

Basic Concepts in Information Structure: Topic, Focus, and Contrast

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1 Introduction

The term INFORMATION STRUCTURE has been defined in a wide variety of ways, partly because it covers a wide variety of linguistic phenomena. Let us begin with the following definition, from Matic' (2015: 95):

Information structure is a subfield of linguistic research dealing with the ways speakers encode instructions to the hearer on how to process the message relative to their temporary mental states.

In other words, when we study information structure we are looking at choices that the speaker makes in deciding how to express the message, or propositional content, he wishes to convey. These choices, which affect both grammatical and phonological structure, reflect the speaker's estimate about the hearer's current mental states (knowledge, awareness, etc.). The speaker chooses certain options rather than others in order to guide the hearer in processing the message correctly, e.g., to indicate which parts of the utterance are already known to the hearer and which parts represent new information.

The sentences in 1 illustrate some of the kinds of choices that may be available to the speaker. All of these sentences express the same basic proposition, and could be used to describe the same event; however, they would not all be appropriate in the same contexts. For example, 1e would be appropriate in a discussion of various writing systems and their origins, while 1f would be appropriate in a discussion of the origins of various items in Korean cultural history. (The accent marks in those two sentences are meant to indicate emphatic stress.)

- (1)
- a. King Seijong invented the Korean alphabet (*han'gul*) in 1446 AD.
 - b. The Korean alphabet (*han'gul*) was invented by King Seijong in 1446 AD.
 - c. It was King Seijong who invented the Korean alphabet (*han'gul*), in 1446 AD.
 - d. 1446 AD was the year in which King Seijong invented the Korean alphabet (*han'gul*).
 - e. As for the Koréan alphabet (*han'gul*), thát was invented by King Seijong in 1446 AD.
 - f. As for the Korean álphabet (*han'gul*), thát was invented by King Seijong in 1446 AD.
 - g. In 1446 AD, a king named Seijong invented an alphabet for the Korean language.

Of course, we could extend the list of sentence patterns in 1 to many dozens, perhaps hundreds, of variations. The point is that speakers have a wide range of options in deciding how to express a given proposition. They choose a particular form of expression based on what they assume about the hearer's current states of knowledge, awareness, interest, etc.

The term Information Structure is often used as a synonym for the term INFORMATION PACKAGING, which makes the contrast between information (propositional content) and "packaging" (syntactic and phonological properties) explicit. We begin this overview with a discussion of information packaging in section 2. This section also introduces the concepts of

Common Ground and Question under Discussion. Sections 3, 4, and 5 discuss the concepts of Focus, Topic, and Contrast respectively.

2 Information packaging

Chafe (1976: 28) used the term INFORMATION PACKAGING to refer to the kinds of choices reflected in 1: choices about the manner in which the information is expressed rather than about the content that is being communicated. These choices may include voice (active vs. passive, as in 1a-b); the forms of referring expressions (definite vs. indefinite, as in 1a,g, or NP vs. pronoun); intonation (1e-f); word order variation (1c-e); etc. Chafe said that the study of information packaging is concerned primarily with “ways in which a speaker accommodates his speech to temporary states of the addressee’s mind,” although he pointed out that the addressee’s long-term knowledge can sometimes be relevant as well. A similar view is expressed by Prince (1981a: 224):

[T]he crucial factor appears to be the tailoring of an utterance by a sender to meet the particular assumed needs of the intended receiver. That is, information packaging in natural language reflects the sender’s hypotheses about the receiver’s assumptions and beliefs and strategies.

Following Krifka (2007), we can think of communication as a process that modifies or updates the common ground. We will define the term COMMON GROUND informally as referring to everything that both the speaker and hearer know or believe, and know that they have in common. This shared body of knowledge and belief can be thought of as a set of propositions, and that is an important part of the common ground. But common ground also includes a shared awareness of certain individuals and entities. Sentence 1a, for example, seems to assume that both King Seijong and the Korean alphabet are already part of the common ground, while sentence 1g seems to assume that they are not.

Krifka speaks of information packaging as a way of “managing” the common ground. Most statements in a conversation will modify the content of the common ground by adding propositional content, introducing new participants, etc. At each turn in the conversation, the current speaker must “package” his contribution (based on the current state of the common ground) in such a way that it will be clear to the hearer what change to the common ground the current utterance is intended to make.

Not every portion of an utterance is necessarily intended to update the common ground (Tonhauser 2012). For example, the main point of the utterance in 2 is not that the speaker owns a dog, or that there is a man present at the time and place of the speech event. These things are represented as being true, but they are PRESUPPOSED, i.e., treated as if they are already part of the common ground. What is being added to the common ground in this utterance is the information that the man kicked the speaker’s dog.

(2) That man just kicked my dog!

One important function of information packaging is to indicate which part of an utterance corresponds to the change which the speaker intends to make to the common ground. For example, sentences 1c-d both express the same basic proposition, but they offer different updates to the common ground. In 1c the intended update is the identity of the inventor of the Korean alphabet, while the date of its invention is presupposed. In 1d the intended update is the date of invention, while the identity of the inventor of is presupposed.

Although sentences 1c-d express the same proposition, they seem to be answering different questions. Sentence 1c would be an appropriate answer to the question, *Who invented the Korean*

alphabet? Sentence 1d would be an appropriate answer to the question, *When did King Seijong invent the Korean alphabet?* In a conversation, most statements can be thought of as answering a question, whether that question has been explicitly asked or not. That question, which defines the current topic of conversation, is called the Question under Discussion (QUD).¹

While information packaging is primarily about the manner in which the information is expressed rather than about the propositional content, the linguistic cues involved can sometimes affect content as well. Some of the best-known examples involve intonation, and in particular a marked intonational peak on a particular word which is often referred to as FOCAL STRESS. Rooth (1996: 272) cites the following example, noting: “A bank clerk escorting a ballerina (in the Saint Petersburg of the relevant period) runs counter to the first generalization below [3a], but not the second [3b].” (Small caps are used here to represent focal stress.) In other words, the two sentences have different truth conditions, even though they differ only in intonation.

- (3) a. In Saint Petersburg, OFFICERS always escorted ballerinas.
b. In Saint Petersburg, officers always escorted BALLERINAS.

David Beaver (Beaver & Clark 2008) discusses the examples in 4. Once again, even though the two sentences differ only in intonation, they are clearly making very different claims about the world.

- (4) a. David only wears a bow tie when TEACHING.
b. David only wears a BOW TIE when teaching.

Krifka (2007) cites example 5 as another case where intonation affects content. Sentence 5a would be odd in most contexts, because it seems to say that it was fortunate that wine was spilt on the carpet. Sentence 5b says that it was fortunate that the wine which was spilt was white, rather than red.

- (5) a. Fortunately, Bill spilled white wine on the carpet.
b. Fortunately, Bill spilled WHITE wine on the carpet.

The change in stress placement in examples 3–5 affects the interpretation of the sentence because it indicates a shift in FOCUS. Focus is a very important aspect of information packaging, a critical part of the way speakers manage the common ground. As the examples in 3–5 show, focus can affect the truth conditions of an utterance; we return to this issue below. More often, however, what is at stake is not the truth conditions of the utterance but its appropriateness, as discussed in the following section.

3 Focus

We will follow Clopper & Tonhauser (2011) in defining the FOCUS of an utterance as “that part of the utterance that answers the Question under Discussion.” (This is essentially equivalent to saying that the focus is the part of the utterance which is intended to update the common ground.²) Thus it is not surprising that questions prove to be an important tool in identifying the focused constituent of an utterance.

¹ Ginzburg (1996), Roberts (1996/2012).

² Focus has sometimes been defined as the part of the sentence which is not presupposed. Lambrecht (1994: 213), for example, defines focus as “the semantic component of a ... proposition whereby the assertion differs from the presupposition.” A similar approach is adopted by Jackendoff (1972). But a sentence need not contain a presupposition trigger in order to have a focused element.

3.1 The question-answer congruence test

A question does not add information to the common ground, but it requests the addressee to do so. Most questions restrict or specify the kind of contribution that is required. The focus of a Wh-question like that in example 6 is indicated by the question word, in this case *where*. The addressee is requested to provide a very specific piece of information, namely the value of *x* in the proposition *you (addressee) are going to x*. The focus of the answer will be the information corresponding to the question word, in this case *to the market*, because this is the information that answers the Question under Discussion.

- (6) Q: Where are you going?
A: I'm going to the market.

The definition we have adopted implies that most utterances will have a focus, even where there is no overt focus marking (e.g. focal stress, special word order, focus particles, etc.). The answer in 6, for example, when spoken with normal statement intonation, contains no overt focus marking; but the focus of the sentence is *to the market*, because of the context in which it occurs.

In section 2 we presented several examples showing how intonation can be used to indicate focus. Sentences 7a-b illustrate another way in which focus can be marked. This sentence pattern is called a CLEFT; its function is to mark the focus of the sentence by placing it in a special position, right after the copular verb.

- (7) a. It was *King Seijong* who invented the Korean alphabet.
b. It was *the Korean alphabet* that King Seijong invented.

Sentences 7a-b express the same proposition and have the same truth conditions; it would be impossible for one to be true and the other false in the same situation. However, there is clearly some difference in meaning. As noted in section 2, one way to bring out the difference is to ask, “What question is being answered?” Sentence 7a seems to answer the question, *Who invented the Korean alphabet?* Sentence 7b seems to answer the question, *What did King Seijong invent?* So even though the two sentences would both be true in the same situations, they could not both be appropriately uttered in the same contexts.

This “question-answer congruence” test is a classic means of determining the focus of a sentence.³ The test is based on the fact that the focus of a content question must be the question word (*who, what, where, etc.*), while the focus of the answer to a content question will be the information corresponding to the question word. The question-answer congruence test tells us that the focus of 7a is *King Seijong*, because it corresponds to the question word *who*, while the focus of 7b is *the Korean alphabet*, because it corresponds to the question word *what*.

As we saw in section 2, intonational prominence (focal stress) can be used to mark focus even where there is no special word order. Once again, we can bring out the difference between the two sentences in 8 by asking, “What question is being answered?” Sentence 8a seems to answer the question, *What is John roasting?* Sentence 8b seems to answer the question, *What is John doing to the sago grubs?* We can demonstrate this by imagining mini-conversations like those in 9–10. The conversation in 9 seems perfectly normal, but the one in 10 is incoherent (i.e., the parts don't fit together or follow naturally). So the question-answer test confirms that the

³ Krifka (2007) seems to suggest that the question-answer congruence test goes back to Hermann Paul (1880). Paul does discuss (ch. 16) the various ways of expressing a proposition depending on what parts of it are already established or shared knowledge; but as far as I can see he does not explicitly state this in terms of answering questions.

focus of 8a is *the sago grubs*. We could use a similar dialogue to show that the focus of 8b is *roasting*.

- (8) a. John is roasting the SAGO GRUBS.
b. John is ROASTING the sago grubs.
- (9) Q: What is John roasting?
A: John is roasting the SAGO GRUBS.
- (10) Q: What is John roasting?
A: #John is ROASTING the sago grubs.

In the answer to a content question, the focus may be explicitly marked, but need not be; the context itself determines what is at issue. Example 11 lists a number of alternative ways of stating the answer in example 9. All of the possible answers listed could be acceptable, except A6–7 where the wrong constituent is marked as being in focus. (The clefted answer in A5 seems a bit odd because such heavy focus marking seems redundant here; but it is not unacceptable like A6.) In fact, the answer need not even be a complete sentence; only a single NP is needed (A4), because of the restricted nature of the context.

- (11) Q: What is John roasting?
A1: John is roasting the SAGO GRUBS.
A2: He's roasting the SAGO GRUBS.
A3: He's roasting the sago grubs.
A4: The sago grubs.
A5: ?It is the sago grubs that John is roasting.
A6: #It is John that is roasting the sago grubs.
A7: #John is ROASTING the sago grubs.

3.2 Three major focus patterns

The examples in 6, 7, and 8a involve focus on a single constituent (NP or PP) of the sentence, while example 8b involves focus on a single word. The term CONSTITUENT FOCUS is often used to indicate that the focus of an utterance consists of a single word or phrase.⁴

Lambrecht (1994) points out that it is common for the focus of an utterance to be larger than a single phrase. For example, the questions in 12 establish John as the current TOPIC of discussion. (We discuss the term TOPIC in section 4.) For that reason an appropriate answer to these questions will contribute information about John to the common ground; but the identity of John is assumed to already be part of the common ground. So the focus of the answer will be everything except the topic phrase; in other words, the whole VP *roasting the sago grubs*.

- (12) Q: What is John doing? or: Where is John?
A: He's roasting the sago grubs.

The answer in 12, in which the focus consists of everything except the topic phrase, illustrates a very common “topic-comment” type of sentence. Lambrecht (1994) refers to this pattern as PREDICATE FOCUS, because the “comment” part of the sentence often consists of the predicate (i.e., VP) of the clause. Lambrecht states that predicate focus is the default and most common

⁴ Lambrecht (1994) refers to this pattern as ARGUMENT FOCUS.

focus pattern in most if not all languages. For this reason, no overt focus marking (focal stress, special word order, focus particles, etc.) is generally needed or used to mark predicate focus.

The question in 13 does not establish any current topic of discussion. For that reason, the entire answer is intended as an update to the common ground; the focus of the answer corresponds to the entire sentence. Lambrecht refers to this pattern as SENTENCE FOCUS. He states that it is relatively infrequent in normal conversation, and so is not typically distinguished from predicate focus by any overt focus marking. The types of overt focus marking mentioned above (focal stress, particles, etc.) are typically reserved for constituent focus.

- (13) Q: What is going on out here?
A: John is roasting the sago grubs.

3.3 Association with focus

In section 2 we mentioned several examples of sentences whose truth conditions depend in part on focus placement, because of the special properties of the adverbs which they contain (*only*, *always*, and *fortunately*). It turns out that a great variety of linguistic expressions are “focus sensitive” in this way: their interpretation depends on which part of the sentence is in focus. In many cases this focus sensitivity contributes to acceptability or appropriateness, rather than truth conditions; but as we saw in examples 3–5, sometimes truth conditions are affected as well.

Beaver & Clark (2008) list a wide variety of expressions that have been described as focus sensitive, including: negation (14); additives (*even*, *also*, etc.) (15); exclusives (*only*, *just*, etc.) (4, repeated here as 16); quantificational adverbs (*always*, *usually*, *never*, etc.) (3, repeated here as 17); conditionals and counterfactuals (18); interrogative force (19); and a host of others.

- (14) a. John didn't give flowers to MARY.
b. John didn't give FLOWERS to Mary.
- (15) a. David even wears a bow tie when TEACHING.
b. David even wears a BOW TIE when teaching.
- (16) a. David only wears a bow tie when TEACHING.
b. David only wears a BOW TIE when teaching. [Beaver & Clark 2008]
- (17) a. In Saint Petersburg, OFFICERS always escorted ballerinas.
b. In Saint Petersburg, officers always escorted BALLERINAS.
- (18) a. If John had given FLOWERS to Mary, she would have been pleased.
b. If JOHN had given flowers to Mary, she would have been pleased.
- (19) a. Do you want your MOTHER to choose the music?
b. Do you want your mother to choose the MUSIC?
c. Do you WANT your mother to choose the music?

A detailed discussion of these issues is beyond the scope of the present paper. However, it is important to be aware of focus sensitivity, because it can provide an additional tool for diagnosing the focus structure of an utterance.

4 Topic

The TOPIC of an utterance is often defined informally as “what the utterance is about.” Lambrecht (1994: 150) defines the topic as “the already established ‘matter of current concern’ about which

new information is ADDED in an utterance.” The basic intuition here is that speakers package their contributions in such a way as to relate the at-issue information to what is already part of the common ground. Moreover, as Grice pointed out in his Maxim of Relevance/Relation, conversations tend to be organized around shared topics of interest. Strawson (1964: 92) expresses the point this way:

“We do not, except in social desperation, direct isolated and unconnected pieces of information at each other, but on the contrary intend in general to give or add information about what is a matter of standing or current interest ... [S]tatements in respect of their informativeness, are not generally self-sufficient units, free of any reliance upon what the audience is assumed to know or to assume already, but commonly depend for their effect upon knowledge assumed to be already in the audience’s possession.”

Our default expectation is that the topic of discussion will not change without some explicit signal to that effect. Once a topic is established in a conversation, it does not need to be marked in any special way in subsequent utterances about that same topic. Continuing topics are typically expressed by unstressed pronouns in English, as illustrated in 20; these unstressed pronouns are often phonologically reduced, like the *'em* (for *them*) in 21. (The unstressed topic pronouns in these examples are underlined.) In many languages continuing topics can be referred to by zero anaphora (pro-drop).

(20) Conversation from *A Christmas Carol*, by Charles Dickens (Scrooge sees a vision of people discussing him after he has died):

“I don’t know much about it, either way. I only know he’s dead.”

“When did he die?” inquired another.

“Last night, I believe.”

“Why, what was the matter with him?” asked a third, taking a vast quantity of snuff out of a very large snuff-box. “I thought he’d never die.”

“God knows,” said the first, with a yawn.

“What has he done with his money?” asked a red-faced gentleman ...

(21) A: I saw your nephews in town today.

B: I hope you offered 'em a ride.

Most languages have special constructions or particles to indicate a change in topic. Some English examples are presented in 22, with the topic phrase underlined.

- (22) a. As for Henry Ford, through ... his experimentation, ... he made a substantial contribution to the increased utilization of the soybean.⁵
 b. Henry Ford, now, he created a product people needed. I am not convinced Mr. Jobs is anywhere near the same category.⁶
 c. This man that I know, his wife won \$1 million in the lottery.

If the topic is, in Strawson’s words, “a matter of standing or current interest,” it must normally be part of the “knowledge assumed to be already in the audience’s possession,” i.e. the common ground. (In 22c, the topic phrase is not previously known to the hearer; this very specialized construction allows the speaker to simultaneously introduce a new referent into the common

⁵ Shurtleff, William & Akiko Aoyagi. 2011. *Henry Ford and his researchers—History of their work with soybeans, soyfoods and chemurgy (1928-2011)*. Soyinfo Center, p. 321.

⁶ <http://religion.blogs.cnn.com/2011/10/26/short-takes-are-we-turning-steve-jobs-into-a-saint/comment-page-26/>

ground and establish it as topic for what follows.) These considerations lead us to predict that a single constituent cannot be simultaneously topic and focus of the same sentence, because it cannot be both treated as part of the common ground and intended to update or modify the common ground at the same time. This prediction is confirmed by a wide range of cross-linguistic evidence.

In Mandarin Chinese, for example, the basic word order is SVO. The position before the subject is restricted to topics, like the initial topic NP in 23a. Question words can never occupy this position, as shown in 23b, because the question word must be the focus of the question. Since a focused element cannot be a topic, it cannot appear in the topic position.

- (23) a. *zhèi-ge zì wǒ bù rènshì.*
 this-CLASS character I not recognize
 ‘This character (i.e., word) I don’t recognize.’ (Li & Thompson 1976: 488)
- b. **shénme tā chī le?*
 what he eat PTCL
 *‘What he ate (it)?’ (Tan 1991: 179)

In Japanese, topics are marked by a special particle, *wa*. The topic marker appears most often on the subject of a clause, but can occur on other arguments as well. When the topic is the subject or object of the clause, the topic marker *wa* replaces the normal NOM or ACC case marker. This pattern is illustrated in 24, where the ACC case marker on the object is replaced by *wa* to indicate that it is the topic of the sentence. Neither a question word nor the focus of the answer to a question can be marked with *wa*, as illustrated in 25; these elements are always focused, so cannot function as topics.⁷

- (24) Sono hon=*wa* Taroo=*ga* yondeiru.
 that book=TOP Taroo=NOM reading
 ‘That book, Taroo is reading.’
- (25) Q: Dare={*ga*/**wa*} kimasita ka?
 who=NOM/*TOP came Q
 ‘Who came?’
- A: Taroo={*ga*/**wa*} kimasita.
 Taro=NOM/*TOP came
 ‘Taro came.’

The principle that a single constituent cannot be simultaneously topic and focus of the same sentence provides a useful method for distinguishing topic vs. focus markers and positions (Kroeger 2004: 161–163).

5 Contrast

Humpty Dumpty, after boasting to Alice that he can make words mean whatever he wants them to mean, continues as in 26:

⁷ The Japanese examples are from Kuno (1973). We are ignoring here the “contrastive topic” use of *wa*.

- (26) “They’ve a temper, some of them—particularly verbs: they’re the proudest—*adjectives you can do anything with, but not verbs ...*”⁸

In this statement Humpty Dumpty draws a contrast: he claims that a certain property (*you can do anything with them*) is true of certain members of a set (the adjectives), but false about other members of that same set (the verbs). The relevant set, implied but not explicitly mentioned, is the English parts of speech.

Neeleman et al. (2009) define CONTRAST as follows:

Constituents that are contrastive are understood to belong to a contextually given set out of which they are selected to the exclusion of at least some other members of the set. Both topics and foci can be interpreted contrastively.

There are two main parts to this definition. First, contrast involves selecting one candidate (or perhaps several candidates) from among a set of possible alternatives, e.g. asserting that a certain property holds for those candidates but not for other members of the set. Sometimes the alternatives are explicitly stated in the discourse context, as in 27–28:

- (27) Q: Which would you like, tea or coffee?
A: (I’ll have) COFFEE.
- (28) Q: What did you think of Susan’s parents?
A: Her MOTHER is extremely nice; her FATHER seems to disapprove of me.

In these examples, the question establishes a set of possible alternatives: {tea, coffee} in 27; {Susan’s mother, Susan’s father} in 28. The second part of the definition states that both topics and focused elements can be contrastive. In fact, Neeleman et al. go on to argue that *only* topics and focused elements can be contrastive. In 27 the question indicates that the focus of the answer must be selected from the set of alternatives specified in the question; so the answer in 27 contains a contrastive focus. In 28 the question establishes *Susan’s parents* as the topic of discussion, leaving the focus of the answer relatively unrestricted. Each clause of the answer selects one topic from among the set of available alternatives: {Susan’s mother, Susan’s father}; so this answer contains two contrastive topics (*her mother* and *her father*).

The question in 29 establishes the addressee’s sons as the set of possible topics, and at the same time restricts the focus of the answer to being the places where each son lives. Each clause of the answer contains both a contrastive topic, which selects one from among the set of possible alternatives: {1st son, 2nd son, ...}, and a focus constituent (the name of a location), which answers the Question under Discussion.

- (29) Q: Where do your sons live?
A: Well, [my OLDEST son] lives in [MASSACHUSETTS], [my MIDDLE son] lives in [ALASKA], and [my YOUNGEST son] lives in [SALT LAKE CITY].⁹

In spoken form, each clause of the answer would get contrastive stress on the topic phrase, as indicated above, plus a second intonation peak, probably somewhat less extreme, on the phrase that forms the focus of the answer. However, the two intonation peaks in each clause would not have the same contour. The difference will be easiest to see if we focus on the last clause, *my YOUNGEST son lives in SALT LAKE CITY*. The contrastive topic phrase *YOUNGEST son* would

⁸ Lewis Carroll, *Through the looking glass*.

⁹ Barbara Partee, 2009 lecture notes.

normally be pronounced with a non-final, falling-rising intonation contour. The focused phrase *SALT LAKE CITY* would normally be pronounced with an utterance-final falling contour.

Humpty Dumpty's comment in example 26 (*adjectives you can do anything with*) would most likely have been spoken with this same intonation pattern: falling-rising contour on *adjectives*, and falling contour on *anything*. The word *adjectives* here is a contrastive topic, and the implied Question under Discussion seems to be something like: "To what extent can you control the behavior (or meaning?) of the various classes of words in English?"

The falling-rising contour is a characteristic property of contrastive topics in English. In addition, the special word order pattern that we see in *adjectives you can do anything with* is another common way of marking contrastive topics in English. In this construction, a non-subject constituent (in this case the object of the preposition *with*) is fronted to sentence-initial position, immediately before the subject, with no pause or other indicator of separation. This construction is often referred to as "topicalization." However, Prince (1981b) points out that the same word-order pattern can be used not only for contrastive topics but also for focused elements. She illustrates these two uses of the pattern with the examples in 30–31.

(30) MACADAMIA nuts I can't AFFORD. (Prince 1981b: 250)

(31) Q: What are these?

A: MACADAMIA nuts I think they're called. (Prince 1981b: 250)

The utterance in 30 makes an assertion about macadamia nuts in contrast to other kinds of nuts, which are presumably more affordable. The fronted noun phrase *macadamia nuts* is a contrastive topic, and the relevant set of possible alternatives includes different varieties of nuts. The fronted noun phrase *macadamia nuts* in 31 is not a contrastive topic but a focus: it answers the Question under Discussion.¹⁰ Although the same word-order pattern is used in both sentences, the two are distinguished by intonation. Sentence 30 requires two intonation peaks, with a falling-rising contour on *macadamia nuts*, and falling contour on *afford*. The answer in 31 gets only one intonation peak, with a falling contour on *macadamia nuts* followed by low, flat intonation for the rest of the sentence.¹¹

Contrastive focus often occurs in contexts that involve correction or counter-expectation, as illustrated in 32 (the focused elements are underlined):

(32) a. **Police Lieutenant:** Well, Denham, the airplanes got him.

Carl Denham: Oh no, it wasn't the airplanes. It was beauty killed the beast.
[*King Kong* (1933)]

b. **Rick:** Oh, by the way—my agreement with Sam's always been he gets twenty-five percent of the profits. That still goes.

Ferrari: I happen to know he gets TEN percent. But he's worth twenty-five.
[*Casablanca* (1942)]

c. **Mark Antony:** Friends, Romans, countrymen, lend me your ears;

I come to BURY Caesar, not to praise him ...
[William Shakespeare, *Julius Caesar* Act 3, Scene II]

¹⁰ Prince uses the term "focus movement" to refer to the pattern shown in the answer of (31); other authors use the term FOCUS FRONTING.

¹¹ Jackendoff (1972) may have been the first to discuss the two distinct intonation contours involved in such examples.

Unlike contrastive topic, there does not seem to be any special marker for contrastive focus in English. Contrastive focus is marked in much the same way as other kinds of constituent focus, e.g. with cleft constructions (32a) or focal stress (32b-c).

6 Conclusion

Our goal in this brief article has been to introduce some of the basic terminology and concepts relating to information structure and information packaging. As we have seen, a speaker typically has a variety of options for expressing the propositional content he wishes to communicate. The speaker normally structures his utterance, based on his estimate of what the hearer currently knows and is aware of, so as to guide the hearer in processing the message correctly. More specifically, the speaker chooses the appropriate “packaging” devices in order to make it clear to the hearer how the propositional content relates to the current topic of conversation, and what change to the common ground the current utterance is intended to make.

Information structure is an important field of study within many different subfields of linguistics, most obviously pragmatics, semantics, syntax, phonology, and psycholinguistics. Specific topics where much current research is focused include intonation patterns, word-order variation, and the functions of certain classes of discourse particles.

Additional reading

The volume of research and writing dealing with information structure is enormous. Helpful overviews of the field include Krifka & Musan (2012) and Matic' (2015). Lambrecht (1994) is an important book-length treatment of the subject; Van Valin & LaPolla (1997: 199–230) present a very helpful chapter-length summary of Lambrecht's framework. Prince (1981a) is a foundational work on how referents are marked to reflect their current “status” relative to the common ground, a topic we did not have time to address in the present paper.

References

- Beaver, David I. & Brady Z. Clark. 2008. *Sense and sensitivity: How focus determines meaning*. Malden, MA: Wiley-Blackwell.
- Chafe, Wallace L. 1976. Givenness, contrastiveness, definiteness, subjects, topics and point of view. In Charles N. Li (ed.), *Subject and topic*, 27–55. New York: Academic Press.
- Clopper, Cynthia G. & Judith Tonhauser. 2011. On the prosodic coding of focus in Paraguayan Guaraní. In Mary Byram Washburn, Katherine McKinney-Bock, Erika Varis, Ann Sawyer, & Barbara Tomaszewicz (eds.), *Proceedings of the 28th West Coast Conference on Formal Linguistics*, 249–257. Somerville, MA: Cascadilla Proceedings Project.
- Ginzburg, Jonathan. 1996. Interrogatives: Questions, facts, and dialogue. In Shalom Lappin (ed.), *The handbook of contemporary semantic theory*, 385–422. Oxford: Blackwell.
- Jackendoff, Ray. 1972. *Semantic interpretation in generative grammar*. Cambridge, MA: MIT Press.
- Krifka, Manfred. 2007. Basic notions of information structure. In Caroline Fery, G. Fanselow & Manfred Krifka (eds.), *Interdisciplinary Studies on Information Structure* 6, 13–55. Potsdam: Universitätsverlag. [also in: *Acta Linguistica Hungarica* 55:243–276 (2008).]
- Krifka, Manfred & Renate Musan. 2012. Information structure: Overview and linguistic issues. In Krifka & Musan (eds.), *The expression of information structure*, 1–43. (The expression of cognitive categories 5.) Berlin: Mouton de Gruyter.

- Kroeger, Paul. 2004. *Analyzing syntax: A lexical-functional approach*. Cambridge: Cambridge University Press.
- Kuno, Susumu. 1973. *The structure of the Japanese language*. Cambridge, MA: MIT Press.
- Lambrecht, Knud. 1994. *Information structure and sentence form: A theory of topic, focus, and the mental representations of discourse referents*. Cambridge & New York: Cambridge University Press.
- Li, Charles & Sandra Thompson. 1976. Subject and topic: A new typology of language. In Charles N. Li (ed.), *Subject and topic*, 457–489. New York: Academic Press.
- Matić, Dejan. 2015. Information structure in linguistics. *International Encyclopedia of the Social & Behavioral Sciences*, 2nd edn., vol. 12, 95–99. Amsterdam: Elsevier Ltd. http://pubman.mpdl.mpg.de/pubman/item/escidoc:1703515:11/component/escidoc:2152081/Matic_information_2015.pdf
- Neeleman, Ad, Elena Titov, Hans van de Koot, & Reiko Vermeulen. 2009. A syntactic typology of topic, focus and contrast. In Jeroen van Craenenbroek (ed.), *Alternatives to cartography*, 15–51. Berlin: Mouton de Gruyter.
- Paul, Hermann. 1880. *Prinzipien der Sprachgeschichte*. Leipzig.
- Potts, Christopher. 2005. *The logic of conventional implicatures* (Oxford Studies in Theoretical Linguistics). Oxford: Oxford University Press.
- Prince, Ellen. 1981a. Toward a taxonomy of given-new information. In Peter Cole (ed.), *Radical pragmatics*, 223–255. New York: Academic Press.
- Prince, Ellen. 1981b. Topicalization, focus-movement, and Yiddish-movement. *Proceedings of the Berkeley Linguistic Society* 7: 249–264.
- Roberts, Craige. 1996. Information structure in discourse: Towards an integrated formal theory of pragmatics. In J.-H. Yoon & A. Kathol (eds.), *OSU Working Papers in Linguistics No. 49: Papers in Semantics*, 91–136. Columbus, OH: The Ohio State University. Revised version published in *Semantics & Pragmatics* Volume 5, Article 6: 1–69 (2012). <http://semprag.org/article/viewFile/sp.5.6/pdf>
- Rooth, Mats. 1996. Focus. In Shalom Lappin (ed.), *Handbook of contemporary semantics*, 271–297. Oxford: Blackwell.
- Strawson, Peter. 1964. Identifying reference and truth-value. *Theoria* 30: 96–118. Reprinted in Danny D. Steinberg & Leon A. Jakobovitz (eds.), *Semantics: An interdisciplinary reader*, 86–99. Cambridge: Cambridge University Press.
- Tan Fu. 1991. Notion of subject in Chinese. Stanford, CA: Stanford University PhD dissertation.
- Tonhauser, Judith. 2012. Diagnosing (not-)at-issue content. In Elizabeth Bogal-Allbritten (ed.), *Proceedings of semantics of under-represented languages of the Americas (SULA 6)* and SULA-Bar, 239–254. Amherst, MA: Graduate Linguistics Student Association. <http://www.ling.ohio-state.edu/~judith/tonhauser-SULA6.pdf>
- Van Valin, Robert, Jr. & Randy LaPolla. 1997. *Syntax: Structure, meaning, and function*. Cambridge [England] and New York: Cambridge University Press.