Jerzy Kuryłowicz, 'Zametki o značenii slova', *Voprosy jazykoznanija*, 73–81 (1955), no. 3.
William Labov, 'The reflections of social processes in linguistic structures', in *Reader in the sociology of language*, ed. Joshua A. Fishman (The Hague, 1965).
The social stratification of English in New York City (Washington, D.C.: The Centre for Applied Linguistics, 1966).
Robert B. Lees, *The grammar of English nominalizations* (Bloomington, 1960).
George A. Miller and Noam Chomsky, 'Finitary models of language users', in *Handbook of mathematical psychology*, vol. II, eds. R. D. Luce, R. Bush, and E. Galanter, 419–91 (New York, 1963).
Hobart O. Mowrer, *Learning theory and the symbolic process* (New York, 1960).
Charles Saunders Peirce, *Collected papers*, vol. III (Cambridge, Mass., 1933).
Hans Reichenbach, *Elements of symbolic logic* (New York, 1948).
Gaurinath Sastri, *The philosophy of word and meaning* (Calcutta, 1959).
Sibawaihi, *Sibawaihi's Buch über die Grammatik*, tr. G. Jahn (Berlin, 1895).
Adolf Stöhr, *Algebra der Grammatik; ein Beitrag zur Philosophie der Formenlehre und Syntax* (Leipsig and Vienna, 1898).
Thomas of Erfurt (c. 1350), *Grammatica speculativa*, attributed to Duns Scotus and published in his *Opera omnia*, e.g. ed. Paris, bol. I, 1891.
Uriel Weinreich, 'Travels in semantic space', *Word*, XIV, 346–66 (1958).
'Lexicographic definition in descriptive semantics', in *Problems in Lexicography*, eds. Fred W. Householder and Sol Saporta, 25–43 (Bloomington, 1962).
'On the semantic structure of language', in *Universals of Language*, ed. Joseph H. Greenberg, 114–71 (Cambridge, Mass, 1963a).
'[Soviet] Lexicology', in *Current trends in linguistics*, eds. Thomas A. Sebeok, vol. I, 60–93 (The Hague, 1963b).
Review of Vygotsky (1962), in *American Anthropologist*, LXV, 1401–4 (1963c).
'Webster's Third: a critique of its semantics', *International Journal of American Linguistics*, XXX, 405–9 (1964); slightly revised Russian version in *Voprosy jazykoznanija*, 128–32 (1965), no. I.
'Semantics and Semiotics', in *International Encyclopedia of the Social Sciences*, ed. D. L. Sills, vol. XIV, 164–9 (New York, 1968).
Rulon S. Wells, 'Meaning and Use', *Word*, X, 115–30 (1954).
A. A. Xolodović, 'Opyt teorii podklassov slov', *Voprosy jazykosnanija*, 32–43 (1960), no. I.
Paul Ziff, *Semantic analysis* (Ithaca, 1960).

Presupposition and relative well-formedness[a]

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I would like to discuss a phenomenon that I think is fairly obvious, but which has been inadequately discussed in the past, and has therefore led to great confusion. It is often assumed that one can speak of the well- or ill-formedness of a sentence in isolation, removed from all presuppositions about the nature of the world. I think it has become clear over the past several years that such a position cannot be maintained. Of course, languages exhibit certain low-level or 'shallow' constraints on the form of sentences. English, for example, requires that, for the most part, verbs must follow their subjects and prepositions must, in general, precede the noun phrases they are associated with. Violation of such constraints does indeed make for ungrammaticality of an absolute sort: '*Hit Sam Irving', '*I went Boston to'. However, there are a great many cases where it makes no sense to speak of the well-formedness or 'grammaticality' of a sentence in isolation. Instead one must speak of relative well-formedness and/or relative grammaticality; that is, in such cases a sentence will be well-formed only with respect to certain presuppositions about the nature of the world. In these cases, the presuppositions are systematically related to the form of the sentence, though they may not appear overtly.

Given a sentence, S, and a set of presuppositions, PR, we will say, in such instances, that S is well-formed only relative to PR. That is, I will claim that the notion of relative well-formedness is needed to replace Chomsky's [1] original notion of strict grammaticality (or degrees thereof), which was applied to a sentence in isolation. It should be pointed out at the outset that such a claim does *not* constitute a position that linguistic knowledge cannot be separated from knowledge of the world. On the contrary, it is a claim that the general principles by which a speaker pairs a sentence with those presuppositions required for it to be well-formed are part of his linguistic knowledge.

Nor should such a claim be considered as blurring the distinction between competence and performance. The study of the relationship between a sentence and those things that it presupposes about the nature of the world by way of systematic rules is part of the study of linguistic competence. Performance is another matter. Suppose that S is well-formed only relative to PR. Then a speaker will make

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certain *judgments* about the well-formedness or ill-formedness of S which will vary with his extralinguistic knowledge. If the presuppositions of PR do not accord with his factual knowledge, cultural background, or beliefs about the world, then he may *judge* S to be 'odd', 'strange', 'deviant', 'ungrammatical', or simply ill-formed relative to his own presuppositions about the nature of the world. Thus, extralinguistic factors very often enter in judgments of well-formedness. This is a matter of performance. The linguistic competence underlying this is the ability of a speaker to pair sentences with the presuppositions relative to which they are well-formed. Such facts about performance come in handy for finding cases of relative well-formedness and testing just what presuppositions pair with what sentences. In looking for such cases, it is useful to consider examples where speakers' *judgments* of deviance vary fairly consistently with their factual knowledge and beliefs. The following is a short and rather incomplete survey of cases of this sort.

Chomsky, in *Aspects of the Theory of Syntax* [2], sets up syntactic features such as CONCRETE, ANIMATE, and HUMAN to account for the type of deep structure constraints he calls 'selectional restrictions'. For example, the difference between sentences like

⟨1⟩ (*a*) The man is sleeping.
(*b*) *The salami is sleeping.

would be accounted for in terms of the feature ANIMATE. The verb *sleep* would require a [+ANIMATE] subject. *Man* would be marked [+ANIMATE] and so would qualify; *salami* would be marked [−ANIMATE] and so would not qualify.

McCawley has argued convincingly that selectional restrictions are semantic and not syntactic in nature. Consider

⟨2⟩ (*a*) *The corpse is sleeping.
(*b*) *The dead man is sleeping.
(*c*) *The man who was killed yesterday is sleeping.
⟨3⟩ (*a*) The man who was killed yesterday but was magically brought back to life is sleeping.
(*b*) The man who will be killed tomorrow is sleeping.

The well-formedness of these sentences depends on semantic properties of the entire noun phrase rather than on syntactic properties of the head noun.

One might be tempted to say that such facts are purely semantic and outside the realm of syntax altogether. Syntax, one might say, has to do with such things as the distribution of grammatical morphemes, like *some* and *any*, or *who*, *which*, and *what*, not with the co-occurrence of lexical items. If one takes such a view of the distinction between syntax and semantics, and this is a view taken by most traditional grammarians, then one would still need syntactic features like HUMAN. Traditionally, it has been claimed that *who* is used when speaking of humans and *which* and *what*, when speaking of non-humans.

⟨4⟩ (*a*) The man *who* I kicked bit me.
(*b*) ?*The man *which* I kicked bit me.
⟨5⟩ (*a*) *The dog *who* I kicked bit me.
(*b*) The dog *which* I kicked bit me.

⟨6⟩ (*a*) *Who* bit you? The man next door.
(*b*) ?**What* bit you? The man next door.[a]
⟨7⟩ (*a*) **Who* bit you? The dog next door.
(*b*) *What* bit you? The dog next door.

However, the use of *who* versus *which* cannot be described in terms of a syntactic feature HUMAN which agrees with the corresponding syntactic property on the head noun of the relative clause. Instead, the choice of *who* and *which* depends on semantic properties of the entire noun phrase. (By the way, the facts given here hold for my own speech and may vary from speaker to speaker.)

⟨8⟩ (*a*) The human creature *who* I was fighting with was large.
(*b*) ?*The human creature *which* I was fighting with was large.
⟨9⟩ (*a*) *The canine creature *who* I was fighting with was large.
(*b*) The canine creature *which* I was fighting with was large.

The occurrence of *who* and *which* is semantically determined, and in fact involves presuppositions. The antecedent noun phrases of *who* must be presupposed to be human.

⟨10⟩ (*a*) I saw a creature *who* I knew was human.
(*b*) *I saw a creature *who* I knew was canine.
⟨11⟩ *I saw a creature *who* I doubted was human.

Know, being a factive verb, presupposes that the creature was human: *doubt* does not.

In addition, the choice of *who* depends on relative chronology.

⟨12⟩ (*a*) ?*The dead man, *who* I came across in the alley, was covered with blood.[b]
(*b*) The dead man, *who* I had once come across at a party in Vienna, now looked a mess.

⟨12*b*⟩ is all right on the assumption that he was alive at the time I came across him in Vienna.

I do not pretend to understand the conditions under which *who* can be used. Still, it seems clear that the distribution of the grammatical morpheme *who* cannot simply be determined by a syntactic feature like [+HUMAN]; rather, the relative *who* requires, at least, that the person referred to either be presupposed to be alive at the time referred to in the relative clause, or thought of as a human being. Hence, the oddness of *who* in ⟨13*a*⟩ as opposed to ⟨13*b*⟩:

⟨13⟩ (*a*) *We have just found a good name for our child, *who* we hope will be conceived tonight.
(*b*) We have just found a good name for our child, *who* we hope will grow up to be a good citizen after he is born.

[a] Speakers seem to vary in this case. Some speakers use *what* in such cases with no presuppositions as to human qualities; others seem to require a presupposition of non-humanness.

[b] I find *which* just as bad (or perhaps even worse) in this sentence. *That* is, of course, impossible in nonrestrictive relatives, as is deletion of the relative clause. There seems to be no way to make this sentence completely acceptable. *Who* may well be the best of a number of bad choices. Dwight Bolinger has noted that with interrogative pronouns one could naturally say 'Who is the dead man?' but not 'Who is the corpse?' without being facetious. Similarly, he notes that with 'dead man' one can say 'The dead man whom they brought in was John', but with 'corpse' one is required to say 'The corpse *which* they brought in was *that of* John'. Perhaps *who* is used when the individual is being thought of as a human being.

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As in the case of lexical co-occurrence, the occurrence of a grammatical morpheme like *who* is determined by the semantic properties of an entire noun phrase. In this case, one cannot separate the study of the distribution of grammatical morphemes from the study of lexical co-occurrence: semantic information of the same sort is involved in both. Let us now consider what sort of semantic information we are dealing with. If we grant that *who* can only be used to refer to humans, we might suppose that there is a semantic property based on the biological distinction human/non-human.

⟨14⟩ (*a*) *What
(*b*) Who
(*c*) *The desk
(*d*) The boy
} realizes that I'm a lousy cook?
believes that I'm a fool?
enjoys tormenting me?

If we assume that *who* and *the boy* must refer to humans, while *what* and *the desk* refer to non-humans, we can account for the facts of ⟨14⟩. But now consider ⟨15⟩:

⟨15⟩ (*a*) My uncle
(*b*) My cat
(*c*) My goldfish
(*d*) My pet amoeba
(*e*) My frying pan
(*f*) My sincerity
(*g*) My birth
} realizes that I'm a lousy cook.
believes that I'm a fool.
enjoys tormenting me.

⟨15*a*⟩ is certainly all right, as it should be. But according to the above hypothesis, ⟨15*b*⟩ through ⟨15*g*⟩ should be ungrammatical, since they do not refer to humans. I and many others find ⟨15*b*⟩ perfectly all right, although some people do not. The reason, I think, is that I and those who agree with my judgment assume that cats have minds, while those who don't find ⟨15*b*⟩ acceptable don't hold this belief. ⟨15*c*⟩ and ⟨15*d*⟩ are stranger, I think, because of the strangeness of the beliefs that goldfish and amoebae have the appropriate mental powers. I suppose that someone who thought his goldfish were capable of such mental activities would find ⟨15*c*⟩ perfectly acceptable. Similarly, if someone thought his frying pan had a mind, he might find ⟨15*e*⟩ perfectly all right. If one found such a person, one might send for a psychiatrist, not try to correct his grammar. ⟨15*f*⟩ and ⟨15*g*⟩ are another matter. That properties and events have mental powers might seem to be an impossible belief, not just a strange one. If this were true, it would follow that ⟨15*f*⟩ and ⟨15*g*⟩ were universally impossible. However, Kenneth Hale informs me that, among the Papagos, events are assumed to have minds (whatever that might mean), and that sentences like ⟨15*g*⟩ would be perfectly normal. I leave such matters to the anthropologists. Be that as it may, it seems that the subjects of verbs like *realize*, *believe*, *enjoy*, etc. are not restricted to humans, but to any beings that the speaker assumes to have the necessary mental abilities. Thus, at least in these cases, one's judgment of the well-formedness of sentences seems to vary with one's beliefs or assumptions. And if one accepts that the distribution of *who* and *which* is a question to be dealt with in a field called 'grammar', then one's judgments of grammaticality seem to vary with one's assumptions and beliefs. Consider

⟨16⟩ My cat, who believes that I'm a fool, enjoys tormenting me.
⟨17⟩ *My cat, which believes that I'm a fool, enjoys tormenting me.

Having had experience with a cunning feline, I find ⟨16⟩ both syntactically and

semantically well-formed, while ⟨17⟩ is ungrammatical for me. Thus, *who* seems to refer not simply to humans, but to individuals being thought of as intelligent beings whatever their species. Judgments concerning its proper use will vary with the speaker's beliefs about such matters. A similar argument, concerning the distribution of *some* and *any*, has been given by Robin Lakoff [6].

R. M. W. Dixon and Georgia Green have brought to my attention another class of cases where judgments of well-formedness depend on extralinguistic factors; namely, certain classes of constructions which involve comparisons and contrasts. Consider ⟨18⟩ for example:

⟨18⟩ (*a*) John insulted Mary and then she insulted him.[a]
(*b*) *John insulted Mary and then she insulted him.

When the two verbs are the same, both pronouns must be stressed, unlike normal anaphoric pronouns. Compare ⟨19⟩, where the verbs have opposite meanings; the pronouns cannot both be stressed.

⟨19⟩ (*a*) *John praised Mary and then she insulted him.
(*b*) John praised Mary and then she insulted him.

Judgments about the well-formedness of these sentences involve only a knowledge of one's language: the rules involving stress placement in such constructions and a knowledge of the meanings of *praise* and *insult*. But now consider ⟨20*a*⟩:

⟨20⟩ (*a*) John told Mary that she was ugly and then she insulted him.

In ⟨20*a*⟩ stress can occur on *him* because telling a woman that she is ugly constitutes an insult. Compare ⟨20*b*⟩:

⟨20⟩ (*b*) *John told Mary that she was beautiful and then she insulted him.

⟨20*b*⟩ is odd in the same way as ⟨19*a*⟩, since telling a woman that she is beautiful can only constitute praise in our culture; it cannot constitute an insult. Or consider ⟨21⟩:

⟨21⟩ John called Mary {a whore / a Republican / a virgin / a lexicalist}, and then she insulted him.

I find the sentences of ⟨21⟩ all perfectly well-formed, though those with other beliefs may disagree.

Similar examples have been discussed by Georgia Green [3]. Consider ⟨22⟩:

⟨22⟩ (*a*) Jane is a sloppy housekeeper and she doesn't take baths either.
(*b*) ?*Jane is a neat housekeeper and she doesn't take baths either.

The construction, *A and not B either*, carries with it the presupposition that one might expect *A* to entail *not B*. In ⟨22*a*⟩, such a presupposition is consistent with American cultural values, while in ⟨22*b*⟩ it would not be. Hence the ill-formedness

[a] Dwight Bolinger has observed that this is true only if the individuals involved are being contrasted. Suppose, instead, that the time of the events is being contrasted. Then, one can get:

John insulted Mary and THEN she insulted him.

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of ⟨22*b*⟩. However, one could easily imagine someone with appropriate cultural values such that he would judge ⟨22*a*⟩ to be ill-formed and ⟨22*b*⟩ to be well-formed.

There are other examples of this sort which involve identity constraints. For example, there are certain idiomatic expressions which require two noun phrases in the expression to be coreferential.

⟨23⟩ (*a*) I have my price.
(*b*) *I have your price.[a]

⟨24⟩ (*a*) I'll take my chances.
(*b*) *I'll take your chances.[b]

⟨25⟩ (*a*) I lost my cool, but I soon regained it.
(*b*) *You lost your cool, but I soon regained it.

In cases like ⟨25⟩, where neither noun phrase commands the other, pronominalization is optional and the full noun phrases may be repeated.

⟨26⟩ (*a*) *Mary* lost her cool, but *she* soon regained it.
(*b*) *Mary* lost her cool, but *Mary* soon regained it.

Although the noun phrases may be repeated without pronominalization in my speech, this is possible only in cases where the two noun phrases are presupposed to be coreferential.

⟨26⟩ (*c*) **Mary* lost her cool, but *Sam* soon regained it.

But since the well-formedness of such sentences is relative to a presupposition of coreferentiality, speakers' judgments will vary with their factual knowledge, beliefs, and information occurring previously in the discourse.

⟨27⟩ *Willie Mays* lost his cool, but the *centerfielder of the Giants* soon regained it.
⟨28⟩ **Willie Mays* lost his cool, but the *quarterback of the Colts* soon regained it.
⟨29⟩ Richard Nixon lost his cool, but { *the new president* / **the former president* } soon regained it.[c]

Identity statements made earlier in a discourse also seem to count as presuppositions of coreferentiality. Compare ⟨28⟩ to ⟨30⟩.

⟨30⟩ Upon being informed that he had just been chosen quarterback of the Colts, *Willie Mays* lost his cool, but the *new quarterback of the Colts* soon regained it.

In all of the cases discussed above, the presuppositions involved were attributed to the speaker. However, there are also cases where presuppositions are attributed to some other individual mentioned in the sentence. Consider the difference between verbs like *claim*, *wish*, and *hear* on the one hand, and those like *hope*, *expect*, and *anticipate* on the other. As is well known, stative verbs and adjectives in general do not take the progressive auxiliary in English.

[a] This may be all right for some speakers, though in a different sense. Suppose I have discovered how much it will take to bribe you, then I can say ⟨23*b*⟩. ⟨23*a*⟩ has a very different meaning.

[b] Some speakers may find this all right in the sense of 'I'll take your chances for you', which is not the sense in which ⟨24*a*⟩ is understood.

[c] Some constructions require noncoreferentiality, such as 'X has Y's cooperation'. Thus, we can say 'I have your cooperation', but not '*I have my cooperation', nor '*Sam has his own cooperation'. Similarly, one who assumed that Willie Mays was the centerfielder of the Giants would not find '*Willie Mays has the cooperation of the centerfielder of the Giants' acceptable.

⟨31⟩ (*a*) I { *am hearing / hear } that Sam is a fink.
(*b*) I { *am wishing / wish } that I had a knish.[a]
(*c*) I { *am knowing / know } that Rockefeller really hates blintzes.
(*d*) I am { *being amused / amused } that Sondra has warts.

However, there is a certain subclass of exceptions to this generalization, stative verbs which do take the progressive auxiliary.

⟨32⟩ (*a*) I { am expecting / expect } Schwartz' wife to run off with the butcher.
(*b*) I { am hoping / hope } that my date will turn out not to have warts.
(*c*) We { are anticipating / anticipate } that there will be a great advance in pornolinguistics.

These verbs form a rather interesting semantic class. Consider ⟨33⟩ and ⟨34⟩:

⟨33⟩ (*a*) Max claimed that his toothbrush was pregnant.
(*b*) Max heard that his toothbrush was pregnant.
(*c*) Max wished that his toothbrush were pregnant.

⟨34⟩ (*a*) Max expected his toothbrush to be pregnant.
(*b*) Max hoped that his toothbrush was pregnant.
(*c*) Max anticipated that his toothbrush would be pregnant.

In the sentences of ⟨33⟩, it is *not* presupposed that Max holds the belief that toothbrushes can reproduce. But in the sentences of ⟨34⟩ such a presupposition is made. That is, it is presupposed in ⟨34⟩ that Max believes that it is possible that his toothbrush could be pregnant. In general, the verbs *expect*, *hope*, and *anticipate* have the property that the sentence in the object complement is not now true, but is possible relative to the beliefs of the subject of the verb. Verbs with this property may optionally take the progressive auxiliary. Thus, there is an overt syntactic correlate of this interesting semantic property.

It is often said that certain aspects of language use are a part of a speaker's linguistic competence. For example, Searle in *Speech Acts* (Cambridge University Press, 1968) adopts the position that a speaker's knowledge of the felicity conditions governing what Austin has called 'illocutionary acts' are part of his linguistic competence, that is, his knowledge of his language. For example, the verb 'christen' as in 'I hereby christen this ship the Jackie Kennedy' has as felicity conditions that the subject of 'christen' is empowered by an appropriate authority to bestow a name on the object of 'christen' at the time of the act of christening, that the ship is present, etc. One might claim that felicity conditions are outside the realm of linguistic competence and are to be studied as part of performance. However, a look at nonperformative uses of potentially performative verbs indicates that is not so, and that Searle is right. Consider ⟨35⟩:

⟨35⟩ Sam smashed a bottle across the bow of the ship, thereby christening it the Jackie Kennedy, although he had no authority to bestow names upon ships.

[a] I assume that *wish* is understood here as a stative verb, not the active verb of the same form meaning to *make a wish*. The progressive is, of course, all right with that sense of *wish*.

⟨35⟩ involves a contradiction. It is a contradiction between the assertion that he had no authority to bestow names upon ships and what is presupposed by the verb 'christen', namely, that he had authority to bestow a name on the ship in question. This follows not from any knowledge of the world, but only from a knowledge of the meaning of 'christen'. Any adequate account of semantic representation must show that ⟨35⟩ involves a contradiction between what is asserted in the *although* clause and the presuppositional part of the meaning of 'christen'. Thus, felicity conditions *must* be represented as presuppositions which are part of the meaning of performative verbs if the contradiction involved in ⟨35⟩ is to be represented as part of one's linguistic competence. Thus, a knowledge of the felicity conditions for illocutionary acts turns out to be part of one's knowledge of the regularities by which a grammar pairs presuppositions with sentences, clearly a part of one's linguistic competence. This also indicates that various proposals to extend the notion of 'truth' to illocutionary acts, so that infelicitous acts will be called 'false', has a very sound basis, since that is exactly what must be done in cases like ⟨35⟩ where a potentially performative verb is used nonperformatively and where contradictions (implicitly involving the notion 'truth') can arise from felicity-conditions which are presupposed by the verb in question.

Let us review what all this means. It is a fact that a speaker's judgment concerning whether a given sentence is deviant or not will vary with that speaker's factual knowledge, beliefs, etc. In cases like those discussed above, this is a fact about performance. The competence underlying such judgments involves the notion of relative grammaticality. A grammar can be viewed as generating pairs, (PR, S), consisting of a sentence, S, which is grammatical only relative to the presuppositions of PR. This pairing is relatively constant from speaker to speaker and does *not* vary directly with his factual knowledge, cultural background, etc. However, if a speaker is called upon to make a judgment as to whether or not S is 'deviant', then his extralinguistic knowledge enters the picture. Suppose the pair (PR, S) is generated by the grammar of his language. Part of his linguistic knowledge will be that S is well-formed only given PR. If the speaker's factual knowledge contradicts PR, then he may judge S to be 'deviant'.

Let us consider an example. Consider sentences ⟨20*a*⟩ and ⟨20*b*⟩:

⟨20⟩ (*a*) John told Mary that she was ugly and then she insulted him.

(*b*) John told Mary that she was beautiful and then she insulted him.

In sentences like ⟨20⟩ where reciprocal contrastive stress appears, we find two propositions: f(John, Mary) and g(Mary, John). In ⟨20*a*⟩, f(John, Mary) = John told Mary that she was ugly. In ⟨20*b*⟩, f(John, Mary) = John told Mary that she was beautiful. In both, g(Mary, John) = Mary insulted John. Sentences like ⟨20*a*⟩ and ⟨20*b*⟩ are well-formed only relative to the following presupposition:

⟨36⟩ f(John, Mary) entails g(John, Mary)

Thus, ⟨20*a*⟩ and ⟨20*b*⟩ are well-formed only relative to the presuppositions of ⟨37*a*⟩ and ⟨37*b*⟩ respectively.

⟨37⟩ (*a*) That John told Mary that she was ugly entails that John insulted Mary.
(*b*) That John told Mary that she was beautiful entails that John insulted Mary.

Thus, the grammar of English will generate the (PR, S) pairs:

(⟨37*a*⟩, ⟨20*a*⟩) (⟨37*b*⟩, ⟨20*b*⟩)

The knowledge that these are well-formed pairs is part of any English speaker's linguistic competence, regardless of his factual knowledge, beliefs, cultural background, etc. However, most English speakers come from a cultural background that makes the following assumptions:

⟨38⟩ (*a*) Telling a woman that she is ugly constitutes an insult (under normal conditions).
(*b*) Telling a woman that she is beautiful does not constitute an insult (under normal conditions).

Thus, given no special assumptions about John and Mary in ⟨20⟩, speakers of English whose cultural background assumes ⟨38⟩ will find that ⟨38*a*⟩ is consistent with ⟨37*a*⟩, but that ⟨38*b*⟩ is not consistent with ⟨37*b*⟩. Although both of the *pairs* (⟨37*a*⟩, ⟨20*a*⟩) and (⟨37*b*⟩, ⟨20*b*⟩) are well-formed with respect to the grammar of such speakers, those speakers will make the judgment that the *sentence* ⟨20*b*⟩ is 'deviant' relative to the cultural assumption of ⟨38*b*⟩, while granting that the *sentence* ⟨20*a*⟩ is 'not deviant' given the assumption of ⟨38*a*⟩. Thus, extralinguistic factors do not affect grammatical well-formedness, a notion from the theory of competence which is defined only for (PR, S) pairs; such factors do affect judgments of deviance, which concerns performance, i.e., the use of a sentence in a given context. The failure to observe this distinction has led to considerable confusion in the past decade.

This confusion was, I believe, fostered by Chomsky's use of the notion grammaticalness as relevant to sentences, not to (PR, S) pairs. Now one could, given our notion of well-formedness for (PR, S) pairs, define a different notion of syntactic well-formedness for sentences (not pairs) as follows: for all S, if there exists a PR such that (PR, S) is a well-formed (PR, S) pair, then S is 'syntactically well-formed'. Such a definition would be in the spirit of *Syntactic Structures* and Chomsky's more recent work as well. Since people can make up any definitions they feel like, one ought to ask what would be the point of making up such a definition of 'syntactically well-formed sentence'. Such a definition would define a field of presupposition-free syntax. One might ask then what would be the content of this field, what phenomena would it deal with, would it be interesting? Such a field of presupposition-free syntax would deviate from the traditional study of syntax in that it would no longer involve the study of the distribution of all grammatical morphemes. As we have seen, the distribution of grammatical morphemes like *who* versus *which* cannot be stated in terms of presupposition-free syntax. Since the phenomenon of reflexivization involves the notion of presupposed coreferentiality, the general principle concerning the distribution of reflexive pronouns and of noun phrases that are presupposed to be coreferential could not be stated in terms of presupposition-free syntax. Thus the difference between *I told you to shave yourself* and **I told you to shave you* would not be part of the study of presupposition-free syntax. Similarly, the study of the difference between the sentences *Mary is a girl taller than John* and **Mary is a taller girl than John* would not be part of presupposition-free syntax. And so on. It is not at all clear that very much that is interesting would be part of the study of presupposition-free syntax. It is not even clear that principled grounds could be found for motivating the notion of grammatical transformation within the bounds of such a field. Since selectional restrictions in general

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involve presuppositions, any such restrictions could not be used to motivate transformations. If such grounds for motivating transformations were taken away, it is not clear that very many, if any, of the traditionally assumed transformations could be motivated within presupposition-free syntax. In fact, it may well turn out that such a field would be limited to the study of the well-formedness conditions on possible surface structures of a language. Such a field might well be no more interesting than traditional phrase structure grammar. At present, there is no reason to believe that it would be.

Let us consider some examples. Al Alvarez and Kenneth Hale have informed me that in Papago there are two kinds of conjunctions, what might be called the 'proximate' and the 'obviative'. The proximate conjunction appears when the two conjoined sentences have the same (surface) subject; the obviative appears when the subjects are different. The obviative conjunction has the phonological form /ku/ and forms a single phonological word with the auxiliary of the following sentence. The proximate conjunction has the phonological form /k/ in the perfective, and /c/ in the imperfective; it is phonologically joined to the verb of the *preceding* sentence when the verb occurs in final position, and otherwise stands between the two sentences, not joined phonologically to either.

⟨39⟩ Nixon ʔaṭṣ wé peg gm hu cúksón wúi him-k
Nixon aux-quotative first there Tuscon to go-perfective-proximate
ʔaṭṣ ʔamjeḍ gm hu kalihonia wúi hí:
aux-quotative then there California to go-perfective
Nixon first went to Tuscon and (proximate) then [he] went to California.

⟨40⟩ *Nixon ʔaṭṣ wé peg gm hu cúksón wúi hí:
Nixon aux-quotative first there Tuscon to go-perfective
kuṭṣ ʔamjeḍ gm hu kalihonia wúi hí:
obviative-aux-quotative then there California to go-perfective
*Nixon first went to Tuscon and (obviative) then [he] went to California.

⟨39⟩ is normal in Papago; ⟨40⟩ is ungrammatical – /ku/ simply can't be used that way in any such sentence. The situation would be reversed if 'Agnew' were inserted after 'ʔamjed' in the two sentences (call the result ⟨39′⟩ and ⟨40′⟩), since then the subjects of the sentences would be different. Any adequate account of the grammar of Papago must take into account the complementary distribution of the proximate and obviative conjunctions in such cases.

Now consider the following cases:

⟨41⟩ Nixon ʔaṭṣ wé peg gm hu cúksón wúi him-k
Nixon aux-quotative first there Tuscon to go-perfective-proximate
ʔaṭṣ ʔamjeḍ t-gkównal-ga gm hu kalihonia wúi hí:
aux-quotative then the president there California to go-perfective
Nixon first went to Tuscon and (proximate) then the president went to California.

⟨41⟩ is grammatical if it is presupposed that Nixon is the president. The proximate conjunction must be used in such a case; the obviative would be just as wrong as in ⟨40⟩. ⟨41⟩ would of course be ungrammatical relative to the presupposition that Nixon is not the president. Prior to January 1969, ⟨41⟩ would have been judged by a Papago as being just as ungrammatical as ⟨40⟩. Similarly, if /hikl' hú/ 'former' is

inserted in ⟨41⟩ before /t-gkównal-ga/ 'president', the result would be judged ungrammatical given the presupposition that Nixon is now president. As soon as Nixon left office, such a sentence would be judged to be grammatical.

The generalization should be clear: the proximate conjunction is used just in case the surface subjects of the conjoined sentences are presupposed to be coreferential at the time of the speech act, the obviative conjunction is used otherwise. However, this general principle could not be stated in presupposition-free syntax. Clearly ⟨39⟩, ⟨40⟩, ⟨39′⟩ and ⟨40′⟩ fall under the same general principle. Since ⟨40⟩, with a deleted pronoun, and ⟨39′⟩, with a different proper name, are ungrammatical under any set of presuppositions, presupposition-free syntax would have to state a principle ruling those sentences out on the basis of their surface distribution. However, in cases like ⟨41⟩, where the second conjunction has as subject a definite description (e.g., the president), presupposition-free syntax would have to consider all such sentences as grammatical no matter which conjunction was used, since there would always be some presupposition relative to which the sentence would be grammatical. The semantic component corresponding to such a presupposition-free syntax would then have to have an additional principle stating that, with the proximate conjunction, coreferentiality of the two subjects was presupposed. This semantic principle would be doing the same work as the syntactic distribution statement. The only effect of assuming that syntax is presupposition-free is to make it impossible to state the generalization.

Take another example. Kim Burt has pointed out that the future auxiliary *will* can be deleted in what looks like a very strange set of environments in terms of presupposition-free syntactic structure.

⟨42⟩ (*a*) The Yankees play the Red Sox tomorrow.
(*b*) ?*The Yankees play well tomorrow. The Yankees will play well tomorrow.

⟨43⟩ (*a*) I get my paycheck tomorrow.
(*b*) ?*I get a cold tomorrow. I will get a cold tomorrow.

⟨44⟩ (*a*) The astronauts return to the earth tomorrow.
(*b*) ?*The astronauts return safely tomorrow. The astronauts will return safely tomorrow.

⟨45⟩ (*a*) Sam gets a day off tomorrow.
(*b*) ?*Sam enjoys his day off tomorrow. Sam will enjoy his day off tomorrow.

In terms of presupposition-free syntax, no general principle for the deletion of *will* can be stated. However, Burt has observed that the principle can be stated very simply (or at least approximated) in presuppositional terms: *will* can be deleted just in case it is presupposed that the event is one that the speaker can be sure of. In ⟨42⟩, one can be sure that game will take place, but one can't be sure that Yankees will play well. Since one's knowledge of the world doesn't match up with the presupposition required for the grammaticality of ⟨42*b*⟩, ⟨42*b*⟩ is judged odd. Similarly, ⟨43*b*⟩ is usually judged to be odd since one cannot be sure that one will catch a cold at a particular time. Suppose, however, that I had an appointment to go to some laboratory where I was to be injected with cold germs in a medical experiment. With such a presupposition, ⟨43*b*⟩ would be all right. ⟨44⟩ and ⟨45⟩ also work by the same principle. From such examples it seems clear that any general statement of where *will* can be deleted will have to go beyond the bounds of presupposition-free syntax.

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It seems beyond doubt that the principles governing the distribution of morphemes will involve presuppositional information. Where these principles are given by transformational rules (e.g., *will*-deletion in English), there may be linkages between presuppositions and the transformational rules. Such linkages are called 'global derivational constraints', and are but special cases of a much more pervasive phenomenon in grammar (cf. Lakoff [4], [5]).

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REFERENCES

[1] Chomsky, Noam, *Syntactic Structures*, Mouton, 1957.
[2] Chomsky, Noam, *Aspects of the Theory of Syntax*, M.I.T. Press, 1965.
[3] Green, Georgia, 'On *Too* and *Either*, and not just on *Too* and *Either* either', *Papers from the Fourth Regional Meeting of the Chicago Linguistic Society*, University of Chicago Linguistics Department, 1968.
[4] Lakoff, George, 'On Generative Semantics', in this volume.
[5] Lakoff, George, *Generative Semantics*, Holt, Rinehart and Winston, forthcoming.
[6] Lakoff, Robin, 'Some Reasons Why There Isn't Any *Some-Any* Rule', *Language*, 1969.

Presupposition and assertion in the semantic analysis of nouns and verbs in English[a]

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In this paper it will be argued that the presupposition-assertion distinction that is appropriate for the semantic analysis of verbs is inappropriate for the analysis of nouns, and that as a consequence lexical entries for nouns need not take note of this distinction.

The need for the presupposition-assertion distinction in the semantic analysis of verbs may be illustrated by means of examples that have recently been insightfully discussed by Fillmore (this volume). Fillmore points out that if one compares the sentences:

⟨1⟩ Harry criticized Mary for writing the editorial.
⟨2⟩ Harry accused Mary of writing the editorial.

one finds in ⟨1⟩ that Harry presupposed Mary was responsible for writing the editorial and that he asserted that writing the editorial was bad; whereas in ⟨2⟩ that Harry presupposed that writing the editorial was bad and that he asserted Mary was responsible for writing the editorial. In other words, the verbs *criticize* and *accuse* are converses of each other with respect to what is asserted and what is presupposed by the subject when these verbs are used as main verbs in sentences.

The standard test for the claim that such-and-such is presupposed in a sentence is to see whether it is preserved under negation. Thus, if we examine the negative counterparts to ⟨1⟩ and ⟨2⟩, namely:

⟨3⟩ Rocky didn't criticize Max for spending the loot.
⟨4⟩ Rocky didn't accuse Max of spending the loot.

we find that, indeed, the presuppositions of ⟨1⟩ and ⟨2⟩ are preserved. In ⟨3⟩, Rocky still presupposed Max was responsible for spending the loot, and in ⟨4⟩ he still presupposed that spending the loot was bad.

Harris Savin (personal communication) has recently suggested that the negation test can be generalized: presuppositions admit of no adverbial modification whatever, so that the fact that they are unaffected by negation is merely a special case of this more general principle. To see this, consider the examples:

⟨5⟩ Rocky rightfully criticized Max for spending the loot.
⟨6⟩ Rocky rightfully accused Max of spending the loot.

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