regarding well-formedness of crucial sentences are correct.[3] The term 'syntax' is often used instead of 'grammar' in technical work in linguistics. While the two terms are sometimes interchangeable, 'grammar' may also be used more broadly to cover all aspects of language structure; 'syntax', on the other hand, refers only to the ways in which words combine into phrases, and phrases into sentences – the form or structure of well-formed expressions.

Linguists divide grammar into 'syntax', 'semantics' (the study of linguistic meaning), 'morphology' (the study of word structure), and 'phonology' (the study of the sound patterns of language). Although these distinctions are conceptually clear, many phenomena in natural languages involve more than one of these components of grammar.

1.2 An Extended Example: Reflexive and Nonreflexive Pronouns

To get a feel for the sort of research syntacticians conduct, consider the following question:[4]

> In which linguistic environments do English speakers normally use reflexive pronouns (i.e. forms like *herself* or *ourselves*), and where does it sound better to use a nonreflexive pronoun (e.g. *her*, *she*, *us*, or *we*)?

To see how to approach an answer to this question, consider, first, some basic examples:

(1) a.*We like us.
b. We like ourselves.
c. She likes her. [where, she ≠ her]
d. She likes herself.
e. Nobody likes us.
f.*Leslie likes ourselves.
g.*Ourselves like us.
h.*Ourselves like ourselves.

These examples suggest a generalization along the following lines:

Hypothesis I: *A reflexive pronoun can appear in a sentence only if that sentence also contains a preceding expression that has the same referent (i.e. a preceding* COREFERENTIAL *expression); a nonreflexive pronoun cannot appear in a sentence that contains such an expression.*

[3] This methodology is not without its pitfalls. Judgments of acceptability show considerable variation across speakers. Moreover, they can be heavily influenced by context, both linguistic and nonlinguistic. Since linguists rarely make any serious effort to control for such effects, not all of the data employed in the syntax literature should be accepted without question. On the other hand, many judgments are so unequivocal that they can clearly be relied on. In more delicate cases, many linguists have begun to supplement judgments with data from actual usage, by examining grammatical patterns found in written and spoken corpora. The use of multiple sources and types of evidence is always a good idea in empirical investigations. See Schütze 1996 for a detailed discussion of methodological issues surrounding the use of judgment data in syntactic research.

[4] The presentation in this section owes much to the pedagogy of David Perlmutter; see Perlmutter and Soames (1979: chapters 2 and 3).

The following examples are different from the previous ones in various ways, so they provide a first test of our hypothesis:

(2) a. She voted for her. [she ≠ her]
b. She voted for herself.
c. We voted for her.
d.*We voted for herself.
e.*We gave us presents.
f. We gave ourselves presents.
g.*We gave presents to us.
h. We gave presents to ourselves.
i.*We gave us to the cause.
j. We gave ourselves to the cause.
k.*Leslie told us about us.
l. Leslie told us about ourselves.
m.*Leslie told ourselves about us.
n.*Leslie told ourselves about ourselves.

These examples are all predicted by Hypothesis I, lending it some initial plausibility. But here are some counterexamples:

(3) a. We think that Leslie likes us.
b.*We think that Leslie likes ourselves.

According to our hypothesis, our judgments in (3a,b) should be reversed. Intuitively, the difference between these examples and the earlier ones is that the sentences in (3) contain subordinate clauses, whereas (1) and (2) contain only simple sentences.

Exercise 1: Some Other Subordinate Clauses

Throughout the book we have provided exercises designed to allow you to test your understanding of the material being presented. Answers to these exercises can be found beginning on page 543.

It isn't actually the mere presence of the subordinate clauses in (3) that makes the difference. To see why, consider the following, which contain subordinate clauses but are covered by Hypothesis I.

(i) We think that she voted for her. [she ≠ her]
(ii) We think that she voted for herself.
(iii)*We think that herself voted for her.
(iv)*We think that herself voted for herself.

A. Explain how Hypothesis I accounts for the data in (i)-(iv).
B. What is it about the subordinate clauses in (3) that makes them different from those in (i)-(iv) with respect to Hypothesis I?

Given our investigation so far, then, we might revise Hypothesis I to the following:

Hypothesis II: *A reflexive pronoun can appear in a clause only if that clause also contains a preceding, coreferential expression; a nonreflexive pronoun cannot appear in any clause that contains such an expression.*

For sentences with only one clause (such as (1)-(2)), Hypothesis II makes the same predictions as Hypothesis I. But it correctly permits (3a) because *we* and *us* are in different clauses, and it rules out (3b) because *we* and *ourselves* are in different clauses.

However, Hypothesis II as stated won't work either:

(4) a. Our friends like us.
b.*Our friends like ourselves.
c. Those pictures of us offended us.
d.*Those pictures of us offended ourselves.
e. We found your letter to us in the trash.
f.*We found your letter to ourselves in the trash.

What's going on here? The acceptable examples of reflexive pronouns have been cases (i) where the reflexive pronoun is functioning as an object of a verb (or the object of a preposition that goes with the verb) and (ii) where the ANTECEDENT – that is, the expression it is coreferential with – is the subject or a preceding object of the same verb. If we think of a verb as denoting some sort of action or state, then the subject and objects (or prepositional objects) normally refer to the participants in that action or state. These are often called the ARGUMENTS of the verb. In the examples in (4), unlike many of the earlier examples, the reflexive pronouns and their antecedents are not arguments of the same verb (or, in other words, they are not COARGUMENTS). For example in (4b), *our* is just part of the subject of the verb *like*, and hence not itself an argument of the verb; rather, it is *our friends* that denotes participants in the liking relation. Similarly, in (4e) the arguments of *found* are *we* and *your letter to us*; *us* is only part of an argument of *found*.

So to account for these differences, we can consider the following:

Hypothesis III: *A reflexive pronoun must be an argument of a verb that has another preceding argument with the same referent. A nonreflexive pronoun cannot appear as an argument of a verb that has a preceding coreferential argument.*

Each of the examples in (4) contains two coreferential expressions (*we, us, our*, or *ourselves*), but none of them contains two coreferential expressions that are arguments of the same verb. Hypothesis III correctly rules out just those sentences in (4) in which the second of the two coreferential expressions is the reflexive pronoun *ourselves*.

Now consider the following cases:

(5) a. Vote for us!
b.*Vote for ourselves!
c.*Vote for you!
d. Vote for yourself!

In (5d), for the first time, we find a well-formed reflexive with no antecedent. If we don't want to append an *ad hoc* codicil to Hypothesis III,[5] we will need to posit a hidden subject (namely, *you*) in imperative sentences.

Similar arguments can be made with respect to the following sentences.

(6) a. We appealed to them$_1$ to vote for them$_2$. [them$_1$ $\neq$ them$_2$]
b. We appealed to them to vote for themselves.
c. We appealed to them to vote for us.

(7) a. We appeared to them to vote for them.
b.*We appeared to them to vote for themselves.
c. We appeared to them to vote for ourselves.

In (6), the pronouns indicate that *them* is functioning as the subject of *vote*, but it looks like it is the object of the preposition *to*, not an argument of *vote*. Likewise, in (7), the pronouns suggest that *we* should be analyzed as an argument of *vote*, but its position suggests that it is an argument of *appeared*. So, on the face of it, such examples are problematical for Hypothesis III, unless we posit arguments that are not directly observable. We will return to the analysis of such cases in later chapters.

You can see that things get quite complex quite fast, requiring abstract notions like 'coreference', being 'arguments of the same verb', and 'phantom arguments' that the rules for pronoun type must make reference to. And we've only scratched the surface of this problem. For example, all the versions of the rules we have come up with so far predict that nonreflexive forms of a pronoun should appear only in positions where their reflexive counterparts are impossible. But this is not quite true, as the following examples illustrate:

(8) a. We wrapped the blankets around us.
b. We wrapped the blankets around ourselves.
c. We admired the pictures of us in the album.
d. We admired the pictures of ourselves in the album.

It should be evident by now that formulating precise rules characterizing where English speakers use reflexive pronouns and where they use nonreflexive pronouns will be a difficult task. We will return to this task in Chapter 7. Our reason for discussing it here was to emphasize the following points:

- Normal use of language involves the mastery of an intricate system, which is not directly accessible to conscious reflection.
- Speakers' tacit knowledge of language can be studied by formulating hypotheses and testing their predictions against intuitive judgments of well-formedness.
- The theoretical machinery required for a viable grammatical analysis could be quite abstract.

[5]For example, an extra clause that says: 'unless the sentence is imperative, in which case a second person reflexive is well-formed and a second person nonreflexive pronoun is not.' This would rule out the offending case but not in any illuminating way that would generalize to other cases.