John Lyons, Structural Semantics: An Analysis of Part of the Vocabulary of Plato. (Publications of the Philological Society, 20.) Oxford: Blackwell, 1963. Pp. 237.
Here we have an important and substantial contribution to the linguistic understanding of meaning. The preface is dated January 1963, which means that one or two relevant writings by others appeared too late to be taken into account. But Lyons, though wide awake to discussion in progress, is not eclectic in the frequent manner of linguists writing on semantics. His work is strikingly self-contained and invites comment and criticism on, its own, well-defined merits. The crucial chapters are two, the fourth, entitled 'Meaning' which sets forth Lyons' theory, and the ninety page long final payoff on the 'Meaning of
 the stage, justify, forestall objections, and explain. Things are spelled out fully, but not at excessive length. The reader feels that he can focus his own thought on the author's without having to worry much about channel noise.

We are told, first, that a satisfactory theory must be both operationally and materially adequate - that is, that it must make consistent sense of observables and also be essentially concerned with what students of language have called meaning. The latter requirement has in particular been sinned against by linguists; 'not all that is measurable is meaning' (5). Lyons is, however, satisfied that the classical distributional techniques of linguistics do succeed in producing usable units the meaning of which may be studied. He is on the whole concerned with the meaning of words rather than with that of phrases, clauses, sentences, paragraphs, or discourses. When he deals with the word in the sense in which it refers to a whole set of 'forms subsumed in the paradigm' he calls it the lexeme, claiming (II-12) that 'the proportions allophone:Phoneme, MORPH:MORPHEME and word: Lexeme' are essentially alike. (Terminology aside, why is the 'lexeme' for the Greek words iatrós iatroû iatrón . . . 'physician' not simply the stem morpheme (with its allomorphs, say, iatro iatre, followed, in the flow of speech, by the suffixed morphs of the number-and-case morphemes)?') 'Environment', too, is taken in the accepted sense. It is a fair characterization to say (13) that 'generally, the environment for morphemes . . . is taken to be coterminous with the sentence'; a little less fair to omit saying how arbitrary a limitation this has been; but, again, most commendable to point out what to all appearances still needs pointing out, namely that environments must of course be stated at the particular level of analysis where They (are (flying --)) and They (are flying) (--) are different environments (rather than the same environment) for planes (13). Beyond admitting a 'partial isomorphism' between the 'expression-plane' and the 'content-plane' (17), Lyons has no patience with the idea of letting environmental (distributional) criteria define meanings. The idea is declared both 'practically absurd' (the labour cannot be done exhaustively) and 'theoretically fallacious' inasmuch as it is applicable only to a closed corpus (e.g., an extinct language known through texts), that is precisely where it is of no interest; language is essentially unbounded (21). Yet, Lyons's environments do contain the parentheses just quoted and are therefore, by intent, not crude textual stretches but rather transformed kernels. Lyons himself tells us later (119-20) that 'for the purpose of distributional and collocational statement, where this is undertaken in the analysis, the utterances and parts of utterances containing the lexemes in focus have been reduced to the kernel sentences from which they are "derived"'. Under these conditions the implication of the epithet 'unbounded' shifts decisively from amorphousness to complexity (admittedly of a very high order). The antidistributional argument would be more convincing (to the linguist; the philosopher doesn't bother) if it were extended to phonemics. Phonemic environments for phonemes cannot be stated exhaustively either. Instead, certain simplifications and limitations (to 'syllables', junctural stretches, or whatever) are adopted, with the thought that they can be justified as optimal. Furthermore, if forms are said (in an antidistributional vein) not to occur in a given environment 'because' of their meaning, this only asserts that it is possible to relate their 'meaning' to their occurrence. If $c a t$ (in a given idiolect) fails to occur in $--s f y$ or in labiovelar $--s$, is it less admissible to look upon cat as the morph which does not occur in these and other discourses than it is to look upon Latin $t$ as the phoneme which occurs after $\#(s)$ and
before $r$, but not after \# and before $l$ ? Such formulations presuppose an alphabetization, but from then on they stand on their own feet.

One might still ask, and Lyons does ask, whether a distributional test of synonymy aims at the right thing, that is, whether it is materially adequate. There is, after all, the persistent claim that words may have identical environment ranges and yet not be synonyms; the favourite examples are colour adjectives and numbers. That these two categories should be singled out is interesting, since there may be few others where the relation between occurrence and truth poses itself so simply. Now, to be sure, Two and two are five, or I wouldn't be surprised if the cubic root of 8 were 3, may be said to occur in the language despite their absurdity and in that sense all numerals might seem to be exchangeable with each other (here too, and not only in frames like There are -- apples). But that is not the point, since Two and two are five must be thought of not only as occurring as a complete discourse, but also as a sentence within a discourse. And here numerals are no more generally interchangeable than other linguistic forms. We must expect that the embedding environments for 'true' statements are, as a matter of the linguistic record, characteristically different from those for 'false' ones. ${ }^{1}$ Colour terms seem to be even more tractable. Both numerals and colour terms represent extremes with regard to the need which they pose for a recourse to wider (or otherwise special) discourse environments and thus constitute, each in their own way, peculiar semantic areas worth setting apart (cf. Hoenigswald, 1960:16). But they do not disprove the argument from interchangeability to synonymy. In fact, the most powerful support for this argument lies in a bit of language behaviour too deeply ingrained to be ignored: how do speakers deal with synonymity (when they encounter it; not when they theorize) if not by searching for a discourse environment (preferably of the conventional, one-sentence definition form) fitting one, but not the other of the two items in question? Intuitively it seems right to judge the degree of synonymity, that is, so-called nearness of meaning, by the effort needed to make the search successful. In this indirect and pragmatic, but centrally relevant way, attempts ARE constantly made (pace Lyons, 22) to account for the distribution of particular elements 'in terms of the totality of their environments' - the speaker can consult his own potential as to what occurs and what does not. To render the elements in his reasoning explicit is the great task (to the solution of which Lyons has contributed greatly with his work).

Lyons says, with perfect justice, that a theory of meaning 'must be able to handle other relations than synonymy and difference in meaning' (6). As we have just seen, a distributional approach might reasonably claim to account not only for these two, but also for degrees of nearness in meaning. 'The identification [an unfortunate expression] of "meaning" and distribution has been rejected on the ground that two forms that the native speaker feels to be synonymous or very alike in meaning may well distributionally be less similar than another pair of forms which the native speaker would not wish to consider at all alike in meaning' (6). This remains to be discussed in detail, but it looks less frightening if we remember, first, that distribution is to be stated in generative terms, so that two environments may consist of identical of 'similar' strings but may yet have unlike transformational histories, and second, that even the intuitive concept of nearness here to be correlated with distribution (for 'material adequacy') is hardly simple and linear. In discussing incompatibility - which to him, to be sure, is only one of the semantic relations convergent with, but not dependent on, certain environmental configurations - Lyons says (60) very neatly that two 'units that are incompatible may quite reasonably be said to be closer or more alike in meaning than two other units that are "merely" different in meaning . . . . It is far from self-evidently absurd to say, for instance, that wet (in English)

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is closer in meaning to its "opposite" $d r y$ than it is to, say, cold or rich'. If anything were absurd here, it would be the contrary viewpoint. ${ }^{2}$

If context is not environment (25), what is it? Lyons means it to be that portion of the language (opposed to 'the totality of the language', 8o) for which meaning relations are established. Context is mercifully more than 'situation' with its impossible Bloomfieldian traits; it includes 'not only the relevant external objects . . . but the knowledge of speaker and hearer of all that has gone before . . . it must be held to comprehend all the conventions and presuppositions accepted in the society . . . insofar as . . . relevant. In particular, the context of a sentence in a written work must be understood to include the conventions governing the literary genre . . . ' (83). 'Both speaker and hearer are in the context' (85; author's emphasis). ${ }^{3}$ What troubles the reader here is not the 'surreptitious mentalism' disavowed in Lyons's apologia (85-7), but the uncertainty that has descended on the relationship between (textual) environment and context. Are we to believe that contextual 'conventions and presuppositions' can be 'relevant' and yet not discoverable from the discourses of the language? Or is the crucial paragraph simply this: 'The term "context" . . . is thus to be distinguished from "environment" . . . , which is a phonological and grammatical term, whose use rests on the isolation of the utterance from its situational and wider verbal context' (25). What is it that the attribute 'wider verbal' brings into the picture, possibly more 'surreptitiously' than any 'mentalism' but also in response to a more desperate need? Not the language?

Synonymy alone is not only an insufficient target for a general theory of meaning; it is also considered an untypical one by Lyons ( $77-78$ ), because it is degenerate. If there were true synonyms in natural languages - the popular article of faith to the effect that there are not comes after all rather close to the truth - their existence would be without effect
[2] The musings of a speaker might include the following classificatory steps: (A) qualities; (1) qualities having to do with water content (2) . . (3) . . ; (a) dryness, (b) wetness (perhaps with further thoughts on moistness and dampness). It is a trait of many wellknown languages either to lack simple terms for (i) when there are different simple terms for (a), (b), and vice versa, or else to exhibit the intriguing relationship between wide 'not narrow' and wide in how wide (67). Lyons says of the pair width:narrowness: 'There are contexts in which they are antonymous - The width of the gap prevented . . . . In other contexts, however, there is "neutralization" of the antonymy - It depends on the width of the gap (where the gap is not characterized as "wide" rather than "narrow")'. A context, for Lyons, is by no means a mere environment. But the present example is clear enough distributionally and transformationally. The neutralized meaning ('wide'z) of wide is surely associated with the inclusion, within the environment range for wide (long, deep, etc.; that is, really, for the component that can be analysed out of all of these), of certain environment classes which stand out clearly in the sense that they find themselves linked in other ways as well; width $h_{1}$ is open to an anaphoric a circumstance (which . . .) but width ${ }_{2}$ is not; width ${ }_{1}$ and width ${ }_{2}$ are paralleled in distributionally describable ways by pairs of unlike morphs. (The victory prevented . . . [i.e., the fact of victory, cp . the fact that the gap was wide] but It depends on the outcome of the battle [on what the outcome was, victory or defeat, cp.** on what the width ${ }_{2}$ was, width ${ }_{1}$ or narrowness]), and so on.
[3] A word should be said about the notion that utterances like Italian prego in situations where they are socially required are predictable and therefore have no meaning (26). The objection here is not the one which Lyons anticipates and meets effectively, namely that 'it is always possible to resist the pressure and say something different'. He is quite right in saying that 'aberrations of use are no more part of the language than aberrations of form'. But the premise is unrealistic. It isn't like language at all to allow one and only one utterance, completely predictable from the context as it has developed to the point at which the speaker opens his mouth. The context for prego would also seem to permit such variations as prego, prego; prego, Signore (Signora . . .) and very soon we are back in the familiar position where we have to judge part of the nature of the context precisely from the particular variation selected.
on semantic structure. Such a worthless condition does not even need to be defended from distributionalism; 'in this respect synonymy is like free variation in phonology and grammar', the implication being, again, that all other, full-bodied semantic relations are NOT significantly like anything in phonology and grammar. Lyons lists and discusses such relations in his fourth chapter. He claims neither completeness for this short list, nor universality for all of the listings (79) in it, although he is convinced that incompatibility, hyponymy, and probably antonymy are universal among languages, and are essential. INCOMPATIBILITY is the much-discussed relation which exists between colour terms or military rank designations (something which is red cannot be green, etc.,). ANTONYMY, non-gradable (single:married) or gradable (big:small) is introduced as a special but important case of incompatibility (64). HYPONYMY is exemplified by the relation which holds between scarlet and red, or between tulip and flower in English, with a digression on the different ways in which languages subsume incompatible terms even though these terms themselves may have fair one-to-one translations (potato is a vegetable, but Kartoffel
 סquioupyós for which English has no simple equivalent. CONVERSE terms like buy: sell share with antonyms, from which they otherwise differ, a dependence on the implied occurrence of 'corresponding' sentences: $X$ sold $Z$ to $Y$ implies $Y$ bought $Z$ from $X$ much as $X$ is bigger than $Y$ implies $Y$ is smaller than $X$ (72). Pairs like become and be are related as antecedent and consequent. There follows the dicussion of synonymy to which we have already referred. Its chief contribution is the idea of synonymy-in-a-given-context. Thus range and selection are not generally interchangeable, but since they are interchangeable (and judged synonymous) in We have a wide --- of (e.g. We have a wide range/selection of cigars/neckties/sizes/ . . .) they may be defined as synonymous in the particular context involved.

It is possible to learn more about Lyons's views from his most enlightening study of a 'field' or area in Plato's vocabulary which makes up the second part of his book. The nature of his material - an extinct language and a limited corpus treating an abstract subject matter where the weight of strictly extra-language information about the 'real world' is negligible - constrains the author, perhaps unfairly, as it biases the reader into feeling, far more strongly than Lyons would want him to feel, that the world of meaning is the world of language itself. As it is, a reviewer ought to lean over backwards, even against his own preconceptions. This, however, turns out to be a very difficult thing to do.

There can be no doubt that Lyons's semantic relations have their distributional dimensions, although it is not always easy (and, in Lyons's eyes, never really fruitful) to seek them out. Thus, if incompatibility is a matter of mutual exclusion of, say, attributes (actually it is intended to go further than that), mutual exclusion among co-ordinated grammatical attributes of given noun phrases, in those wider verbal environments that mark 'true' rather than 'false' or 'paradoxical' parts of discourses (as hinted at above) will be diagnostic. Hyponyms are more subtle, since the semantic subsumption of oak under tree is not crudely mirrored by inclusion of the discourse-long environment ranges of $o a k$ within those of tree; oak occurs in texts in which tree fails to occur precisely 'because' of the former's specialized meaning (cf. Hoenigswald, $1962: 8 \mathrm{r}-82$ ). Their mutual occurrence is then, by no means

|  | I | II | III |
| :--- | :--- | :--- | :--- |
| tree | x | x | - |
| oak | x | - | - |

but the normal one signifying 'contrast', namely

|  | I | II | III | IV |
| :---: | :---: | :---: | :---: | :---: |
| tree | x | x | - | - |
| oak | x | - | x | - |

It is rather that, in order to identify hyponymy, criteria are needed to give special weight to that portion of environment classes II and III which contains the frames $--s$ and other $--s$; we like all $--s$ sexcept $--s$; you see that -- ; is it $a(n)-\cdots$; -- s are $--s$; etc.

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With antonymy and with 'converse' state things are perhaps in some respects a little easier. This is because of their obvious, though not uncomplicated ties with not, un- etc. and with but, respectively. Students of English transformations need no reminder of the central importance of these items, and it appears that the readiness with which Lyons picks out antonyms and converses as semantically important is related to it.

Even synonymy-in-context will yield its secret, to the extent that extrapolations from feasible distributional operations are ever satisfactory, be it in phonemics and grammar or in lexicon. Lyons's criticism of the simple equation of interchangeability with synonymy might well be that a charting of the distribution of selection and range,

|  | I | II | III | IV |
| :--- | :--- | :--- | :--- | :--- |
| selection | x | x | - | - |
| range | x | - | x | - |

when done in that simplest of all ways does not bring out any difference between selection/ range on the one hand and, say, cat/dog (with real contrast - Lyons uses this term with the gloss 'i.e. not merely . . . different, but incompatible, in meaning', 181) on the other:

|  | I | II | III | IV |
| :--- | :--- | :--- | :--- | :--- |
| $c a t$ | x | x | - | - |
| $d o g$ | x | - | x | - |

This is very true, but there is no reason to despair, because the charting is amenable to the following elaboration. Apparently the data for selection and range are such that the environment class I may be subdivided,

|  | I |  | II | III | IV |
| :--- | :--- | :--- | :--- | :--- | :--- |
| selection | A | B |  |  |  |
| range | x | x | x | - | - |
|  | x | x | - | x | - |

The subclass A contains all those environments which, when filled first with selection and then with range become pairs of stretches that are, in turn, interchangeable in all wider environments. In other words it contains We have a wide -- of, etc., complete with transformational sources and derivatives, while B contains the stretch Did you notice that long --- ? II, then, contains Did you notice that long ----? It is by Beethoven, while III contains Did you notice that long --- ? It goes above the timberline. The important point is that for cat and dog the environment class IA is apparently unoccupied

 went to feed his black --- and her kittens; and in III, He went to feed his black --- and her pups. It is further interesting to note the nature of those instances in which IB is empty while IA is occupied. This is true for the past participle morphs -ed and -(e)n:

|  | IA | II | III | IV |
| :--- | :---: | :--- | :---: | :---: |
| $-e d$ | x | x | - | - |
| $-(e) \boldsymbol{n}$ | x | - | x | - |

where IA includes hew-, II live-, and III give-. Hewed (part.) and hewn are assumed to be always interchangeable. This is of course the kind of phenomenon which is characteristically treated in 'grammar', under some such head as 'combination of free variation with complementary distribution'.

The special study of Plato's vocabulary (chapter VII) is conducted with great care. No summary can possibly do it justice. The first part (139-76) treats the 'field' defined by
 structural principle of the field of $\tau \dot{\varepsilon} \chi \vee \eta$ is transformational derivation from sentences containing $\varepsilon$ हाio $\boldsymbol{\sigma} \alpha \sigma \theta \alpha 1$ '. Plato can extend the field by creating (especially in the Sophistes and Politicus) new adjectives in -ikós, and by way of the feminines thereof, new names of occupations ( $T \varepsilon \times \vee \propto 1)(169-70)$. The second part is dedicated to the proposition that this field,



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$\gamma \nu \tilde{\omega} \sigma_{1 \varsigma}: \tau \varepsilon \dot{\varepsilon} \chi \nu \eta$ and $\gamma 1 \gamma \nu \omega \sigma \kappa \varepsilon 1 v: \varepsilon_{\pi} \pi_{1 \sigma \tau \alpha \sigma \theta \alpha 1}$ and may have the meaning of either in the appropriate contexts. The adjectives in -Ikós, though generally used in contexts characteristic of $\tau \varepsilon ́ \chi \cup \eta$, 'overlap' (instead of being wholly included in) this field in a certain way which is paralleled by the way in which $\delta \mathcal{U}^{\prime} \mathcal{V}_{\alpha \mu 15-\delta u ́ v \alpha \sigma \theta \alpha ı}$ overlaps the field of T $\bar{\chi} \cup \cup \eta$ (this is tentatively formulated on p.175). The second part further contains a discussion of frequency (for which the reader is not quite prepared ${ }^{4}$ ), couched in absolute figures, to enlighten us on the way in which éTíqTaOO 1 , $\varepsilon i \delta \varepsilon ́ v \alpha 1, \gamma 1 \gamma v \omega \sigma \kappa \varepsilon 1 v$, and a number of other verbs are scattered through nine classes of constructions (e.g., with a dependent infinitive, with a $\tau \varepsilon \in \chi \nu \eta$ - noun for an object, and the like).

The frequency table is then followed up by a series of subsections containing close interpretations of the relevant passages. Since the initial arrangement here is by environment, the results need to be supplemented by relating them to the 'fuller' context. Lyons finds his earlier tentative notions on the relatively close relations between $\mathfrak{i l} \delta \dot{\varepsilon} v \alpha 1$ and
 $\varepsilon \pi T i \sigma T \alpha \sigma \theta \alpha 1$ ) confirmed. ${ }^{5}$ Furthermore, he places five additional items ( $\alpha, \gamma v o \varepsilon i v$,
 the meaning of which he finds dominated by its antonymy with ớ $\mu \alpha 0$ n's. But this pair is not limited to the special field of $\tau \varepsilon \in \cup \eta$. The term $\sigma \circ \varphi^{\prime} \alpha \dot{\alpha}$ is convertible with $\varepsilon \pi \pi 1 \sigma \tau \eta \dot{n} \mu \eta$ in


 imply the predicate $\sigma 0 \emptyset$ ós if the context involves an effort to characterize a person as being distinguished from a majority.

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[4] The purpose is to determine what is typical - a necessity in a closed corpus (226).
[5] Compare p.i77, where we find as part of the hypothesis to be tested: 'the relation that holds between $\varepsilon \in \pi i \sigma \tau \alpha \sigma \theta \propto 1$ and $\tau \dot{\varepsilon} \chi \vee \eta$ holds also between other pairs of these six lexemes (though not necessarily in the same contexts) as follows:


(iii) there is not the same clear prima facie evidence to suggest that

or



[^0]:    [ 1 ] Linguistically, truth acts as a meaning. In The sun is rising, the word rise may in some sense be an astronomical falsehood or it may have the special status of a metaphor. But that is interesting to the semantics of English only insofar as texts dealing with astronomy are compared with other texts, complete with metaphors.

