Presupposition and relative well-formedness

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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 [3] 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 forms 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 who makes
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.

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(6) (a) Who bit you? The man next door.
(6) *What bit you? The man next door.

(7) (a) *Who bit you? The dog next door.
(8) *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.
(6) *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: daub 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) The dead man, who I had once come across at a party in Vienna, now looked a mess.

(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.

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-humaneness. I find which just as bad (or perhaps even worse) in this sentence. That is, of course, impossible in nonrestricive 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 factious. 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*

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*

(15a) is certainly all right, as it should be. But according to the above hypothesis, (15b) through (15g) should be ungrammatical, since they do not refer to humans. I and many others find (15b) perfectly all right, although some people do not. The reason, I think, is that I am and those who agree with my judgment assume that cats have minds, while those who don’t find (15b) acceptable don’t hold this belief. (15c) and (15d) 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 (15c) perfectly acceptable. Similarly, if someone thought his frying pan had a mind, he might find (15d) perfectly all right. If one found such a person, one might send for a psychiatrist, not to try to correct his grammar. (15f) and (15g) are another matter. That properties and events have mental powers might seem to be an impausible belief, not just a strange one. If this were true, it would follow that (15f) and (15g) were universally impossible. However, Kenneth Hale informs me that, among the Papago, events are assumed to have minds (whatever that might mean), and that sentences like (15g) would be perfectly normal. I leave such matters to the anthropologists. I feel that 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.*

Having had experience with a cunning feline, I find (16) both syntactically and

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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.
(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):

(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.*

(20b) is odd in the same way as (19b), 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 where
\begin{itemize}
  \item a Republican
  \item a virgin
  \item a lexicalist
\end{itemize}

(21) and then she insulted her.*

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 (22b), such a presupposition is consistent with American cultural values, while in (22b) it would not be. Hence the ill-formedness

* 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.
of (22a). However, one could easily imagine someone with appropriate cultural values such that he would judge (22a) to be ill-formed and (22b) 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.6

(24) (a) I'll take my chances.
(b) *I'll take your chances.6

(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, pronounization 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 pronounization 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 coreference, 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 of the Giants soon regained it.

Identity statements made earlier in a discourse also seem to count as presuppositions of coreference. 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.

4 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 (23b) and (23a) has a very different meaning.

6 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 (24a) is understood.

7 Some constructions require non-coreference, such as 'X has Y's cooperation'. Thus, we can say 'I have your cooperation', but not 'I have my 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.

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(31) (a) I {am hearing

(b) I {am wishing

(c) I {am knowing

(d) I am {being amused

that Sam is a fink.
that I had a knish.6
that Rockefeller really hates blintzes.
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

(b) I {am hoping

(c) We {are anticipating

Schwartz's wife to run off with the butcher.
that my date will turn out not to have warts.
that there will be a great advance in

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 exact, 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, Scarle 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 Scarle 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.

* 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 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 intransitive 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 (20a) and (20b):

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

(36) (John, Mary) entails g(John, Mary)

Thus, (20a) and (20b) are well-formed only relative to the presuppositions of (37a) and (37b) 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.
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 conjuncts differ in the same (surface) subject; the obviative appears when the subjects are different. The obviative conjunction has the phonological form /kl/ 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 łyːʃ wé pəg gm hu cʊːskən wǔ hiː
Nixon aux-quotative first there Tuscon to go-perfective

(40) łyːʃ ʔamjɛd gm ku halihənə wǔ hiː:
Nixon aux-quotative then there California to go-perfective
Nixon first went to Tuscon and (proximate) then [he] went to California.

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.

(41) Nixon łyːʃ wé pəg gm hu cʊːskən wǔ hiː
Nixon aux-quotative first there Tuscon to go-perfective

(42) (a) The Yankees play the Red Sox tomorrow.
   (b) *The Yankees 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 silent should be stated very carelessly. However, Bunt has observed that the principle can be stated very carelessly. In (42), one can be sure that game will take place, but one can't be sure that

similarly, if /hik/ ihi /'former' is

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inserted in (41) before /gkóːn-wal-ga/ 'president', the result would be judged grammatical 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 conjuncted 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 grammatical 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 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.

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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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1969.

Presupposition and assertion in the
semantic analysis of nouns and verbs in
English

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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 insight-
fully 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 what-
ever, 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.

* This work was sponsored in part by ARPA, Grant no. DAHC 15 68 G-5 to the
Rockefeller University.