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SEMANTIC COMMAND OVER PRAGMATIC PRIORITY*

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The coordinating conjunction 'and' is best regarded not as equivalent to logical conjunction but as an autonomous linguistic conjunction whose meaning is captured by the notion of 'semantic command'.

Several recent studies of language meaning and use, beginning with Grice (1975) and including Schmerling (1975), Posner (1978), and Gazdar (1978), propose essentially identical analyses of the coordinating conjunction 'and': 'and' is regarded as equivalent to logical conjunction, and its variation in meaning is attributed exclusively to the operation of pragmatic rules of conversation. 'And' is, at base, symmetric, any asymmetry in interpretation deriving from context of usage. Thus, the temporal and causal

- (1) Harold opened his briefcase, and he ceremoniously pulled out his completed term paper.
- (2) John raised the blinds, and the sun poured into the room.

precedence of the first conjuncts over the second in (1) and (2), respectively, is a matter of pragmatic inference, not a matter of the semantics of 'and'. In this paper, we produce evidence to show this popular pragmatic view to be inadequate, and we propose, instead, an analysis in which 'and' has a linguistically autonomous, nonsymmetric meaning. In this reanalysis, we will suggest that logical conjunction is 'pragmatically' derived from linguistic 'and'; 'and' will no longer primarily represent an element of formal logic

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but will become a specifically linguistic conjunction sitting in opposition to other linguistic conjunctions in the scheme of discourse connectives.

Our argument presupposes an important methodological point, namely, that the so-called logical meaning of 'and' is a hypothesis about an underlying semantic meaning. As such, it is not available to the casual observer of language, any more than the one of several syntactic or phonological variants that is basic stands out as such. As in syntax or phonology, the claim that one variant is basic, more accurately reflecting underlying linguistic structure, is simply a linguistic hypothesis. There is nothing inconceivable about the idea that the 'logical' meaning of 'and' is in fact derived from some other underlying cognitive meaning. It is the job of linguistics to examine the alternatives, by analysis of linguistic facts.

This methodological point serves to criticize in pragmatics as it is sometimes practiced the a-priori assumption that the underlying basic meaning of a linguistic unit can be found in the specific definitions proposed by logicians, involving truth-tables, reference in possible worlds, and other areas that are inherently more inclusive than those the field of linguistics has ordinarily covered. Until the bounds of linguistics can be more exactly defined as distinct from those of logic, we see in the a-priori equation of meaning and logic an unfortunate renunciation of independent linguistic responsibility. We reject the a-priori assumption that logicians can provide instant truth in areas of language in which linguists have often feared to tread.

It is worthwhile recalling that Benjamin Whorf regarded logic as a derivative of the specific grammatical characteristics of Western languages. If we note further, with the help of hindsight, that Whorf's attention was directed to what we would now call the surface characteristics of the languages that he studied, we can begin to suspect that logic might be a disguised version of some sort of 'surface semantic' level of language, rather than representing its underlying cognitive structure. It is possible, in other words, that the true basic meaning of a linguistic unit might be a peculiar Whorfian kind of meaning, and that the logical variant is derived secondarily from it.

Our views will indeed develop along these lines, as we examine the defects of analyses of the conjunction 'and' proposed in the Gricean pragmatics tradition. As we will show, the attempt found there to equate the linguistic meaning of 'and' with logical conjunction leads to contradiction of extremely basic linguistic facts. The autonomous linguistic analysis that we will develop here provides a more subtle, as well as fundamentally more accurate analysis of the linguistic facts.

The basic proposal that we will criticize is that the directional (asymmetric) meaning of 'and', as exhibited in (3b-c), are secondarily derived variants of logical conjunction, the latter being more directly reflected in the nondirectional (symmetric) (3a).

- (3a) Paris is the capital of France, and Rome is the capital of Italy.
- (3b) I started to type and the power went off.
- (3c) The lights were off and I couldn't see.

A particularly clear statement of one line of reasoning to motivate this explanation has been presented by Posner (1978). He notes that an adverbial indicating temporal or causal succession may be added to directional-'and' sentences, as we have indicated in (4a), an expansion of (3b).

- (4a) I started to type and then the power went off.
- (4b) I started to type; (then) the power went off.

But he denies that this adverbial is in any way implied by the meaning of 'and'. To prove his claim, he shows that the same sentences without 'and' admit addition of the same adverbial, as we have shown in (4b). Posner's argument, as he generalizes it, is that 'and' is equivalent to null.

This supposed equivalence of 'and' to null will serve as a convenient general backdrop for various aspects of our proposal. For we will suggest that the meaning of 'and' – a meaning distinct from that of logical conjunction – can be brought out by examining those instances in which 'and' cannot be freely omitted or added, without change in meaning or grammaticality. If 'and' were equivalent to null, we would expect it to be freely added or omitted, without change in the linguistic status of the sentence – at least to the extent that purely syntactic considerations are not involved. We begin by presenting examples that show the nonequivalence of 'and' and null, in (5)–(7), relating to the simple point of temporal and causal directionality. (Other examples, more interesting in general terms, will be presented later.)

- (5a) Max didn't go to school; he got sick.
- (5b) ≠ Max didn't go to school, and he got sick.¹
- (6a) Max fell asleep; he was tired.
- (6b) ≠ Max fell asleep, and he was tired.
- (7a) Max fell; he slipped on a banana peel.

¹ The '≠' notation indicates inequality of meaning for the paired examples.

- (7b) ≠ Max fell, and he slipped on a banana peel.
- (8a) Max fell, and he broke his leg.
- (8b) ≠ Max fell; he broke his leg.
- (9a) Stand up, and I'm going to break your arm.
- (9b) ≠ Stand up; I'm going to break your arm.

These examples, in contradicting Posner's suggestion, also contradict Schmerling's insightful, but we believe somewhat misstated, analysis. Schmerling (1975) proposes the felicitous term 'priority' for the directionality of 'and'. *S' and S"* is interpreted as meaning that *S'* is (chronologically or causally) prior to *S"*. But she proposes to derive this meaning as an implicature from the nondirectional, 'logical' meaning, with the help of a discourse principle, quoted in (10).

- (10) In conversation, we first lay the groundwork for what we are going to say next.

The problem with predicting 'priority' in just this way is that the principle of discourse-ordering overpredicts wildly – predicting the very equivalence of 'and' with null that is refuted by obvious examples such as (5)–(9).

In (5a), for example, the listener makes pragmatically reasonable assumptions about causal and temporal relations between getting sick and going to school; these assumptions are obviously based on discourse-order as well as purely real-world considerations. But in (5b) these causal and temporal relations are overridden, in fact reversed in this case. Whatever principle is involved in this change of meaning is obviously not a result of ordering of the constituent clauses in the compound, since this ordering is the same in (5a) and (5b); on the contrary, the change of meaning is uniquely associated with the presence of 'and'. At this point it seems most natural to conclude that the cause of the change lies in the *meaning* of 'and', rather than in a discourse principle of any sort.

It follows that we are looking for an analysis of the meaning of 'and' which is semantic (autonomously linguistic) in the sense of not being derived from the structure of discourse. Indeed we are looking for a definition that will not try to derive the directionality of 'and' from outside of 'and' at all, since it is not so derivable. To be successful, we need to find a way to combine the directional and nondirectional meaning of 'and' in an integral, unified way; to find the communis of meaning between these two variant meanings.

It may be helpful to recall, at this point, an old example of Whorf's: the Hopi word /masaytaka/ (Whorf 1956: 216). As Whorf notes, this word refers to a pilot, an insect, or an airplane – in fact to anything that flies, with the sole exception of birds! What Whorf proposes to be the meaning of this word, namely 'non-bird flier', would perhaps seem like a weird circumlocution to a logician; but it does not really seem any more improbable than many of the collapsings that we do in syntax and phonology – in the completely reasonable belief that we are achieving real generality by so doing. The goal of the exercise is simply to collapse into a single unified definition two phenomena that we honestly (and maybe even correctly) intuit to be one, beneath their surface appearance.

Following these usual requirements of fact and theory, we propose that the central feature of the meaning of 'and' is the notion of 'semantic command', given in (11).

- (11) *semantic command*:

The second conjunct (*S"*) is *not prior* to the first (*S'*) (chronologically or causally).

We can appropriately call this notion 'semantic command' because of the parallel with the well-known concept of syntactic command, where *A* commands *B* as long as *B* is *not higher than A*. We find it completely natural for the closest analogy to the discovered meaning of 'and' to be found in syntax, rather than in somewhat extralinguistic structurings like discourse or reference.

This, then, is the kernel of our proposal. Before filling out some wider aspects of it (further distinguishing the meaning of 'and' from a discourse principle), we must show how logical conjunction – now demoted – can be derived from the meaning of 'and' as a special variant. Also, we must show how our analysis meets Gazdar's recent (1978) rejection of a linguistically autonomous, nonsymmetric meaning for 'and'.

We suggest that the principle for deriving logical conjunction is not the usual kind of pragmatic or conversational implicature, but rather a deliberately imposed special requirement of 'logical invariance' (invariance for purposes of logical derivation).

Our proposed definition of 'and' covers a spectrum of causal and temporal relationships. There is no reason to doubt the invariance of this meaning from a linguistic point of view. But the linguistic invariance is not of a type that can facilitate the representation of causal and temporal

relationships with sufficient referential tightness to satisfy the physicist, chemist, or logician. We thus see logic as choosing, in the interests of what it understands to be neat derivations of logical consequences, one end of the spectrum of relationships implied by linguistic 'and'. We can further note that it is on the simpler end of the spectrum that it focuses – avoiding the referential vagueness of chronological versus causal, and of variable distance of relationship (causally or chronologically).

In line with this suggestion for deriving logical conjunction, Gazdar's analysis (pp. 69–71), in fact, uses the very possibility of simplifying 'and' in context as alleged proof of its basically symmetric meaning. Gazdar argues, against Cohen (1971) and using an example from the latter, that in the antecedent clause of (12)

- (12) If the old king has died of a heart attack and a republic has been formed, then Tom will be quite content.

the asymmetric, causal meaning attributable to 'and' must be contextually derived. The reason is that the causal meaning can be eliminated, and the truth value of the conditional changed, by adding a clause to the antecedent that will make the causal meaning inconsistent with context. Thus, the meaning and the truth value of (13) differ from those of (12),

- (13) If the old king has died, and a republic has been formed, and the latter event has caused the former, then Tom will be quite content.

the causes and effects being reversed in the two cases, implying that causal meaning was contextually supplied in the less specified context of (12).

However, Gazdar's argument is not convincing. The addition of extra context in (13) acts only to prevent the causal meaning of 'and'; it does *not* imbue 'and' with the reverse causal meaning supplied by the third conjunct. The additional context has eliminated the semantically possible asymmetric reading of 'and', forcing a truly coordinate, symmetric reading of the relationship between the first two conjuncts. With 'and' thus pragmatically narrowed, (13) becomes effectively synonymous with (14),

- (14) If, on the one hand, the old king has died of a heart attack, and if, on the other hand, a republic has been formed, and finally, if the latter event has caused the former, then Tom will be quite content.

in which the two original conjuncts 'float' with respect to each other, no semantic relationship implied, or not implied. Whereas in (12), 'and' implies causality, in (13) it implies logical conjunction alone, with the third conjunct spelling out an otherwise unavailable meaning. (12) cannot mean (13).

Furthermore, the same criticism that applies to Schmerling's analysis applies to Gazdar's. Gazdar assumes that Grice's 'Be orderly!' maxim is sufficient to account for the causal and temporal meanings often attributed to 'and'. But examples (5)–(9) plainly undermine this explanation. Thus, if the (a) examples are orderly, then the (b) examples are not; and if the (b) examples are orderly, then the (a) examples are not – an untenable position given the perfect naturalness of all the examples. Gazdar acknowledges the problem himself in a footnote (9, p. 44) in which he labels such examples as "putative" counterexamples. But no solution is offered. Indeed, it appears that any pragmatic principle based on orderliness alone will fail to account for the meaning of 'and'. On the other hand, not only those facts Gazdar's analysis handles, but those he leaves unaccounted for are explained by adopting the principle of semantic command as central to the meaning of 'and'.

To fill out some of the wider aspects of the proposal – and argue more completely for the nondiscourse nature of the meaning of 'and' – we suggest that 'and' be considered one among several types of relationships that can hold between any two sentences allowing conjunction in discourse. We find that, although 'and' is compatible with some of these relationships, it is mutually exclusive with others. As shown above, the meaning of 'and' includes a spectrum of relationships from simple coordination to directional conjunction involving time or causation. But, as illustrated in (15)–(18), 'and' is mutually exclusive with other conjoining relationships, including exemplification, conclusivity, and explanation. These relationships are also directional, but apparently the fact that they are not causal or temporal disallows use of 'and'.

Interestingly, the inadmissibility of 'and' in these cases seems to be independent of the direction of the relationship. In the temporal and causal cases, 'and' was allowed just when the directionality went forward, from cause to effect or from prior to following event, as in (5b), (7b), (8a), and (9a). In fact, adding 'and' to the complementary backward-directed examples, (5a), (7a), (8b), and (9b), respectively, reversed their directional status. With 'and' added, the original meaning of these 'and'-less examples can be preserved only by inverting the order of the clauses themselves. But,

in nontemporal, noncausal cases, 'and' is inadmissible in relationships heading in either direction, forward or backward. Thus, even if it comes as no surprise that 'and' is inadmissible in (15),

- (15) Wars are breaking out all over;
 (a) Champaign and Urbana have begun having border skirmishes.
 (b) *and Champaign and Urbana have begun having border skirmishes.²
 (c) for example, Champaign and Urbana have begun having border skirmishes.
 (d) *and, for example, Champaign and Urbana have begun having border skirmishes.

where S'' exemplifies S', a backward-directed relationship, 'and' is equally inadmissible in (16), where S'' represents a conclusion stemming forward from S'.

- (16) There are his footprints;
 (a) he's been here recently.
 (b) *and he's been here recently.

Similarly, in cases of explanation, like (17), 'and' is also inadmissible. Nor does adding 'and' to the inversion of (17), shown in (18), produce an acceptable semantic equivalent.

- (17) Language is rule-governed;
 (a) it follows regular patterns.
 (b) *and it follows regular patterns.
 (c) that is, it follows regular patterns.
 (d) *and, that is, it follows regular patterns.
 (e) in other words, it follows regular patterns.
 (f) *and, in other words, it follows regular patterns.
 (18) ≠Language follows regular patterns; and it is rule-governed.

We find it significant in these examples, in the light of Posner's analysis, that wherever 'and' is inadmissible, it is equally inadmissible with additional adverbial material. These adverbials merely make explicit, in appositive

² The '*' notation indicates unacceptability in the intended meaning or ungrammaticality.

fashion, the type of relationships holding between the constituent clauses of the compound, and thus they are merely the overt expression of the very meanings that disallow 'and'.

It is fair to conclude at this point that 'and' is not semantically vacuous, but indeed has a meaning, captured by the principle of semantic command, and takes a very definite place among the linguistic conjunctions of the language. Beyond this, we assume that more detailed study of the 'logic' of conjunction would be revealing in further interesting ways. Thus, for example, there are cases where addition of lexical material seems to overturn some aspect of the generalization concerning the admissibility of 'and'. In (19)

- (19) There are his footprints;
 (a) *and he's been here recently
 (b) ??and thus
 (c) ?and I know
 (d) and thus I know

we show one such case, in which introduction of lexical material – an adverbial and higher verb – contributes to the admissibility of 'and'. But the reason is obvious: the higher verb, especially with 'thus', introduces the kind of causal relationship that allows 'and'. From a purely referential point of view, there may not be a difference between the sentences with and without the additional material; but the effect on the semantic acceptability of 'and' in them shows the semantic difference.

Close examination of other apparently problematic examples would undoubtedly lead to further insights. Examples such as (20) and (21),

- (20) Max can't read – and he's a linguist!
 (≠ Max can't read; he's a linguist)
 (21a) There are three important letters, and the most important of them is lambda.
 (21b) ?There are three important letters, and one of them is lambda.

which show 'and' where it might be expected to be inadmissible, could bear more scrutiny. Their investigation, however, would probably not affect the conclusions of this paper directly. In (20) the peculiar, contrastive, dash-exclamation-point intonation sets this example (and other potential counterexamples) apart from the sorts of example we have been discussing.

(21) appears at first to counter the claim that 'and' is inadmissible with exemplification; however, while we do not know exactly what category would best cover this use of 'and', we can demonstrate that it differs from exemplification in requiring isolation of one or more examples as most important.

In conclusion, the analysis of 'and' proposed in this paper suggests a quite different view of semantics than the one currently being pursued in some logic-oriented semantic and pragmatic studies. We do not wish to deny the importance of pragmatics and logic for describing language use and meaning or to deny the intricate depth of the interrelationship of meaning and use. However, we do wish to suggest that linguists should not abandon the idea that semantics has a life of its own, one that is not necessarily available to simple observation and one whose relationship to 'surface' logic, or the observable level of semantic representation, is by no means obvious. The belief is altogether reasonable that there is a cognitive level of linguistic organization whose discovery requires a degree of abstract and rather subtle hypothesizing. It would be premature to abandon a more traditionally linguistic empirical study of sentence conjunction in favor of a purely pragmatic approach, which assumes the underlying connections between sentences are those given by formal logic. In this paper we intended to show, by investigation of facts surrounding the admissibility of 'and' that, even concerning this most likely candidate for a purely logical treatment, there are subtleties of distribution that require independent linguistic theorizing and explanation.

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THE DECAY OF ERGATIVITY IN PAMIR LANGUAGES

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The regular past tenses in modern Iranian are derived historically from the Old Iranian perfect participle in *-ta*, which had a passive orientation in the case of transitive verbs. The reanalysis of the passive participle as an active verb leads initially to an ergative case-marking system, and to discrepancies in verb-agreement patterns between transitive and intransitive sentences. The eastern Iranian Pamir languages exhibit various stages in the decay of the original ergative construction into a nominative-accusative one, including the development of typologically rare double-oblique and tripartite case-marking systems, and the grammaticalization of personal pronouns as agreement markers.

1. Introduction

1.0.

In recent literature, there has been considerable interest in the 'coding' properties of subjects and objects, primarily case-marking and verb agreement patterns (Keenan 1976), and the stages by which one coding system may evolve into another, for example the evolution of a nominative-accusative system into an ergative system on the basis of passive constructions in Polynesian (Hohepa 1969) and Iranian (Anderson 1977). The

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Examples from Šuyni and Sarykoli are taken from written sources, namely Zarubin (1960), Paxalina (1966, 1969). Examples from the other Pamir languages have been checked with native speakers in Dušanbe. The following written sources were also used: Fajzov (1966), Karamxudoev (1973), Kurbanov (1976), Paxalina (1959), Paxalina (1975), Grjunberg and Steblin-Kamenskij (1976).