. The interpretive effect obtained is that if property P holds of **a,** then other properties P′ hold of the other members of M. This interpretive effect, adapting a definition in Ronat (1979:121), can be described as in (6):

(6) Thematic kontrast: if M = {a,b,c} and P(a), then P′($(y \in$ M) $\neq$ a).

Thematic kontrasts are associated in English with a syntactic configuration, topicalization, and/or an intonational marking, a complex fall-rise L+H* pitch accent. Consider (7a) and (7b), where the kontrasts are associated with both a topicalization slot and an L+H* accent (thematic kontrasts are written in boldface):

(7) a. **The first 100 meters** she ran [$_R$ in a record TIME].
b. **Beer** I [$_R$ LIKE].
c. [$_R$ BEER] I like.

The kontrastive nature of *the first 100 meters* and *beer* implies that membership sets play a role in their interpretation. Indeed, in (7a) the kontrastive element denotes a member of the set of parts of a track race. A natural follow-up would be, for example, a statement about the racer slowing down later in the race. In (7b) the kontrastive element denotes a member of, for example, the set of alcoholic drinks. The sentence could be followed up by something like *but whisky I hate.*[4]

The examples in (7) also illustrate a formal property of sentences that contain "contrastive topics" realized by means of accent. Given that all sentences have a rheme and that rhemes are always associated with a high tone accent, strings with an accented "contrastive topic" have two points of perceived prominence: one on the rheme and one on the thematic kontrast. Thus, (7b) contains both the fall–rise accent associated with the kontrast *beer* and the high tone (followed by a falling boundary tone) of the rheme *like*: the "suspension-bridge contour" of Bolinger (1961). Compare (7b) to (7c), where *beer* is a rheme (depending on the intended meaning, perhaps a kontrast too) as in a reply to *What drinks do you like?* In (7c) only *beer* is associated with prominence; the postrhematic segment of the sentence lacks any prominence. This pattern of double/single accent can be used as an operational test to tell rheme from thematic kontrast if the qualitative difference between thematic and rhematic accents in English cannot be used.[5]

The independence of kontrast and information structure becomes manifest when we consider the distribution of *only. Only* is known to be a "focus-sensitive"

particle (see e.g., Rooth, 1985). From the point of view adopted here, "focus sensitivity" has to mean kontrast sensitivity: the need to associate with a kontrast, rather than a rheme. This proves to be empirically correct. Vallduví (1992a) and Vallduví and Zacharski (1994) contain a number of examples of English *only* and its Catalan analog *només* in association with thematic elements. Furthermore, in Japanese, *dake* 'only' can associate with *wa*-marked phrases as much as it can with other phrases. *Wa-* is an uncontested marker of thematicity in Japanese (Kuno, 1972):

(8) a. *John-dake-ga ie-ni kaetta.*
John-only-*nom* home-to returned
'Only John went home.'
b. John-*dake-wa ie-ni kaetta.*
John-only-*top* home-to returned
'Only John went home.'

Both sentences have the same propositional content, as indicated by the translations, although, as expected, the type of "contrastive interpretation" they are associated with is different: (8a) simply entails that no one but John (out of the relevant set M = {. . . ,John, . . .}) went home, whereas (8b) implies in addition that other members of M (perhaps along with John) had gone somewhere else or had done something else. If "focus sensitivity" is interpreted as kontrast sensitivity, the existence of (8b) is unproblematic; if the distinction between the two types of "focus" is not made, (8b) remains a puzzle.

2.3. Empirical Motivation

The previous sections provide conceptual and empirical motivation for the distinction between rheme and kontrast and argue against merging the two concepts into one sole notion of "focus," whether semantically or pragmatically defined. Admittedly, the empirical motivation that comes from English has to be pieced together carefully and appears to be, to many people's eyes, too fragile to warrant the unparsimonious move argued for here. Sections 4 and 5 discuss Finnish and Hungarian data that lend strong empirical support to the conceptual distinction between rheme and kontrast. Section 5 will then show that the distinction can be argued to be present even in a language like Catalan, where there is plenty of syntactic evidence for the category rheme but, as a matter of fact, very little for the category kontrast. In this light, the proposal that the distinction is universal and, therefore, applicable to English too appears as the strongest hypothesis. If we divide "foci" into rhemes and kontrasts (recall they are orthogonal and, therefore, not exclusive) and bear the distinction in mind in dealing with the "focus" literature for English and other languages, many of the problems and controversies that exist vanish ipso facto. Interestingly, the distinction between rheme and kontrast has been drawn independently in Kiss (1996) roughly at the same time. Kiss establishes the distinction clearly for Hungarian and discusses data from a number of other languages. We take this coincidence to mean that our proposal is on the right track.

In the discussion below a feature-like abbreviated notation[9] will be used. We use feature [K] to describe the semantic import of kontrast. Kontrasts are [K:+] and nonkontrastive elements are [K:−]. Analogously, rhemes are [Rh:+] and themes are [Rh:−]. A given constituent can be [K:+;Rh:+] (example (4a) above), [K:+;Rh:−] (a "contrastive topic"), [K:−;Rh:+] and [K:−;Rh:−] (nonkontrastive rhemes and themes, respectively). It should be noted that this notation is adopted merely for ease of exposition; preference for no particular formalism is implied. Also, the features notate semantic categories rather than syntactic correlates of these semantic categories. Needless to say, the fact that the discussion in the following sections focuses on kontrast and rhematicity should not be taken to imply that these are the only interpretive categories that matter in the languages described.

3. FINNISH: KONTRAST OVER THEME/RHEME

In traditional Finnish linguistics "contrast" as a semantic category has long been recognized to have important syntactic effects (see Karttunen and Kay, 1985; Vilkuna, 1989). Vilkuna (1995), for instance posits a specific syntactic position for "contrastive" expressions, which in current syntactic terms, could be identified with a slot in the complementizer phrase (CP) domain. At the same time, Vilkuna states that noncontrastive "main news" is introduced late in the sentence (below I′) and that "topics" are introduced in a position below the CP domain but above "main news." Holmberg (1994) translates this into a claim that "focus" in Finnish is syntactically realized inside VP and "nonfocus" in a slot immediately above VP. Holmberg, not surprisingly, also remarks that a subtype of "foci," namely "contrastive foci," are realized instead in a designated lefthand or sentence-initial "focus" position (Vilkuna's slot in the CP domain). Both the "contrastive" lefthand slot and the "foci" in I′/VP are associated with a single high tone accent.

It is obvious from Holmberg's and Vilkuna's discussion that their "focus" and "main news" notions are informational in nature: they correspond to a rheme. So, at first blush, Finnish and Catalan are similar in that rhemes are realized within a core part of the sentence (lowest IP in Catalan, I′/VP in Finnish), whereas themes appear in a structurally higher position. The only difference is that Finnish allows for a class of rhemes, namely "contrastive" rhemes, to appear in a specific lefthand slot within the CP domain.

Is the Finnish notion of "contrast" equivalent to what we have being calling kontrast here? The answer is yes. Finnish contrastive expressions can be rhematic, as in Holmberg's description, but they can also be thematic. Vilkuna (1995), adopting Carlson's (1983) terminology, states that two different patterns can be called "contrast": new/old expressions and old/new expressions. Both occupy the designated "contrast" slot in the CP domain. New/old expressions, as noted in section 2.2, are equivalent to contrastive topics ([K:+;Rh:−]); Vilkuna (1995: 249) paraphrases the interpretation a new/old expression denoting **a** gives rise to as "predicate P holds of **a,** and I am not saying anything about **b** and **c,**" which is a weaker version of the definition of thematic kontrast given in (6). Old/new expressions are [K:+;Rh:+]: they are rhematic but have an additional interpretive force that Vilkuna paraphrases as "predicate P holds of **a,** not of **b** and **c,**" which is identical to the exhaustiveness kontrast definition in (3′). It is clear, then, that the semantic category associated in Finnish with the CP domain is kontrast, regardless of whether the kontrastive element is rhematic or thematic.

Nonkontrastive expressions, on the other hand, cannot appear in the CP domain. [K:−;Rh:+] expressions, following Holmberg, appear within the VP and [K:−;Rh:−] expressions appear outside both VP and the CP domain. Vilkuna argues that the slot the latter (i.e., nonkontrastive themes) are realized in is above VP and below C and settles on the specifier of IP. Vilkuna calls the specifier of IP the T-field, I′/VP the V-field, and C and the specifier of CP the K-field. Putting together Vilkuna's (1995) terminology and our feature notation, the situation in Finnish can be summarized as in (9). We will illustrate the distribution in (9) with variants of the canonical sentence in (10):[6]

(9) K-field: [K:+] T-field: [K:$_1$;Rh$_2$] V-field: [Rh:+]
[CP [IP [I′/VP]]]

(10) *Anna sai kukkia.*
'Anna got flowers.'

Let us consider a run-of-the-mill context in which *kukkia* is rhematic; for instance, a context in which a querier wants to know about the presents Anna got for her birthday:

(11) What things did Anna get for her birthday?
Anna sai [$_R$ *KUKKIA.*]

The canonical answer to this question would be as in (11), with the rhematic *kukkia* in its in situ position inside the VP. However, if the answer is meant to be exhaustive, for example, *kukkia* is then kontrastive in addition to rhematic, because it generates the set M of objects comparable to flowers, which provides the domain for exhaustiveness to quantify over (see Vilkuna, 1989, 1995, for details on the interpretation of sentences with kontrastive rhemes). This additional interpretive demand triggers the use of an alternative structural configuration where *kukkia* appears in the K-field:

(12) What is it that Anna got for her birthday?
[$_R$ *KUKKIA*] *Anna sai.*

Kukkia is rhematic in both (11) and (12), yet its structural position is not the same. Since *kukkia* is nonkontrastive in (11) but kontrastive in (12), we must conclude that the structural position of *kukkia* is determined by kontrast rather than rhematicity. In addition, as pointed out by Vilkuna (1995, p. 265), whereas K-field rhemes are typically "narrow," V-field rhemes give rise to projection ambiguities. As noted in section 2.2., the lack of ambiguity is typical of kontrastive rhemes.

The determining correlation between kontrast and the K-field is confirmed by the structural properties of kontrastive themes. Kontrastive themes do not behave like regular themes, but rather appear in the K-field. Thus, kontrasts appear in the K-field, whether they are rhematic or thematic. A context in which *kukkia* is a thematic kontrast is, for instance, a state of affairs in which a querier is confused about the decorations (flowers, balloons, and so on) for the party that Anna is organizing. The querier knows that Anna got some of the decorations for free and that others she had to buy. The querier may then ask:

(13) What about flowers? Did Anna have to buy some or did she get them for free?
Kukkia Anna [$_R$ SAI.]

In this context *sai* 'got' is the rheme. The querier's input information state contains a record of Anna's standing in some relationship with flowers, but the predicate linking the two arguments is uninstantiated ($\lambda P.P$(anna,flowers)). The answer in (13) indicates that *sai* instantiates the predicate variable, thus updating the querier's information state. *Kukkia* 'flowers' is a "contrastive topic": kontrast generates the set M = {flowers,balloons}, and there is a contrast between flowers having been gotten for free and the balloons having been purchased: if P(flowers), then P′(balloons). A natural English expansion of (13) in context would be *Flowers she got (for free) but balloons she had to buy.* Also, just as in English, (12) contains only one perceived intonational peak (the rhematic *kukkia*), whereas (13) contains two perceived peaks (the thematic kontrast *kukkia* and the rhematic *sai*). Unlike English, though, there is no qualitative difference between rhematic and thematic accents.

That the position of the rhematic *kukkia* in (12) and the thematic *kukkia* in (13) is the same is amply demonstrated in Vilkuna (1995). Rhematicity or thematicity, then, are not sufficient properties, let alone necessary ones, for an expression to appear in the K-field. The presence of *kukkia* in the K-field in (12) and (13) is licensed by the fact that the phrase is kontrastive in both cases, regardless of its informational nature. Only if a given expression is [K:−] does information pack-

aging play a determining role in its structural realization (V-field versus T-field). Finnish syntax provides solid motivation for the distinction between kontrast and rhematicity.

4. HUNGARIAN: NO STRUCTURAL CORRELATE OF RHEME?

There is abundant literature on the syntax and semantics of focus in Hungarian: Kiss (1981, 1986, 1991), Szabolcsi (1981, 1983, 1986), Farkas (1986), Horvath (1986), Komlósy (1986), Brody (1990), Puskás (1992), inter alia. According to the standard analysis, focus in Hungarian is necessarily associated with a particular overt syntactic configuration. Namely, foci appear in the focus position (FP), a slot which is left-adjacent to the verbal string and which receives nuclear stress (if lexically filled). As a consequence, Hungarian has often been heralded as the prototypical example of a language with syntactically realized *focushood*.

But, what does focushood mean here? Does it refer to rhematicity or to kontrast? Most well-known descriptions of focus in Hungarian emphasize the quantificational character of this category, either as an identificational operator (Horvath, 1986; Szabolcsi, 1986; Kiss, 1991) or as an exhaustiveness operator (Szabolcsi, 1981; Svoboda and Materna, 1987). Hungarian focus is then a nuclear example of kontrast and, therefore, placement in FP, putative structural correlate of focushood, is in fact the structural correlate of kontrast. Horvath (1986, p. 102) and Puskás (1992), among others, argue that FP is also the structural slot for interrogative wh-words. Given that interrogative wh-words are kontrasts, the association of FP and kontrast is further corfirmed.

Because focus, as described in most of the Hungarian literature, is in fact kontrast and the expressions that appear in FP are actually kontrasts, the question that arises next is whether Hungarian lacks a structural correlate of rhematicity. The answer seems to be no, it does not. A sentence like (14) is a felicitous answer to either *What did Peter do?* or *Where did Peter put the book?* This identifies both the VP and the object NP as potential rhemes:

(14) *Péter* [$_R$ *letette a könyvet* [$_R$ *a POLCRA.*]]
Peter down-put the book the shelf-on
'Peter put down the book on the shelf.'

Neither the VP nor the object NP, however, appear in FP, but rather in their canonical slots within the clause. In fact, (14) is a canonical sentence. In Hungarian, (nonkontrastive) rhemes appear in their canonical slots, with nuclear stress, just as they do in English and Finnish. Therefore, although it is true that rhemes in Hungarian are not associated with a *marked* syntactic configuration, it would be wrong to claim that rhematicity has no syntactic correlate in this language: rhemes appear in an unmarked syntactic position, perhaps within I′/VP (cf. Finnish) or perhaps within IP (cf. Catalan). The fact that rhematicity is associated with an unmarked syntactic configuration is probably the reason there is no discussion of this sentence type in the Hungarian focus literature, which has zeroed in on the marked configuration associated with kontrast.

The rhematic object NP in (the pertinent reading of) sentence (14) above is not endowed with any identificational or exhaustive quantificational force. It simply provides an information update to an input information state that contains a condition of type λx.put-down(peter,book,x) (modeled by *Where did Peter put the book?*). However, if identificational or exhaustive meaning is expressed, the object *a polcra* 'on the shelf,' does not appear in its canonical position but rather in FP, which is the slot associated with kontrast:

(15) *Péter* [$_R$ *a POLCRA*] *tette le a könyvet.*
Peter the shelf-on put-down the book
'It is the shelf that Peter put the book down on.'

In (15) the object NP *a polcra* is not only rhematic, since it also answers the question *Where did Peter put the book?*, but also kontrastive, giving rise to the understanding that Peter put down the book on the shelf and nowhere else. As a matter of fact, a query like *Where did Peter put the book?* favors (15) over (14), since we would normally use it to find out what the location of the book is. But we can also picture a scenario in which the book is stained with grease and the querier wants to find out how the grease got to the book by means of this query. In this context the answer is not identificational or exhaustive, since the querier could have gotten a list of locations where the book was left as an answer, and answer (14) is more natural. Notice also that, although (14) is rhematically ambiguous, (15) is not. As is generally the case with rhemes, the clause-final pitch accent in (14) identifies both the VP and the object NP as potential rhemes ("broad" and "narrow," respectively), whereas in (15) only the kontrastive NP in FP is interpreted as rhematic.

The fact that rhemes appear in canonical positions whereas kontrasts appear in a marked FP slot gives rise to an interesting intonational contrast. Kontrastive expressions are not the only ones to sit to the left of the verb. Incorporated objects and a certain class of particles do so, too. Compare (16a), where the object *almát* 'apples' is syntactically incorporated into the verbal structure (giving rise to an interpretation with a complex predicator "apple-eating"), to (16b), where *Jánost* 'John' is a run-of-the-mill object NP (examples from Komlósy, 1986:218):

(16) a. *Mari ALMÁT eszik a kertben.*
Mari apple eats the garden-in
'Mary eats apples in the garden.'
b. *Mari JÁNOST látta a kertben.*
Mary Janos saw the garden-in
'Mary saw John in the garden.'

Incorporated objects must appear preverbally across the board, whereas prototypical objects appear in FP only if they are kontrastive. Thus, whereas (16b) is a marked configuration where *Jánost* appears in a marked slot, (16a) is a canonical sentence where *almát* appears in its canonical slot. Although *Jánost* is necessarily a kontrastive rheme, *almát* can be a plain rheme free of any identificational/exhaustive meaning. As in the case of the canonical sentence (14) above, (16a) is rhematically ambiguous due to the "projection" of the accent: it can be an answer to *What does Mary eat in the garden?* (rheme: *almát*), *What does Mary do in the garden?* (rheme: *almát eszik*), and *What does Mary do?* (rheme: *almát eszik a kertben*). Sentence (16b), in contrast, allows only the reading where the rheme is exclusively *Jánost,* the kontrastive NP in FP:

(17) a. *Mari* [$_R$ [$_R$ [$_R$ *ALMÁT*] *eszik*] *a kertben.*]
b. *Mari* [$_R$ *JÁNOST*] *látta a kertben.*

These facts, as noted above, are expected. The realization of rhematicity across languages gives rise to "projection" ambiguities of the type in (17a). This is generally not so with kontrast.[7]

In sum, the realization of rhematicity in Hungarian is as follows: rheme remains in its canonical slot—let us label this slot IP/VP—if they are nonkontrastive ([K:−;Rh:+]). If it is kontrastive ([K:+;Rh:+]), it appears in FP, a marked preverbal slot. So far, the picture drawn for Hungarian is not unlike the situation in Finnish, where kontrastive rhemes are associated with the K-field (a marked clause-initial slot) and nonkontrastive rhemes are associated with the V-field. The value of [K] is what appears to determine structural realization.

Hungarian and Finnish, however, differ in the way the realization of kontrast interacts with the realization of thematicity. We saw that Finnish themes appeared in the T-field if nonkontrastive ([K:−;Rh:−]) and in the K-field if kontrastive ([K:+;Rh:−]). In contrast, themes in Hungarian have one sole realization regardless of their [K] value. Whether they are kontrastive or nonkontrastive they appear in a clause-peripheral position, which we shall call TOP (Kiss, 1981; Szabolcsi, 1981). The fact that kontrastive themes and kontrastive rhemes do not have the same structural behavior in Hungarian has long been recognized. Szabolcsi (1981: 519), for instance, states that the locus of "focus contrast" (kontrastive rhemes) is FP, whereas the locus of "topic contrast" (kontrastive themes) is TOP (she uses F and T for FP and TOP, respectively).

Szabolcsi's definition of "topic contrast" is analogous to the definition of thematic kontrast in (6) and the Carlson-Vilkuna concept of new/old. Thus, the difference between Hungarian and Finnish is clear: in Finnish rhematic kontrasts (old/new) and thematic kontrasts (new/old) are expressed in the same way (K-field); in Hungarian, only rhematic kontrasts appear in FP, while thematic kontrasts appear in TOP, just like any other theme. Having the value [K:+] is not a sufficient condition for a phrase to appear in FP; it must be [Rh:+] in addition.

Hungarian, then, is like Finnish in that [Rh:+] phrases are associated with distinct structural realizations depending on their [K] value, but unlike Finnish in that [Rh:−] phrases are associated with the same syntactic realization no matter what their [K] value is:[8]

(18) [Rh:−]: TOP [XP [K:+;Rh:+]: FP [XP [K:−;Rh:+]: IP/ [IP/VP]]]

Only if a given expression is [Rh:+] does kontrast play a role in its syntactic realization (FP vs. VP). The Hungarian pattern of interaction, although different from the Finnish one, also provides evidence for the distinction between kontrast and rhematicity.

5. CATALAN: NO STRUCTURAL CORRELATE OF KONTRAST?

As noted in section 2.1, there is a straightforward mapping between Catalan surface syntax and information structure (neglecting here some complications in the interest of brevity). The feature [Rh] determines the position of the major categories. The value [+] entails IP-internal realization, whereas the value [−] entails clause-peripheral realization. Example (19) contains configurations where one or more of the verbal arguments are thematic (preceded by the relevant question or required condition in input information state). As illustrated in (19), adapted from Vallduví and Engdahl (1996:477), nuclear stress is always located on the righthand core clause boundary and thematic expressions appear in left- and right-peripheral slots in any order:[9]

(19) a. What did John do?
El Joan [$_R$ *va deixar una nota damunt la TAULA.*]
the Joan left a note on the table
'John left a note on the table.'
b. What did John do with the note?
El Joan [$_R$ *la va deixar damunt la TAULA,*] *la nota.*
La nota [$_R$ *la va deixar damunt la TAULA,*] *el Joan.*
c. What did John do (which involved the table)?
El Joan [$_R$ *hi va deixar la NOTA,*] *damunt la taula.*
Damunt la taula [$_R$ *hi va deixar la NOTA,*] *el Joan.*
d. What did John do with the note (which involved the table)?
El Joan [$_R$ *l'hi va DEIXAR,*] *la nota, damunt la taula.*
El Joan [$_R$ *l'hi va DEIXAR,*] *damunt la taula, la nota.*
La nota [$_R$ *l'hi va DEIXAR,*] *el Joan, damunt la taula.*

Let us call TOP, as in Hungarian, the clause-peripheral slots where themes appear, whatever their exact structural identity. Abstracting away from the effect of [K] in Finnish and Hungarian, the realization of information structure in Catalan in not unlike its realization in the other two languages: the rheme is realized in its canonical position in all three languages, whether the relevant domain is VP or IP, and the theme appears in marked peripheral positions, whatever their exact identity (T-field in Finnish, TOP in Hungarian and Catalan).

As shown in the previous sections, [K] plays an important role in Hungarian and Finnish, but Vallduví (1992a,b) argues that there is no structural motivation for a category "contrast" in Catalan, against the standard analysis of "focus-fronting" configurations like (20):

(20) [$_R$ *Un ROLEX*] *s'ha comprat el Jordi.*
a Rolex self.has bought the Jordi
'A ROLEX George bought himself.'

The standard analysis (e.g., Bonet and Solà, 1986), couched in transformational terms, views the rheme in (20) as a "contrastive focus" of quantificational nature (identificational or exhaustive), involving a fronting of the "focus" to a lefthand FP. This fronting is argued to be identical to interrogative wh-fronting; the FP, therefore, is presumably in the CP domain. Thus, according to the standard analysis, Catalan resembles Hungarian in that "foci" behave like interrogative wh-phrases in moving to FP. It is clear, then, that the term focus as used in the standard analysis of sentences like (20) is equivalent to a kontrastive rheme.

Of course, if the standard analysis were correct in that kontrastive rhemes appear in the CP domain, the generalization stated above that all rhemes in Catalan appear within IP would be flawed. However, Vallduví (1992b, 1995) argues at length that the standard analysis is in fact incorrect. The main argument against the standard analysis is that "focus-fronting" differs from wh-questions in that the latter require that the wh-word be left-adjacent to the verbal string, presumably because of V having raised to C, whereas the former is not subject to such requirement. This is illustrated in (21), from Vallduví (1995 : 131). The string wh-subject-verb in (21a) is ungrammatical: the wh-word and the verb must be adjacent, as in (21b). In contrast, an allegedly fronted kontrast can be followed by the subject without triggering ungrammaticality. Both subject–verb and verb–subject may follow the rheme, as shown in (21c,d):

(21) a. * *Què el Jordi s'ha comprat?*
what the Jordi self.has bought
'What has George bought himself?'
b. *Què s'ha comprat el Jordi?*
c. [$_R$ *UN ROLEX*] *el Jordi s'ha comprat.*
d. [$_R$ *UN ROLEX*] *s'ha comprat el Jordi*

If "focus-fronting" and wh-questions are supposed to be structurally identical, the fact that subject and verb in the former configuration are free to appear in any order is unexpected. In fact, it is not just subjects and verbs that may switch around: as shown in (23), any phrases appearing to the right of the "fronted" rheme are free to lie in any order. This is surprising, given that in Catalan canonical sentence order is quite strict, as seen in (22) (Vallduví, 1995, p. 132):

(22) a. *Portarem el nen a Disneyworld aquest estiu.*
we-will-take the kid to Disneyworld this summer
'We'll take the kid to Disneyworld this summer.'
b. **Portarem a Disneyworld el nen aquest estiu.*
c. **El nen portarem a Disneyworld aquest estiu.*

(23) a. [$_R$ *A DISNEYWORLD*] *portarem el nen aquest estiu.*
b. [$_R$ *A DISNEYWORLD*] *el nen portarem aquest estiu.*

The best way to interpret the data is to assume that "focus-fronting" is not a fronting operation of any sort, but rather a run-of-the-mill construction where the rheme appears within the core clause and thematic phrases appear in right-peripheral TOP slots. The examples in (20) and (23) are, then, structurally identical to (19d). In (20) *un Rolex* is not in the domain of CP, but rather in situ within IP and the thematic constituents appear in right-peripheral TOP. That is why in (20) the phrases to the right of the rheme display freedom of string order: they are not in situ but rather adjoined to the right-periphery of the clause, just as in (19d). The only difference is that in (19d) the (rhematic) verbal string is within IP and in (20) the (thematic) verbal string is in TOP.[10]

With the putative "focus-fronting" configuration out of the way, the generalization stated above (rhemes are within IP and themes appear in TOP) can be maintained. In addition, doing away with "focus-fronting" also eliminates the empirical motivation for kontrast in Catalan. Given that the adopted view in Vallduví (1992b, 1995) is that kontrast is an epiphenomenon, derivable from rhematicity and thematicity, the fact that Catalan displays, at first blush, no structural correlate of kontrast is welcome. In Catalan, then, it appears that [Rh:+] phrases are realized within IP and [Rh:−] phrases appear in TOP, regardless of the feature [K].

The goal of our chapter, though, is to show that kontrast and rhematicity are distinct categories that pertain to different interpretive domains and that natural language cannot dispense with either. If this is the case, the possibility that Catalan displays no structural manifestation of kontrast is surprising, albeit possible. However, the potential conflict between the basic tenet of this paper and Vallduví's analysis of configurations like (20) is only apparent. On closer inspection, one can argue that kontrast is indeed realized syntactically in Catalan, although such realization ends up being string vacuous and does not interfere with the realization of rheme and theme.

On quite independent grounds, Vallduví (1992c) argues on the basis of ample evidence that, in Catalan, interrogative wh-words appear not in the CP domain but rather in the specifier of IP (a position that is left-adjacent to the verb). The specifier of IP in Catalan is not the locus of nominative-case assignment but rather a slot specialized in hosting quantificational elements. In addition to interrogative wh-words, other quantifiers, most notably preverbal negative quantifiers, also appear in the specifier of IP, while nonquantificational elements (i.e., referential arguments and relativizing wh-words) are barred from this slot. Thus, nonquantificational preverbal subjects do not appear within IP but rather lie in a left-peripheral TOP slot.[12]

Interrogative wh-words are, as noted in 2.2, generally part of the rheme. As such, they should appear within IP and they do: their quantificational nature forces them to appear in the specifier of IP, but this slot is still within IP and so associated with rhematicity. The wh-word in the specifier of IP shares IP with the remaining rhematic phrases of the sentence (the rhematic accent appearing, as always, at the righthand clausal boundary), whereas thematic phrases appear in TOP:

(24) a. [$_R$ *On va ficar el LLIBRE,*] *la Maria?*
where put the book the Maria
'Where did Mary put the book?'
b. *La Maria* [$_R$ *on va ficar el LLIBRE?*]
c. [$_R$ *On el va FICAR,*] *la Maria, el llibre?*

The proposal that interrogative wh-words appear below C can be motivated in terms of linear order and other syntactic tests, but, as a side benefit, it yields a structural pattern that is in accordance with the overall realization of information structure in Catalan. It is not unreasonable to expect non-wh-kontrasts to share the structural realization of wh-words. Thus, we would expect non-wh-kontrasts to be able to appear in the specifier of IP as well. Let us assume, for the sake of argument, that *un Rolex* in (25), identical to (20) above, is, in addition to being the rheme, a kontrast, and that, in virtue of the analogy just drawn, it appears in the specifier of IP, like the interrogative wh-words in (24):

(25) [$_R$ *Un ROLEX*] *s'ha comprat el Jordi.*
a Rolex self.has bought the Jordi
'A ROLEX John bought himself.'

As noted above, though, there is one formal difference between configurations like (25) and wh-questions like (24): the fact that in the latter the verb must be right-adjacent to the wh-word.

If the rhematic kontrast in (25) is in specifier of IP, why does it not behave like the interrogative wh-word? The answer is the following. The interrogative kontrast in (24) is only part of the rheme of the sentence and as such must share IP with the remaining rhematic phrases, but the non-wh-kontrast in (25) is by itself the rheme of the sentence. The thematic phrases in (25), of course, do not appear

in IP but rather in TOP, to the right of IP; that is why they can be switched around. In configurations like (25), as a consequence of the structural effect of thematicity, it is impossible to determine where, within IP, the rhematic phrase is located; whether *un Rolex* appears in the specifier of IP (26a) or in situ within the VP (26b), the resulting string would be the same:

(26) a. [$_{IP}$ *un ROLEX*$_3$ [$_I$ t_1] [$_{VP}$ t_1 t_3 t_2]] *s'ha comprat*$_1$, *el Jordi*$_2$.
b. [$_{IP}$ [$_I$ t_1] [$_{VP}$ t_1 *un ROLEX* t_2]] *s'ha comprat*$_1$, *el Jordi*$_2$.

This predicts that strings like (25) may have an interpretation in which the rheme is kontrastive and an interpretation in which it is not. This is in fact true and is already pointed out in Vallduví (1992a, pp. 136–137), although, as noted, the existence of the kontrastive variant is viewed there as an epiphenomenal conversational implicature.

The preceding discussion shows that it is plausible that [K:+] rhemes in Catalan are associated with a particular structural correlate, although, unlike in Finnish, the realization of [K:+] does not cause any problems for the realization of [Rh:+], since both are structurally compatible. It was shown in section 3 that in Finnish the realization of [K:+] interferes with the realization of both rhematicity and thematicity: the default structural correlate of [Rh:+] (V-field) is incompatible with the default structural correlate of [K:+] (K-field). This is not the case in Catalan, because the default realization of kontrast (specifier of IP) is structurally compatible with the realization of rhematicity (IP).[12]

In Finnish, the realization of [K:+] interferes not only with the realization of rhematicity, but with the realization of [Rh: −] phrases as well: kontrastive themes do not appear in the T-field, which is where [K: −] themes are realized, but rather in the K-field, along with [Rh:+] kontrasts. In Catalan, in contrast, the structural correlates of kontrast and thematicity do not interact. In this respect, Catalan behaves like Hungarian. Themes appear in TOP regardless of whether they are kontrastive. Consider (27) and (28), adapted from Vallduví and Zacharski (1994:696):

(27) Who has been to the cities in Brazil?
a. [$_R$ *Només el JOAN,*] *hi ha estat.*
'Only JOHN has been there.'
b. *#Només el Joan* [$_R$ *hi ha ESTAT.*]
'Only John has BEEN there.'

(28) *El Joan i la Maria coneixen l'Amazones força bé,*
'John and Mary know the Amazon quite well,'
a. *però només el Joan* [$_R$ *ha estat a les ciutats del BRAZIL.*]
'but only John has been to the CITIES in Brazil.'
b. *#però* [$_R$ *només ha estat a les ciutats el JOAN,*]
'but only JOHN has been to the cities in Brazil.'
c. *#però* [$_R$ *només el JOAN,*] *ha estat a les ciutats del Brazil.*

Given the assumption that *only* is a kontrast-sensitive operator that necessarily associates with a kontrast, *el Joan* 'John' has to be a kontrast in each of the sentences in (27) and (28), where it appears in association with the Catalan analog of *only, només*. In (27), the context modeled by the question requires that *el Joan* be the rheme of the answer too. While (27a) is a felicitous answer because *el Joan* is properly realized as rhematic (within IP), (27b) is infelicitous because *el Joan* is realized as thematic (in TOP) and the verb, which should be thematic, is realized as rhematic. In (27), then, *el Joan* must be both a rheme and a kontrast and only answer (27a) meets both conditions. The context in (28), in contrast, makes the predicate in the second conjunct the rheme and, as such, it must appear within VP. However, in (28) *el Joan,* although still a kontrast associated with *només* 'only,' is thematic. In the second conjunct in (28) *el Joan* must necessarily appear in TOP, as in (28a). Trying to place *el Joan* within IP, as in (28b) or (28c), renders the sentence infelicitous. Thus, despite the fact that *el Joan* is a kontrast in both (27) and (28), there is no possible unified structural realization, because the fact that it is rhematic in the former and thematic in the latter determines how the phrase will be realized.

Summarizing, then: in Catalan, rhematicity and thematicity determine the position of the major constituents in the sentence, regardless of the [K] value of a given phrase. [K:+] phrases are associated with a specific structural correlate only when they are rhematic (specifier of IP), but such specific realization does not interfere with the across-the-board, homogeneous realization of rhematicity (within IP):

(29) [Rh:−]: TOP [K:+;Rh:+]: (Spec of IP) [K:−;Rh:+]: IP
[TOP [IP [Spec(IP)]]]

In Catalan the language-internal evidence for a category of kontrast is not very strong. The discussion has shown, though, that, even in the case of Catalan, there is room for a view of the world where kontrast and rhematicity coexist as separate categories.

6. DISCUSSION

As shown in section 2, there is sufficient conceptual motivation for a distinction between kontrast, a category pertaining to the domain of quantificational structure, and rhematicity, a category that belongs in the domain of information structure. Reference to a notion akin to kontrast abounds in the semantic literature and the concept of rhematicity, in one guise or another, has figured prominently in the pragmatics of at least the last two centuries. In spite of, or perhaps because of, their parallel presence in the quite unrelated semantics and pragmatics literatures, in recent years these two categories have, more often than not, been conflated under the unified label of focus.

The unifying analyses of focus, of course, are incapable of capturing the whole spectrum of phenomena associated with kontrast and rhematicity, but the attractiveness of their parsimony makes their shortcomings appear less important. Indeed, the unifying view is sometimes defended with Occam's razor, but often unifying analyses blatantly downplay or even ignore the particular conceptual and structural phenomena they are not interested in. In this respect, it is interesting to compare the lists of references in pragmatics-oriented and semantics-oriented works on focus and note how little, if at all, they overlap.

Another type of evidence that is neglected in many contributions comes from contrastive analysis of the realization of "focus" in different languages. The fact that in Germanic languages both rhematicity and kontrast are associated with a prosodic correlate does not warrant their conflation into one single interpretive category. A unified category focus is clearly inadequate for other natural languages anyway. Keeping kontrasts and rhemes distinct is not the most economic move, but offers a better account of the structure of a larger number of languages. Economy should not threaten empirical accuracy.

Analysis of the realization of so-called focus in Finnish and Hungarian supports the conceptual distinction between kontrast and rhematicity as interpretive categories. This chapter has shown that in order to carry out an accurate structural description of Finnish and Hungarian we need to resort to both kontrast and rhematicity. In Finnish, kontrast is the necessary condition for any phrase to appear in the K-field. Informational categories alone do not provide a satisfying description, because both thematic and rhematic phrases show up in the K-field. But rhematicity is needed to account for the distribution of nonkontrastive phrases (rhemes in V-field and themes in T-field). In Hungarian, the received wisdom is that focus as a unified category is what determines the presence of any given phrase in FP. But, as argued in section 4, and agreeing with the views of Kiss (1996), this cannot be right: kontrast and rhematicity behave in different ways in Hungarian syntax. Only phrases that are simultaneously kontrastive and rhematic appear in FP; [K:−] rhemes appear in their canonical position instead. [Rh], in turn, is a criterial feature in determining what phrases may appear in TOP: thematic phrases appear in TOP regardless of their [K] value. A unified focus does not suffice.

Catalan, in contrast, represents a language type where, at first blush, one may argue that only rhematicity is important: the rheme–theme distinction provides an accurate description of overt syntax. Under closer scrutiny, however, it is clear that the syntax of rheme and theme is compatible with a syntactic correlate of kontrast, at least in the case of rhematic kontrasts. If this is correct, then Catalan is like Hungarian in that kontrast surfaces syntactically only in the case of [Rh:+] phrases. In sum, [K] has obvious effects in two languages, and [Rh] has obvious

effects in a third language, but, on close inspection, both features affect the structure of all three languages. Crosslinguistic evidence, then, clearly argues against the conflation of kontrast and rhematicity.

The most striking difference in the realization of kontrast and rhematicity between these languages and English is in the structural component exploited. In Hungarian and Catalan, for instance, kontrast and rhematicity clearly exploit syntax, whereas in English they mainly exploit prosody. Sometimes prosodic nuances and distinctions are easier to miss, and this may have favored a unifying tendency in dealing with "focus" in English. But, much as it happens in Hungarian and Catalan, close inspection of the facts lends support to the view that both kontrast and rhematicity are needed to account for English structure. It is true, for instance, that "foci" in English are, more often than not, associated with intonational prominence. But consider sentence (30):

(30) **The flowers** I gave only [$_R$ to JOHN.]

Both the theme *the flowers* and the rheme *to John* are kontrastive (*only* associates with *to John*). But to say simply that *flowers* and *John* are prominent because they are "foci" is inaccurate: a unified focus category cannot account for the fact that the pitch accents that *flowers* and *John* are associated with differ. Even if both *flowers* and *John* are kontrasts, the interpretive category correlated with their prosodic properties is not kontrast but rather rhematicity: the L+H* accent on *flowers* is thematic and the H* accent on *John* is rhematic.

The general picture we envision is the following. The structural resources of natural language, of syntactic, prosodic, and morphological nature, are clearly limited. Interpretive categories, pertaining to different interpretive domains (argument structure, grammatical role, information structure, referential status, temporal/aspectual structure, quantificational relations, illocution, discourse/text relations) correlate with these structural resources to form meaning–structure pairs. But, given the scarcity of structural resources, the mapping cannot yield a neat one-to-one pattern. Conflicts arise when interpretative categories "compete" for the same structural resource.

Thus, it is natural to find that a single structural strategy is exploited by different interpretive categories or that one category interferes with the homogeneous across-the-board realization of the other. Not every interpretive category will be able to surface equally successfully in a given language. In Finnish, for instance, a conflict exists between the syntactic realization of kontrast and rhematicity: kontrast has paired up successfully with a single syntactic strategy (K-field) and, as a consequence, [Rh:+] and [Rh−] phrases are associated with two different strategies (K-field and V-field and K-field and T-field, respectively). In English (30), the opposite applies: kontrast correlates with two (prosodic) strategies because of the conflict with [Rh].

A methodological corollary of this perspective is that one should not attempt a description of the meaning–structure relations in one language by starting exclusively at one end of the pair. We should not take a structure *s*, (e.g., a high tone accent in English or the K-field in Finnish) and expect to obtain one straightforward semantics for *s* by simply looking at the interpretation it correlates with. It is likely that *s* correlates not with one interpretive category *i* but with two or more (resulting description will be too coarse) and also that *s* fails to realize *i* in some cases of *i* (i.e., when *i* has clashed with another category *j* in the struggle for structure *s*—the analysis will have missed many tokens of *i*).

Within the perspective just outlined, crosslinguistic variation results from different ways in which languages conventionalize the pairing up of interpretative categories and structural strategies. The clashes in the struggle for structural resources are resolved differently in different languages and each resolution is a potential language. Thus, information structure exploits syntax in Catalan but prosody in English, whereas kontrast exploits syntax in Finnish and prosody in English; or, for instance, kontrast "wins" over information structure in Finnish, but "loses" in Catalan. In this chapter we have discussed just two interpretive categories, kontrast and rhematicity, and we have already witnessed the effects of the competition for structure. The room for crosslinguistic variation is huge, as expected, since interpretive categories from all domains have to be brought into the picture as well.[13]

Here we have focused on the clashes between kontrast and rhematicity in a small number of languages and have shown how the clashes are resolved. Finnish displays a homogeneous, across-the-board realization of kontrast but not of rhematicity, and Catalan displays a homogeneous realization of rhematicity but not of kontrast. None of the languages discussed displays a simultaneous across-the-board realization of both kontrast and rhematicity (although such language can and should exist). This, we have argued, should not be taken to mean that one or the other category is not present in a given language or that the two categories can be conflated into one. What it shows, we believe, is that in natural language structure—syntax, prosody, and morphology—has its quantitative limits.

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NOTES

[1]The term *focus,* unfortunately, has several additional uses. It has been used as a purely phonological term to designate intonational prominence of any sort. It is also used, especially in computational and psycholinguistic treatments of reference, to denote discourse referents that are activated or salient (see Gundel, 1994; Vallduví and Zacharski, 1994; and Vallduví and Engdahl, 1996 for more on the meanings of focus).

[2]English has been claimed to also use syntactic strategies to realize the rheme–theme partition, namely, cleft sentences and the configuration called "focus-fronting," illustrated by example (7c) (cf. Prince, 1986). Although it is clear that there is a correlation between these constructions and rheme–theme, it also appears that clefts and focus-fronting have independent interpretive motivation (Vallduví, 1991). Their association with rheme–theme would then be epiphenomenal.

[3]Vallduví (1992a) posits a further distinction within the theme between "links" and "tails," which differ in the type of anchoring they effect. Vallduví and Engdahl (1996) discuss empirical motivation for the distinction from a number of languages. In Catalan, whereas links appear in the left-periphery of the clause, tails appear in the right-periphery. Since the distinction, although important, is only marginally relevant for the discussion in this chapter, we will gloss over it.

[4]Not all thematic phrases can be kontrasts. Only links can (see note 3). The structural correlates of thematic kontrast described here (topicalization and the L+H* accent) are, in fact, correlates of links, which are a superset of thematic kontrasts. Because this fact does not affect the line of argument here, we need not talk about linkhood here.

[5]The double/single accent pattern comes in very handy in languages like German. In German, the accent associated with kontrastive themes can be either a fall-rise like the English L+H* or a falling accent H*L. Rhemes, coincidentally, are marked by a falling H*L as well. When both kontrastive theme and rheme are associated with a H*L, the only way to tell the thematic H*L from the rhematic H*L is their distribution in the sentential contour (Vallduví and Engdahl, 1996).

[6]Vilkuna's (1995) account is presented in a simplified version. For instance, some thematic elements, akin to tails (note 3), may remain inert within the V-field and some [K:+] expressions may be realized in the V-field too. Also, Vilkuna (1989) treats kontrast as an information-packaging notion rather than a quantificational notion. See Välimaa-Blum (1988) and Vainikka (1989) for further details on the syntax and intonation of rheme, theme, and kontrast.

[7]There is a long-standing debate about the exact nature of FP in Hungarian: adjunction to V, specifier of VP, specifier of IP, adjunction to IP, the specifier of a Focus Phrase (see

references at the beginning of this section). Some proposals suggest that kontrasts and incorported objects occupy the same position, although others argue they do not.

[8] Szabolcsi (1981, p. 519) notes that kontrastive and nonkontrastive themes, both of which appear in TOP, differ prosodically. This detail has been ignored for lack of additional data, but if confirmed there would still be a structural distinction between [K:+] and [K:−] themes. Also, as in the case of Finnish, we have simplified our analysis of Hungarian somewhat. Not all thematic phrases appear in TOP; only those that are "topics" (i.e., links—see note 3).

[9] Not all order combinations of the thematic phrases are shown. As noted in note 3, the choice between left- and right-periphery has to do with whether the affected thematic element is a link or tail. Also, peripheral nonsubject arguments bind clitics that appear attached to the verb in IP.

[10] Positing that a tensed verb can appear in a clause-peripheral adjunction slot is unusual within certain syntactic frameworks. In fact, most frameworks give the tensed verbal string a sort of pivotal nature in the clause and, in fact, this is what motivates the different analyses for (19d) and (20). But (20) can be assimilated to (19d) once the belief in the pivotal nature of tensed verbs is forsaken. The revised analysis of (20) can be defended even within a transformational framework. See Vallduví (1992b) for additional arguments for this analysis. Also, at first blush one would expect the right-peripheral object *el nen* in (23) to bind a clitic attached to the verb *portarem*. The clitic, in fact, is optional. The optionality of the clitic is due to the fact that the hosting verb does not appear in I, but a full account of the facts would take us far beyond the scope of this chapter.

[11] The idea that Catalan and other Romance null-subject languages are verb-subject (VS) and do not require the existence of a preverbal subject slot is argued for in a number of works (see Adams, 1987; Contreras, 1991; Solà, 1992; Vallduví, 1993, inter alia).

[12] Given that, as noted, quantificational elements other than (interrogative and non-wh) kontrasts may appear in the specifier of IP, it remains to be seen whether this structural slot is in Catalan a correlate of kontrast or of a larger category like "quantificational operator" that encompasses kontrast. Vallduví (1992c) assumes the latter is the case.

[13] How the clashes between interpretative categories are resolved is an open question. One possibility is to propose that interpretive feature values are ranked in some hierarchy. Higher ranked values take priority over lower ranked values in the competition for structure. If a given phrase XP is associated with two values, say [Rh:−] and [K:+], it should ideally be associated with two distinct realizations, but given the scarcity of structure this is often not possible. In case of a clash, only the higher ranked value succeeds and the lower ranked value will remain unrealized or will be realized through some subsidiary means. This suggests, for instance, that in Catalan [Rh:−] is ranked higher than [K:+], whereas in Finnish [Rh:−] is ranked lower than [K:+].

FOCUS, THE FLOW OF INFORMATION, AND UNIVERSAL GRAMMAR

CRAIGE ROBERTS

Department of Linguistics
The Ohio State University
Columbus, Ohio

1. INTRODUCTION

A number of important issues in contemporary syntactic theory, including the syntactic status of notions like Focus and Topic, depend on the relationship between syntactic structures and various functional considerations which constrain the design of those structures. Apart from the presumably compositional conveyance of the literal (truth conditional) content of an utterance, many, if not all, of these functions appear to revolve around the way in which the flow of information in utterances is organized. And the latter in turn is apparently designed to respect the character and limits of human cognitive function, the way in which we optimally receive, process, and organize the information which is literally conveyed. For example, Focus is generally conceded to be a conventionally encoded way of picking out a distinguished constituent (or constituents) in a sentence, which constituent plays a special role with respect to the immediate discourse context of the utterance of that sentence. In the past decade, there has been a great deal of work in a broad range of languages on the role of Focus in the determination of everything from operator scope and anaphora to word order; Topic is said to play a similar type of functional role in discourse, and has also stimulated a good deal of syntactic speculation and analysis.[1]

With respect to Focus, two languages which are often compared are Hungarian and English. English, it is generally agreed, marks the Focus of an utterance pro-