ABSTRACT UNIVERSES AND QUANTIFYING IN

DONALD E. STAHL

> "Quine is hardly going to be caught out
> in a straightforward logical mistake."
> — P.T. Geach, *Logic Matters*, p. 243

Many problems surround existence, identity and necessity. The problems are clearly connected, in ways that are sometimes noticed, sometimes overlooked. They can be seen in sharpest focus in "the" problem of quantifying in, a multiform phenomenon whose complexity has been only partially uncovered so far. At least, so I claim. "Solutions" to the problem of quantifying in abound. M.K. Rennie says, "We leave as an exercise the application of our system to venerable problems in modal logic, of the kind posed by Quine and others. The work is easy...."[1] But the solutions are inadequate, in that in each case a feature of the solution will be just as unsatisfactory as the problem it solves. Trade offs are involved, forming a pattern whose structure needs limning. It is this pattern which can most properly be called "the" problem of quantifying in. Despite prevailing impressions to the contrary, it has not yet been adequately stated, much less solved.

I do not attempt to solve the problem of quantifying in in this paper, or even to state it fully. Nor do I argue the above claims. This paper is rather concerned with accomplishing the very first step in the project of stating and solving the problem of quantifying in, the removal of an obstacle to understanding that problem's symmetry. The removal of that obstacle will not solve the problem of quantifying in. It will make it possible, later, to state it. In his "Reply to Professor Marcus,"[2] Quine says:

As a matter of fact, the worrisome charge that quantified modal logic can tolerate only intensions and not classes or individuals was a mistake to begin with. It goes back to 1943; my "Notes on Existence and Necessity"[3] and Church's review

DONALD E. STAHL

of it.[4] To illustrate my misgivings over quantifying into modal contexts I used, in that article, the example of 9 and the number of the planets. They are the same thing, yet 9 necessarily exceeds 7 whereas the number of the planets only contingently exceeds 7. So, I argued, necessarily exceeding 7 is no trait of the neutral thing itself; the number, which is the number of the planets as well as 9. And so it is nonsense to say neutrally that there is *something*, x, that necessarily exceeds 7. Church countered that my argument worked only for things like numbers, bodies, classes, that we could specify in contingently coincident ways: thus 9 is what succeeds 8, and is what numbers the planets, and these two specifications only contingently coincide. If we limit our objects to intensions, Church urged, this will not happen.

We should note at this point that in the above words Quine is apparently attributing to Church the opinion that

(1.) "Intensions" cannot be specified in contingently coincident ways.

This interpretation has been explicitly adopted by Leonard Linsky, who says that intensions were chosen because they were thought to have the right sort of names.[5] Quine's acceptance of (1.)[6] represents a slight change of mind, for in "Notes on Existence and Necessity," he had said, ". . . the only difference between classes and attributes resides, as we have seen, in the condition of identity. . . ."[7] This first change of mind was of course a mistake. We did not need Quine's "simple proof" that "Anything x, even an intension, is specifiable in contingently coincident ways if specifiable at all."[8] The even simpler observation that

(2.) *Black* = the color of my car

is only contingently true, would have done it. Quine's "proof," like (2.), is a disproof of (1.). But there is no (or little) evidence that anyone except Quine has ever believed (1.) for any period of time. It is in particular not to be found in Church's review, the relevant paragraph of which is this:

But the reviewer would question strongly the conclusion which the author draws that no variable within an intensional context (e.g., within the scope of such a modal operator as 'it is possible that') can refer back to a quantifier prior to that context (outside the scope of the modal operator). The conclusion should rather be that in order to do this a variable

QUANTIFYING IN

must have an intensional range — a range, for instance, composed of attributes rather than classes. To paraphrase an argument which Quine applies to a somewhat different illustration, let 'b', 'f' and 'm' mean respectively the class of bipeds, the class of naturally featherless creatures, and the class of men. Then the sentence is true (9) 'fb = m . fb ≠ m' — the non-existence of featherless bipeds other than men being a zoological accident. But, where 'α' is a class variable, the inference from (9) of the sentence '(∃α): α = m . ◊ α ≠ m' must be in error, since, having 'α = m', we could substitute 'm' for 'α' and infer further the false sentence '◊ m ≠ m'. There is no similar objection, however, to the inference from (9) of (10) '(∃φ): (x) (φx ≡ x∈m) (∨(x) φx ≡ x ∈ m)', where ϕ is a variable for attributes; and it would seem that in a logical system containing both modal operators and quantifiers such inferences should be retained.[9]

Several features of Church's argument above are noteworthy. First, it is not immediately relevant to the main difficulty Quine presented in "Notes..." and continued to worry in *From a Logical Point of View*. (I am unable to determine of which argument of Quine's it is a paraphrase.) Quine presented an argument whose conclusion was problematic because it stated that a certain contingent sentence of the type of

(3.) 9 = the number of the planets

was necessary. (Let us call this "Quine's Problem.")[10] Church's argument rather emphasizes the conclusion that a certain necessary sentence of the type of

(4.) m = m

is contingent. (Let us call this "Church's Problem.") These problems are closely related, but we do better to emphasize their distinctness. Next, the argument is not immediately relevant to the rest of the paragraph. The matrix

(5.) $\ulcorner \phi = \psi . \Diamond \phi \neq \psi \urcorner$

is problematic in itself, being equally troublesome whether it is supplied with names of individuals, classes or attributes. The first conjunct will always permit a substitution in the second, to yield $\ulcorner \Diamond \phi \neq \phi \urcorner$. Attributes have no more to do with this circumstance than classes or individuals.

Church's Problem might be said to be: how to express contingency. He solves it not by quantifying over attributes only, but by quantifying over *both* attributes and individuals (while simultaneously naming classes). It is quantification over both attributes and individuals which allows him to express the gravamen of (9) without employing the troublesome (5).

So much for Church's argument. Note that nowhere in the paragraph is there a hint of (1). The reader may satisfy himself that there is no hint of it in the rest of the review also.

Quine's Problem consists in the fact that certain things are said to be necessary when they apparently aren't. If there are no contingencies in the language, however, between, and then of course this problem is solved. Such was Quine's insight.

The root of the trouble was the referential opacity of modal contexts. But referential opacity depends in part on the ontology accepted, that is, on what objects are admitted as possible objects of reference. This may be seen most readily by reverting for a while to the point of view of $\diamond$ 1, where referential opacity was explained in terms of failure of interchangeability of names which name the same object. Suppose now we were to repudiate all objects which, like 9 and the planet Venus, or Evening Star, are nameable by names which fail of interchangeability in modal contexts. To do so would be to sweep away all examples indicative of the opacity of modal contexts.

But what objects would remain in a thus purified universe? An object x must, to survive, meet this condition: if S is a statement containing a referential occurrence of a name of x and S' is formed from S by substituting any different name of x, then S and S' not only must be alike in truth value as they stand, but must stay alike in truth value even when 'necessarily' or 'possibly' is prefixed. Equivalently: putting one name of x for another in any analytic statement must yield an analytic statement. Equivalently: any two names of x must be synonymous. [Quine's][7]

[7]See above, p. 32. Synonymy of names does not mean merely naming the same thing; it means that the statement of identity formed of the two names is analytic."

When we generalize Quine's Problem, we have Quine's version of "the" problem of quantifying in: a commitment to the existence of an object which, regardless of how it is specified, may be said to be necessarily thus-and-so. (Let us call this generalized version of

Quine's Problem "Q.P.G.") The solution to this generalized version of the Problem is obviously a generalized version of the above condition.

From the point of view of quantification, the referential opacity of modal contexts was reflected in the meaninglessness of such quantifications as (30)-(31). The crux of the trouble with (30) $[(x) (x$ is necessarily greater than 7)] is that a number x may be uniquely determined by each of two conditions, for example, (32) $[x = \surd x + \surd\ x + \surd x \neq \surd x]$ and (33) [There are exactly x planets] which are not necessarily, that is, analytically, equivalent to each other. But suppose now we were to repudiate all such objects and retain only objects x such that *any two conditions uniquely determining* x *are analytically equivalent.* All examples such as (30)-(31), illustrative of the referential opacity of modal contexts, would then be swept away. It would come to make sense in general to say that there is an object which, independently of any particular means of specifying it, is necessarily thus and so. It would become legitimate, in short, to quantify into modal contexts.[12]

Seven years later Quine showed that the satisfaction of the above condition implies that all sentences whatsoever are necessary.[13]

Though the above quotation gives the impression that all problems are solved if we are willing to pay the price of repudiating those objects and satisfying the condition (let's call it "condition AE," for "analytically equivalent"; noting at the same time that in Quine's writing 'analytic' simply means, or is equivalent to, 'necessary', since for him the analytic includes the logical truths[14]) we should note that, while having all sentences necessary does solve Quine's Problem (at a price which seems to constitute another Problem!) it does nothing toward solving or alleviating Church's Problem, which was how to express contingency without paradoxically saying that certain in fact necessary sentences are contingent.

Solving Quine's Problem at the price of satisfying AE is one of the trade offs I alluded to in the beginning.[15] The obstacle associated with it is Quine's later contention that no true symmetry exists here, because there is no way in which AE can be satisfied. It is this obstacle which I wish to remove.

First, some clearing away.

Church suggests only that a variable in intensional context referring back to a quantifier outside that context must have an intensional range. Thus he seems to suggest that only such variables

must have an intensional range. Quine has noticed the pointlessness, from the point of view of Q.P.G., of having in one's language a different style of variable which cannot appear inside intensional contexts and which has a non-intensional range. He says:

The modal logician who finds the repudiation of material objects (or, indeed, of classes) uncongenial may have recourse to either of the following alternatives.

(a) He may regard his quantified modal logic as only a fragment of the total logic to which he is prepared to subscribe, so that the undesirably limited ontology of the former comes to be only a fragment of a more inclusive ontology which embraces also material objects (and perhaps even classes). Those variables of the total logic which do admit material objects (or classes) as values would then be withheld from quantified modal contexts, or limited to harmless manners of occurrence in them, [Quine's][9] by special grammatical rules. The total logic would not be one in which we could then meaningfully apply a modal operator to any matrix at will and then meaningfully quantify the result at will with respect to any free variable.

[9]Such is Church's procedure in *A formulation of the logic of sense and denotation* (abstract), this *JOURNAL*, vol. 11 (1946), p. 31. I am indebted to Professor Church for several helpful letters in this connection . . . [16]

The costly expedient of limiting one's ontology to intensional entities has been noted as a sufficient condition for the admissibility of quantification into modal contexts. It cannot quite be said to be a necessary condition. You can keep your quantified modalities *and* your nonintensional objects if you keep them apart, thus allowing quantification into modal contexts only when the variable *there* quantified is restricted to intensional objects. [17]

Admission of attributes and propositions, along with free use of quantification and other basic idioms, rules out individuals and classes. Both sorts of entities can be accommodated in the same logic only with the help of restrictions, such as Church's, which serve to keep them from mixing; and this is very nearly a matter of two separate logics with a universe for each. [18]

These passages reveal a struggle toward an insight not fully attained. What is of interest is not the doings or commitments of the modal logician, who may be committed to intensions on Mondays,

Wednesdays, and Fridays, and to extensions on Tuesdays, Thursdays, and Saturdays. What is of interest with respect to Q.P.G. is what the variables used, actually or possibly, in quantifying in range over. Variables not used in quantifying in simply have nothing to do with Q.P.G. Bestowing extensions upon the quantifier-in will not help him unless it restores to him that x which is both the number of the planets and necessarily greater than 7. And this, as Quine says, cannot be done.

Let us then understand that the language, or, as Quine says, modal logic we discuss in discussing Q.P.G. is one all of which is relevant to Q.P.G., i.e., is one all of whose variables are susceptible of quantifying in. Suggesting that these variables have an intensional range, then, is suggesting that the universe of discourse of the logic is limited to intensions. [19]

With this out of the way, we can proceed to the examination of Quine's argument for the conclusion that AE cannot be satisfied. Let us use the presentation of it in *FLPV* (II).

Actually, even granted these dubious entities, we can see that the expedient of limiting the values of variables to them is after all a mistaken one. It does not relieve the original difficulty over quantifying into modal contexts; on the contrary, examples quite as disturbing as the old ones can be adduced within the realm of intensional objects. For, where A is any intensional object, say an attribute, and p stands for an arbitrary true sentence, clearly

$$(35)\ A = (\iota x)\,[\,p \cdot (x = A\,].$$

Yet, if the true sentence represented by 'p' is not analytic, then neither is (35), and its sides are no more interchangeable in modal contexts than are 'Evening Star' and 'Morning Star', or '9' and 'the number of the planets'.

Or, to state the point without recourse to singular terms, it is that the requirement lately italicized — "any two conditions uniquely determining x are analytically equivalent" — is not assured merely by taking x as an intensional object. For, think of 'Fx' as any condition uniquely determining x, and think of 'p' as any nonanalytic truth. Then '$p \cdot Fx$' uniquely determines x but is not analytically equivalent to 'Fx', even though x be an intensional object. [20]

There are at least two ways to see what is wrong with this argument. The quickest is this; it is an argument to show that AE is

not satisfied; but AE, implies that no truths are contingent; therefore, in employing a contingent truth among its premises the argument begs the question.[21]

Another way to see the argument is this: taken as an attempt to disprove (1.) the argument is successful. But when limiting the universe of discourse to intensions is what is under consideration (1.) is irrelevant. What is relevant is the very different

(6.) Intensions cannot be specified in contingently coincident ways when the universe of discourse is limited to them

and the argument obviously takes no account of the special conditions which distinguish it from (1.). For instance, if there is nothing for *black* to be the color of, we will lose such contingent specifications of *black* as 'the color of my car'. So there is *prima facie* evidence that (6.) is true, and that the argument does nothing to weaken. Viewed in this way, what is wrong with the argument is that it commits a fallacy of composition or division,[22] confusing 'Each intension fails to satisfy AE' with 'All-intensions fail to satisfy AE'.

I have shown that Quine's argument fails to refute (6.). I shall now show that (6.), understood in the most natural way, is in fact true. As a matter of fact, the worrisome distinction between intensions and other abstracta was a mistake to begin with, and what is in fact true is

(7.) Abstracta cannot be specified in contingently coincident ways when the universe of discourse is limited to them.

For we have lost, by hypothesis, the possibility of specifying anything as the number of the planets just as much as we have lost the possibility of specifying anything as the color of my car. What specifications of the denizens of an all-abstract universe could possibly be thought to be contingent? Such specifications as these: 'the first interesting number'; 'the only intriguing attribute'.

Here let us recall another Quinian thought: "The requirement that any two names of *x* be synonymous might be seen as a restriction not on the admissible objects *x* , but on the admissible vocabulary of singular terms. So much the worse, then, for this way of phrasing the requirement; we have here simply one more manifestation of the superficiality of treating ontological questions from the vantage point of singular terms."[23] Quine draws a moral

about singular terms, but the fact that the requirement might be seen as well as a restriction on the ideology"[24] (as well as on the vocabulary of singular terms) should have shown him that it was not any superficiality in the vantage point of singular terms which was in question. The possibility that the restriction could be seen not as a restriction on the kinds of things we talk about, but rather on the kinds of things we say about them, remains unaltered whether we refer to those things through constants or variables.

Satisfying AE in this way is unacceptably artificial and *ad hoc*. It violates a reasonable requirement on the relation between an ontology and an ideology, which can be expressed thus: An ideology is *adequate* to an ontology iff the ideology allows the expression of contingent circumstances within the ontology, if there are any contingent circumstances within it. (An ideology is of course more adequate to an ontology the more of those circumstances it can express.) Satisfying AE by restricting the ideology of an ontology of concrete objects would of course violate this requirement since no contingencies would be expressible.

Similarly, using such predicates as 'interesting' and 'intriguing' in the ideology of an all-abstract ontology is unacceptably artificial and *ad hoc*. It violates a reasonable requirement on the relation between an ontology and an ideology which may be expressed thus: An ideology is *appropriate* to an ontology iff each item in the ideology is explainable without reference to an entity of a type excluded from the ontology. This requirement is a natural one to make when we consider the propounder of the ontology. The intent behind the limiting of an ontology to objects of a certain kind is to hypothesize that there are only objects of that kind. Use of an inappropriate ideology conflicts with that hypothesis.

Thus we may see that limiting the universe of discourse to abstract objects does, *contra* Quine, permit the satisfaction of AE, if the ideology is appropriate.[25]

SOUTHERN ILLINOIS UNIVERSITY AT EDWARDSVILLE
EDWARDSVILLE, ILLINOIS 62026
USA

NOTES

1 M.K. Rennie, *Some Uses of Type Theory in the Analysis of Language* (Australia: Philosophy Department, Research School of Social Sciences, Australian National University, 1974), p. 157.

2 W.V. Quine, "Reply to Professor Marcus," *Synthese* 27 (1962): 323-330. Reprinted in, and quoted from, Irving M. Copi and James A. Gould (eds.), *Contemporary Readings in Logical Theory* (New York: Macmillan, 1967): 293-299. Pp. 298-299. All italics in quotations in this article are in the original. I have renumbered the next two footnotes, which were originally Quine's.

3 W.V. Quine, "Notes on Existence and Necessity," *The Journal of Philosophy* 40 (1943): 113-127.

4 Alonzo Church, "Review" of the above, *The Journal of Symbolic Logic* 8 (1943): 45-47.

5 Leonard Linsky, "Reference, Essentialism, and Modality," *The Journal of Philosophy* 66 (1969): 687-700; pp. 692-693; and his *Names and Descriptions* (Chicago: University of Chicago Press, 1977), pp. 123-125.

6 From 1943 to 1961.

7 Reprinted in Leonard Linsky (ed.), *Semantics and the Philosophy of Language* (Urbana, Illinois: University of Illinois Press, 1952): 77-91; p. 90.

8 "Reply.," p. 299.

9 Alonzo Church, op. cit., p. 46.

10 Or "Quine's Modal Problem," if it is thought necessary to distinguish it from the problem of simplifying truth functions.

11 W.V. Quine, *From a Logical Point of View* (Cambridge: Harvard University Press, 1953), pp. 150-151. This book will be referred to as *FLPV* (I). The second, revised edition of 1961 will be *FLPV* (II), and the fourth printing, of 1980, will be *FLPV* (III).

12 Op. cit., p. 152.

13 W.V. Quine, *Word and Object* (Cambridge: M.I.T. Press, 1960), pp. 197-198.

14 *Vide FLPV* (I)-(III), pp. 22-23.

15 Another is the trade off with essentialism. The reader will appreciate that this is not the place to argue that essentialism is unintelligible, but this paper will show that the satisfaction of such a condition is a reasonable alternative to essentialism.

16 W.V. Quine, "The Problem of Interpreting Modal Logic," *The Journal of Symbolic Logic* 12 (1947): 42-48. Reprinted in, and quoted from, Copi and Gould above, pp. 272-273. It is perhaps of interest to note that Quine did not fully appreciate the novelty of Church's procedure until 1961, and that when he did, he criticized it on the ground that "... the interplay, usual in modal logic, between occurrences of expressions outside modal contexts and recurrences of them inside modal contexts, is ill reflected in

Church's system," (*FLPV*(II), p. 154.) Church replied to the criticism, saying that the interplay Quine desires is provided by the existence of a notation for the relation "is a concept of." (Alonzo Church, "Postscript 1968," [in Spanish] in Thomas Moro Simpson (ed.), *Semántica Filosófica: Problemas y Discusiones* (Buenos Aires: Siglo XXI Argentine Editores S.A., 1973): 147-152, p. 148, n. 2.) Quine responded by accepting Church's contention and deleting the criticism from *FLPV* (III) (pp. vii and 154). But he seems to have acted in haste. George Bealer's *Concept and Quality* (Oxford: The Claredon Press, 1982), pp. 36-41, shows that the interplay is indeed ill reflected.

17 *FLPV* (I), pp. 154-155.

18 Op. cit., p. 157.

19 Perhaps these reflections reveal some of the rationale for Quine's attributing to Church's review (*FLPV* (I), p. 153) the idea of limiting the universe of discourse to intensions, when Church had spoken only of limiting the range of variables within intensional contexts.

20 *FLPV*(II), pp. 152-153. This argument has been often mentioned. It appears explicitly in the following: John Robert Baker, *Quantified Modal Logic and the Problem of Essentialism* (Ann Arbor: University Microfilms, 73-25,036), pp. 40-44; Howard Burdick, "On Necessity De Dicto," *Philosophia* (Israel) 2 (1972): 85-115, p. 944; Panayot Butchvarov, "Identity," in Peter A. French, et al. (eds.) *Midwest Studies in Philosophy*, Vol. II (Morris, Minnesota: University of Minnesota Press, 1977): 70-89, p. 85; and *Being Qua Being* (Bloomington: Indiana University Press, 1979), pp. 60-61; Hector-Neri Castañada, "Identity and Sameness," *Philosophia* (Israel) 5 (1975): 121-150, pp. 121-131; Alonzo Church, "Postscript 1968," loc. cit.; Susan Haack, *Philosophy of Logics* (New York: Cambridge University Press, 1978), p. 184, n. 1; Leonard Linsky, loc. cit.; Thomas James McKay, *Essentialism and Quantified Modal Logic* (Ann Arbor: University Microfilms, 74-25,915), p. 15; Edwin Alexander Martin, Jr., *Quantifying into Opaque Contexts: May We or May We Not? A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy at the Massachusetts Institute of Technology*, September 1968, p. 72; and John Roy Wallace, *Philosophical Grammar* (Ann Arbor: University Microfilms, 64-13,652),p. 119. This list is no doubt incomplete. Some of these authors are firmly convinced by the argument (Church among them), others are doubtful; none have understood it.

21 Such arguments are among the clearest cases of *petitio*. Vide John A. Barker, "The Nature of Question-Begging Arguments,"*Dialogue* 17 (1978): 490-498, and David H. Sanford, "Superfluous Information Epistemic Conditions of Inference, and Begging the Question," *Metaphilosophy* 12 (1981): 145-158, for an entry to the literature on *petitio*.

22 We need not decide which. John Woods and Douglas Walton, in fact, speak of "the fallacy" in their "Composition and Division," *Studia Logica* 36

(1977): 381-406. Cf. James Willard Oliver, "Note on Contingent Properties of Abstract Objects," *Philosophical Studies* (USA) 11 (1960): 16, Nicholas Rescher's reply in his *Topics in Philosophical Logic* (New York: Humanities Press, 1968), p. 146, n. 14, Gregory Vlastos, *Platonic Studies* (Princeton: Princeton University Press, 1981), p. 73, and *Sophist* 248A-249D.

23 *FLPV* (I)-(III), p. 151.

24 Which hereafter let us understand as including not only all predicates but also all contentful singular terms.

25 It might be objected to the above account that, whereas Quine's Problem generalizes to other strong intensional operators than 'necessarily', its solution, or trade off, in terms of AE does not. This objection is mistaken. Parallel to AE there are requirements that any specifications of an object be, say, epistemically equivalent. Epistemic equivalence is explicated by a slightly more complicated requirement for the relation between ideology and ontology: the requirement that, if an object x is in the ontology of a's epistemic language, then any specifications of x in its ideology are known by a to be specifications of x. Of course, this implies that a knows everything about everything (in the ontology and expressible in the language; *vide* Dagfinn Føllesdal, "Knowledge, Identity, and Existence," *Theoria* 33 (1967): 1-27), but then none of the alternatives mentioned in this paper has been put forward as a serious solution to the genuine problem of quantifying in.

THE CONFUSION OVER FOUNDATIONALISM

JONATHAN L. KVANVIG

I. Introduction

Foundationalism came under attack in two areas in the first half of this century. First, some doubted whether the foundations were adequate to support the entire structure of knowledge, and second, the doctrine of the "given" came under serious attack.[1] However, many epistemologists were not convinced that foundationalism was to be abandoned even if the criticisms were granted. According to these epistemologist, far from having shown that foundationalism itself was at fault, the critics of foundationalism had only been attacking one particular version of foundationalism-that version that included infallibility, incorrigibility,, or some appeal to a "given" at the base of the structure of justification. The claim of these defenders was that there are other possible types of foundationalism than this version of foundationalism, which has come to be called Classical Foundationalism. And thus opened up a new area of philosophical lexicography: the attempt to say what foundationalism itself is, so that Classical Foundationalism turned out to be one instance of foundationalism but not the only possible one.

I wish to argue that the attempt to answer the critics of Classical Foundationalism has not succeeded. I will first isolate two features of foundationalism which any general specification of foundationalism must include. I shall then show that the extant construals of foundationalism attempt to clarify one of these features in a way which, I shall argue, is bound to generate an unsatisfactory construal of foundationalism. Finally, I shall argue that there is more than just a simple mistake here regarding the unsatisfactory way in which this feature has been clarified. I wish to suggest that epistemologists have been confused regarding what they were doing in attempting to clarify of foundationalism, and that, once confusion is eliminated, we can see that no response to the critics is forthcoming in the direction of a specification of the nature of foundationalism. There

Perhaps an irrealist could after all claim that "term" determinately refers to *terms* — relative to all L*'s and M's having anything to say about how "term" refers at all! But such an

Michael Martin: Corporatism, *Philosophia* 16:3-4 (1986), 275-291. We apologize for having made the following mistakes: P. 281 should replace p. 280 and vice versa, and p. 282 should replace p. 283 and vice versa.

Donald E. Stahl: Abstract Universes and Quantifying In, *Philosophia* 16:3-4 (1968), 333-344. We apologize for the appearance of some typographical errors in the paper, the most serious ones being.

On p. 335, line 6, a diamond missing between the period and f,

on p. 335, line 13, a period followed by a diamond missing before the forth left parenthesis,

on p. 335 (5.) should read $\ulcorner \Phi = \Psi . \diamond \Phi \neq \Psi \urcorner$

on p. 335, last line but one, corners should replace brackets,

on p. 336, line 12, "between, and" should be deleted,

on p. 336, line 18, the diamond should be replaced by a section symbol,

on p. 336, last line but four,¹¹ should replace ",

on p. 337, line 7, the universal quantified x should be replaced by an existential one,

on p. 339, line 26, (35) should read $A = (\imath x) [p. x = A]$

on p. 343, note 20, line 13, the second name should read "McKay",

and on p. 343, note 21, line 3, a comma is missing after "Information".

COMMUNICATION AND COGNITION

FORTHCOMING ISSUES

Cognition, Emotion, and Behavior — M. Boekaerts, M. & S. Maes (Eds.) with planned contributions by D. Eiser & C. Eiser, M. Johnston, F. Vandamme, M. Boekaerts, S. Maes, G. Van Heck, J. Hettner, B. Bermon, I. Sarason and B. Sarason, D. Rost and G. d'Ydewalle.

SUBSCRIPTION INFORMATION

κρίσις / KRISIS

No. 5/6   1987

TABLE OF CONTENTS

****