

DISCUSIONES

BRYANT ON SOMMERS

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For more than twenty years now Fred Sommers has been building, correcting and extending his theory of ontology and logic.¹ It is an impressive and potentially powerful theory, and friends and foes alike have recognized its importance. Much of the force and attractiveness of Sommers' work is due to the many crucial distinctions which he has been able to reveal so clearly. Perhaps the most important of these (for both ontology and logic) is the one between negation and denial.

One of the more recent attempts to make use of this distinction was made by John Bryant.² Unfortunately, Bryant has misrepresented Sommers' distinction. Whether Bryant's

¹ Sommers' Ontological and Logical Theory is found in the following series of essays: "The Ordinary Language Tree", *Mind*, 68 (1959); "Meaning Relations and the Analytic", *Journal of Philosophy*, 60 (1963); "Types and Ontology", *Philosophical Review*, 72 (1963); "Truth-functional Counterfactuals", *Analysis Supplement*, 24 (1964); "A Program for Coherence", *Philosophical Review*, 73 (1964); "Truth Value Gaps: A Reply to Mr. Odegard", *Analysis*, 25 (1965); "Predicability", *Philosophy in America*, ed. M. Black, Cornell University Press, Ithaca, 1965; "Why is There Something and not Nothing?", *Analysis*, 26 (1966); "What We Can Say About God", *Judaism*, 15 (1966); "On a Fregean Dogma", *Problems in the Philosophy of Mathematics*, ed. I. Lakatos, North Holland Publishing, Amsterdam, 1967; "Do We Need Identity?", *Journal of Philosophy*, 66 (1969); "On Concepts of Truth in Natural Languages", *The Review of Metaphysics*, 23 (1969); "The Calculus of Terms", *Mind*, 79 (1970); "Confirmation and the Natural Subject", *Philosophical Forum*, 2 (1970/71); "Structural Ontology", *Philosophia*, 1 (1971); "Existence and Predication", *Logic and Ontology*, ed. M. K. Munitz New York University Press, New York, 1973; "The Logical and the Extra-Logical", *Boston Studies in the Philosophy of Science*, 14 (1973); "Distribution Matters", *Mind*, 84 (1975); "Logical Syntax in Natural Language", *Issues in the Philosophy of Language*, ed. A. MacKay and D. Merrill, Yale University Press, New Haven, 1976; and "On Predication and Logical Syntax", *Language in Focus*, ed. A. Kasher, D. Reidel Publishing, Dordrecht, 1976.

² "Negation, Denial and Possibility", *Crítica*, 11 (1979), pp. 111-122.

failure here seriously hinders his overall goal of rejecting John Barker's theses concerning counterconditionals³ I cannot say. I shall limit my brief comments to Sommers' distinction and Bryant's attempt to grasp it.

The distinction between denial and negation comes originally from Aristotle (to whom Sommers has given the credit).⁴ According to Aristotle every assertoric sentence is logically categorical — consisting of exactly one subject and one predicate. Every predicate is either affirmed or denied of its subject. The sign of affirmation or denial is the copula (or qualifier, since it determines the quality of the sentence). An assertion and its denial are always contradictory, having opposite truth values. It is in this sense that a denial is often called a negation. In contrast with the denial of an assertion is the logical contrary of that assertion. A predicate is syntactically complex, consisting of a term (itself either simple or complex) and a qualifier. Now Aristotle (often to the discomfort of some of his less faithful followers) recognized that terms themselves can be negated. This is his theory of privation, which became the scholastic's theory of infinite terms. Consider the simple affirmation 'Socrates is wise'. We can say that Socrates is privative with respect to wisdom by asserting 'Socrates is unwise'. Each sentence is an affirmation. What is negated in the second is not the predicate but only the predicate-term. The negation of the predicate-term of an affirmation results in a logically contrary affirmation. The negation of the predicate results in a denial, the logical contradictory of the original.

Aristotle also recognized that there is a semantic as well as syntactic grounds for his distinction. Any term can be denied of any subject. But only a term which can be *natural-*

³ See J. A. Barker, "Hypotheticals: Conditionals and Theticals", *Philosophical Quarterly*, 23 (1973).

⁴ I have examined Aristotle's account of the distinction in "The Square of Opposition", *Notre Dame Journal of Formal Logic*, 17 (1976); "On Propositional Form", *Notre Dame Journal of Formal Logic*, 21 (1980); and in *Three Logicians: Aristotle, Leibniz, and Sommers and the Syllogistic*, Van Gorcum, Assen, forthcoming.

ly predicated of a subject can be negated and then sensibly affirmed of it. Thus, for example, we can say "This stone is not blind" (denying blindness of it), but we cannot (sensibly) say "This stone is nonblind (i.e. sighted)".⁵ Stones are neither blind nor privative with respect to blindness (sighted). They are, therefore, not natural subjects of 'blind'. Neither 'blind' nor 'nonblind' can be affirmed of 'this stone', but both can be denied of it.

All this (and much more) is held by Sommers, as an examination of his logical theory as found in the papers cited in note 2 will show. "Predicability", which seems to be Bryant's only source of knowledge concerning Sommers, is an early paper which predates Sommers' more concentrated logical work. Yet the key logical distinction is found there. Only the terminology is a bit different. There Sommers calls the affirmation of a negative term a denial. Thus, while he would now call 'Socrates is unwise' the contrary of 'Socrates is wise', in "Predicability", while admitting its contrariety to 'Socrates is wise', he called it the denial.⁶

Verbal differences are not substantial differences. The distinction is there all the same between negating a predicate (creating the contradictory) and negating only the predicate-term (creating only the contrary). It is really a distinction between two kinds of negation, and ultimately depends upon the distinction between predicate-terms (which may be viewed as syntactic simples) and predicates (which must be viewed as syntactic complexes).⁷

What Bryant has done now is reverse the denial and the negation of an assertion. It is clear that in "Predicability" at least Sommers wanted to say that the negation of "The

⁵ See *Categories*, 12a26-12b5.

⁶ See "Predicability", p. 273, where he allows the denial of "The equator is clean" is 'The equator is unclean (not clean)'.

⁷ Neither of these distinctions is recognized in the contemporary calculi of mathematical logic. The result is that both term negation and predicate negation (denial) are collapsed together, and then identified with sentential negation. I offer an extended discussion and critique of this in *Logical Negation*, Van Gorcum, Assen, forthcoming.

equator is dirty' is 'It is not the case that the equator is dirty' and that its denial is 'The equator is not dirty'. In that essay the logical contrary of an assertion is called its denial, and the logical contrary of 'The equator is dirty' is 'The equator is not dirty'. Sommers' intent was on showing then that the law of excluded middle holds only for an affirmation and its negation. Thus, letting S be any assertion, S' be its denial (logical contrary) and $\neg S$ be its negation (contradictory), we can say

$$1. S \vee \neg S$$

is analytically true. It is the law of excluded middle. Indeed, since it holds for any assertion, and since the denial (logical contrary) of an affirmation is also an affirmation, a substitution instance of 1 is

$$2. S' \vee \neg S'$$

There is no analogue of the law of excluded middle which holds for affirmations and their denials (logical contraries). Thus is not analytically true. As Sommers said, "The law of excluded middle does not apply to the affirmation and denial of predicate terms within statements" (p. 273). Nonetheless, Bryant says that "either a statement or its *denial* must be true, rather than a statement or its *negation* must be true" (p. 112). He is calling "negation" what Sommers in "Predicability" called "denial" and vice versa! We can applaud Bryant's willingness to accept a distinction not easily accepted today, while deploring his carelessness in reporting it. But there is more.

In Sommers' first series of essays he developed an ontological theory which was far-reaching and elegant, and also fundamentally simple.⁸ That theory hinges in large measure

⁸ The literature surrounding this theory is too numerous to list here. I have given an extensive summary of it in my doctoral thesis "Sommer's Tree Theory: Possibility and Existence", University of Nebraska, 1971. For a recent example

on his distinction between a term being *true of* a subject, a term *spanning* a subject, and a term being *predicable of* a subject. If a term is true of a subject then it is predicable of it. If a term is predicable of a subject it spans it. But a term which does not span a subject is neither predicable nor impredicable of it. And a term which is impredicable of a subject is neither true nor false of it. A sentence which predicates a term which is not predicable of the subject (either because it is impredicable of it or because it does not span it) is vacuous. A vacuous sentence whose predicate-term does not span its subject is a category mistake, nonsense.⁹ Sommers' notion of spanning here recalls Aristotle's old notion of natural subjects. Stones are not the natural subjects of 'blind' because 'blind' does not span them. All of this is ignored by Bryant's attempt to introduce two kinds of impredicability (essential and accidental) (pp. 113-114). Anyone familiar with Sommers' ontological works must reject Bryant's claim that Sommers only "deals with the former" (viz. essential impredicability — lack of spanning).

Sommers' theory of ontology and logic deserves the increasing interest and attention it is now getting. One can only hope that those, like Bryant, who see value in it will use it wisely and with more care than he has.

of how useful Sommers' theory can be see F. C. Keil, *Semantic and Conceptual Development*, Harvard University Press, Cambridge, 1979.

⁹ See "Types and Ontology", and my "Vacuousity", *Mind*, 81 (1972), and "Elgood on Sommers' Rules of Sense", *Philosophical Quarterly*, 21 (1971).