TOWARD A LEAN ONTOLOGY:

QUINE, (META)ONTOLOGY, AND DESCRIPTIONS

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<u>TOWARD A LEAN ONTOLOGY: QUINE, (META)ONTOLOGY,</u>

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Ontology is the subfield of metaphysics that is the study of all that there is. Philosophers who study ontology usually ask *the ontological question*: what is there? Not only are there disagreements about the answers, there is also confusion about what the ontological question is asking. This has led to a meta-level discussion called *metaontology*. Metaontology studies ontology either by questioning the ontological question, or by specifying a strategy to answer it. Current trends in both debates are due to W. V. Quine, especially his seminal paper "On What There Is." Here, Quine uses Bertrand Russell's Theory of Descriptions as a suitable strategy for doing metaontology. Nonetheless, in recent treatment of Quine's metaontology there is little mention of Russell's theory. This paper examines whether Russell's theory has any involvement in Quine's metaontology and offers the positive thesis that descriptions are crucial to understanding Quine.

Approved:

John W. Bender

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For Winfried Corduan

Acknowledgments

> [O]ntology is not the everyday game.
>
> —W. V. O. Quine [86], 21.

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then there are my parents, Chris and Becky, to whom I am eternally grateful, and who always feared their son could make a living contemplating the nature of existence.

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List of Symbols

Symbol	Usage (Read As)
p, q	statement variables
$[\![p]\!]$	the semantic value of statement p ("that p")
ϕ, ψ	metalinguistic variables
$\neg\phi$	negation ("not ϕ")
$\phi \mathbin{\&} \psi$	conjunction ("ϕ and ψ")
$\phi \vee \psi$	disjunction ("ϕ or ψ")
$\phi \rightarrow \psi$	conditional ("if ϕ then ψ")
$\phi \leftrightarrow \psi$	biconditional ("ϕ if and only if ψ")
x, x_i, y	variables terms for generic objects, where $i \in \mathbb{N}$
a, a_i	variables terms for named objects, where $i \in \mathbb{N}$
F, G, Σ	variables for generic predicates
Fx	one place predicate, i.e., x is F
xFy	two place predicate, i.e., x bears relation F to y
$\forall x$	universal quantifier ("for all x, . . .)
$\exists x$	existential quantifier ("there is a x, . . .)
(ιx)	definite description operator ("the unique x, . . . ")
$\Gamma \vdash \phi$	ϕ is derivable from Γ, where Γ is a set of sentences
$\Gamma \nvdash \phi$	ϕ is not derivable from Γ, where Γ is a set of sentences

$\alpha, \alpha_i, \beta, \gamma$	variables for generic classes, where $i \in \mathbb{N}$
κ, κ_i^j	variables for classes of classes, where $i, j \in \mathbb{N}$
$\{\,\}$	a set
$\{x : Fx\}$	the set containing x, such that Fx
$\hat{x}Fx$	$\{x : \forall x Fx\}$
$x \in \alpha$	x is a member of α
$x \notin \alpha$	x is not a member of α, i.e., $\neg(x \in \alpha)$
$\varnothing$	an empty set

Chapter 1

Introduction

1.1   Introductory Comments

By *ontology* I mean the subfield of metaphysics that concerns itself with the study of all that there is. Philosophers who study ontology usually focus on asking and answering various ontological questions—i.e., general questions as to what sorts of things there are. For example,

- Are there numbers?

- Do propositions exist?

But these ontological questions can be captured in one question, call it *the ontological question* and the classic formulation looks like this:

(1.1)   What is there?

Various answers to (1.1) may be given—e.g.,

- God,

- Numbers,

- Propositions,

- Pegasus,

and so on. All of the various answers to (1.1) reveal the object(s) I'm willing to be *ontologically committed* to. That is, I'm ontologically committed to an object if and only if I consider it an answer to (1.1). Let us say we are *doing* ontology when we answer it.

Quite obviously there are disagreements about the answers to the ontological question. But not only is there disagreement about the answers, there is also confusion about what the question is even asking. To alleviate some of the tension surrounding what the question is asking, we may want to ask a meta-level question like this: what is being asked in (1.1), or

(1.2)   What is getting asked in asking "what is there?"?

Having called (1.1) 'the ontological question' it would be appropriate to call call (1.2) *the metaontological question*. And this introduces a new term into our vocabulary—*metaontology*.[1] Let us understand 'metaontology' to mean a subsubfield of metaphysics

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[1] The history of 'metaontology' is unclear. It was used as early as 1953 by Guendling [33] and his use is similar to mine (cf. 219). The word also appeared twice in the same volume of *Philosophical Perspectives*, used by Gale [26] (cf. 298) and Wolterstroff [160] (cf. 535) in 1991. The word also appears to be used in computer science and HTML programming. Jacob [38] defines 'metaontology' as a "core vocabulary of elements" that "can be used to formally describe an ontology or metadata schema as a set of classes" (21). I'll let my reader decide how this usage coincides with my own.

The contemporary use of 'metaontology' seems to have been coined by Peter van Inwagen in [154]. Here, metaontology is an emerging field. *The Philosopher's Index* only has three entrees—two of which are variations of van Inwagen's [154] and the other is Rosenkrantz [129] critique thereof. There is only one known dissertation done on the issue—Stokes [150]—and this was supervised by van Inwagen (and A. Plantinga) at Notre Dame. Another important paper belongs to Eklund [22].

Furthermore, a similar field—metametaphysics—is growing. A conference by the same name was held at ANU Centre for Consciousness on June 30–July 1, 2005, and contributers included: T. Sider, S. Yablo, D. Chalmers, A. Thomasson, K. Bennett, and H. Price. The papers are published in Chalmers [13], and each contains a discussion of metaontology in some for or other. In addition, Yablo (MIT), Bennett (Princeton), Eklund (Colorado, now at Cornell) and Sider (Rutgers) have offered graduate courses on the subject; Sider has complied an annotated bibliography [145] and his notes are available and cited as [146].

that studies the nature of ontology. The study is 'meta' because it discusses ontology—and, specifically, the ontological question itself—without a direct discussion of ontological commitments to this or that existing thing. Let us say we are *doing* metaontology when we are conducting a meta-level discussion of ontology in one of three ways. We may, first, discuss the words contained within the ontological question. For example, we may wonder what 'is' means and whether it should be understood as 'exists'? Second, we may discuss a strategy by which we may provide an answer to (1.1). Such a strategy would not describe what there is; rather, it would discuss what a given sentences says there is. Analogously, learning the process of addition does not by itself give you the number 4; it suggests that when you have $2 + 2$ you get 4. Third, and lastly, we may discuss the relevance of the ontological question in the first place. Likewise, writing an M.A. thesis isn't the same as discussing why I should write one to begin with. In all these cases, it should again be emphasized that we are discussing ontology without doing it; this stresses that doing metaontology is not the same as doing ontology.

Current trends in both ontological and metaontological debates owe their shape to W. V. Quine, especially his seminal 1948 paper "On What There Is" [93].[2] As the title suggests, his principle interest is in the ontological question. Yet his interest isn't with providing various answers, but to qualifying how we ask it. In our terms, he is less concerned with doing ontology and more worried about discussing it and to discuss it is to do metaontology. Yet the metaontology he does is incomplete; he only engages two of the three ways metaontology can be done. He first discusses what it means to be, and then discusses a strategy—in his words, a 'criterion'—that could make our ontological commitments clearer. He does not, however, discuss the metaontological issue of whether the ontological question is worth discussing; at least not in "On What

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[2]This opinion is shared by Sider [146], 14; Yablo and Gallois [161], 229; Hintikka [36], van Inwagen [155], 108–9.

There Is."[3]

Throughout Quine's paper, there is repeated reference to Bertrand Russell's theory of descriptions. But not only is there reference to Russell, Quine actually recommends Russell's theory to avoid what he calls a "bloated ontology." This gives reason to believe Quine provides Russell's theory as a suitable way to discuss ontological issues. Quite clearly, if it is a suitable way to discuss ontological issues, then he is also providing Russell's theory as a way to do metaontology. Nonetheless, in the published literature discussing Quine's metaontology there is little mention of Russell's theory.[4] It seems odd that Quine would use Russell's theory but forthcoming literature fails to do so.

This paper examines whether Russell's theory of descriptions have any involvement in the way Quine does his metaontology. More precisely, I explore whether Quine uses descriptions to either discuss the ontological question or formalize a strategy to answer it; I do not here discuss the third part of metaontology concerning whether asking (1.1) is a worthwhile thing to do. I offer the positive thesis that Russellian descriptions *are* important to Quine's metaontology. I should also clarify that I'm not presently interested in defending Quine's metaontology or Russell's theory of descriptions against possible objections. Instead, I'm interested in how Russell's theory (correct or incorrect) was used (rightly or wrongly) by Quine.

1.2 Orientation

This essay consists of five parts. §2 of this essay is primarily background. Here, I explore Russell and Quine's use of descriptions. I begin with the early Russell in §2.2.1 and include in §2.2.2 the more formal account given by the later Russell. I conclude

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[3]He does elsewhere: Quine [88]; [126], §56.

[4]My evidence is this: van Inwagen [154] and Eklund [22] fail to cite Russell in their papers, and Stokes [150] actually believes it isn't a part of Quine's metaontology (76).

with §2.3, exploring Quine's use of Russell's theory and its implications on Quine's philosophical views in §2.3.2.

In §3, I examine Quine's metaontology following closely the position laid out in "On What There Is" [93]. I do this in three stages. The first is a discussion of the nature of the ontological question. This leads to §3.2.2, where I exposit Quine's famous dictum: "To be is to be the value of a variable." The second stage is a discussion of a strategy whereby we may answer the ontological question. This consist of an exploration of Quine's criterion of ontological commitment in §3.3. The last stage, §3.4 examines Quine's assumption that a lean ontology—what he often refers to as *ontological economy*—is to be preferred.

In §4, I address two treatments of Quine's metaontology. In §4.3, we examine the preliminary treatment of Quine's metaontology in Peter van Inwagen's 1998 paper "Meta-Ontology" [154].[5] This is followed by §4.4, where we assess Mitchell Stokes, a student of van Inwagen's. I offer two primary criticisms to both van Inwagen and Stokes—viz., that Russell's descriptions do play a role in Quine's metaontology, and that Quine's metaontology ought include a relativistic thesis.

But, I begin in §1.3 spelling out a few technical matters and clarifying a precise vocabulary to address forthcoming issues.

1.3   Preliminaries

> We are driven to philosophize because we do not know clearly what we mean; the question is always 'What do I mean by x?
>
> —F. P. Ramsey [127], 268

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[5]The use of 'meta-ontology', is, by van Inwagen's admission, an imitation of such coinages as 'meta-language' and 'metaphilosophy' ([154], 249, n. 1). I follow him though write 'meta-ontology' as 'metaontology' in the same sense as 'metaphysics' and 'metaethics'.

1.3.1 Notation And Quotes

The standard logical and mathematical notation used throughout this essay was given in the List of Symbols on page 10.

In addition, I formally distinguish between three types of quotation marks. First, following convention,[6] I use a single quotation to *mention* a sentence or word and withhold the quotation while *using* it.[7] For example, to use sentence p I write it without quotation marks, but to talk about it I write 'p'.

Second, I incorporate the use of corner quotes to speak of specific contexts of unspecified expressions. To talk specifically about the unspecified statements ϕ and ψ with the sign '$\rightarrow$', I write $\ulcorner \phi \rightarrow \psi \urcorner$. This allows reference to various expressions which ϕ and ψ may range over.[8]

Third, double quotations are reserved for direct quotation.

1.3.2 Formal Language

Using the specified notation, I may now introduce a formal language used throughout. The syntax of this language consists of vocabulary and grammar respectively defined in Definition 1.1 and Definition 1.2.

Definition 1.1. *Vocabulary*
 (i) Sentence Letters*: 'A', 'B', ..., 'Z'.*
 (ii) Terms (generic object variables): 'x', 'y', 'α', 'β', 'γ', 'κ'.[9]
 (iii) Terms (named object variables): 'a' (with or without subscripts).
 (iv) Truth-Functional Operators:[10] '$\neg$', '$\&$', '$\vee$', '$\rightarrow$', '$\leftrightarrow$'.
 (v) Logical Predicates: '$=$', '$\in$'

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[6]Quine [80], 23ff.

[7]There is one exception—viz., the first time a term is introduced it will be emphasized.

[8]For Quine [80], he believed using the corner quotes for single generic variables was vacuous (36f). In other words, $\ulcorner \phi \urcorner$ is what the letter 'ϕ' becomes when the letter is replaced by the generic ϕ; meaning $\ulcorner \phi \urcorner$ is simply ϕ. This said, I intend to ignore Quine's advice since I want to *emphasize* that ϕ is generic, thereby writing $\ulcorner \phi \urcorner$. Reiterating, writing ϕ is using it, writing $\ulcorner \phi \urcorner$ is emphasizing that it is generic, and 'ϕ' is mentioning the specific Greek letter.

[9]The objects $\ulcorner x, y, \alpha \urcorner$ may have subscripts and $\ulcorner \kappa \urcorner$ may have either sub/superscripts.

[10]Quine's wording in [78], 119.

(vi) Quantifiers: '∀', '∃'.
(vii) Punctuation: '(', ')', '[', ']'.

Definition 1.2. *Grammatical Rules*
(i) All sentence letters are sentences.
(ii) An n–place predicate followed by n terms is a sentence.
(iii) If η_i and η_j are objects, then $\eta_i = \eta_j$ and $\eta_i \in \eta_j$ is a sentence.[11]
(iv) If ϕ is a sentence, then $\neg\phi$ is a sentence.
(v) If ϕ and ψ are sentences, then $(\phi \mathbin{\&} \psi)$, $(\phi \vee \psi)$, $(\phi \rightarrow \psi)$, and $(\phi \leftrightarrow \psi)$ are sentences.
(vi) If $\phi \ldots \eta \ldots$ is a sentence, then the result of replacing every occurrence of $\ldots \eta \ldots$ with the variable χ, and prefixing the resulting expression with either $\forall\chi$ or $\exists\chi$ is a sentence.
(vii) Nothing else is a sentence except in virtue of a finite number of applications of (i)–(vi) above.

Sentences in this language are said to be in *canonical form*.[12] Though this language is formal it is also *artificial*. It is to be distinguished from a *natural* language in so far as this artificial language aims at regimenting particular sentences of the natural language.

1.3.3 Terminology

A *sentence* is a sequence of words belonging to a given object language that is arranged in proper grammatical form.[13] A declarative sentence, or a sentence that asserts something is true (or false), is called a *statement*. That which a statement asserts, or the meaning encoded within the sentence or statement, is called a *proposition*. That is to say a proposition is the *semantic value* of a statement.[14] We use special delimiters

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[11]In the latter case, $\ulcorner\eta_j\urcorner$ would need to be a class.
[12]See, among other places, Quine [126], 158.
[13]Lemmon [49] and Quine [126], §43.
[14]Salmon [142] calls a proposition the *semantic content* of a declarative sentence thought to be "expressed" or "contained" within the sentence (57f).

(viz., '⟦', '⟧') to distinguish between a statement p and the proposition expressed by it, or $⟦p⟧$.[15]

Statements can sometimes be in the normal subject-predicate form, where the subject contains the object of the statement. For purposes of clarification, let us say an *object* is a particular individual (concrete or abstract) that the predicate applies to. For example, the statement

(1.3)   My hat is red

refers to a concrete individual as its object. I understand a *concrete* individual to be tangible or observable in any normal sense; I see my hat and may infer which predicates apply and which predicates do not.[16] But the statement

(1.4)   Red is a color.

has an *abstract* individual as the object which is not tangible or observable in any normal sense; we may see red objects but we do not see the object red. Nonetheless, the object red may have predicates applied to it. Yet the predicate '__ is a color' may not apply to other abstract individuals—e.g., triangle—since the normal use of 'triangle' is not appropriately predicated by '__ is a color'.

A *universal* is anything which may be shared by (or applied to) more than one

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[15]This convention is used in several publications. It is broadly defined in Schumm [144], 992. In Quine [126], he uses a similar convention but writes '[p]' instead of my '⟦p⟧'. In his words: "[W]e might adopt simply the brackets without prefix to express abstraction of medadic (0-adic) intensions, or propositions; thus '[Socrates's is mortal]' would amount to the words 'that Socrates is mortal', or 'Socrates's being mortal', when these are taken as referring to a proposition" (164–65). However, I adapt the double bracketed brackets from Neale [60], 69.

[16]Quine's definition of a concrete term, or object, is as follows: "Concrete terms are those which purport to refer to individuals, physical objects, [and] events" ([82], 217). Elsewhere he says that physical objects, which I take to be coextensive with concrete objects, are "the obvious illustration when the illustrative mood is upon us" ([118], 1).

object.[17] Universals are (usually) expressed via a predicate, and there are several types of universals. Here I only introduce two. The first, what we may call a *property*, includes colors, shapes and character traits. When referencing properties, philosophers usually use the suffix '–ness' and say some object possesses a property by exemplifying it. Such philosophers may view (1.4) as synonymous with

(1.4′)   My hat exemplifies redness.

Philosophers who treat (1.4) as (1.4′) usually believe there is a property redness, some-where, waiting to be applied to various objects. The second type of universal, what we may call a *relation*, may be illustrated by saying "p being stronger than q," or "p being taller than q"; each assertion expresses a relationship between two objects.

The above does not exhaust all the ways in which philosophers have discussed predicates and objects. In a first-order predicate logic, logicians typically use capital Roman letters to stand for predicates. Aptly, then, if we wanted to reference the predicate in (1.4) we would write 'R' for '__ is red'. To reference a generic individual that the predicate applies to—i.e., if we wanted to say

(1.5) x is red,

we customarily write $\ulcorner Rx \urcorner$, where the variable 'x' stands in place of some individual object to which the predicate applies.[18] When the object $\ulcorner x \urcorner$ stands for isn't deter-mined, we say the variable is *generic*. If the variable is generic we say the variable has not been assigned a *referent*. Generic variables without referents ought be familiar to

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[17]Russell [137], 14ff.

[18]Quine is insistent we use 'stands in place of' verses the more vogue 'referring'. See: Quine [77], 71ff; [78], 107ff. Some (e.g., Austin) believe 'stands for' is a "dangerous phrase" ([2], 48).

us, since we are familiar with algebraic expressions like the following:[19]

$$(1.6) \qquad x + 5$$

In this case, we do not know the referent of $\ulcorner x \urcorner$ and cannot provide an answer.

Returning to (1.5), we notice that possible referents for $\ulcorner x \urcorner$ could be my hat, that pen, blood, or any other red thing. Moreover, we may strengthen (1.5) and insist that some things are red, writing:

$$(1.7) \qquad \text{There is an } x, \text{ such that } x \text{ is red.}$$

This may then be expressed formally as:

$$(1.7') \qquad \exists x R x.$$

As such, the expression in (1.7') says that in the universe of discourse—arbitrarily defined as the set containing all things—at least one member is red. The variable $\ulcorner x \urcorner$ ranges over the entire discourse and the existential quantification '$\exists$' says that at least one of the things in the universe satisfies the condition described.[20]

Let us say that a variable in a sentence is *free* if and only if the variable occurring within the sentence is unquantified—that is, when it neither stands in for, nor refers back to, any quantifier within a sentence.[21] By contrast, let us say a variable is *bound* if and only if the variable isn't free—that is, the variable stands in for, or refers back

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[19]This is an innocent way of defining a generic variable; nonetheless, there are certain nuances concerning variables. For example, see Quine [123]. Additionally, this should be considered innocent here because the range of values of (1.6) are numbers and the *substituends* of $\ulcorner x \urcorner$ are numerals. See Quine [72], 708; [90], 182.

[20]Quine [73], 94.

[21]Quine [82], 122.

to an existential or universal quantifier within a sentence.[22] So, the expression

(1.8) Fx

contains a free variable whereas the expression

(1.9) $\exists x Fx$

contains a bound variable since the variable that occurs within the sentence is bound by the existential quantifier.[23]

When an object is a particular occurrence of some predicate, the object is said to be an instantiation of the predicate. In such a case, we replace the bound 'x' with an 'a'. The 'a' is the name of the particular object which is the instantiation of the predicate; in such a case 'a' is the name of the *value* of $\ulcorner x \urcorner$. By *name* I understand a linguistic expression used to refer to an individual or a group of individuals. There are two types of names: *proper* and *class* names. Following Russell,[24] let us understand a 'class' name to be a name that applies to all objects of a certain kind, however many there may be. Thus, 'man' is a class name as it applies to me, my thesis advisor, Russell and President Bush. Let us think of a proper name, in contrast, as a term that applies to only one object. For example, the proper name 'Dan' is used to refer to the particular individual that is me, or 'Moti' is the proper name for the individual who drinks beer with me on Tuesday nights.

Let us say the *extension* of some predicate is the set containing all the objects

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[22]Soames defines 'free' and 'bound' variables this way: (i) an occurrence of a variable in a sentence is bound if and only if it is within the scope of a quantifier using that variable, and (ii) the occurrence of a variable is free if and only if it is not bound. See: [149], 103.

[23]For the visual readers:

$$\exists \; \underline{x} \; \widehat{F \; \underline{x}}$$

[24]Russell [132], 72ff.

picked out by it. For instance, suppose F applies only to a_1, a_4, a_7. The extension of F would then be $\{a_1, a_4, a_7\}$. If the predicate does not pick out any objects at all, the extension of the predicate is an empty set, or '$\varnothing$'. The extension of '__ is a unicorn' or '__ the man who climbs down chimneys to deliver presents' is then customarily thought to be $\varnothing$. Let us say the *intension* of some predicate is the property connoted by it. The predicate '__ is red', for example, connotes the property of redness. So, the extension of the predicate '__ is red' would be the set of all red things, whereas the intension of the same predicate would be the property of redness.

There may also be extensions and intensions of terms and sentences. By 'intension of a term' I understand the concepts associated with those terms. For example, the intension of 'Socrates' is the concept of Socrates, whereas the extension of the same term would be the individual who drank hemlock. By 'intension of a sentence' I understand the semantic value of that sentence. Using the terminology defined above, the intension of p would be $[\![p]\!]$.

We may also distinguish between two accounts of quantification: objectual and substitutional.[25] By *objectual quantification* I mean the values of the variables that are objects of the universe.[26] Let us understand *substitutional quantification* to mean the values of the variables are not objects of the universe; rather, they are elements of a substitution class.

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[25]Cf. §3.2.2.

[26]In Quine's words, the "variable refers to objects of some sort as its values"[113], 94.

Chapter 2

Descriptions

bertrand, n.(3) A state of linguistic amnesia, as of one who believes that 'this' is a proper name and 'Plato' a description

—The Philosophical Lexicon [20]

2.1 Orientation

The purpose of §2 is to set the philosophical stage to familiarize ourselves with how Quine understands the ontological question. I'll argue in a later section (cf. §4.3.6) that Quine formulates the ontological question the way he does in light of Russell's theory of descriptions. To properly do this, we must understand what Russell's theory was. Consequently, this section explicates Russell's theory of descriptions, and discusses how Quine uses Russell's theory. I begin with early Russell.[1]

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[1]Specifically, I mean after Russell's *Principles of Mathematics* [135] but including "On Denoting" [134] and "Descriptions" [131]. For a careful treatment of the evolution of his theory, see: Ostertag [67] and Soames [149], 94–194; Neale [57]; [58]; [59], 95ff.

2.2 Russell's Theory of Descriptions

2.2.1 Early Russell

One of the earliest versions of Russell's theory of descriptions was published in his 1905 essay, "On Denoting" [134]. Russell's concern there, and our concern here, is with what he called a denoting phrase. By a *denoting phrase* he means a noun phrase beginning with what contemporary linguists call a *determiner*; words like 'every', 'some', 'no', or 'the'.[2] Examples of denoting phrases would include:

- A person,

- Some place,

- All people,

- The present King of France.

Russell's aim in 1905 was to present a unified syntactic and semantic treatment of such denoting phrases.[3] This analysis led toward three conclusions: (i) a phrase may be denoting, and yet denote nothing, (ii) a phrase may denote one definite object, and (iii) a phrase may denote ambiguously.

To set up the analysis, I introduce the notation and terminology Russell used in 1905.[4] I should also note that a few of Russell's terms differ from those I defined in §1.3.3. For example, Russell uses the term 'constituent' to mean what I called a

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[2]Salmon [141], 1071; Neale [58], §§2.5; 4.2.

[3]It would be appropriate to mention a confusion about the term 'denote'. The contemporary usage sees 'denote' as more semantic than syntactic, addressing what things a term, sentence, or expression pick out. But in reading Russell [134] it would seem he has more of a syntactic reading in mind; that is, denoting phrases have certain syntactic elements in common—viz., a determiner. I will not address this ambiguity here, but I think there is some cause for concern. See Kaplan [45]; [44]; and Neale [57].

[4]Russell believed using a formal, or artificial language, was essential to avoid the "inevitable vagueness and ambiguity of any language used for every-day purposes." See: Russell [136].

particular object, and I understand Russell's use of 'concept' to be roughly coextensive with what I call a predicate.[5]

Russell used generic variables to express propositional functions where *propositional function* should be construed as a function from objects to propositions. Consider the propositional function $\ulcorner C(x) \urcorner$, where 'x' is a generic constituent of the generic concept 'C'. When we assign an object a to the generic variable $\ulcorner x \urcorner$ in the propositional function $\ulcorner C(x) \urcorner$, we then obtain the proposition $[\![\ulcorner C(x) \urcorner \text{ is true of } a]\!]$.[6] In Russell's own words,

> A 'propositional function', in fact, is an expression containing one or more undetermined constituents, such that, when values are assigned to these constituents, the expression becomes a proposition ... Examples of propositional functions are easy to give: "x is human" is a propositional function; so long as x remains undetermined, it is neither true nor false, but when a value is assigned to x it becomes a true or false proposition.

A couple of comments. First, a propositional function contains a variable. And because a propositional function contains a variable the expression as a whole does not have a truth-value. Second, a proposition does have a truth-value because a proposition is obtained only after codifying the propositional function's referent. In other words, $[\![\ulcorner C(x) \urcorner \text{ is true of } a]\!]$ is true just in case a is the referent of the generic $\ulcorner x \urcorner$ in the propositional function $\ulcorner C(x) \urcorner$.

In addition to the above, Russell also introduces two additional notions:

(2.1) $C(x)$ is always true,

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and

(2.2) $\quad$ $C(x)$ is sometimes true.

Using (2.1) and (2.2) to assess the English quantifiers 'everything', 'nothing', and 'something', we get:

(2.3) $\quad$ $C(\text{everything})$ means $[\![\ulcorner C(x) \urcorner \text{ is always true}]\!]$

(2.4) $\quad$ $C(\text{nothing})$ means $[\![\ulcorner C(x) \text{ is false} \urcorner \text{ is always true}]\!]$

(2.5) $\quad$ $C(\text{something})$ means $[\![\ulcorner\ulcorner C(x) \text{ is false} \urcorner \text{ is always true} \urcorner \text{ is false}]\!]$.

Taking them in turn, what (2.3) asserts is that everything is a constituent of the concept 'C'; so whatever $\ulcorner x \urcorner$ may be, the concept always applies to it. (2.4) maintains that whatever $\ulcorner x \urcorner$ may be, the concept does not apply to it. Or, if we prefer, the propositional function $\ulcorner C(x) \urcorner$ assigns to $\ulcorner x \urcorner$ a false proposition. Lastly, (2.5) asserts the propositional function $\ulcorner C(x) \urcorner$ assigns a true proposition to at least one object a—that is, there is at least one object a such that the function assigns a true proposition about a.

With this in mind, consider the following statement:

(2.6) $\quad$ I met a man.

According to Russell's theory and notation, the expression 'C(a man)' is interpreted as $\ulcorner C(x)$ and x is human$\urcorner$, which then allows (2.6) to be interpreted as

(2.7) $[\![\ulcorner$I met x, and x is human$\urcorner$ is not always false$]\!]$.

2.2.1.1   Phrases That Denote Nothing

Having just outlined Russell's notation, I should now like to direct our attention to the conclusion of his 1905 analysis. Recall, first, that he argued there may be denoting phrases that denote nothing. A denoting phrase that denotes nothing is a phrase that references a non-existing object, e.g.,

(2.8)   The present king of France,

or

(2.9)   A unicorn.

Since there is no present king of France and since there are no unicorns, these two phrases are denotative, though denote no actual thing.

But here we introduce a problem that has plagued philosophers for millennia.[7] What if a statement asserts that something does not exist? For example, consider:

(2.10)   Unicorns don't exist.

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[7]Salmon [140] believes this to be one of the most perennial of philosophical problems (277). Traditionally, the problem is treated most famously in the works of Plato—specifically, in the *Theaetetus* [71] and *Sophist* [70]. In the *Sophist* [70], for example, the problem is put this way: "That those which are not are in a way, it has to be, if anyone is ever going to be given a little bit wrong" (240e). Quine, calling this problem *Plato's Beard* (cf. §2.3.2), would later put the problem closer to Wiggin's [158] translation: "Things which are not have in some sense to be if anyone is ever at all to say what is false" (296). See Wiggins [158] for a contemporary and analytic critique of Plato's vexing problem.

Historically, the problem from (2.10) is that if (2.10) is true, then 'unicorns' refers to something. But, if 'unicorns' refers to something, (2.10) is false. Subsequently, it seems that, in some sense, we affirm the existence of unicorns while in the process of denying them.

Russell would like to distance himself from this problem. He writes at length about his dissatisfaction with the traditional answer:

> Everyone agrees that "the golden mountain does not exist" is a true proposition. But it has, apparently, a subject "the gold mountain," and if this subject did not designate some object, the proposition would seem to be meaningless. Meinong inferred that there is a golden mountain, which is golden and a mountain, but does not exist. He even thought that the existent golden mountain is existent, but does not exist. This did not satisfy me, and the desire to avoid Meinong's unduly populous realm of being led me to the theory of descriptions.[8]

Russell's theory aims to avoid the problem by relying on the distinction between what we may call the logical and the grammatical form of a sentence. The *grammatical form* is the form the sentence takes within the object language, whereas the *logical form* is the form the proposition takes. Grammatically, for example, (2.10) may appear to be true if and only if the subject of the sentence (i.e., unicorns) in some sense exists—that is, (2.10) is true when and only when unicorns exist to have the property of non-existing. But, Russell avoids this problem by enlisting the logical form of (2.10)—or the proposition expressed therein:

(2.10′) $\llbracket \ulcorner C(x) \text{ is false} \urcorner \text{ is always true} \rrbracket$

where 'C' stands for '__ is a unicorn'. In this case, the propositional function $\ulcorner C(x) \urcorner$ assigns a false proposition to all $\ulcorner x \urcorner$'s. In simpler terms, the concept '__ is a unicorn' is never truly applied to anything. And, since Russell believes (2.10′) is the proposition

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[8]Russell [133], 13.

encoded in (2.10), then there need not be any unicorns in order for us to deny them. This implies that the logical form expressed in (2.10′) is denotative though fails to denote any object. More will be said concerning this matter in §2.2.2; but first, we address phrases that denote ambiguously.

2.2.1.2 Phrases That Denote Ambiguously

By *denote ambiguously* Russell understands a phrase which applies to an ambiguous individual. For example,

(2.6)   I met a man

denotes ambiguously because 'a man' does not denote many men, but an ambiguous man.[9] Phrases that denote ambiguously are also indefinite descriptions. An *indefinite description* is a determiner phrase whose determiner is the indefinite article 'a', like 'a so-and-so'. The use of the indefinite article 'a' as a determiner leaves the individual the noun phrase refers to ambiguous. This is clear when (2.6), like above, gets treated as

(2.7) $[\![$ ⌜I met x, and x is human⌝ is not always false$]\!]$.

In simpler terms, we know the expression ⌜I met x, and x is human⌝ is sometimes true, though we are no closer to knowing the object the phrase denotes.

2.2.1.3 Phrases That Denote One Object

A *definite description* is a determiner phrase whose determiner is the definite article 'the',[10] and takes the form 'the so-and-so'. Unlike an indefinite description, it

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[9]Russell [134], 479.
[10]Salmon [141], 1071.

does not denote ambiguously. Instead, definite descriptions pick out one and only one individual—i.e., a unique individual described by so-and-so. Moreover, definite descriptions are more complex. Since they are more complex, we make three observations about the ubiquitous definite description:

(2.11)   The author of $Waverly$ is Scotch.

First, (2.11) asserts

(2.11a) $[\![\ulcorner x$ wrote Waverly$\urcorner$ is not always false$]\!]$.

This cumbersome proposition is the logical form of the more colloquial expression:

(2.11a$'$)   At least one person wrote $Waverly$.

Our second observation is that whoever wrote $Waverly$ is unique in their authorship of Waverly. Thus,

(2.11b) $[\![\ulcorner$If x and y wrote $Waverly$, x and y are identical$\urcorner$ is always true$]\!]$.

Again, this is more formally the way to convey this:

(2.11b$'$)   At most one person wrote $Waverly$.

Let us understand 'at most' and 'unique' to be the same natural language expression for 'one and only one'.

Third, and lastly, whoever the unique author of $Waverly$ is, the author is Scotch. Treating this as Russell would have us, we get the following formal rendition:

(2.11c) $[\![\ulcorner$If x wrote $Waverly$, x was Scotch$\urcorner$ is always true$]\!]$,

and the following informal rendition:

(2.11c′)   Whoever wrote *Waverly* was Scotch.

As Russell views descriptions, (2.11) should be seen as conjointly equivalent to (2.11a), (2.2.1.3) and (2.11c).

This discovery has since been touted as the "paradigm of philosophy,"[11] largely, in part, because Russell showed "that the apparent logical form of a sentence need not be its real form."[12] Yet Russell's theory was malleable, and he proceeded to fine-tune his analysis of descriptions until 1910–1913 when he, with A. N. Whitehead, published *Principia Mathematica*.[13] The formal language that *Principia* contained allowed a technical analysis of descriptions which surpassed his 1905 essay. In the next section, I lay out a few of the changes to Russell's theory and then spell out some of the details that Quine incorporates.

2.2.2   Later Russell

The technical details of *Principia* largely lay outside the scope of this essay; nonetheless, the notation contained within *Principia*, used by Quine in his *Mathematical Logic*, has become the "subject of scholarly dispute, and embodies substantive logical doctrines so that it cannot simply be replaced by contemporary symbolism."[14] Moreover, the notation has "been superseded by the subsequent development of logic during the 20th century" and shall henceforth be avoided.[15]

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[11]Ramsey [127], 263, n.1.

[12]Wittgenstein [159], 4.0031.

[13]Russell & Whitehead [138]. Relevant sections are reprinted in Ostertag [65], 55–65. References will be to this anthology.

[14]Linsky [51].

[15]Chief among the notations introduced though not used is the iota notation. I have, however, changed some of the metalinguistic variables to coincide with those on the List of Symbols on page 10, and have not bothered with the archaic use of his punctuation dots.

2.2.2.1 Descriptions And Logical Form

Suppose we consider the definite description,

(2.12)   The F is G.

As we just witnessed, early Russell would treat (2.12) as conjointly equivalent to the following three expressions:

(2.12a)   ⌜x is F⌝ is not always false.

(2.12b)   ⌜If x and y are F, then x and y are identical⌝ is always true.

(2.12c)   ⌜If x is F, then x is G⌝ is always true.

Yet later Russell would treat (2.12) more accurately using a new notation.[16] Let '$\imath$' (an inverted Greek iota) be a *description operator*. We use the description operator to paraphrase (2.12a) and (2.12b) in one small step. Thus, ⌜the F⌝ gets treated as

(2.13) $(\imath x)Fx$.

This conveys that something is uniquely F. In this sense, the iota binds a free variable just as the existential and universal quantifiers do in first-order logic, but the resulting expression does not function in the same way. The principle difference is that the existential and universal quantifiers create other sentences, but the iota operator produces

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[16]Historically, the notation was "new" only for Russell. Both Frege and Peano had incorporated notations symbolizing descriptions into their work. The '$\imath$' was originally Peano's notation before Russell appropriated it. See: Quine [82], 234; [125], 20.

an expression that functions syntactically as a term and not another sentence.[17] This means we could attach (2.13) to any predicative phrase, and, in Russell's language, say that ⌜the F⌝ has some property.[18] Using this convention and the predicate G, we add (2.12c) to (2.13) to allow us a formal rendition of (2.12):

$$(2.12') \qquad G(\imath x)Fx.$$

In other words, (2.12′) should be read as ⌜the Fx has property G⌝.

Russell introduced the iota notation as an abbreviatory device for a genuine first-order sentence (or formula). Such devices are called *quasi-formulas*.[19] And because the iota notation is not a sentence but a mere abbreviatory device, I did not include it in the formal language specified in §1.3.2. On the face of it, then, (2.12′) is an abbreviatory device for the following:

$$(2.12'') \qquad \exists x[\forall y(Fy \leftrightarrow y = x) \ \& \ Gx].$$

However, following Gary Ostertag's lead, (2.12″) is treated as its logically equivalent expression,

$$(2.12\text{*}) \qquad \exists x\Big[\big(Fx \ \& \ \forall y(Fy \rightarrow y = x)\big) \ \& \ Gx\Big].$$

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[17]Ostertag [66], 178 and Neale [60], 86.

[18]C.f. §1.3.2, especially Definition 1.2 (vi). In the language used there, ⌜$\Sigma(\imath\chi)\phi\chi$⌝ is a sentence, where Σ is a metavariable predicate term. Even though ⌜$(\imath\chi)\phi\chi$⌝ functions similarly to ⌜$\forall\chi\phi\chi$⌝ and ⌜$\exists\chi\phi\chi$⌝ in that every occurrence of ⌜$\ldots\eta\ldots$⌝ in ⌜$\phi\ldots\eta\ldots$⌝ has been replaced by ⌜χ⌝ and prefixed with ⌜$(\imath\chi)$⌝ it actually behaves syntacticly as a term (i.e., an named object). Thus, just like ⌜$\eta_i = \eta_j$⌝ or ⌜$\Sigma\eta$⌝ are sentences, ⌜$(\imath\chi)\phi\chi = (\imath\chi)\phi\chi$⌝ and ⌜$\Sigma(\imath\chi)\phi\chi$⌝ are sentences. But, however, ⌜$\exists\chi\phi\chi = \exists\chi\phi\chi$⌝ or ⌜$\Sigma\exists\chi\phi\chi$⌝ are not.

[19]Neale [59], 94ff. Similarly, Quine [125] also believes the description operator is an abbreviation for a longer symbolic formula (20). However, strictly speaking, even the formula in (2.12″) is a quasi-formula as it isn't defined in just the primitive vocabulary used in the *Principia*. We may analyze ⌜$\phi \ \& \ \psi$⌝ in terms of ⌜$\neg(\neg\phi \vee \neg\psi)$⌝, and so forth. In fact, as Neale [59] points out, he has never seen (2.12″) in true primitive notation; and he has no desire to do so (95, n. 9). Kripke [46] does give a valiant effort (1032).

I opt for (2.12*) in lieu of (2.12″) because I find (2.12*), by Ostertag's acknowledgment, "easier to interpret."[20]

Strictly speaking, however, it is incorrect to treat the expression in (2.12′) as equivalent to (2.12*) since complications surface relating to the iota operator's scope.[21] For example, how are we to treat the negation of (2.12′), expressed here:

(2.14) $\qquad \neg G(\imath x)Fx.$

(2.14) is ambiguous, as Russell himself pointed out,[22] because there is not a unique formula for which it is an abbreviation.[23] In fact, there are two:

(2.14a) $\qquad \neg \exists x\Big[\big(Fx \ \& \ \forall y(Fy \to y = x)\big) \ \& \ Gx\Big],$

or

(2.14b) $\qquad \exists x\Big[\big(Fx \ \& \ \forall y(Fy \to y = x)\big) \ \& \ \neg Gx\Big].$

To assuage this problem, Russell introduces an "awkward"[24] device aiming to address the scope of the description; he enclosed '$(\imath x)Fx$' in brackets to mark off its scope and

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[20]Ostertag [67], 7. I say (2.12″) is easier to interpret since it is more perspicuous that it is conjointly equivalent to (2.12a), (2.12b), and (2.12c). Here is how to think of this visually:

$$\underbrace{\underbrace{\exists x[Fx}_{\ulcorner \text{there is a } Fx \urcorner} \quad \& \ \forall y(Fy \to y = x)}_{\ulcorner \text{the unique } Fx \urcorner} \ \& \ Gx].$$
$$\ulcorner \text{the unique } Fx \text{ is also } Gx \urcorner$$

[21]For examples of recent work discussing Russell's scope problems, see: Neal [59], chapter 4; Ostertage [66]; Kripke [46].

[22]Russell [138], 57.

[23]Ibid., 57. See also: Neale [60].

[24]Neale [60], 86. Ostertage [66] calls the maneuver "cumbersome" (178).

affixed '$[(\iota x)Fx]$' directly left of the formula. Thus, we get either:

(2.14c) $\neg[(\iota x)Fx]G(\iota x)Fx,$

or

(2.14d) $[(\iota x)Fx]\neg G(\iota x)Fx.$

The difference between the two is quite significant: the scope of the description in (2.14d) includes the negation operator, whereas the scope of the description in (2.14c) does not include the negation operator. As such, let us say the scope of (2.14d) is wide, and that the description is the *primary* occurrence in the proposition, while the scope of (2.14c) is narrower and thus the description is the *secondary* occurrence in the proposition.

After having the iota notation and the scope maneuver in hand, we may introduce the official definition of descriptions found in the *Principia*, proposition numbers (*14.01) and (*14.02), for the elimination of descriptions:[25]

(*14.01) $\left[(\iota x)\phi x\right]\psi(\iota x)\phi x = \exists x\left[\forall y(\phi y \leftrightarrow y = x)\ \&\ \psi x\right]$

and

(*14.02) $E!(\iota x)\phi x = \exists x\forall y(\phi y \leftrightarrow y = x).$

In (*14.02) the $\ulcorner E!(\iota x)\phi x\urcorner$ means '$(\iota x)\phi x$' proper—that is, there is exactly one ϕ.[26]

Leaving Russell's definition, I want to call attention to one aspect of Russell's theory

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[25] As I indicated earlier, I have omitted Russell's use of dots for the contemporary convention of parenthesis.

[26] Linsky [51], §2.

that Stephen Neale believes is essential to understanding Russell.[27] The point is this: the statement ⌜the F is G⌝ does not express a *singular* proposition, but a *general* one. Let us say a proposition $[\![p]\!]$ expressed by p is singular if and only if knowing $[\![p]\!]$ is dependent on the existence of the object contained in the subject of p. In other words, a singular term may be combined with a one-place predicate to express a proposition which cannot be understood except when the referent of the term exists. In contrast, let us say a proposition $[\![p]\!]$ expressed by p is general when and only knowing $[\![p]\!]$ is not dependent on the existence of the object contained in the subject of p. To put it another way, a general proposition may be understood despite the referent of the term not existing.[28] The distinction is important for three reasons.

First, definite descriptions—e.g., (2.12)—are general in the sense that they could be understood without the referent of ⌜the F⌝ existing. In fact, we could make sense of (2.12) without knowing who or what answers the description (if anything does). For precisely this reason, descriptions can be denotative though denote nothing.

Another reason the distinction is important is that we can appreciate why denoting phrases are *incomplete* symbols. Let us understand an incomplete symbol to be a symbol which does not stand for or directly represent any object(s).[29] For example, to assert (2.12) with the truth conditions specified in (2.12*), we observe the presence of predicates and quantifiers but no singular term corresponding to (2.12)'s grammatical subject.[30] And this is why we want to again emphasize the distinction between the grammatical form of the sentence in (2.12) and the logical form of the proposition in (2.12*). Grammatically, the description in (2.12) has a subject—namely, ⌜the F⌝. But, logically, the description doesn't contain a subject within the proposition because the

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[27]Neale [60], 88f; [59], 98f.

[28]Neale [59], 98. We should also note that one shouldn't resist the implication that Russell's theory of descriptions has intimate connections with Russell's epistemology.

[29]Neale [60], 89. The remainder of this paragraph follows him closely.

[30]Neale [60], 89.

proposition is not about an object at all. Instead, the proposition is concerned with a relationship between two predicates, or, in Russell's case, two properties. Hence, the description in (2.12) expresses that one thing has F–ness, and nothing has F–ness while lacking G–ness. So, (2.12) is true if and only if the relation between them holds. Kurt Gödel put it this way:

> A sentence involving the phrase 'the author of $Waverly$' does not (strictly speaking) assert anything about Scott (since it contains no constituent denoting Scott), but is only a roundabout way of asserting something about the concepts occurring in the descriptive phrase.[31]

2.2.2.2 Corollaries

The positive corollaries of Russell's theory of descriptions are highly influential, and I shall mention two of them. They are, first, names abbreviate descriptions; and, second, descriptions alleviate the tension caused by negative existentials. I take them in order.

For Russell, proper names simply "abbreviate description[s]."[32] Accordingly, we use 'Scott' to replace the description in (2.11), repeated here:

(2.11)   The author of $Waverly$ is Scotch.

And as we saw in §1.3.3 a name is a piece of language we use to pick out an object. For example, 'Dan' picks out the individual who is the author of this paper. But here, Russell believes a name is "a simple symbol whose meaning is something that can only occur as subject."[33] A *simple symbol* has no parts that are symbols. Hence, a definite description has parts that are symbols but is not a simple symbol itself. Furthermore, proper names are simple symbols like 'Moti', 'Katherine', and 'Zack', which are used to designate the person that we are thinking of. Thus, according to Russell, the use of

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[31]Gödel [31], 130.
[32]Russell [131], 81.
[33]Russell [131], 79. By 'subject' I take him to mean what I've called 'object'.

a proper name always involves some description.[34] Again, consider the example 'Dan', which abbreviates the description:

(2.15)   The author of this paper.

The description in (2.15) is what we meant when I wrote 'Dan'.[35] On this view, however, proper names serve a grammatical purpose but do not function logically as names.[36] For example, by 'Santa Claus' I mean

(2.16)   The man who climbs down chimneys to deliver gifts

even though this description may not refer to anything in the world. Nonetheless, the name 'Santa Claus' abbreviates the description and therefore has meaning even though it lacks a referent.

This, again, allows us to mention the problem of negative existentials and Russell's solution. Early Russell, you may recall, argued that expressions like

(2.17)   There are no xs

are denotative, though denote nothing. Later Russell maintains a similar stance though he incorporates minor alterations. For instance, consider the logical form of (2.17):[37]

(2.17′) $\neg\exists x F x.$

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[34]Soames [149], 110.

[35]There are particular nuisances here that I'll pass over. For example, the name 'Dan' could be considered an indexical applying to more than one individual.

[36]Ibid., 111. Quine goes farther than Russell in the elimination of names from a logical system. Quine, in fact, views names as "frills" which may be omitted [101], 25.

[37]Where $\ulcorner F \urcorner$ is a dummy predicate.

Here there is no object that the predicate applies to; hence, the extension of the predicate is ∅. The upshot is attractive. The Kantian notion that existence isn't a predicate gets maintained,[38] and there is no unappealing ontological commitment to non-existent objects.

A similar method for treating negative existentials may be employed for handling more complicated descriptions like that of (2.8), repeated here:

(2.8)   The present king of France is bald.

Obviously (2.8) is the grammatical form of the expression, which, if we turn our attention to the logical form, may now be expressed as:

(2.8′) $\exists x\Big[\big(Kx\ \&\ \forall y(Ky \rightarrow y = x)\big)\ \&\ Bx\Big].$

But suppose we want to maintain that (2.8′) is false, since there is no presiding king of France, and logic can no more admit the present king of France than a historian should.[39] Denying (2.8) gives us either:

(2.18)   It is false that the present king of France is bald.

or

(2.19)   The present king of France is not bald.

We may be tempted to maintain that (2.18) is the correct rendering because the entire

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[38]Kant [42], B622ff. For example, Kant writes, "'Being' is obviously not a real predicate; that is, it is not a concept of something which could be added to the concept of a thing" (B626).

[39]Russell [131] says something very similar: "Logic, I should maintain, should no more admit a unicorn than zoology can; for logic is concerned with the real world just as truly as zoology, though with its more abstract and general features" (77).

expression of (2.8) is false, and (2.19) appears correct since the present king of France isn't bald because there is no present king of France to be bald. Thus, both (2.18) and (2.19) appear true. Likewise, the (contemporary) logical rendering of (2.18) and (2.19) may be expressed as follows:

$$(2.18') \qquad \neg\exists x\Big[\big(Kx \ \& \ \forall y(Ky \to y = x)\big) \ \& \ Bx\Big]$$

or

$$(2.19') \qquad \exists x\Big[\big(Kx \ \& \ \forall y(Ky \to y = x)\big) \ \& \ \neg Bx\Big].$$

Russell argues that in (2.8) the primary occurrence of the proposition is 'the present king of France', and since there is no present king of France the proposition is false. Thus, he concludes, "every proposition in which a description which describes nothing has a primary occurrence is false."[40] Hence, in iota notation, $\ulcorner(\imath x)Kx\urcorner$ is false and by consequent so is $\ulcorner B(\imath x)Kx\urcorner$. This, of course, means there is *no* king of France to be bald and hence (2.18') is the correct interpretation.

2.3   Quine's Descriptions

Quine took rather fondly to Russell's theory of descriptions and in several publications he either assumes Russell's theory of descriptions or credits him outright.[41] To begin, consider Quine's alteration of Russell's theory of descriptions followed by his

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[40]Russell [131], 69.

[41]See: Quine [72]; [73]; [79]; [81]; [82]; [93]; [126]. In Quine [82], he writes that any use of 'the author of *Waverly*' is an "allusion to Russell" (234). If true, the number of instances where Quine alludes to Russell are far to numerous to count.

elimination of names for descriptions.[42]

2.3.1 Quine's Alteration

The technical differences between Quine and Russell are substantial, though for our purposes, only one will be mentioned.[43] Chief among the differences is that Quine's view presupposes a "far more meager" array of logical notations.[44] In particular, by using '$\in$', Quine has allowed only one primitive predicate, though we may add analogues of using (2.20) and (2.21) corresponding to any sort of extralogical predicate.[45] To set up Quine's alteration of descriptions, consider a few technical details.

Let '$\in$' be a primitive logical predicate defined on page 10. Let $\ulcorner\alpha\urcorner$ and $\ulcorner\beta\urcorner$ take the place of class variables (i.e., they are generic class names (c.f., §1.3.3)), $\ulcorner\phi\urcorner$ stand for any formula, and let '(ιx)' be the iota operator defined in §2.2.2.[46] We may give a definite description either for an object or a class of things. To give a description for a particular object means we give the description $\ulcorner(\iota x)\phi \in \alpha\urcorner$, which may be defined as:[47]

$$(2.20) \qquad \exists x\Big[(x \in \alpha) \ \& \ \forall y\big((x = y) \leftrightarrow \phi\big)\Big].$$

What (2.20) asserts is that $\ulcorner\alpha\urcorner$ has a unique member $\ulcorner x\urcorner$ such that $\ulcorner\phi\urcorner$.[48] Similarly, let us understand a description for a particular class to be a description $\ulcorner x \in (\iota\alpha)\urcorner$,

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[42] Quine's technical introduction to descriptions occurs in several publications. See: [83]; [80], §27; [82], 227–234.

As a side note, Quine visited the Russell archives in Ontario in January 1980. Upon observing Russell's copy of Quine's *Mathematical Logic*, Quine writes: "A pipe cleaner still marked the place in *Mathematical Logic* where I departed from his definition of singular description" ([121], 441).

[43] In Quine's *Methods of Logic* [82] he does not use his version as found in [80] and [83], and merely says that his method may be applied if so inclined.

[44] Quine [83], 81.

[45] Quine [81], 166, n. 9.

[46] We should also note that both types of generic variables—i.e., object and class—range over the entire domain of discourse.

[47] Quine [83], 85.

[48] Quine [83], 86.

which we define as:

$$(2.21) \qquad \exists\alpha\Big[(x \in \alpha) \mathbin{\&} \forall\beta\big((\beta = \alpha) \leftrightarrow \phi\big)\Big].$$

This says that $\ulcorner x \urcorner$ is a member of the unique class $\ulcorner \alpha \urcorner$ such that $\ulcorner \phi \urcorner$.[49]

Returning now to the differences between Russell and Quine, we note that occasion has repeatedly called for the use of $\ulcorner Fx \urcorner$, which is understood as $\ulcorner x$ is $F \urcorner$ and the predicate can be anything we like. Using classes or sets,[50] we can write $\ulcorner \{x : Fx\} \urcorner$ for *the* set of all and only those objects that are F. We may abbreviate $\ulcorner \{x : Fx\} \urcorner$ with $\ulcorner \hat{x}Fx \urcorner$. Of course, $\ulcorner \hat{x}Fx \urcorner$ is short for $\ulcorner \{x : Fx\} \urcorner$, which may also be analyzed as a description and an abbreviation for:

$$(2.22) \qquad (\imath\alpha)\forall x(x \in \alpha \leftrightarrow Fx).$$

Class names (cf. §1.3.3) thus formed are called *abstracts*.[51] We may use abstracts instead of uppercase Roman letters to address descriptions because $\ulcorner Fx \urcorner$ may be defined in terms of a class; thus, reducing the number of predicates from $\ulcorner \Sigma x \urcorner$ to '$\in$'. When we do this, a minor issue surfaces.

We note that '$\in$' is the only predicate needed. This is why we said that Quine's use of descriptions presupposes fewer predicates, since all descriptions can be expressed using '$\in$'. Second, in distinguishing between generic class variables and generic object variables, we adopt a convention that lowercase Greek letters range over classes whereas lowercase Roman letters range over objects. There is no real philosophic distinction that hangs on this convention as it is merely a clear way to distinguish when the

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[49]Quine [83], 86.

[50]Charitably, no philosophical significance will hang the equivocation between these two words.

[51]See Quine [80], chapter 3; [82], 239; [83], 87f; [101], 65ff.

discussion is about objects opposed to classes and vice versa.[52]

2.3.2 Differences And Similarities

The similarities between Quine's version and Russell's are more transparent than their differences. For example, Quine, like Russell, believes there is no obstacle to treating all singular terms as descriptions.[53] Although they agree on this point, Quine believes Russell has understated his position on (proper) names and descriptions. As we saw with Russell, singular terms (viz., names) abbreviate descriptions—e.g., 'Dan' may abbreviate the description 'the author of this paper'. But with Quine, names are "frills" that are a "mere convenience and strictly redundant."[54] Quine, however, wasn't the first to offer such an argument. Indeed the argument he advances in *Philosophy of Logic* is an uncredited adaptation of a similar argument found in Wittgenstein's *Tractatus* [159]. Wittgenstein, whom Quine once referred to as "the prophet,"[55] put the argument this way:

> The disappearance of apparent logical constants happens also in $\ulcorner \neg \exists x \neg Fx \urcorner$, which is equivalent to $\ulcorner \forall x Fx \urcorner$, and in $\ulcorner \exists x (Fx \ \& \ x = a) \urcorner$, which is equivalent to $\ulcorner Fa \urcorner$...For $\ulcorner Fa \urcorner$ says the same thing as $\ulcorner \exists x (Fx \ \& \ x = a) \urcorner$.[56]

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[52]There is one implicit caveat; that is, both class and object variables range over the same domain of discourse. The benefits of doing so are not relevant to the scope of this essay.

[53]Quine [82], 229.

[54]Quine [101], 25. Quine, himself, enjoyed this convenience every instance where he bothered to write his name instead of 'the Edgar Pierce Professor of Philosophy at Harvard University'.

[55]While visiting Vienna in 1932, Quine wrote a letter to his parents indicating that he had "written a note to the great Wittgenstein" so that he could have "an audience with the prophet." Sadly, however, the young Quine never met Wittgenstein; for that matter, Quine would later write "I have never seen Wittgenstein." See Quine [121], 87–8.

[56]Wittgenstein [159], 5.441; 5.47. I have opted for corner quotes instead of his double quotes, and have supplemented the notation in this essay for his.

Similarly, we retrace Quine's argument as follows. Let 'a' be a name contained within the sentence $\ulcorner Fa \urcorner$. But "clearly $\ulcorner Fa \urcorner$ is equivalent to:"[57]

(2.23) $\qquad \exists x(a = x \ \& \ Fx).$

From this he concludes that 'a' only need occur in the context of $\ulcorner a = x \urcorner$. But, we can capture $\ulcorner a = x \urcorner$ with the one-place predicate A, thus abandoning the name 'a' completely in favor of

(2.24) $\qquad \exists x(Ax \ \& \ Fx).$

Hence, we go from using the name in Fa to (2.23) to (2.24).[58] The lesson to be learned is that 'a', or any other name, can be replaced and paraphrased using quantifiers, variables, truth-functional connectives, and predicates;[59] however, names can "be restored at pleasure, as a convenient redundancy, by a convention of abbreviation."[60] Quine also adds: "In effect this is somewhat the idea behind Russell's theory of singular descriptions."[61]

The motivation of dispensing with names in favor of descriptions is a way to maintain control over questions of vocabulary independently of questions of ontology.[62] And because ordinary proper names can be paraphrased as a description and analyzed via Russell, we can communicate about objects without implying the existence of the named thing. Take the name 'God' for example. Let $\ulcorner Gx \urcorner$ stand for $\ulcorner x$ is God$\urcorner$. By

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[57]Quine [101], 25 (corner quotes added). Strictly speaking, however, they are not equivalent since $\ulcorner \exists x Fx \ \& \ \exists x(x = a) \urcorner$ does not imply $\ulcorner Fa \urcorner$. The error is trivial because $\{Fa\} \vdash \exists x Fx \ \& \ \exists x(x = a)$ is a valid theorem (cf. appendix A.5), which is the assumption Quine is working from.

[58]Quine [101], 25. See also Neale [59], 120.

[59]Neale [59], 120.

[60]Quine [101], 25.

[61]Quine [101], 26.

[62]Quine [80], 150. Neale [59] feels this is the linguistic counterpart of a principle of ontological parsimony (120f).

stipulating that definite descriptions function syntactically as terms, we may say the name 'God' stands for the singular term expressed with the iota operator in (2.25):

$$(2.25) \qquad (\imath x)Gx.$$

Quite clearly, (2.25) purports to name the unique object of which the predicate '__ is God' applies to. We now have a singular term traded for another singular term. Of course, we may continue to add properties—or, more aptly for Quine, predicates—to (2.25) and give us a more orthodox expression. For example, to say "God is omniscient" we would writes something like

$$(2.26) \qquad O(\imath x)Gx,$$

where the 'O' stands for the above predicate. We could continue this process to our doctrine's delight. Nonetheless, we still have replaced one singular term for another. To see how we eliminate the singular term altogether, we recall that (2.25) is an abbreviatory device for a uniqueness condition, which Quine paraphrases as this:[63]

$$(2.27) \qquad \forall x(Fx \leftrightarrow x = y)$$

To say that "there is a God" would then be to say there is—existentially speaking—a unique thing God, or

$$(2.28) \qquad \exists x[Gx \ \& \ \forall y(Gy \rightarrow y = x)].$$

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[63]Quine [82], 232. Recall the caveat that we treat the description ⌜the F is G⌝ as (2.12*) opposed to (2.12″).

This, then, gives us an adequate formulation of the claim "there is a God" devoid of singular terms; be it a name or (2.25). Still, even with (2.28) we may add other predicates. We rewrite (2.26), for example, without the singular term like so:

$$(2.26') \qquad \exists x \Big[\big(Gx \ \& \ \forall y (Gy \to y = x) \big) \ \& \ Ox \Big].$$

Now, how does such a maneuver affect our ontology? There are two possible responses. On the one hand, a theist may say there is such a thing as $\ulcorner (\imath x) Gx \urcorner$ thereby implicitly asserting (2.28) as true. Likewise, (2.26') is true or false depending on whether 'O' is true or false of $\ulcorner (\imath x) Gx \urcorner$. On the other hand, an atheist believes there is no $\ulcorner (\imath x) Gx \urcorner$ thereby affirming the negation of (2.28) and the truth of

$$(2.29) \qquad \neg \exists x [Gx \ \& \ \forall y (Gy \to y = x)].$$

And it could almost pass without saying, but the atheist is going to also affirm the negation of (2.26'). A lesson we take from this is rather simple: the fundamental disagreement between a theist and an atheist is the disagreement about the truth-value of (2.28), but not whether it is meaningful, or what Quine calls *significant*.[64] I am able to speak about 'the God' without being ontologically committed that such is so.

So, once we have dispensed with names, then reference to objects (concrete or abstract) occurs exclusively through a first-order language; specifically, through using variables. We can, as Quine assures us, still say anything we wish about these objects except we do it in a first-order system. And here is where Quine gets a lot of mileage out of Russell's theory. If we want to say of some object that it exists, we may do so in the first-order system without the need for names. And since reference to these

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[64]Quine [80], 150.

objects occurs via variables, then saying some object exists is also going to occur in a variable locution. The curious conclusion, then, is this: all the objects I believe exist are values of the bound variables in sentences I hold to be true. In this sense, there is no fundamental philosophical problems concerning names and their referents, but only variables and their referents that we're calling values.

I am going to belabor this point further as it is crucial to the crux of this paper. To say of some object a that it exists, or

(2.30) a exists.

is simply to say

(2.31)   There is an a.

Given our assumption that to speak of the object a occurs through variables in our formalized language (cf. §1.3.2), then to say (2.30) is really to say this:

(2.32) $\exists x (x = a)$.

Naturally this may be reduced further, but—since nothing will here turn on going further—we'll stop here for reasons of exposition. This formalized expression uses a bound variable (viz., $\ulcorner x \urcorner$) and the variable's named value (viz., 'a') to convey existence. Quine believes we may dispense of all existential statements similar to (2.30) in favor of the more basic logical terms found in (2.32). The reason is simple: we don't need (2.30) when we can use the description found in (2.32).[65]

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[65] Quine [81], 167.

Keeping all this in mind, it is only a short step for Quine to the conclusion that the debate surrounding existence must operate on a semantical plane.[66] That is, saying or implying something exists—or, as we just saw, that there is something—is a matter of language, and because it is a matter of language it is a matter of bound variables.[67] Subsequently, two notable conclusions follow. They are, first, we have justification for Quine's quip that "To be is to be the value of a variable." And, second, variable locution is the foundation of his ontological commitments: "For ontological commitments it is the variable that counts."[68]

In our next section, we begin to trace out these two conclusions. The following section discusses the nature of existence, and how to determine if a variable commits us to some existing thing. We have seen, however, through our exposition of Quine's use of descriptions, that whatever the answers may be, they are values of variables. And if we wish to answer the ontological question given in §1.1, then the answers we give are values of our bound variables.

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[66] Quine [93], 6.

[67] Almost directly quoted from Quine [99], 499.

[68] Quine [88], 128.

Chapter 3

Metaontology

3.1 Orientation

In the section above, we traced Quine's use of Russell's theory of descriptions and previewed how Quine uses Russell's theory to answer what we've called 'the ontological question' (cf. §1.1), repeated here for convenience:

(1.1)   What is there?

Recall also that we said answers to this question reveal our ontological commitments and any discussion either concerning (1.1) itself, or a strategy for answering it, is called a 'metaontology'. In other words, if I ask what does (1.1) mean, I'm doing metaontology; if I try to determine a strategy for answering (1.1) so that I may make my ontological commitments clearer, I'm doing metaontology. This section examines Quine's metaontology in order to discover his answers to (1.1).

This section has four parts. First, we explore Quine's metaontology starting with interpreting (1.1) itself. This leads to an exploration of Quine's understanding of 'exist', and we begin with an examination of his famous slogan: "To be is to be value of a

variable." Next, we explore Quine's Criterion for Ontological Commitment, which is a metaontological strategy for making our ontological commitment's clearer. This, as we shall see, allows us to draw a sharper distinction between ontology and metaontology; both of which will be discussed in greater depth.

3.2 What Is Getting Asked In The Ontological Question?

Our first step in examining Quine's metaontology should start with interpreting the ontological question itself. More specifically, what is getting asked in (1.1)? Consider some initial difficulty.

3.2.1 The Problem Is 'Is'

The main interpretive question concerns the English word 'is', which is the third person present indicative of the verb 'to be'. This verb is quite versatile. It can demonstrate normal predication (e.g., "the hat is red"), identity (e.g., "one is one"), definitions (e.g., "4 is the sum of 2 and 2"), and it can also imply the existence of something (e.g., "I think, therefore I am"). Used in this last sense, we use 'to be' to convey existence usually in the following manner:

(3.1)   There is an x.

If 'to be' can be construed as conveying existence, then it might be plausible to believe that *to be* is the same as *to exist*. In simpler terms,

(3.2)   To exist is to be.

Quine agrees. Hence, it is best to understand 'is' in (1.1) as asking:

(3.3)   What exists?

This clarification proves to be our first clarification of (1.1). Since it is a clarification of the ontological question it is also an interpretation of (1.1), and, therefore, our first step in doing metaontology. But a problem persists.

There are still two occurrences of 'to be' in the expression 'to exist is to be'. A possible solution is to understand 'is' in the defining sense of the verb, where either 'exist' or 'to be' is the *definiendum*. We then replace the current expression with some form of the awkward English expression *to exist if and only if to be*. Adding an indefinite article as a subject for aesthetic reasons, we get the following:

(3.4)   It exists if and only if it is.

Despite having clarified existence to (3.4) we are still no closer at understanding what is getting asked in (1.1); we have simply delayed an answer. We should now ask what does it mean to exist?

We saw at the end of §2.3.2 that 'a exist' can be analyzed as the description 'there is an a', which is captured in our formalized language (cf. §1.3.2) as $\ulcorner\exists x(x = a)\urcorner$. This formalized expression uses a bound variable (viz., $\ulcorner x \urcorner$) and the variable's named value (viz., 'a') to convey existence. Proceeding as Quine does, then the ontological question about existing things should get assessed by analyzing values of bound variables. Quine expressed these sentiments by giving us the expression "To be is to be the value of a variable."

3.2.2 "To Be Is To Be The Value of a Variable"

We have reduced the ontological question to a question about what exists. And here we saw Quine has given a rather provocative answer: "To be is to be the value of a variable." Despite the simple answer confusion remains. For example, is the variable required to be bound? What does it mean to be the value of a variable? And, if the variable is bound, need the binding occur from the existential or universal quantifier? The remainder of §3.2.2 addresses these questions. I take them in turn.

3.2.2.1 Is The Variable Required To Be Bound?

In order to gauge whether the variable is required to be bound, we should follow the evolutionary changes Quine's slogan has undergone throughout his career.[1] The phrase unquestionably is Quine's stylistic play on Berkeley's dictum: "To be is to be perceived." But, the origin of Quine's version can be tracked back to a paper he gave in September 1939 entitled "A Logistical Approach to the Ontological Problem" [79]. Here, it read:

> To *be* is to be a value of a variable.[2]

Although the paper was presented it would not be formally published until 1966 in Quine [124]. However, in December of the same year (1939), the bulk of Quine's paper would be published in the article: "Designation and Existence" [72].[3] It is here that the phrase was first published. Nine years later he would again use the phrase in his 1948 "On What There Is."[4]

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[1] Quine [99] suggests he has, nonetheless, maintained it throughout (499).
[2] Quine [79], 66 (emphasis his).
[3] The phrase appears on page 708.
[4] The phrase appears on [93], 15.

Yet in none of these publications does the word 'bound' appear, despite being often mistakenly attributed to Quine's dictum.[5] In Quine's own autobiography, *The Time of My Life* [121], he would later misread his own 1939 paper (published as Quine [79]) and say he argued

> that the objects assumed, or referred to, are the values of the bound variables.[6]

To be historically accurate, however, his own recollection is incorrect. This said, in 1983 he did clarify that 'values of variables' should be construed as 'bound variables':

> So I have insisted down the years that to be is to be the value of a variable. More precisely, what one takes there to be are what one admits as values of one's bound variables.[7]

In 1984, Quine would also modify a quote in "On What There Is" [93] to include the word 'bound'. Compare the two beginning with the older:

> To be assumed as an entity is purely and simply, to be reckoned as the value of a variable. In terms of the categories of traditional grammar, this amounts roughly to saying that to be is to be in the range of reference of a pronoun.[8]

> To posit an object, to recognize it as existing, is to admit it as a value of a bound variable—or, where ordinary language is concerned, to admit it as the reference of a relative pronoun.[9]

There are three differences. The first observation is that the newer quote does mention 'bound' whereas the older does not. The second, is that the new quote adds 'relative' to 'pronoun' whereas the older did not. Below in §3.3.3, we'll see that this reflects other sentiments he has concerning ontology. And, third, we notice the older quote

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[5]Some who have made this mistake include: Sider [146], 17; Routley [130], 155, n. 4; Marcus [54], 242; and Hintikka [36], 128. I confess that it wasn't until the second draft of this essay that I noticed the absence of 'bound'.

[6]Quine [121], 141.

[7]Quine [99]; reprinted in [107], 26.

[8]Quine [93], 13.

[9]Quine [86], 21.

reads '*the* value' whereas the newer quote reads '*a* value'.[10] Whether anything hangs on this third observation I'll leave for my reader to decide.

It is evident that Quine originally omitted 'bound' only to later include it. Including the word benefits Quine since without the word 'bound' his dictum is impotent. This is because an open sentence, or a sentence containing a free variable, has no referent and thereby no truth-value. For example, the expression

$$(3.5) \qquad Fx$$

does not tell us there is any existing object x that is F; rather, (3.5) merely says the predicate $\ulcorner \_\_ \text{ is } F \urcorner$ may be applied to a generic $\ulcorner x \urcorner$. And since $\ulcorner x \urcorner$ is generic it lacks a referent, and because it lacks a referent, it contains no truth-value. Consequently, (3.5) is ontologically neutral. We may tidy up (3.5) to express ontological commitments by placing a quantifier out front. Hence, we become ontologically committed when and only when a quantifier is placed in front of an open sentence to give us

$$(3.6) \qquad \exists x Fx.$$

In contrast to (3.5), (3.6) does make an ontological claim by the nature of the existential quantifier. So, for ontological commitments, it is the values of *bound* variables that we are particularly concerned with and not just values of variables.[11]

We have, as we just saw, good reason to suggest that without 'bound' Quine's dictum fails. So, why would Quine omit 'bound' and commit such a trivial error? Here I cannot speculate. I can, however, suggest that a charitable reader would editorially include 'bound' into the dictum for one of two reasons. The first is that Quine would

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[10]Here is a short list of publications who opt for the reading '*the* value': Quine [72], 708; [93], 15 and [107], 26. Readings where he uses '*a* variable' include: Quine [79], 66 and [82], 234.

[11]Decock [19] makes a similar, though more charitable, observation (7ff).

later be more precise and clarify that the variable in question should be considered bounded. To insist and argue Quine's dictum fails due to the omission of 'bound' would now constitute something of a *straw man.* And, second, although 'bound' would not appear in the dictum's wording in "On What There Is" [93], he does reference 'bound variables' in connection with ontology at least once there (cf. page 13). Let us therefore conclude that 'bound variables' is what Quine had—or perhaps, should have—intended all along and the omission of 'bound' is more for stylistic reasons than pedantic.

This leads to our first conclusion about the dictum's phrasing; it should be read including the word 'bound':

(3.7)   To be is to be the value of a bound variable.

Still further, incorporating our discussion on 'to be' in §3.2.1, we see that the dictum should really be understood as:

(3.8)   An object exists if and only if it is the value of a bound variable.

3.2.2.2   Objectual Quantification

Our second question concerning the dictum was concerned with what it means to be a value of a variable. As we noticed in our section on terminology §1.3.3, the value of a bound variable is the variable's referent.[12] Of course, this involves a close look at Quine's views of quantification.[13] To be more narrow, however, we only need discuss

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[12]Quine took the liberty of expressing the bound variable's relationship to its referent—or, in the language of Quine [93], its value—in several ways. Bound variables could 'stand for' its value (referent), but it can also 'pick out', 'refer to', and 'denote' the referent. Moreover, no matter the term used to express the variable and referent's relationship, the variable must range over (sometimes 'quantify over') the set containing its referent. The set containing its referent also changes names in Quine's publications. It can be called 'discourse', 'domain', 'universe', etc. I read Quine charitably so that no philosophical distinction hangs on word selection.

[13]See: Quine [78]; [97]; [83]; [81]; [82], chapters 3 & 4; [90]; [105].

Quine's views on quantification as they relate to the dictum in "On What There Is" [93]. And what is important to the dictum's success is the type of quantification to be used.

Quine believes the quantification involved must be classical (objectual) quantification (cf., §1.3.3).[14] To construe your ontology based on substitutional quantification is, in Quine estimation, "meaningless." He writes:

> Ontology is thus meaningless for a theory whose only quantification is substitutionally construed; meaningless, that is, insofar as the theory is considered in and of itself. The question of its ontology makes sense only relative to some translation of the theory into a background theory in which we use referential quantification. The answer depends on both theories and, again, on the chosen way of translating the one into the other.[15]

Consider an example.[16] Suppose we were given the mathematical sentence

$$(3.9) \qquad \exists x(x < 4).$$

Recall that substitutional quantification is true if and only if the open sentence '$x < 4$' comes out true under some substitution. This is to say that no mathematical objects, entities, or numbers are involved; we have instead replaced some lexical signs with others. Technically, the range of values that the variable $\ulcorner x \urcorner$ ranges over are lexical signs now called *linguistic objects*. Thus, the *value* of a substitutional quantified variable is some linguistic object. For example, we may instantiate (3.9) with the numeral '3' and obtain a true sentence without ontological commitments of any kind. The sign '3' is a value of the variable yielding a true sentence and there is a set of linguistic objects that are the values of variables yielding a true sentence—viz., { '0','1','2','3'}—while other instantiations yield a false sentence—viz., {'n' : 'n' $\geq$ '4'}. In substitutional

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[14]Quine [109], 33.
[15]Quine [95], 64.
[16]This example is originally Decock's [19], 17–18.

quantification, we have only introduced a class of linguistic objects as the values of the variables and remain uncommitted to the ontological status of said values. On the other hand, objectual quantification regards (3.9) as true if and only if there are existent numbers $\{0, 1, 2, 3\}$ which the variable $\ulcorner x \urcorner$ stands in place of. In such a case, the number 3 is a value of a variable and is a mathematical object opposed to the numeral '3' which is just a linguistic object. This means, technically, the objectually bound variable takes as its *value* a non-linguistic object including mathematical objects. It is then non-linguistic objects—not just linguistic ones—that are the values of variables.[17] Quine intended his slogan to be read against the background of objectual quantification.

Consider the upshot of having done so. For one thing, expressions like

(3.10) $\qquad \exists x (x \text{ is a unicorn})$

are true if and only if there is an actual object a, which is the value of the bound variable. That is, in order for (3.10) to be true, there would need to be some unicorns. "Such, then," Quine writes, "is the cosmic burden born by the humble variable. It is the locus of reification, hence of all ontology."[18] Thus, in Quine's view, the only ontological commitment we have comes via values of bound variables and the only type of quantification pertinent is objectual. Actually being the value of a bound variable is what 'being' is all about.[19]

Let's take stock. In (3.8) we observed that an object exists if and only if it is the value of a bound variable. After our current discussion of objectual quantification, we change (3.8) to:

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[17]In Quine [111], Quine corrects Lee's [48] quote "The values of variable refer 'to the objects"' to "the values *are* the objects" (318). Hence, the values of variables, for Quine, are objects.

[18]Quine [109], 33.

[19]Orenstein [63].

(3.11)   An object exists if and only if it is the value of an objectually bound variable.

And because we argued that the value of objectually bound variables are actual objects in the domain, we once again change the dictum to read:

(3.12)   An object exists if and only if it is picked out by an objectually bound variable.

With (3.12) in mind, the answers to (1.1) are all objects capable of being picked out by an objectually bound variable.

3.2.2.3   Universal Or Existential Bondage

Before leaving this discussion on Quine's dictum, I want to again call attention to the dictum's phrasing by asking the third question: if the variable is bound, does it have to be bounded with an existential quantifier? We saw above that the dictum should be read to include bound, so we are left to ask need the variable be existentially or universally bound? This is to ask if binding $\ulcorner x \urcorner$ with '$\forall$' leads to existential commitments?

The knee-jerk reaction, rather misleadingly, appears to be "no", and the reason can be supplied by all those who have had an introductory logic class. If we have a universal premise we cannot deduce an existential conclusion. In canonical terms the following is true:

Theorem 3.1. $\{\forall x(Fx \rightarrow Gx)\} \nvdash \exists x(Fx \,\&\, Gx).$

This argument is invalid because there may not be any things that are F's. For this reason, we read statements like $\ulcorner \forall x(Fx \rightarrow Gx) \urcorner$ as innocent of existence claims; typically, we say: "For all x, if there be any at all, if x is F then x is G."

Yet in many ways this is misleading. There are technical details that we may pass over, but one is essential to answer the question: the universe of discourse contains at least one member.[20] If this is our assumption, then the following theorems hold:

Theorem 3.2. $\{\forall x F x\} \vdash \exists x F x$[21]

Theorem 3.3. $\{\exists x F x, \forall x (F x \to G x)\} \vdash \exists x (F x \,\&\, G x).$[22]

Theorem 3.4. $\{\forall x (F x \to G x)\} \vdash \exists x \neg F x \vee \exists x G x.$[23]

Suffice to say these theorems show that the conclusion depends on a non-empty universe of discourse. And, as is the case with universal expressions like $\ulcorner \forall x (F x \to G x) \urcorner$, everything, and at the very minimum one thing, is both F and G. Under this assumption, universal quantification does imply an ontological commitment to at least one thing.

3.2.3 Summary

To do metaontology is to ask interpretive questions concerning (1.1) or specify a strategy to answer it. This section has thus far dealt exclusively with how best to interpret the ontological question. We first interpret (1.1) as asking *what exists?*. To answer this Quine has said an object exists if and only if it is the value of a variable. We've analyzed this dictum at length and suggested it should be qualified to read: *an object exists if and only if it is picked out by an objectually bound variable.* As a result, to ask (1.1) is to inquire about what things you take to be the objects picked out by objectually bound variables. We have not, however, said anything about the objects

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[20]In several publications Quine argues that there cannot be an empty domain. See: Quine [73], 96ff; [74]; [81]; [82], 98ff; [104]. The view that there can be an null domain is commonly called *free logic*. On its behalf, Hintikka [36] offers an argument against Quine and Lambert [47] broadly challenges the theory of descriptions.

[21]See Appendix A.1 for the *proof.*

[22]See Appendix A.2 for the *proof.*

[23]See Appendix A.3 for the *proof.*

that are answers to (1.1) or even what should be understood as existing. We have merely explored how existence is to be interpreted along Quinean lines.

3.3   How Do We Answer The Ontological Question?

Having thus far explored the interpretive aspect of metaontology, we've found the dictum to be the backbone of the ontological question. Toward discussing possible answers to the ontological question, we ask: what are the objects that are picked out by my bound variables? But not only is the answer not clear, there is the added problem that various people answer the question differently. In an effort to make our ontological commitments clearer, Quine instructs us to develop a strategy—in his words, a 'criterion'—to formalize our ontological commitments. The strategy is called the *Criterion of Ontological Commitment* (herein COC).[24] The title, however, is slightly misleading. The COC is *not* concerned with our ontological commitments, it is concerned with how we *develop* those commitments. And because the COC is a strategy that essentially determines what answers should be given to (1.1) without directly specifying answers to it, the COC is a part of what we're calling metaontology. To put it another way, the COC is not concerned with our ontological commitments, but with making our ontological commitments clearer

The COC determines the ontological commitments of a given theory.[25] By *theory* Quine means a "fabric of sentences variously associated to one another and to non-verbal stimuli by the mechanism of conditioned response."[26] In other words, a theory is a collection of sentences that are related to other linguistic objects (viz., other sentences) and non-linguistic objects. Quine has an interesting argument about how

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[24]Phonetically, "Sē-ō′-Sē." Thanks to Joe Paxton for raising this question.

[25]Quine [78], 103. Quine uses 'discourse', 'theory', and 'ontology' interchangeably in various publications.

[26]Quine [126], 11.

non-linguistic objects become associated with linguistic objects (viz., sentences) and it involves an unwholesome flirtation with behaviorism. However, understanding the argument is unnecessary for our current purposes.

Moving on, we may formulate a simplified version of Quine's COC as follows: For any given theory T, T is committed to all and only those objects that are counted among the values of the bound variables in order that the statements affirmed in T be true.[27] Similarly, to show a theory assumes some object also means we would have to show that the theory would be false if the object didn't exist.[28] Quine states as much:

> [A]nother way of saying what objects a theory requires is to say that they are the objects that some of the predicates of the theory have to be true of, in order for the theory to be true.[29]

For example, suppose a given theory T claims that there are dogs—i.e., T assumes

$$(3.13) \qquad \exists x Dx,$$

where $\ulcorner Dx \urcorner$ takes the place of $\ulcorner x$ is a dog $\urcorner$. In this case, T turns out false if and only if there are no a's such that a satisfies the predicate '__ is a dog'. But T would not be false if dogness, or the property of being a dog, did not exist. The theory T is true if and only if there are dogs as referents of our bound variables and T is false if and only if there aren't any. To talk about the property of being a dog is simply unnecessary.

A couple of lessons can be learned from this. First, if our theory does not say there are dogs, then we *should not* be ontologically committed to dogs. To put it another way, let us say that a theory saying an object exists is a necessary condition for ontological commitment to that object. Let us call this *the syntactic principle of the COC* (herein SYP). It does not follow from SYP, however, that if our theory says there

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[27]Unless otherwise stated, 'objects' are to be understood in the non-linguistic sense coextensive with the word 'stuff'.

[28]Quine [73], 93.

[29]Ibid., 95.

are dogs, then there are dogs; rather, our principle states that if there is ontological commitment, then our theory claims that object exists. Our second lesson is that we are ontologically committed to those objects if and only if these objects are capable of being referents of our bound variables. In other words, an object's capability of being a referent to a theory's bound variables is a necessary and sufficient condition for ontological commitment to that object. Let us call this *the semantic principle of the COC* (herein SMP). From SMP it follows that if an object is not capable of being a referent of our bound variable, then we *should not* be committed to it. For example, the above theory does consider dogs as values of its bound variables and is committed to there being dogs; however, it does not consider the property of being a dog a possible referent of the theory's bound variables, so it is then wrong for the theory to be committed to such a property.

Notice that if an object does adhere to both SYP and SMP, then the theory says a certain object exists and the object is a possible referent of the theory's bound variables. Such objects are the objects the COC dictates we should be ontologically committed to. In other words, the COC says that a theory is committed to certain objects if and only if the theory says those objects exists and the objects are capable of being referred to by a bound variable in that theory. We discuss this at length, but first, let us address a potential problem.

3.3.1 A Potential Objection

The literature on Quine's COC is overwhelming.[30] Some of this literature has offered the objection that Quine has been unclear and inconsistent in his presentation of the COC.

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[30]Here is a small sample: Alston [1]; Ayer [3]; Boolos [8]; Carnap [10]; Cartwright [12]; Chomsky [14]; Church [15]; Davidson [17]; Geach [27]; Jubien [40]; Salmon [139]; and Strawson [152].

3.3.1.1 Is There More Than One COC?

It has been alleged that there are several variants of the actual COC given. In fact, Micheal Jubien and Richard Cartwright have suggested Quine's COC can be interpreted in several inequivalent ways.[31] A (non-exhaustive) sequential list of fourteen of the formulations are listed in (A) through (N) below.

(A) We may be said to countenance such and such an entity if and only if we regard the range of our variables as including such an entity. To *be* is to be a value of a variable [1939].[32]

(B) The bound variables of a theory range over all the entities of which the theory treats . . . The pure theory of quantification need not itself be construed as treating of universals, for it assumes nothing as to the nature of the values of its bound variables [1947].[33]

(C) The variables of quantification. . . range over our whole ontology, whatever it may be; and we are convicted of a particular ontological presupposition if, and only if, the alleged presuppositum has to be reckoned among the entities over which our variables range in order to render one of our affirmations true [1948].[34]

(D) A more explicit standard whereby to decide what ontology a given theory or form of discourse is committed to [is this]: a theory is committed to those and only those entities to which the bound variables of the theory must be capable of referring in order that the affirmations made in the theory be true [1948].[35]

(E) The ontology to which an (interpreted) theory is committed comprises all and only the objects over which the bound variables of the theory have to be construed as ranging in order that the statements affirmed in the theory be true [1951].[36]

(F) When I inquire into the *ontological commitments* of a given doctrine or body of theory, I am merely asking what, according to that theory, there is [1951].[37]

(G) To say that a given existential quantification presupposes objects of a given kind is to say simply that the open sentence which follows the quantifier is true of some objects of that kind and none not of that kind [1953].[38]

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[31] Jubien [40]; [41]; Cartwright [12].
[32] Quine [79], 66.
[33] Quine [92], 75.
[34] Quine [93], 13.
[35] Quine [93], 13–14.
[36] Quine [98], 11.
[37] Quine [88], 126.
[38] Quine [85], 131.

(H) Entities of a given sort are assumed by a theory if and only if some of them must be counted among the values of the variables in order that the statements affirmed in the theory be true [1953].[39]

(I) In our canonical notation of quantification...the objects we are to be understood to admit are precisely the objects which we reckon to the universe of values over which the bound variables of quantification are to be considered to range [1960].[40]

(J) We have moved now to the question of checking not on existence, but on imputations of existence: on what a theory says exists. The question is when to maintain that a theory assumes a given object, or objects of a given sort...To show that a theory assumes a given object...we have to show that the theory would be false if that object did not exist...[1969].[41]

(K) To show that some given object is required in a theory, what we have to show is no more nor less than that the object is required, for the truth of the theory, to be among the values over which the bound variables range [1969].[42]

(L) The objects whose existence is implied in our discourse are finally just the objects which must, for the truth of our assertions, be acknowledge as "values of variables"—i.e., reckoned into the totality of objects over which our variables of quantification range. To be is to be a value of a variable [1973].[43]

(M) The ontology to which one's use of language commits him comprises simply the objects that he treats as falling ...within the range of values of his variables [1973].[44]

(N) The objects that we reckon to our universe, then, are the objects that we admit as values of variables [1984].[45]

To illustrate a few of the differences, consider four examples. First, Quine mentions some variation of 'truth' in (C)–(E), (G) and (H), and (J)–(L). Next, Quine uses some variation of 'must be' in only (C), (D), (E) and (H), but omits the phrase in the rest. Third, the word 'bound' prefixes 'variables' only in (B), (D), (E), and (K). Lastly, Quine oscillates among using 'countenance' in (A); 'treats' in (B); 'commit' in (D)–(F)

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[39]Quine [78], 103.
[40]Quine [126], 242.
[41]Quine [73], 94.
[42]Quine [73], 94.
[43]Quine [82], 234.
[44]Quine [84], 118.
[45]Quine [86], 19.

and (M); 'presupposed' in (G); 'assumed' in (H) and (J); 'admit' in (I); 'required' in (K); 'implied' in (L); and 'reckoned' in (L) and (N). These four examples demonstrate a lack of consistency, which makes a unifying expository formulation of Quine's COC extremely difficult.

In addition to lack of consistency in wording, there are varying philosophical implications relating to the differing formulations. Reviewing the differences, Jubien thinks that there are three fundamentally different kinds of ontological commitments: (i) to entire ontologies, (ii) to kinds of entities, and (iii) to specific entities. Jubien suggests that theories which commit us to kinds of entities (i.e., (ii)) contain theorems of the form $\ulcorner \exists x F x \urcorner$ whereas theories which commit us to specific entities (i.e., (iii)) contain theorems of the form $\ulcorner \exists x (x = a) \urcorner$.[46] A commitment to an entire ontology would not reduce down into either (ii) or (iii) but should be applied to those things, if any, that actually exist and are treated by the theory itself.[47] Jubien believes Quine's inadvertent failure to distinguish among (i), (ii), and (iii) is problematic. Moreover, Jubien also argues that, for example, (E) should be distinguished from (B) in so far as (B) seems to identify the ontology with the actual range of variables whereas (E) focuses on the values of the bound variables. Again, Quine's failure to make these distinctions ends in problems.[48]

Similarly, Cartwright argues that some formulations of the COC include the maxim 'must be' (or 'has to be', etc.), while others avoid it. A 'must be' is present in (C)–(E) and (H) but absent in (A),(B), (F), (G), (I)–(L). Cartwright argues there is a suspicious use of necessity that may lead Quine to a conclusion that he isn't likely to be receptive

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[46]I think Jubien is being unfair to Quine here since you may prove $\{\exists x F x\} \vdash \exists x (x = a)$. Why this is important is because if you are committed to objects of a certain kind then you are committed to specific objects. Of course, this doesn't work the other way—i.e., $\{\exists x (x = a)\} \nvdash \exists x F x$. But this seems altogether uninteresting since an assumption of a non-empty domain gets us $\ulcorner \exists x F x \lor \exists x \neg F x \urcorner$, where $\ulcorner F \urcorner$ is a dummy predicate. From this you can prove $\{\exists x (x = a)\} \vdash \exists x F x \lor \exists x \neg F x$.

[47]Jubien [40], 380.

[48]See Cartwright [12] for an exposition of these problems.

to—viz., namely the admission of modal properties. Again, it appears Quine's lack of clarity produces other problems.

3.3.1.2 Avoiding The Objection

Here I wish to express sympathies with both the objectors and Quine. On behalf of the objectors it does seem problematic to have offered several variations of the supposed same criterion for both expository and philosophical reasons. Moreover, it seems ultimately some of Quine's versions commit him to intentional objects.[49] Nonetheless, I am sympathetic to Quine in that his treatment of a COC spans nearly fifty years. More so—and, perhaps more importantly—I do not want to pursue this digression any longer than I already have. Thus, I propose to avoid the objection in two ways. First, since my essay has been primarily concerned with "On What There Is" [93], I shall use the two versions presented there—viz., (C) and (D) above, repeated here:

(C) The variables of quantification...range over our whole ontology, whatever it may be; and we are convicted of a particular ontological presupposition if, and only if, the alleged presuppositum has to be reckoned among the entities over which our variables range in order to render one of our affirmations true [1948].[50]

(D) A more explicit standard whereby to decide what ontology a given theory or form of discourse is committed to [is this]: a theory is committed to those and only those entities to which the bound variables of the theory must be capable of referring in order that the affirmations made in the theory be true [1948].[51]

Henceforth, by COC I mean either (usually (D)). The second way I wish to avoid the objection is to charitably read Quine by concluding no real philosophical distinction hinges on either the words 'must be' or variations in the word 'commit'.

Having made these concessions and assumptions, it would now behoove us to explore the COC in further depth.

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[49]This argument isn't pursued here. Cf. Jubien [40] and Cartwright [12].
[50]Quine [93], 13.
[51]Quine [93], 13–14.

3.3.2   The COC In Depth

Recall that I suggested that Quine's COC solicits two normative principles, which I've called SYP and SMP. SYP states that a theory saying an object exists is a necessary condition for ontological commitment, whereas SMP claims that an object being capable of being a referent for a bound variable in a theory is a necessary and sufficient condition for ontological commitment. I have said that the COC is a conjunction of SYP and SMP, such that a theory is ontologically committed to an object if and only if that theory says there are such objects and those objects are capable of being referred to by bound variables. If correct, then the COC relies on syntactic and semantic considerations.

Quite obviously, however, the more important principle is the SMP since there is a stronger connection to ontological commitment. Moreover, we will later show that an object capable of being referred to by a bound variable in theory T implies that T has a sentence saying something exists. Yet, before we get too far ahead, let us begin with the SYP.

3.3.2.1   The COC As Syntactic

Recall that some object exists for Quine when and only when it is the value of an objectually bound variable. And to be the value of a bound variable is to be the variable's referent. But the phrase 'capable of referring' really only makes sense when the object a (the value of $\ulcorner x \urcorner$) is presupposed by the theory. I understand an object to be *presupposed* by a theory when and only when a theory says there are such objects.[52] Let us understand a theory to say some sentence p if and only if p is among the sentences which comprise that theory. In this sense, a theory saying some object

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[52]This is similar to Cartwright [12], 317. I am providing 'presupposed' in a more technical way than Quine has in (F).

exists implies that there is an existential sentence expressing as much in that theory. In other words,

(3.14)   A theory T *presupposes* an object a if and only if T contains the sentence $\ulcorner \exists x (x = a) \urcorner$.

For example, a dog is presupposed if and only if our theory says that there is such a thing and our theory presupposes blackholes if and only if our theory says they're there. And if all we wish to know is what a given theory *says* there is then we are concerned with syntactic considerations. The COC's emphasis on the syntactic can also be gained from (A) and (E)–(H).

Here two problems surface. They are, first, how do we know what sentences a given theory says; and, second, isn't this neutral as to whether the objects a theory says exist actually exist?

Quine's answer to the first question comes by specifying what sentences comprise the theory. One way we can do that is developing the syntax of the theory called the *ideology* of that theory.[53] By an 'ideology' of a theory I understand the lexicon of that theory or the theories "stock of simple and complex terms or predicates."[54] However, this process regiments a collection of sentences that were not originally formalized. For Quine, this is a virtue.

A formalized language—e.g., the artificial language specified in §1.3.2—proves conducive especially when trying to figure out a theory's ontological commitments on a purely syntactic level. We see this by taking the less regimented way a theory could say something exists and paraphrasing it into a formal expression. For example, suppose our theory contains the informal sentence

(3.15)   Something exists.

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[53]See: Quine [85]; [98]; [99]; [94]; [115].
[54]Quine [99], 501.

We saw in §3.2.2 that (3.15) is the same as

(3.15′)   There is something.

Next, if we let 'a' be the name of the unspecified object in question, we could obtain the following:

(3.15′)   There is an a.

Using the formal language in §1.3.2 we paraphrase 'there is' with

(3.15″) $\exists x (x = a)$.

If our theory contained the sentence in (3.15), our theory would say an object exists because it could be regimented to the formalized assertion in (3.15″) asserting just that. A similar process may be employed for other sentences with the theory.

Quine's answer to the second question is straightforward. A theory saying an object exists is in itself neutral as to whether those objects actually exists; it merely demonstrates that some given theory says so. And if we engage in formalizing the sentences of our theory to develop sentences expressing existence, it will become clear that our theory contains sentences presupposing objects previously not presumed while showing other presupposed objects needn't be.

We can see that our first step in determining what we are committed to—i.e., our answers to (1.1)—is through first determining what our theory says there is. We have claimed that an object our theory says exists is said to be presupposed by our theory. It is presupposed by our theory if a sentence expressing the existence of such an object is found among the sentences contained within our theory. If the sentence is informal we

may formalize it through the process described above. This is what I mean by SYP or 'the syntactic element of the COC'. Nevertheless, we might say that the COC should determine more than what a particular theory—and, on a purely syntactic level— happens to maintain. We may be interested in determining if what our theory claims to exist is capable of being referred to by the theory's bound variables—i.e., whether the object claimed to exist is true of some extra-logical predicate. For example, instead of saying some object exists we may wish to determine if a dog exists, which means the predicate '__ is a dog' would refer to one object. This quickly leads to a semantic discussion specifying the objects that are to be taken as satisfying the predicate letters or the values of bound variables.[55]

3.3.2.2 The COC As Semantic

Let us say an object is *capable of being referred to* just in case it is a possible value of $\ulcorner x \urcorner$. By *possible value* I mean the object belongs not only to the domain of discourse, but also that the object belongs to the extension of some predicate within the domain under consideration (cf. §1.3.3). To be more specific, in order to determine whether an object a is capable of being referred to by the bound variable we need to determine if 'a' is the name of an object within the extension of some dummy predicate $\ulcorner F \urcorner$. This requires us to consider what the extension of $\ulcorner F \urcorner$ is.

In Quine's "New Foundations For Mathematical Logic" [83], he admits that the variables could take as its value any object whatever.[56] Consequently, we may arbitrarily set the extension of $\ulcorner F \urcorner$ as a finite set of objects in the non-empty domain. As a result, an object is capable of being referred to by a theory's bound variables if and only if the object belongs to the extension of a predicate contained within that theory. Put more formally,

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[55] Quine [95], 51.
[56] Quine [83], 81. In Quine [82], he would add the addendum that although they "refer to objects of any kind" they must "refer to them one at a time" (219).

(3.16)   Within theory T, a bound $\ulcorner x \urcorner$ is *capable of referring* to a if and only if a is an object belonging to the extension of some predicate $\ulcorner F \urcorner$ contained within T.

Quite clearly, the bound variable is capable of referring to any object within the theory's domain. If the object isn't in the domain of that theory, it cannot be a value of a bound variable within the theory. Textual support for this can be seen in (B)–(D), (G), and (I)–(K) above.

Note that this reading involves what may be called a *theory of reference*. For Quine, a theory of reference includes naming, truth, denotation, extension, and so on.[57] Yet these areas are more broadly grouped in the category of *semantics*. But for reasons not relevant to this essay, Quine demurs other areas of semantics except what is called *extensional semantics*.[58] Quine is doing extensional semantics here. Consider two reasons. First, the very use of 'referring' implies that we are going beyond the syntactic to what a term picks out. And, second, the presence of claims of 'truth' (e.g., 'true of', 'true', etc.) in most of Quine's various COCs also lead to the conclusion that Quine wants some sort of extensional semantical concerns in the COC. For example, $\ulcorner \exists x F x \urcorner$ to be true in T if and only if Fa. The reason is due to the conventions specified by our formalized language.

Put another way, when our theory says $\ulcorner \exists x(x = a) \urcorner$ it is true so long as a is an object of our discourse. However, if a isn't a part of the discourse of T then the expression $\ulcorner \exists x(x = a) \urcorner$ is false. It is, therefore, not only important to determine what a given theory says but also what is to be considered a part of the domain of discourse for that theory. And since it is perfectly plausible that a theory may say an object exists that is not a part of the theory's domain, a syntactic and semantic perspective are equally important in determining our ontological commitments.

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[57] Quine [85]

[58] This is Jubien's language in [41], §1.

There is more to be said here, however. Not only are they both important, but the SMP actually implies SYP. What I mean by this is that if an object is capable of being referred to by a bound variable in our theory, then that object belongs to the extension of some predicate of our theory. But if that is the case, then our theory actually presupposes an object. In other words, if an object is true of some predicate it follows that our theory will contain a sentence communicating something exists. Put more formally, we may prove the following theorem:[59]

Theorem 3.5. $\{\exists xFx\} \vdash \exists x(x = a)$.

3.3.2.3   The COC As Both

I just hinted that my own suspicion is that Quine intends his COC to encompass both a syntactic and semantic perspective. Intuitively, this seems plausible; for we are usually committed to objects we say exist and we cannot be committed to an object unless we are capable of referring to it. Suppose some sentence in our theory contains $\ulcorner Fa \urcorner$. From this, we can prove that some predicate $\ulcorner F \urcorner$ is true of a in our theory and we can prove that our theory says a exists. In other words, the following theorem is true:

Theorem 3.6. $\{Fa\} \vdash \exists xFx \mathrel{\&} \exists x(x = a)$.[60]

In light of our discussion in §2.3.2 this appears to be rather familiar; where we have $\ulcorner Fa \urcorner$ we get $\ulcorner \exists xFx \mathrel{\&} \exists x(x = a) \urcorner$.

Henceforth, let us understand the COC to be a conjunction of what a theory presupposes and what a theory is capable of referring to. Or,

(3.17)   For any theory T, we are *ontologically committed* to an object a if and only if (i) a sentence within T contains $\ulcorner \exists x(x = a) \urcorner$, and (ii) a is an object belonging to the extension of some predicate $\ulcorner F \urcorner$ contained within T.

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[59]See Appendix A.4 for the *proof.*
[60]See Appendix A.5 for *proof.*

In other words: T's commitments are to all and only those objects $\ulcorner x_i \urcorner$ of which 'a_i' is the name, and a_i is an object within the universe of discourse that $\ulcorner x_i \urcorner$ ranges over. If this happens, acceptance of theory T means we are committed to those objects.

It is, however, important to see that the COC doesn't commit us to specific objects; instead, the COC describes which objects a specific theory is committed to. If there is more than one theory, then these two theories could disagree on either the syntactic or semantic perspective. On the syntactic level, two theories could contain mutually exclusive existential sentences or one theory could include some existential sentences that the other excludes. Semantically the two theories could differ in a variety of ways; however, the way in which two theories may semantically differ that I'm concerned with is what is to be included into a given theory's domain. One theory may include the domain intentional objects (cf. §1.3.3)—e.g., universals, propositions, and so forth— while the other theory does not. And because both the syntax and semantics of a theory are important in determining our ontological commitments, disagreement in ontology between two theories probably occurs on either the syntactic or semantic level. Let us call the syntactic and semantic perspective of a theory that theory's *semantic plane.* In this sense we say the COC operates on a semantic plane. This deserves stressing.

3.3.3   The Relativistic Semantic Plane

As I just stated, I maintain that the COC does not determine what actual objects we accept as values of our bound variables; rather, the COC is a way we determine what a specific theory happens to commit us to through examining objects of a theory on the syntactic and semantic level. This means that the COC does not answer (1.1) by saying this or that object definitively exists; it says my theory is committed to this or that object because a sentence expressing as much is contained within my theory *and* the object is capable of being referred to. The COC is more or less a strategy for

formalizing what some particular theory would be committed to *if* (a pretty big 'if') we happen to accept that theory.[61] Reading Quine this way, it would then be incorrect to view the COC as dictating what there actually is. In Quine's words:

> We look to bound variables in context with ontology not in order to know what there is, but in order to know what a given remark or doctrine... *says* there is; and this much is quite properly a problem involving language. But what there is is another question.[62]

Again, and at length:

> I am not suggesting a dependence of being upon language. What is under consideration is not the ontological state of affairs, but the ontological commitments of a discourse. What there is does not in general depend on one's use of language, but what one says there is does.[63]

Here Quine implicitly illustrates the distinction between two types of ontology and ontological commitments: *absolute ontology* and *relativistic ontology*. By 'absolute ontology' I mean the view that interprets (1.1) as asking:

(3.18)   What (actually) is there?

This question sees the ontological question as theory independent; hence, there is a matter-of-fact answer to all ontological disputes. Our ontological commitments are true if and only if the objects we are committed to actually are there. In contrast, by 'relativistic ontology' I understand the view that (1.1) should be interpreted as:

(3.19)   What (according to my theory) is there?

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[61]Cf. §4.3.5 below.
[62]Quine [93], 15–16.
[63]Quine [78], 103.

According to this interpretation, "there is no absolute sense in speaking of the ontology of a theory;"[64] rather, all we can make sense of is a discussion about what a theory—and, specifically, our theory—commits us to. Our ontological commitments are true if and only if the theory is right.

It is no secret that Quine opts for viewing ontology as answering (3.19) opposed to (3.18). Quine's relativist thesis is highly controversial and an important contribution to analytic philosophy. It is too big to be addressed here; save for a few observations.

First, since this essay is concerned with Quine's ontology and metaontology, we shall stipulate that ontological commitments are determined by the COC and are relativized to specific theories.[65] There is, then, no ridding ourself of language to discuss ontological questions. However, it does not follow that all ontology goes by the board. We may still ask the ontological question and do ontology but we now have the caveat that the type of ontology we are doing is relativistic and the answers we supply to the ontological question are relative only to my theory.

Second, even within a relativistic ontology like Quine's, it is still wrong to conclude that "what there is depends on words."[66] Consider an example. Suppose I were asked did it rain today? I could translate the question into semantic terms and say 'it rained today' expresses a true statement *relative* to my situation. Nonetheless, this gives no indication that the question is linguistic. After all, there is nothing linguistic about it raining.[67] Similarly, we may translate the ontological question—even the relativistic one in (3.19)—into semantic terms by using bound variables, but this does not give reason to conclude that the ontological question, or the answers supplied by the COC thereto, are linguistic. Nevertheless—and I believe this to be Quine's point—what we

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[64]Quine [95], 60.

[65]Still, however, operating on a semantic plane does not demand a relativistic ontology. *Contra* Quine, there could be a universal theory and (1.1) could be interpreted as (3.18). We won't because this isn't Quine's view.

[66]Quine [93], 16.

[67]Quine [93], 16.

say about the non-linguistic objects is linguistic and should be a discussion conducted on a semantic plane. And this still holds when the semantic plane is relativistic.

Third, and perhaps most importantly, the relativistic ontological thesis itself is a meta-level thesis about ontology. This would constitute what I've been calling metaontology. I suggest it is metaontological because the relativistic thesis interprets how we to are to understand the ontological question before we supply answers. And since it engages in a meta-level discussion about ontological commitments—viz., how we are to answer them relativistically—it could be understood as doing some kind of metaontology.

We may also argue (albeit by analogy) that the relativistic thesis is addressed in other philosophical disputes within meta-level contexts. Perhaps most prominently within ethics.[68] Within ethics, it is permissible to assess the relativistic thesis from a metaethical stance—i.e., whether there are moral facts, etc.—and doing so may lead one to accept the thesis or reject it. Nonetheless, relativism within ethics is a metaethical position about how to answer normative ethical questions *without* actually answering them. Believing there is no universal moral framework will not influence whether I believe a certain action is morally wrong, it will merely say my moral framework says this action is morally wrong. So too with ontology. A relativistic thesis in ontology will not dictate that such and such exists, but will say such is so relative to my ontology.

We have seen that the COC Quine uses is relativistic to a given theory, but we have also seen that this thesis does not impinge on the distinction between ontology and metaontology. In fact, Quine's relativist thesis is part of what I'm calling metaontology.

With the relativistic thesis now in hand, we've done a little metaontology to interpret (1.1) as (3.19). And in §3.2.2 we saw that things that are answers to (1.1) are the

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[68]Within metaethics, G. Harman [35] defines relativism as the thesis that "[t]here is no single true morality. There are many different moral frameworks, none of which is more correct than the others"(5).

objects that are picked out by objectually bound variables. Having changed (1.1) to (3.19), we now alter the dictum one final time:

(3.20)   An object exists if and only if it is picked out by an objectually bound variable relative to a theory.

3.3.4   Using The COC

Returning to the COC, we saw that it is a strategy to follow in order to get some people to make their ontological commitments clear, and this process is best done formally; not by names and singular terms (cf. §2.3.2), but by variable locution. The variable locution is a congenial way to use the COC because it makes our ontological commitments explicit. The best way to use the COC is to paraphrase the theory into an interpreted one usually with a formalized artificial language like that outlined in §1.3.2. However, we cannot paraphrase our opponent's sentences into this language for her; we must ask her what formalized sentences she is prepared to offer. If she can make an *existential introduction* using bound variables, she is committed to those objects.[69] If she declines to do so, Quine says "the argument terminates."[70]

We've discussed examples of this process above, but here is another. Suppose I have in my theory a sentence of the form:

(3.21)   A dog exists.

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[69]By 'existential introduction' I understand the formal first-order rule whereby we introduce an existentially bound variable for every instance there was a named constant. Thus, if $\ulcorner \phi \ldots a_n \ldots \urcorner$ is a sentence, then we may replace every occurrence of the named object a_i with an existentially bound variable to give us: $\ulcorner \exists x \phi \ldots x_n \ldots \urcorner$. Cf. §1.3.2 (especially Definition 1.2 (vi)).

[70]Quine [126], 243.

Per our discussion in §3.2.1 we know that (3.21) can be paraphrased into 'Da'.[71] From Da and theorem 3.6 we see we can obtain the following:

(3.22) $\exists x Dx \ \& \ \exists x(x = a).$

From (3.22) it is explicit that ontological commitments are involved because our theory both presupposes dogs and that a dog is capable of being referred to as a value of my bound variables.

Despite its apparent utility, this method has not always been employed. Take, for example, two fictitious characters created by Quine in his "On What There Is" [93] essay, and their views on ontological commitments.[72] We begin with the problem.

Consider Pegasus. As we observed earlier, the problem is that if we say

(3.23)   Pegasus does not exist

we somehow imply Pegasus' existence. The reason is painfully simple: if (3.23) is true, then the name 'Pegasus' has a referent, but if 'Pegasus' has a referent, then (3.23) is false. Quine has called this problem *Plato's Beard*.[73]

McX, having not read either Russell or Quine, responds to Plato's Beard in an idealistic fashion. He attempts to retreat from maintaining the existence of Pegasus by postulating a mental entity that becomes the referent of the name. Hence, the mental entity in our mind is the referent of 'Pegasus' allowing us to talk freely about Pegasus without being committed to the physical creature's existence. What we are ontologically committed to is the mental entity, not the actual winged horse.

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[71]Where 'a' is the name of a dog and 'D' is the predicate '$\_\_$ is a dog'.

[72]As far as I can tell, McX is meant to represent the British philosopher McTaggart; Wyman seems to parody Meinong (See: Sider [146], 15ff).

[73]Quine [93], 1–2. The origins of Plato's Beard have been discussed earlier in a footnote. But here again are the references: Plato [70] (240e) is the source of the problem and a good critique can be found in Wiggins [158].

Then there is Wyman. Unlike McX, Wyman believes that by (3.23) we mean Pegasus doesn't have the special attribute of actuality. The flying horse has its "being as an unactualized possible."[74] The referent of the name 'Pegasus', in this case, is an object which just happens to be not yet actualized. What we are ontologically committed to is a realm of unactualized objects, not the actually actualized winged horse.

Both of these views have "bloated ontologies"; in our terminology, they have too many commitments. Despite their popularity, Quine judges them unsatisfactory. The reason is that McX and Wyman haven't read, or appreciated, Russell's paradigm. For if they had read Russell, they would see that names could be eliminated for descriptions (cf. §2.3.2). In Quine's words:

> When a statement of being or nonbeing is analyzed by Russell's theory of descriptions, it ceases to contain any expression which even purports to name the alleged entity whose being is in question, so that the meaning-fulness of the statement no longer can be thought to presuppose that there be such an entity.[75]

What Quine means here is that we adopt the same sort of process we've already used in treating the name 'God'. We eliminate the name for a description. Appropriately then, 'Pegasus' is eliminated for

(3.24)   The winged horse captured by Bellerophon.

This now lacks any mention of 'Pegasus' whatsoever. And, of course, (3.24) expresses a uniqueness condition such that some object is the one and only winged horse captured

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[74]Quine [93], 3.
[75]Quine [93], 7.

by Bellerophon. Hence, we obtain:[76]

(3.24′) $\forall x\big([Wx \ \& \ Bx] \rightarrow x = a\big).$

To maintain that such a unique thing exists is to hold the following:

(3.25) $\exists x\Big[(Wx \ \& \ Bx) \ \& \ \forall y\big([Wy \ \& \ By] \rightarrow y = x\big)\Big].$

But to deny the existence of the unique thing in (3.24′) is to maintain:

(3.26) $\neg\exists x\Big[(Wx \ \& \ Bx) \ \& \ \forall y\big([Wy \ \& \ By] \rightarrow y = x\big)\Big].$

Having the description of (3.24) at our disposal thus allows a way to regiment the ontological commitments. If I happen to fancy the belief that Pegasus exists, then I hold that (3.25) is true and thus that there is a value of the bound variable of an existential quantifier. If, on the other hand, I do not think there is such a thing as Pegasus, I would believe (3.24′) is false thereby affirming (3.26). The differing sentiments concerning the existence of Pegasus turn into differences in values of variables and whether our theory contains a sentence which may be formalized to express (3.25). The differences do not constitute the need for postulating various sorts of referents to the name 'Pegasus' or types of existence held by it.

Analyzing names in such a way would work even if I were ignorant of the description offered in (3.24). In such a case, I could simply create one—e.g.,

(3.27)   The thing that pegasizes.

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[76]Let 'a' be the name of the object, $\ulcorner Wx \urcorner$ and $\ulcorner Bx \urcorner$ mean $\ulcorner x$ is a winged horse$\urcorner$ and $\ulcorner x$ is captured by Bellerophon$\urcorner$, respectively.

The name 'Pegasus' may hence be treated as a derivative and only identified with the description (3.27.) Thus, in Quine's view, in order for (3.23) to be meaningful, there is no need for there to be a referent of the name 'Pegasus'. All that is required is, first, quantification that is meaningful; and, second, a meaningful predicate (e.g., as contained in (3.27)).[77] Thus, Quine concludes:

> McX and Wyman supposed that we could not meaningfully affirm a statement of the form 'So-and-so is not', with a simple or descriptive singular noun in place of 'so-and-so', unless so-and-so is. This supposition is now seen to be quite generally groundless, since the singular noun in question can always be expanded into a singular description...and then analyzed out *à la* Russell.[78]

3.4 Ontological Economy

We have said that to exist is to be an object picked out by an objectually bound variable in the broader context of our own theory. We can determine which objects to be committed to by seeing what our theory says and what objects are capable of being referred to by our bound variables. But we have also seen that the objects capable of being referred to by our bound variables are theory relative. Consequently, one theory's bound variables may be capable of referring to some object, but another theory's bound variables may not consider such an object to be a referent of their variables. Since the difference lies in what is to be included as a possible referent of the bound variables (i.e., the theory's domain), two theories sharing a metaontological strategy can have vastly different ontological commitments.

In "On What There Is" [93], Quine spends a much ignored three pages discussing rival *ontologies*. Consider the first of the three theories. The first, what we may call *realism*, holds universals do exist independently of the mind. The view comparable

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[77]See: Sider [146], 16.
[78]Quine [93], 8.

to this is the mathematical position called *logicism*, which holds that bound variables do indeed refer to abstract entities known and unknown—viz., numbers (or sets or classes).[79]

Second, *conceptualism* holds that there are universals but they are mind-made. This is paired with the mathematical *intuitionist* position which countenances the use of bound variables to refer to abstract objects when and only when those objects are "capable of being cooked up individually from ingredients specified in advance."[80]

Nominalism, the third, holds that there are no abstract objects at all, including the mind-made objects of the conceptualist. This position is often paired with *formalism*, which finds the logicist's position and the intuitionist position unsatsifactory; the logicist's for their acceptance of universals and the intuitionist's for their rejection of classical mathematics.[81]

Now, the difference between these three theories is their ontological commitments. Of course, this is trivially true. Yet, there is more here; it demonstrates how two (or three) theories can differ. They differ not only on the ontological level; they differ also on the metaontological level. Let me explain.

Recall McX discussed above. Quine and McX disagree not only on the broader level of what exists, but they also disagree on what their universe of domain ranges over. Quine does not allow the bound variables of his theory to range over the abstract objects that the bound variables of McX's theory countenance. Moreover, because we have the COC, we may formalize the ontological commitments of both theories to determine what such objects are. The difference here is not whether this object *actually* exists, but a meta-level difference—i.e., whether our theory says these objects are there

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[79]It has been objected—by, namely, Carnap [10]—that Quine's comparison of logicism and realism isn't wholly accurate. Also, Quine's exposition is dated since there are other realist views on mathematics besides logicism.

[80]Quine [93], 14.

[81]Quine's elucidation of these positions is as sparse as it is helpful. For a careful distinction between the views, I recommend George and Velleman [29], chapters 1, 2, 5, and 6.

and whether they are values of our bound variables. And, quite clearly, McX and Quine disagree on both respects. But, as I've been insisting, both of these disagreements are metaontological.

Here we may ask which of the three positions is Quine's view? But, in "On What There Is" [93], Quine did not choose between the three positions. Nonetheless, he appeared to favor various positions throughout his career. For example, one year prior to Quine [93], he coauthored a piece with N. Goodman where nominalism seemed to be preferred.[82] In 1953, his "Logic of the Reification of Universals" appears to have Quine favoring conceptualism. But, in his *Word and Object* [126] the main opponents appear to be realism and nominalism, with little mention of conceptualism.[83] Still later, however, in his autobiography he would write that the paper that he and Goodman wrote "created a stubborn misconception that I am an ongoing nominalist."[84] In Quine [86], he would admit to defending a "robust realism."[85]

In any case, Quine believes the ontology we adopt ought be the simplest theory; simplicity is to be our guiding principle.[86] By 'simplest theory' I mean, baldly, if you don't have to be committed to some object, don't be. It is his assumption that the philosopher is interested in simplicity and leads to what he calls 'ontological niceties'.[87]

Which ontological theory we accept should be analogous to selecting a theory of physics. That is, whatever theory we adopt, it should be "the simplest conceptual scheme into which the disordered fragments of raw experience can be fitted and arranged."[88] Our ontological commitments then get determined once we have settled upon the over-all conceptual scheme (i.e., a theory) which may then, in turn, accom-

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[82]See: Goodman & Quine [32].

[83]Decock [19] made this observation (24ff). Indeed, the term 'conceptualism' isn't indexed in Quine [126].

[84]Quine [121], 198–99.

[85]Quine [86], 24.

[86]Quine [93], 17. By 'simplicity' I do not mean 'pragmatic'; yet here, Quine blurs the two.

[87]Quine [107], 27.

[88]Quine [93], 17.

modate science in the broadest sense. If we use language and simplicity to determine which system of scientific theory we adopt, then so to with the adoption of an ontology.[89] Quine said this clearly in a number of publications, but perhaps none as clear as this:

> How do we decide, apropos of the real world, what things there *are?* Ultimately, I think, by considerations of simplicity plus a pragmatic guess as to how the overall system will continue to work in connection with experience. We posit [objects]...merely because they contribute to an overall system which is simpler as a whole than its known alternatives.[90]

The analogy between scientific and ontological theory acceptance is taken even further by Quine. Our ontological theory selection should be based on "tolerance and an experimental spirit"; not unlike scientific theory acceptance.[91] Quite obviously then, the question of which theory (e.g., platonism or nominalism) is decided by comparing the two theories' claims in an experimental spirit. I can only infer from this that Quine means we evaluate the two theories' claims based on relative explanatory power, simplicity, precision and so forth.[92] But, in "On What There Is" [93], Quine places greater import on simplicity. For this reason, for any two theories the simpler one should suffice.

3.5   Quine's Ontological Commitments

Before pressing further into our discussion of Quine's metaontology, we pause here to address (albeit briefly) Quine's ontological commitments. These ontological commitments are formed by Quine's use of the COC.

Quine explains his ontological commitments at length:

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[89]Quine [93], 17.
[90]Quine [89], 210.
[91]Quine [93], 19.
[92]Orenstein [64], 47.

> Let us not leave...ontology, or the values available to variables. As seen, we can go far with physical objects. They are not, however, known to suffice. Certainly...we do not need to add mental objects. but we do need to add *abstract* objects, if we are to accommodate science as currently constituted. Certain things we want to say in science may compel us to admit into the range of values of the variables of quantification not only physical objects but also classes and relations of them; also numbers, functions, and other objects of pure mathematics. For, mathematics—not uninterpreted mathematics, but genuine set theory, logic, number theory, algebra of real and complex numbers, differential and integral calculus, and so on—is best looked upon as an integral part of science, on a par with the physics, economics, etc....
>
> Researchers in the foundations of mathematics have made it clear that all of mathematics in the above sense can be got down to logic and set theory, and that the objects needed for mathematics in this sense can be got down to a single category, that of *classes*—including classes of classes, classes of classes of classes, and so on. Our tentative ontology for science, our tentative range of values for the variables of quantification, comes therefore to this: physical objects, classes of them, classes in turn of the elements of this combined domain, and so on up.[93]

So, among the objects Quine countenances, there are concrete objects, *classes* (or sets) and *classes of classes* (or numbers).[94] Hence, Quine is clearly a realist about numbers. But, there are other abstract objects that he rejects. For example, Quine does not feel any particular need to talk of properties,[95] propositions,[96] mental states,[97] or modality,[98] given that these are not things which Quine will quantify over.

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[93]Quine [115], 231.

[94]For Quine's commitments to classes, see: Quine [78]; [80]; [82], 235ff; [83] [94]; [101], 64ff; [114]; and [115]. For Quine's commitments to numbers, I should also add Quine [82], 240ff and Magee [53].

[95]See: Quine [77] and [78]. For critiques, see: Cartwright [11]; Geach [28]

[96]See: Quine [101], §1; [126], 192ff, 201ff. For a critique, see Lemmon [49]; Strawson [151] and Thomson [153].

[97]See: Quine [102]; [89]; [105].

[98]See: Quine [108]; [112]; [120]; [126], 191ff. For critiques, see: Fitch [23]; Kaplan [43]; Marcus [55]; Smullyan [147]; [148]; Neale [61]; and Plantinga [69].

Chapter 4

Descriptions And Metaontology

4.1 Orientation

Quine's metaontology thus far examined is exclusively concerned with how we are to interpret the ontological question (cf. §3.2) and a process to answer it (cf. §3.3). Throughout our investigation, we've stayed close to Quine's essay "On What There Is" [93] and found it to be an exercise in doing metaontology rather than ontology. In the section that follows, we examine two recent treatments of Quine's metaontology. The first, outlined in Peter van Inwagen's 1998 essay "Meta-Ontology" [154], is the most sustained and careful treatment of Quine's metaontology to date. The second by Mitchell Stokes, a student of van Inwagen at the University of Notre Dame, posits an alleged hybrid mixture of van Inwagen and Quine.

In neither of these publications, however, is there any sustained interaction with Russell or Russell's theory of descriptions. I suspect that given the importance outlined above, this lack of attention is something of an injustice to a Quinean metaontology. I argue that Russell's theory of descriptions is a convenient way to do metaontology. But, first; let us get straight some of the terminological issues.

4.2   Definitions

By *ontology* I have understood the study of all that there is. We *do* ontology when we answer the ontological question, defined in (1.1). The answers we supply to the ontological question are called *ontological commitments*. I have said *metaontology* is the study of ontology and can be done in one of three ways. The two ways that this essay has dealt with are the interpretation of the ontological question and a criterion to answer it in hopes of making our ontological commitments clearer. We've since added the caveat that ontology is relative to theories, but this has no influence on the distinction between ontology and metaontology.

Van Inwagen understands 'ontology' to be "various theses about what there is and isn't."[1] For example, Quine's thesis that there are no such things as propositions or van Inwagen's thesis that there are only material beings. And if theses are given within a specific theory, then these theses constitute the summation of ontological commitments of this theory. Similarly, for van Inwagen, 'metaontology' is the summation of theses answering the metaontological question found in (1.2), repeated here:

(1.2)   What is getting asked in asking "what is there?"?

Various metaontological theses, for example, include the five discussed below.

Stokes's definitions are slightly more confusing. An *ontologist* is someone who is

> concerned with whether certain things that seem to exist actually exist. In other words, the ontologist begins with her answer to the question, What things are there *apparently*? and attempts to answer the different question, What things are there, *really*? Let us call an ontologist's official list or catalog of things she believes really do exist in here *ontology*.[2]

I think there is call for dissent. For Quine, what makes sense is not to say what

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[1]Van Inwagen [154], 233.
[2]Stokes [150], 6.

objects of a theory there are "absolutely speaking," but how one theory of objects is interpretable in another theory.[3] In effect, as we saw in §3.3.3, we cannot ask for an ontology consisting of what things there are *really*, but only what things there are *according to my theory.* I don't know how Quine would understand ontology if it was meant to address objects that are untreated by a theory yet are really there.[4]

Stokes understands 'metaontology' to be "the method or strategy that a philosopher uses to answer the ontological question," but can also include "the philosopher's interpretation of the question."[5] As we'll see later, there is room for concern here.

4.3   Van Inwagen And The Five Theses

Van Inwagen believes Quine's metaontological theses can be divided into "about five" individual theses.[6] I've indicated that this is an exact quote for two reasons. Van Inwagen reads Quine in such a way that there are five, leaving the possibility of additional theses open. So it is van Inwagen, not Quine, who divides metaontology into five theses. The distinction between ontology/metaontology is never explicitly stated by Quine, though there are a number of passages that one could point to and argue that he was aware of the distinction. Several of the passages have been quoted throughout, but are repeated here and numbered for reference purposes:

(I) How are we to adjudicate among rival ontologies? Certainly the answer is not provided by the semantical formula "To be is to be the value of a variable"; this formula serves rather, conversely, in testing the conformity of a given remark or doctrine to a prior ontological standard. We look to bound variables in connection with ontology not in order to know what there is, but in order to know what

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[3]Quine [95], 50.

[4]A word of caution is appropriate. Quine does believe there *really* are things, it is just that these real things are what our best theories are committed to. Still the relative/absolute dichotomy is appropriate since Quine cannot make sense of ontological commitments without accepting a theory.

[5]Stokes [150], 9, and the footnote n. 12.

[6]Van Inwagen [154], 233.

a given remark or doctrine... *says* there is; and this much is quite properly a problem involving language. But what there is is another question [1948].[7]

(II) The connection between quantification and entities outside of language, be they universals or particulars, consists in the fact that the truth or falsity of a quantified statement ordinarily depends in part on what we reckon into the range of entities appealed to by the phrases ⌜some entity x⌝ and ⌜every entity x⌝—the so-called range of values of the variable [1953].[8]

(III) I am not suggesting a dependence of being upon language. What is under consideration is not the ontological state of affairs, but the ontological commitment of a discourse. What there is does not in general depend on one's use of language, but what one says there is does [1953].[9]

(III) This chapter [*Word and Object*, VII] has been centrally occupied with the question what objects to recognize. Yet it has treated of words as much as its predecessors. Part of our concern here has been with the question what a theory's commitments to objects consist in (§49), and of course this second-order question is about words. But what is noteworthy is that we have talked more of words than of objects even when most concerned to decide what there really is: what objects to admit on our own account [1960].[10]

(IV) [O]ur coming to understand what the objects are *is* for the most part just our mastery of what the theory says about them. We do not learn first what to talk about and then what to say about it [1960].[11]

(V) When we want to check on existence, bodies have it over other objects on the score of their perceptibility [sic]. But we have moved now to the question of checking not on existence, but on imputations of existence; on what a theory says exists. The question is when to maintain that a theory assumes a given object, or objects of a given sort... [1966].[12]

(VI) It has been objected that what there is is a question of fact and not of language. True enough. Saying or implying what there is, however, is a matter of language; and this is the place of the bound variables [1983].[13]

In addition to these passages, Quine also admitted that he would prefer to use the word 'ontology' to apply to all of those things, if any, which actually exist and are

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[7]Quine [93], 16–17.
[8]Quine [78], 103.
[9]Quine [78], 103.
[10]Quine [126], 270.
[11]Quine [126], 16.
[12]Quine [73], 93.
[13]Quine [99], 499.

treated by a theory—i.e., in our terms, the summation of ontological commitments.[14] There is also, as we have seen, indication that gives rise to Quine's relativistic thesis, but, like we have also seen, this does not impinge on the ontological/metaontological distinction since the relativistic thesis is itself metaontological.

Despite these passages, however, Quine has also provided reason to conclude that he wasn't always perceptive of the ontological/metaontological clarification. In an interview with Bryan Magee, he says:

> The ontological questions, as they might be called [are] general questions as to what sorts of things there are, as well as what it means to exist, for there to be something.[15]

Here it is evident that Quine wasn't paying close attention to what van Inwagen, Stokes, and I have stressed; the question *what it means to exist?* is a meta-level discussion of ontology, and, therefore, metaontological. In fact, it is the paradigmatic example of the metaontological question in (1.2) and should be considered a part of ontology insofar as it is a meta-level discussion of ontology. I've pushed the analogy before concerning ethics/metaethics, and I do so again: the question *what it means to be morally wrong?* is a part of ethics, but more specifically it belongs to metaethics. This metaethical question is vastly different from a general question about what sorts of actions are morally wrong.

Whatever conclusion we draw from theses passages concerning whether Quine was aware or unaware of any distinction, it is nonetheless plausible that the distinction is Quinean. Having already provided a thorough synopsis of what it means to exist and how to formulate our ontological commitments, I hold the assumption that Quine does have a metaontology and I proceed under the same assumption with a relatively clear conscience.

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[14]Quine admitted this in personal conversation with Jubien cited in Jubien [40].

[15]Quine quoted in Magee [53], 144.

Van Inwagen believes he is providing an "exposition of Quine's metaontology," though with only eleven footnotes and four of Quine's works referenced—"On What There Is" [93] was excluded—it can hardly be seen as such. Hence, I've tried to add references to Quine in van Inwagen's exposition so that this "exposition" is true to the word. Yet, not only is van Inwagen's "exposition" short on exposition, we may want a discussion about *why* Quine holds these five theses, which is a discussion van Inwagen has not supplied. Where appropriate, I've tried to give Quine's arguments.

4.3.1 Being Is Not an Activity

The first metaontological thesis van Inwagen attributes to Quine is that being (or existing) isn't something we do. We eat, drink, and are merry, but we don't engage in the activity of *being.* Still more, being isn't the kind of thing we need predicate to various objects. By this I mean a predicate of the form

(4.1)   __ is existing

isn't a useful predicate that applies to some object, say, my hat. We may say '__ is red', or '__ is rank', or other predicates, are predicated of my hat, but we don't generally add to this list the predicate '__ is existing'.

This view is currently the popular position among professional philosophers, and quite a bit of its popularity is owed to Kant and Russell. Kant's "vague declaration"reads as follows:[16]

> 'Being' is obviously not a real predicate; that is, it is not a concept of something which could be added to the concept of a thing.[17]

Russell improved on Kant and set the current paradigm:

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[16]Quine's phrase in Quine [80], 151.
[17]Kant [42], B626.

> When, in ordinary language or in philosophy, something is said to 'exist', it is always something *described*... It would seem that the word 'existence' cannot be significantly applied to subjects immediately given; i.e., not only does our definition give no meaning to $\ulcorner E!x \urcorner$, but there is no reason, in philosophy, to suppose that a meaning of existence could be found which would be applicable to immediately given subjects.[18]

Quine both adheres to and breaks from this tradition. On the one hand, he adheres to the tradition by not viewing the predicate '__ exists' as worth much since we may do everything required using '∃' (see §4.3.4 below). On the other hand, he broke from tradition by arguing that it may be considered a first-order predicate.[19] Consider, for instance, the following:

(4.2) $\exists x (x \text{ exists})$.

Here the predicate '__ exists' perhaps has "no independent business in our vocabulary when '∃x' is at our disposal."[20] Aptly then, (4.2) really conveys this:

(4.3) $\exists x \exists y (x = y)$.

What (4.3) tells us is that something is something.[21] This, Quine assures us, is "trivially true."[22] In so doing, we may treat '__ exists' as a predicate with the concession that it is true for all existing things. However, we can express this more formally using class abstracts. So, let $\ulcorner \hat{x} \urcorner$ stand for

(4.4) $\{x : \exists y (x = y)\}$

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[18]Russell and Whitehead [138], 64.

[19]See Quine [80], 151; [126], 176f.

[20]Quine [126], 176.

[21]Even more technically: something is identical with something.

[22]Quine [126], 176.

which, as we saw in §2.3.2, is short for

$$(4.5) \qquad (\imath\alpha)\forall x\exists y(x \in \alpha \leftrightarrow x = y)$$

(4.5) can be read as ⌜the class α, such that any x belongs to α if and only if x is something y⌝. Put more simply, ⌜α⌝ is the set containing everything that is something.[23] With this in mind, we make the final alteration:

$$(4.6) \qquad \hat{x}\exists y(x = y).$$

The proper understanding of the predicate '__ exists' would then be (4.6). Of course, this merely says something is something and we are none the better for having said so formally.[24]

Consequently, Quine breaks from tradition—strictly speaking—but would find no use in doing so. We would find no use in doing so since, for Quine, there is a "maxim of shallow analysis" that suggests we should "expose no more logical structure than seems useful."[25] Using this maxim would dictate that (4.2) is redundant, since we can explain existence in simpler methods without resorting to (4.6). To exist is to be an

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[23]This is an interesting auxiliary observations about Quine's philosophy of mathematics—viz., Quine admits a universal set. Most set theories avoid such an assertion because it gives rise to *Russell's Paradox*. The paradox works as follows.

Let $F = \{x : x \text{ is a finite set}\}$, and let $I = \{x : \text{ is an infinte set}\}$. Thus, $F \notin F$; rather, $F \in I$. But, some sets are members of themselves—e.g., $I \in I$. What Russell proposed is that we construct a set, call it R, such that R contained all and only those sets which do not contain themselves. Hence, $R = \{x : x \text{ is a set and } x \notin x\}$. From this we see that $F \in R$ but $I \notin R$. But, suppose we wanted to know whether $R \in R$? By definition of R, $R \in R$ if and only if $R \notin R$. In other words, R is a member of itself when and only when it is a set that is not a member of itself. Of course, this is impossible. So, Russell concluded that there is no set that is not an element of itself leads to a contradiction. For more on this, I recommend George and Velleman [29], chapter 3.

Quine, however, believed you could have a universal set without succumbing to Russell's paradox. For more on this, I recommend Quine [83], but also [80]; [78]; [100]. Since this is an exposition of Quine, I'll let this assumption go untested.

[24]Salmon [139] offers a similar argument using Church's lambda notation and Montiague's semantics. As such, the English word 'exists' may be defined as: 'is identical with something', or 'is something'. Formally, we express this as: ⌜$(\lambda x)\exists y[x = y]$⌝.

[25]Quine [126], 160.

object picked out by a bound variable relative to a theory.

4.3.2 Being Is The Same As Existence

The second thesis is that Quine denies there is any distinction between the expressions 'there is an *a*' and '*a* exists'.[26] This was already discussed in §3.2.1, but will be repeated here briefly. In Quine's words,

> It has been fairly common in philosophy early and late to distinguish between being, as the broadest concept, and existence, as narrower. This is no distinction of mine; I mean 'exists' to cover all there is.[27]

So, for example, to say a dog exists is to say that there is a dog; to say Pegasus existed is to say there was such a thing that satisfied the predicate '__ is the thing that pegasizes'.

An upshot from treating being as existence comes in that we do not have to admit the existence of things that do not exist. Van Inwagen concludes that "there are no things that do not exist."[28] When pressed on the issue, his argument would be delivered as follows:

> This thesis seems to me to be so obvious that I have difficulty in seeing how to argue for it. I can say only this: if you think that there are things that do not exist, give me an example of one. The right response to your example will be either, "That does too exist," or "There is no such thing as that."[29]

Here van Inwagen surely gets Quine right. I suspect that van Inwagen's grandiloquence doesn't betray Quine's animosity for nonexistent objects. In one of Quine's most famous quotes, he expresses his sentiments:

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[26]Of course, this assumes, as van Inwagen implicitly does, that saying 'being *a*' is the same as 'there is an *a*'. No argument is provided for this in his paper, and none is supplied here.

[27]Quine [73], 100.

[28]Van Inwagen [154], 235.

[29]Van Inwagen [154], 235.

> Wyman's overpopulated universe is in many ways unlovely. It offends the aesthetic sense of us who have a taste for desert landscapes, but this is not the worst of it. Wyman's slum of possibles is a breeding ground for disorderly elements. Take, for instance, the possible fat man in that doorway... These elements are well-nigh incorrigible... I feel we'd do better simply to clear Wyman's slum and be done with it.[30]

Bombast aside, van Inwagen does not tell us *why* Quine holds this second thesis or generate any arguments why one should hold this thesis. Clearly, Quine does. And to appreciate why Quine holds this thesis we need look no further than "On What There Is" [93].

Recall that McX and Wyman had difficulty accepting this thesis given that names like 'Pegasus' appear meaningful. They argued that in order to be meaningful 'Pegasus' must refer to either a different type of being (McX) or a unactualized being (Wyman). They conclude that Pegasus has some sort of being just not existence. Quine's rejection of McX and Wyman advanced in "On What There Is" relies heavily on descriptions. Descriptions avert this problem since names are treated as descriptions, leaving a "nameless ontology of intrinsically precise entities."[31] This is to say a name may be eliminated for a description. Recall that the name 'Pegasus' may be eliminated for

(4.7)   The winged horse that was captured by Bellerophon.

And if we didn't know (4.7), we could have created one—e.g.,

(4.8)   The thing that pegasizes.

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[30]Quine [93], 4.

[31]Quine [106], 424.

Using the iota notation (4.8) now becomes

(4.9) $(\imath x)Px.$

This, quite plainly, is an abbreviation for

(4.10) $\exists x[Px \ \& \ \forall y(Py \rightarrow y = x)].$

Now, the worry about the referent of 'Pegasus' dissolves when the name is eliminated for the description in (4.8). This is because (4.8) is straight forward and meaningful independent of whether there is such a unique object or not. Existence or the being of the object only gets issued in when we make an assertion one way or the other concerning the description. For example, if I say

(4.11)   There is a $(\imath x)Px$

I mean

(4.11′) $\exists x[Px \ \& \ \forall y(Py \rightarrow y = x)]$

Here I am not saying "Pegasus exists" as much as I'm saying the object that pegasizes is a value of my bound variable. Of course, not wanting to admit as much, we may deny (4.11) and mean

(4.12)   There isn't a $(\imath x)Px.$

And in (4.12) there is no worry about the referent of "Pegasus" because all we are maintaining is that 'there is a unique thing that pegasizes' is false. So the worry

should not be the name but the context in which the description is given and whether the description is true or false. If the description is true, then (4.11); if the description is false, then (4.12). There is, then, no need for a special attribute of being or similar nebulous notions; being gets captured by existence.

Quite obviously, Quine relies on Russell to combat McX and Wyman as their presuppositions may now be "seen to be quite generally groundless, since the singular noun in question can always be expanded into a singular description...and then analyzed out *à la* Russell."[32] And if van Inwagen had supplied exposition as to why Quine held this thesis, it would surely involve Russell's paradigm. It makes one wonder, then, why van Inwagen would maintain this thesis with the same grandiloquent flare as Quine does, but without the argument to back it up.

4.3.3   Being Is Univocal

Third, van Inwagen believes since existence is the same as being, then existence is univocal. By this I mean there is no separate type of being which we may attribute to concrete objects (cf. §1.3.3) and another that belongs to abstract objects. Thus, if sticks and stones, hats, pens, and numbers exist, then they exist in the same sense of 'existence'. Consider an analogy. There are eleven books authored by Quine on my desk. Normally, the word 'eleven' used in this context is the same as I would use in describing the eleven hour trip to Wisconsin I'll make this weekend. If I have eleven books by Quine on my desk and I have to drive eleven hours this weekend, then the number of books is the number of hours I'll drive. Similarly, 'existence' is used in the same way for the same objects, concrete or otherwise.

Van Inwagen offers an additional illustration. Suppose we say that if an object exists then there is at least 1; if not, then the number of objects is 0. To say that

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[32]Quine [93], 8.

unicorns do not exist is to say the number of unicorns is 0. Similarly, to say numbers, hats, and books exist is to say there is 1 or more of each object. He concludes:

> The univocacy of number and the intimate connection between number and existence should convince us that there is at least very good reason to think that existence is univocal.

Van Inwagen's reliance on numbers to illustrate the univocal conception of existence appears to be an implicit reference to a footnote in Quine's "On What There Is" [93]. Here, Quine argues:

> The impulse to distinguish terminologically between existence as applied to objects actualized somewhere in space-time and existence (or subsistence or being) as applied to other entities arises in part, perhaps, from an idea that the observation of nature is relevant only to questions of existence of the first kind. But this idea is readily refuted by counterinstances such as 'the ratio of the number of centaurs to the number of unicorns'. If there were such a ratio, it would be an abstract entity, viz., a number. Yet it is only by studying nature that we conclude that the number of centaurs and the number of unicorns are both 0 and hence that there is no such ration.[33]

This said, Quine also feels there are evidential problems with maintaining two different senses of 'existence'. In cavalier style, he voices this concern:

> There are philosophers who stoutly maintain that 'exists' said of numbers, classes, and the like and 'exists' said of material objects are two usages of an ambiguous term 'exists'. What mainly baffles me is the stoutness of their maintenance. What can they possibly count as evidence?[34]

4.3.4   Being Is Captured By The Existential Quantifier

The fourth thesis claims the single sense of being or existence may be adequately captured by the existential quantifier in first-order logic—i.e., '∃'. This has been addressed in §§1.3.3, 2.3.2, and 3.2.2, and should now be familiar territory. Yet, van Inwagen's formulation of this thesis is provocative, and requires a new look.

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[33]Quine [93], 3, n. 1.
[34]Quine [126], 131.

Van Inwagen believes this thesis "ought to be uncontroversial," because '∃' captures existence as much as '+' captures addition. He feels '∃' is "endorsed by Quine" to "introduce variables and the quantifiers into our discourse."[35] Van Inwagen also admits this is the "only way" (other than ostension) that we can "explain the meaning of any word, phrase, or idiom."[36]

Three major issues arise, however. The first concerns van Inwagen's example of '+'; the second, questions whether Quine viewed '∃' as the "only" method of quantification; and, the third asks whether we "introduce" canonical notation per van Inwagen's suggestion. I take them in turn.

4.3.4.1 Van Inwagen's '+' Illustration

I believe van Inwagen's use of '+' is not analogous to '∃' because any expression containing '+' is reducible to a description. Quine has provided two arguments that reduce $\ulcorner \alpha + \beta \urcorner$ to a description. The first, given in *Word and Object* [126], suggests that we may get rid of '+' for a triadic relative term 'Σ', such that

$$(4.13) \qquad \alpha = \beta + \gamma$$

is rendered as

$$(4.14) \qquad \Sigma\alpha\beta\gamma.$$

Thus, for any $\ulcorner \beta + \gamma \urcorner$ we may give the following description:

$$(4.15) \qquad (\imath\alpha)\Sigma\alpha\beta\gamma.$$

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[35] Van Inwagen [154], 238.
[36] Van Inwagen [154], 238.

Our reason for doing so is to eliminate singular terms (cf. §2.3.2). We may, as Quine argues, "reduce this whole algebraic category to the category of descriptions, by adopting an appropriate relative term in lieu of each of the algebraic operators."[37]

The second argument is more technical. Unlike the above argument, it doesn't treat '+' as a predicate or relative term; rather, it stems from a first-order definition of '+' involving classes of classes. For example, the addition of numbers $\ulcorner \kappa_i + \kappa_j \urcorner$ is defined as the class of all classes $\ulcorner \alpha \urcorner$ such that $\ulcorner \alpha \urcorner$ is breakable into two parts $\ulcorner \beta \urcorner$ and $\ulcorner \gamma \urcorner$, such that $\ulcorner \beta \in \kappa_i \urcorner$ and $\ulcorner \gamma \in \kappa_j \urcorner$. Thus, we use $\ulcorner \kappa_i + \kappa_j \urcorner$ to capture the following:

$$(4.16) \qquad \left\{ \alpha : \exists \beta \exists \gamma \left[(\beta \in \kappa_i \ \& \ \gamma \in \kappa_j) \ \& \ \neg \exists x (x \in \beta \ \& \ x \in \gamma) \right. \right.$$
$$\left. \left. \& \ \forall y \big(y \in \alpha \leftrightarrow [y \in \beta \vee y \in \gamma] \big) \right] \right\}$$

In this light, numbers are classes of classes,[38] and '+' may be reduced again to a description. And what these two arguments show is that '+' is dispensable. Of course, here is the problem. If van Inwagen wishes to maintain that '∃' is indispensable to quantification, then he should not use the illustration '+'—or, more strictly speaking, any statement containing '+'—given that it is dispensable.[39]

Now this overly pedantic criticism should be allowed its force for three reasons. First, any Quinean metaontology should insist that terms be reduced to singular descriptions wherever possible. Our principle reason—seen in §3.4—would be simplicity. Just as we reduced names to descriptions to avoid a bloated ontology, so we should with other expressions capable of being reduced to descriptions. And if no provision is afforded to names, then so too with '+'.[40] It is difficult to see how any metaontology claiming to be Quinean could overlook the dispensability of '+'.

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[37]Quine [126], 184.

[38]Quine [82], 243.

[39]I want to be clear here that we are not reducing the operator '+'; we are instead reducing any expression containing '+'.

[40]Quine [106], 424.

Second, we use '+' not because it in *principle* paraphrases the English word 'sum', but because it is a *pragmatic* paraphrase of a more formal description describing the arithmetical notion of sum. Let me explain.

Van Inwagen argues that the symbol '∃' is "essentially an abbreviation for the English 'there are', just as '+' is essentially an abbreviation for the English 'plus'."[41] But, under a Quinean interpretation of '+', it isn't *essentially* an abbreviation of 'plus' (the English word) at all; rather, it is a *convenient* abbreviation for a more complicated expression in, say, (4.15). It is convenient in the same way it might benefit us to write ⌜$(\imath x)Fx$⌝ instead of ⌜$\exists x[Fx \ \& \ \forall y(Fy \rightarrow y = x)]$⌝. Failure to appreciate that '+' reduces to a description results in misrepresenting Quine; '+' abbreviates a formal expression and not the English word.

Now, had van Inwagen appreciated that '+' abbreviates a description and not the English word, he would find the illustration becomes frivolous according to his own standards. In his words:

> The odd-looking, stilted, angular rewriting of our lovely, fluid English tongue that is the quantifier-variable idiom has only one purpose: to force all that lovely fluidity—at least insofar as it is a vehicle of the expression of theses involving generality and existence—into a form on which a manageably small set of rules of syntactical manipulation. . . can get a purchase.[42]

This, of course, cannot work with '+' since we do not introduce it to replace English words. But, if we don't use it to replace English words, then it seems the original comparison to '∃' goes by the board. The symbol '∃' is indispensable to making our ontological commitments clearer, but notions like '+' are, in Quine's words, "indispensable as a convenience, but they are dispensable in principle."[43]

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[41]Van Inwagen [154], 247.
[42]Van Inwagen [154], 240
[43]Quine [106], 424. As a matter of historical significance, Quine also believed variables were dispensable. See Quine [123].

The third reason why I place importance on '+' being dispensable is that it demonstrates another facet where Quine relies on Russell's theory of descriptions. Had van Inwagen appreciated Quine's reliance on Russell's theory, he might see the fault in using '+' as a legitimate comparison. So not only do I think descriptions play a greater role in Quine's metaontology than suggested by van Inwagen, I believe had van Inwagen focused on descriptions he would have avoided this error.

4.3.4.2 *Only* '∃' And Quantification

The second issue van Inwagen's exposition presents us with is the question whether Quine, like van Inwagen, held '∃' as the "only" way quantification is to be expressed?

On the face of it, Quine appears to maintain that existence is captured by quantification *only* in the canonical notation (cf. §1.3.2). For example, in "Notes On The Theory of Reference" [85], Quine says ontological commitments occur in "explicitly quantificational form,"[44] but elsewhere adds that the "*only* way we can involve ourselves in ontological commitments [is] by our use of bound variables."[45] But, to conclude that this is truly the "only" way is too hasty since Quine also claims that existence is captured by quantification absent of canonical notation. In "Existence and Quantification" [73], he says "the style of variable is an arbitrary matter" for "there are no external constraints on style of variables."[46] For example, additional methods of quantification that do not employee '∃' could include ordinary language,[47] and what Quine calls *Boolean Schemata* and *Predicate Functors*.[48] In the latter case, we are "absent the variable" but have not lost existence—i.e.,

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[44]Quine [85], 131.

[45]Quine [93], 12, emphasis his.

[46]Quine [73], 92.

[47]Quine [93] says that "to be is to be in the range of reference of a pronoun" (13). This is also reflected in Quine [86], 21. The two quotes are given in full context in §3.2.2.1.

[48]For the former see Quine [82], 97ff. And for the latter, Quine [109], 33–5.

> In a predicate-functor culture, to be is to be denoted by a one-place predicate. This phrasing fits our home usage too, since any value of a variable is denoted by some predicate or other... and vice versa.[49]

So it appears wrong to read Quine as saying existence is captured exclusively by '∃' *contra* face value.

Nonetheless, to worry whether '∃' is the exclusive method of quantification is to miss the point why Quine uses it to capture existence. The point being two fold: (i) quantification is essential to existence, and (ii) '∃' is the most useful way to paraphrase quantification. He confesses this here:

> It has been objected that the logical notation of quantification is an arbitrary and parochial standard to adopt for ontological commitment. The answer is that the standard is transferable to any alternative language, insofar as we are agreed on how to translate quantification into it... [and]... The notation of quantification ['∃'] is what is most usual and familiar, currently, where one is expressly concerned with ontological niceties; hence my choice of it as a paradigm.[50]

The reason, then, we use canonical notation is because it is *canonical*. And, given that it is canonical, it is the most useful way to make our ontological commitments clearer. We've already addressed how ontological commitments become clearer in §3.3 (cf. *passim*), but it still deserves stressing. A regimented notation from a formal language allows two useful features. First, a notation for discourse on all subjects, and, second, formal notations lack verbal complexity that occur within natural languages.

4.3.4.3 Do We "Introduce" Notation?

The third issue I have with van Inwagen's exposition of Quine's fourth thesis concerns van Inwagen's insistence that we "introduce" formal notation.[51] I believe—and I think

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[49]Quine [109], 35.

[50]Quine [99], 499, 500.

[51]Van Inwagen uses some variation of 'introduce' at least thirty times in [154].

this is Quine's point—we reduce one discourse into another rather than introduce one language to paraphrase the other.[52] In Quine's words,

> We are finding no clear difference between *specifying* a universe of discourse—the range of the variables of quantification—and *reducing* that universe to some other... We need a background language, I said, to regress into... What makes sense is to say not what the objects of a theory are, absolutely speaking, but how one theory of objects is interpretable or reinterpretable in another.[53]

Reading Quine this way is to diverge from van Inwagen's presentation of Quine's metaontology. For van Inwagen, we introduce variable notation to paraphrase a given theory's sentences; but for Quine, we reduce a given theory's sentences into canonical notation. The mistake may appear trivial, but it is a mistake nonetheless.

The implications of this mistake are far reaching, however. If we follow van Inwagen, then we take normal English sentences, introduce canonical notation to then see what our English sentences communicate about the world. Not so with Quine, explaining:

> I am wedded to classical first-order logic, couched in truth-functions and quantification. It is linked to general language by its schematic letters for predicates, and it is linked to reality by its variables, which take all objects, specifiable and unspecifiable, as their values.[54]

The difference is that, for van Inwagen, the background theory would be English, whereas the background theory for Quine would be first-order logic. Of course, we could reduce this further, but here we won't.[55] What is important is to observe van Inwagen's introduction opposed to Quine's reduction of a theory into another.

It is partly this mistake that could lead one to have the type of confusion regarding '+'. We paraphrase 'two plus two' as '$2 + 2$', which is now seen as the paraphrase of $\ulcorner \Sigma\beta\gamma \urcorner$. We reduce English to algebra, and then algebra to a first-order expression.

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[52] For more on this, I recommend Romanos [128], 60ff.
[53] Quine [95], 43, 49–50.
[54] Quine [106], 424.
[55] See Quine [95].

4.3.5 The Fifth Thesis

In contrast to the other four theses, van Inwagen doesn't name the fifth. Instead, he claims Quine's fifth thesis is a thesis about a strategy, and it involves a number of pragmatic considerations. By *the strategy* van Inwagen means Quine's COC. The COC van Inwagen advocates is different than that pushed by a number of unnamed philosophers. According to these anonymous few, the technique is as follows. First, paraphrase the theory into quantifier-variable idiom (i.e., canonical form). Second, consider the set of all sentences that are the formal consequences of the new formalized theory. Third, if a closed sentence begins with an existential quantifier, the sentence reveals our ontological commitments. Thus, if our theory contains

$$(4.17) \qquad \exists x (\Sigma \ldots x \ldots)$$

we are ontologically committed to the object that satisfies the condition expressed by $\ulcorner \Sigma \ldots x \ldots \urcorner$. According to van Inwagen, this view fails to adequately capture the COC due to a mistaken assumption. He believes, and thinks Quine does as well, that there are no well-defined objects called *theories*. The reason why he thinks this should be emphasized further.

Suppose some theory T_i consists of a set of quantifier-variable sentences p_i^i, where $\ulcorner p_i^i \urcorner$ stands for $\ulcorner \exists x F_i^i x \urcorner$.[56] This is to say $T_1 = \{p_1^1, p_2^1, \ldots, p_n^1\}$. There are, of course, alternative theories, say T_2, such that $T_2 = \{p_1^2, p_2^2, \ldots, p_n^2\}$. Under this construal of 'theories', van Inwagen believes it would be relatively easy to translate a theory into the quantifier-variable idiom since it is already in canonical notation. But, van Inwagen believes this implausible for two reasons. First, the quantifier-variable idiom is not something a sentence is "in" or "not in"; rather, they must be translated this

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[56]Let $\ulcorner F \urcorner$ be a dummy predicate. The superscript 'i' corresponds to the theory number and the subscript stands for the sentence number.

way. So, T_1 would (less) technically consist of ordinary natural language sentences $q_1^1, q_2^1, \ldots, q_n^1$ and for each $\ulcorner q_i^i \urcorner$ it may be translated into $\ulcorner p_i^i \urcorner$. We would need to translate the sentences of natural language to an artificial quantifier-variable locution because some natural language sentences appear innocent of existential claims. Yet, translating natural language sentences into formal ones presents the second problem— viz., there will be alternative ways of translating a sentence into quantifier-variable expressions. He believes if this were implausible—i.e., there was only one correct $\ulcorner p_i^i \urcorner$ for every $\ulcorner q_i^i \urcorner$—then Quine would have introduced a mechanical method or technique whereby we could uncover the natural quantifier-variable translation for any natural language sentence. Yet, no technique, according to van Inwagen, has taken hold. Thus, his suspicion that a theory consists of a set of quantifier-variable sentences has not been placated.

Having concluded that there are no objective ontological commitments implicit in the ubiquitous natural language expression, van Inwagen suggests Quine's COC isn't dependent on the view of 'theories' just rejected.[57] Instead, it is a strategy to follow in order to get some people to make their ontological commitments clear; it is a process whereby we formalize our ontological commitments. Van Inwagen writes:

> [The COC] is the name of the most profitable strategy to follow in order to get people to make their ontological commitments ... clear. The strategy is this: one takes sentences that the other party to the conversation accepts, and by whatever dialectical devices one can muster, one gets him to introduce more and more quantifiers and variables into those sentences ... If, at a certain point in this procedure, it emerges that the existential generalization on a certain open sentence F can be formally deduced from the sentences he accepts, one has shown that the sentences that he accepts, and the ways of introducing the quantifiers and variables into those sentences that he has endorsed, formally commit him to there being things that satisfy F.[58]

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[57]Although van Inwagen does not reference "Ontological Relativity" [95], it seems to be relevant here.

[58]Van Inwagen [154], 247.

We've seen how this process works in §3.3.4, which seems to be harmonious with van Inwagen's account. Quine claims:

> If what we want is a standard for our own guidance in appraising the ontological commitments of one or another of our theories, and in altering those commitments by revision of our theories, then the criterion [COC] at hand well suits our purposes; for the quantificational form is a convenient standard form in which to couch any theory.[59]

And elsewhere:

> Futile caviling over ontic implications gives way to an invitation to reformulate one's point in canonical notation. We cannot paraphrase our opponent's sentences into canonical notation for him and convict him of the consequences, for there is no synonymy; rather we must ask him what canonical sentences he is prepared to offer, consonantly with his own inadequately expressed purposes. If he declines to play this game, the argument terminates. To decline to explain oneself in terms of quantification, or in terms of those special idioms of ordinary language by which quantification is directly explained, is simply to decline to disclose one's referential intent... The resort to canonical notation as an aid to clarifying ontic commitments is of limited polemical power, as just now explained. But it does help us who are agreeable to the canonical forms to judge what we care to consider there to be. We can face the question squarely as a question what to admit to the universe of values of our variables of quantification.[60]

Hence, as we saw in §3.3.2, the COC is a strategy to formalize our *own* ontological commitments from sentences we take to be true. On the whole, it seems that van Inwagen has got Quine right. However, there are two caveats.

First, in an effort to stress Quine's notion of a 'theory', van Inwagen has neglected to stress that a theory must be "interpreted" in order for our ontological commitments to be made clear. Quine admits this in several locations, but perhaps none as clear as the COC labeled (E) in §3.3.1.1, repeated here:

> The ontology to which an (interpreted) theory is committed comprises all and only the objects over which the bound variables of the theory have to

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[59]Quine [78], 105.
[60]Quine [126], 242–43.

be construed as ranging in order that the statements affirmed in the theory be true.[61]

What Quine means by 'interpreted' is not exactly clear, but total resolve need not concern us. For our sake, let us say a theory is interpreted if and only if the sentences of a theory are fully interpreted. To specify what interpreted sentences are in our theory we must

> specify, in our own words, what sentences are to comprise the theory, and what things are to be taken as values of the variables, and what things are to be taken as satisfying the predicate letters; insofar we do fully interpret the theory, *relative* to our own words and relative to our overall home theory which lies behind them.[62]

For this reason, it does seem important to stress that a theory must be interpreted prior to using the COC. This point was neglected by van Inwagen, but other commentators have belabored it.[63]

The second caveat is one made earlier: canonical notation reduces one discourse into another rather than introduce one language to paraphrase the other.

Summing up van Inwagen's exposition, we observe the following. In §4.3.1, we notice that being is not an activity followed by §4.3.2 in which we argued that being is the same as existence. This, of course, was already discussed in §3.2.1. We then discussed that existence is univocal in §4.3.3 and that this one sense of existence is captured by '∃' in §4.3.4. Here we departed from van Inwagen slightly as there is more than one way to determine ontological commitments, but it just so happens that '∃' is the most congenial way currently. In §4.3.5 we reiterated the material discussed in §3.3 (especially §3.3.2) and again observed that the COC is a strategy for formalizing our ontological commitments. We also departed from van Inwagen but only minimally so; Quine believes we reduce one theory into a canonical paraphrase, whereas van Inwagen

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[61]Quine [98], 11.

[62]Quine [95], 51.

[63]See Jubien [40]; [41] and Cartwright [12].

believed we introduce variable locution as the paraphrase. In what follows, I argue that his five theses are two too few.

4.3.6 Additional Theses

It should now seem clear that I maintain that any exposition of Quine's metaontology should include two theses that van Inwagen has ommitted: Russell's theory of descriptions and Quine's relativistic thesis. I do not want to speculate why van Inwagen ignores either of these theses; instead, I argue that Russell's theory of descriptions, as used by Quine, incorporates most of the above theses simultaneously. But, in addition to this, I want to also argue that any discussion of Quine's metaontology ought to include his relativistic thesis.

4.3.6.1 Descriptions And Theses II And IV

We've already discussed at length how the second thesis—i.e., being is the same as existence—relates to Russell's theory of descriptions (cf. §4.3.2). But, again we ask: why does Quine accept this thesis?

The answer should be obvious. If we have a "nameless ontology of intrinsically precise entities,"[64] as Quine suggests, the being 'Pegasus' references ceases to be a problem; there simply isn't any existing thing picked out by '__ the thing that pegasizes'. Moreover, there is no need to posit a different type of being (viz., McX) or a unactualized being (viz., Wyman), since existence claims get analyzed via Russell's paradigm.

Of course, if we use Russell's paradigm it would make sense to do so by paraphrasing natural language existence claims as descriptions and a formalized language.[65] This

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[64]Quine [106], 424.
[65]Quine [81], 167.

observation has been demonstrated throughout and can be passed over here with little detail.

Nonetheless, both theses II and IV are wholly traceable to Quine's use of Russell. In fact, Quine explicitly credits descriptions in this passage:

> The theoretical advantages of [reconstruing proper names as descriptions] are overwhelming. The whole category of singular terms is thereby swept away... for we know how to eliminate descriptions. In dispensing with the category of singular terms we dispense with a major source of theoretical confusion... In particular, we dispense altogether, in how to translate singular existence statements into more basic logical terms when the singular term involved is a description.[66]

And we saw the advantages of doing so in §2.3.2: without names, reference to objects occurs through variable locution. To exist, then, is to be an object picked out by a bound variable. There is, in Quine's estimation, "no philosophical problems concerning existence except insofar as existence is expressed by the quantifier '∃'."[67] After all, "existence is what existential quantification expresses."[68]

4.3.6.2 Descriptions And Thesis I And Thesis III

We may now address both theses I and III relatively easily. The first thesis is that being is not an activity. Quite obviously, being, which we claimed is the same as existence (viz., thesis II), and is captured by a formal language (viz., thesis IV), isn't an activity, a process or even a property. Rather, an existential statement expressing existence claims involves a semantic component to be treated as a description depending on what a theory claims, or says. If my theory claims (4.8) is true, then the object exists when and only when it is an object that the bound $\ulcorner x \urcorner$ is capable of referring to—i.e., it is a possible value of $\ulcorner x \urcorner$.

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[66] Quine [81], 167.
[67] Quine [82], 234.
[68] Quine [73], 97.

The third thesis is that being is univocal. If the universe of discourse allows both concrete and abstract objects, then the bound $\ulcorner x \urcorner$ is capable of referring to both. Stipulating our domain does allow both types of object, then as a consequence the bound variable is capable of referring to both. Where, then, is the need for differences in 'exist'? It's not there. Appropriately, so long as the object is in the domain of discourse there is no need for varieties of existence; just one univocal understanding will do.

Here it may be of interest to briefly note how Quine and Russell parted ways. Quine refused to be ontologically committed to those objects in which a bound variable did not apply—e.g., universals. Russell, on the other hand, would. Quite obviously both used descriptions, it is just that Quine—to use Quinean language—cleaned Russell's ontological slums.[69]

4.3.6.3 Descriptions And Thesis V

The fifth thesis, you may recall, involved what I called "the strategy." The strategy consists of a process whereby we translate natural language claims into descriptions to learn of our ontological commitments. By formalizing the processes into Russellian descriptions, we observe what our theory says exists. To say "some dogs are hairy" commits us, via Russell's paradigm, to an object which is both a dog and hairy. But I'm not yet committed; after realizing what my theory says exists, we then decide if the alleged object is among the universe of discourse—i.e., capable of being reckoned among the objects our variable ranges over. It is only after we formalize both that the glory of our ontological commitments shines forth.

Russell's theory of descriptions also allows for ontological parsimony and what Quine calls "ontological niceties." The only way we can involve ourself in ontological

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[69]For Russell's perspective, see Russell [137]. Quine has written on Russell's ontological developments at length and two helpful starting places are [114]; [73], 101ff. J. Vuillemin [157] has a good interplay between the two, but so does Neale [61]; [59], 118ff.

commitments is through the use of bound variables. We have shaved Plato's beard by removing excessive objects (i.e., unactualized or idealistic ones). In the process, we've learned there may be no need to posit property talk—e.g., 'dogness'—unless we can count it among the values of our bound variables. Russell's paradigm allows a congenial way to dispense of all which is not indispensable.

4.3.6.4   Relativism

The next thesis I believe van Inwagen omits is Quine's relativistic thesis. Quite clearly, as I've argued in §3.3.3, a relativistic thesis is usually couched in a meta-level discussion. If true, then one wonders why a thorough exposition of Quine's metaontology would omit a relativistic thesis.

On the face of it, there is no reason why it should be omitted on either van Inwagen's definition of 'metaontology' or my own. According to van Inwagen's definition given in §4.2, what we are asking if the ontological question depends on whether one believes to be doing objective or relativistic ontology. For example, if one would hold a objective position on ontology, then (1.1) gets interpreted as

(3.18)   What (actually) is there?

As we saw in §3.3.3, this question sees the ontological question as theory-neutral; hence, our ontological commitments are true if and only if the objects we are committed to actually are there. But, if one didn't hold an objective view on ontology and instead opted for a relativistic interpretation, then the way we ask (1.1) gets treated as

(3.19)   What (according to my theory) is there?

(3.19) dictates that what we are ontologically committed to are only the objects which are in some sense consistent within our theory. Quine explains his theory, by saying:

> Nothing, one would have thought, could be more fundamental and objective than the fact of the matter of what there is, what exists, what is real. I seem now to derogate from its solidity and objectivity by making no sense of the question outside our own and related languages.[70]

Quine here tacitly admits that the question 'what there is?' is to be answered within our own language and thereby gives an answer to how to interpret (1.1)—viz., (3.19). It seems natural, then, to conclude that accepting or rejecting the relativistic thesis has a direct influence on what is getting asked in (1.1). And being that this is how van Inwagen defines metaontology, the relativistic thesis is metaontological.

But we may push this point further, by insisting that what there is (actually) is a meaningless question for Quine. The only way to answer (1.1) is by providing answers our theory commits us to. In a sense, we cannot answer (1.1) without a relativist thesis in our metaontology. Since we cannot answer (1.1) without interpreting it as (3.19), the relativist thesis is essential to a Quinean metaontology. It is essential because there simply wouldn't be ontology if it was interpreted as (3.18).

4.4   Stokes And Descriptions

Mitchell Stokes was a doctoral student under van Inwagen, and has the only dissertation—of which I'm aware—that addresses a Quinean metaontology. But, however, he makes this concession:

> I will try not to get bogged down in [any] exegetical issue. I do not intend to *argue* that the meta-ontology in which I am interested really is Quine's. What I am interested in is *this* particular meta-ontology, the one

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[70]Quine [86], 23.

I will presently sketch—Quine's or not. But let us assume for simplicity of exposition (and because I think it's true) that it *is* Quine's.[71]

Instead, the "Quinean" metaontology he posits seems to be hybrid between van Inwagen and Quine. The difference between Quine and Stokes will surface shortly; but first, there are a few differences between Stokes' and van Inwagen.

We've already mentioned Stokes' definitions in §4.2, and listed some possible concerns. Letting that discussion remain there, we proceed with other disagreements he has with van Inwagen. Most notably, Stokes' doesn't feel van Inwagen's first thesis is "critical to Quinean metaontology."[72] Furthermore, Stokes' downplays the involvement of variables in Quine's metaontology to a greater extent than van Inwagen. And, Stokes sets up Quine's metaontology slightly differently. He believes doing Quinean metaontology involves two basic steps. It is here that we begin.

4.4.1 The Ontological Commitment Step

The first step, what he calls *the ontological commitment step*, determines whether some object must exist if a given belief is to be true. In Quinean parlance, Stokes tells us, this is to determine whether I am "committed" to the existence of some object.[73] The second step, what he calls *the ontological specification step* amounts to determining what specific kinds of objects must exist. In this step we specify what the objects are like.[74] My aim is to focus exclusively on the former.

The ontological commitment step makes use of a few principles. The first, is the *principle of ontological consistency*, and is stated as:

(P1)   We should either believe in those objects that are required to make our beliefs true, or else stop holding those original beliefs.

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[71]Stokes [150], 10.

[72]Stokes [150], 56, n. 29.

[73]Stokes [150], 11.

[74]Stokes [150], 11.

This is quite clearly Quinean as we should be committed to all and only those objects which are picked out by bound variables. If not, then we aren't committed.

Now (P1) in conjunction with two existential theses can give us our second principle, *the principle of ontological commitment*. The two theses are:

(E1)   Existence is the same as being,

and

(E2)   'To exist' is univocal.

When combined with (P1) we get this:

(P2)   If one can logically deduce 'There exists an object that is such-and-such', schematically speaking, from any of one's beliefs, then one is committed to the existence of a such-and-such.

Plainly Stokes is borrowing from van Inwagen in that (E1) and (E2) are respectively similar to thesis II and III, but (P2) is uniquely Stokes. And what Stokes means by the ontological commitment step is simply to follow (P2).

Stokes views (P2) as the essence of Quine's metaontology. He explains:

> [(P2)], in turn, is the result of certain theses regarding existence and [(P1)]. And this is the essence of Quinean meta-ontology: ruthless consistency combined with certain controversial views about the notion of existence. But anyone reading this will no doubt be familiar with what is sometimes called Quine's "criterion of ontological commitment": *to be is to be the value of a variable.*[75]

Stokes believes that Quine's dictum is not essential to Quine's metaontology. Stokes says that canonical notation is not essential, though he adds: "helpful and impor-tant, yes; essential, no."[76] Here I agree; as we saw in §4.3.4, canonical notation is

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[75]Stokes [150], 68. I've taken the liberty of replacing all the talk of 'principles' with (P1) and (P2), as it seemed convenient.

[76]Stokes [150], 60.

the most useful way to formalize quantification. And because it is the most useful it is the preferred way to capture quantification, which is essential to ontological commitment. Stokes, therefore, downplays the need for variables and variable locution in Quine's metaontology. Additionally, Stokes also talks of 'replacing' natural language sentences with variable locution in lieu of van Inwagen's 'introducing' and Quine's 'reducing', 'paraphrasing', and the like. Here he seems more amenable to Quine's Quinean metaontology than his supervisor.

This said, I believe Stokes has overstated this position in two ways, the first of these ways will be a recurring worry. First, Quine has said (cf. §4.3.4) variables are not the only way to capture ontological commitment, but the point is that Quine *did* use variables to capture ontological commitment and not that he *didn't* have to. If the point is to explain Quine's metaontology—both Stokes' qualified aim, and explicitly mine— then we should be interested in Quine's use of variables for purposes of metaontology. Overemphasizing that variables weren't necessary to Quine's metaontology seems a benign observation given the extent to which Quine used them. Yet, we'll later see that Stokes is not interested in what Quine happened to use; rather, his focus is on those theses which are essential to Quine's metaontology.

A second reason why this is overstated is that it ignores an interesting historical contribution made by Quine to analytic philosophy. Quine is arguably the first to connect ontology with variables in such a vivid manner. I let the justification of this claim rest on Rudolf Carnap's observation:

> Quine was the first to recognize the importance of the introduction of variables as indicating the acceptance of entities.[77]

So even if variables aren't essential to Quine's metaontology, it is worth noting that Quine's use of variables was highly informative and provocative. Downplaying this

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[77]Carnap [10], 241, n. 4.

appears to have the ancillary problem of downplaying what made Quine so special.

4.4.2   Stokes On "On What There Is"

We now introduce Stokes' exposition of Quine's "On What There Is" [93]. At length,

he writes:

> In his essay, "On What There Is" [93], Quine presents two views that are
> part of a "broadly Quinean" metaontology and he does this against the
> backdrop of what he calls... "Plato's Beard." Much of his essay is more
> an *exercise* in Quinean metaontology (what other kind could it be?) than
> an *explanation* of it. Furthermore, much of his own solution to the riddle
> of nonbeing does not constitute part of his metaontology proper [Footnote:
> That is, his solution includes the Russellian theory of descriptions and the
> description theory of names, as well.]. So in what follows, I will describe
> the two views that *are* part of it—one regarding his notion of existence and
> the other strategy for best answering the ontological question.[78]

By way of commentary, let me begin with our agreements. First, I agree that "On What

There Is" is an exercise in metaontology more than explanation of it, and I also agree

that Quine's essay is metaontological more so than ontological. Second, I also agree

that "On What There Is" expresses two ways in which metaontology can be done—

viz., interpreting (1.1) and developing a strategy, or criterion, by which to answer it.

And, third, I likewise agree that Quine's solution to Plato's Beard involves Russell's

theory of descriptions, though I'm not quite sure what he means by 'metaontology

proper'—specifically, what would metaontology *im*proper be? Ambiguity aside, Stokes

does mention Russell's theory as important to solving the riddle if not a part of Quine's

metaontology.

By way of disagreement, we note his insistence that Russell's theory of descriptions

are not a part of metaontology proper. He continues this idea later in his dissertation:

> In "On What There Is" [93], Quine replaces 'Pegasus does not exist' with
> another sentence in order to avoid having to say 'There exists something

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[78]Stokes [150], 48 (including n. 16).

that doesn't exist'. That is, he replaces 'Pegasus does not exist' with a sentence that does not imply 'There exists something that doesn't exist'... Leaving aside the details of how he might arrive as [sic] this sort of replacement, I'll just point out that Quine can accept it because he holds two controversial views regarding proper names and descriptions: Russell's so-called theory of descriptions and the description theory of proper names. Again, neither of these of two views are a part of Quinean metaontology [Footnote: To be sure, the claim that this sentence does not refer to any nonexisting thing also stems from the general notion of existence and quantification that Quine receives from Brentano and Frege. But again this *is* part of Quinean metaontology.]. The point, however, is that Quine would presumably accept this replacement as adequate—and for controversial reasons, reasons that are not essential to Quinean metaontology.[79]

A couple of observations. First, I don't pretend to know what 'description theory of proper names' means unless it means something like the advancement of a nameless ontology affectionately embraced by Quine (cf. §§2.3.2, 3.3.3, 3.3.4, 4.3.2). If this is Stokes' intention, it isn't clear how this theory differs from Quine's use of Russell's "so-called theory of descriptions." Second, Quine's "controversial" view is controversial only insofar as it isn't uniformly accepted, but it is still quite pervasive. Consider a comment Neale gives:

> I get the impression Quine's general position on the role of the Theory of Descriptions in ontological elimination and commitment has been absorbed by many as logico-philosophical fact...[80]

And, third, there is no argument given here—or, for that matter, anywhere else—why descriptions are not a part of Quine's metaontology. Presumably, the argument Stokes has in mind is the argument given on behalf of the inessential nature of variables to Quine's metaontology. Analogously, Stokes likely assumes that since variables are not essential to Quine's metaontology, but are only useful; so too with descriptions. In this sense, Stokes can be seen to make three claims. First, Quine's razor to trim Plato's Beard involves Russell's theory of descriptions and whatever Stokes means

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[79]Stokes [150], 75–6 (including n. 25 on 76).
[80]Neale [57], 456, n. 59.

by 'description theory of names'. Second, Russell's theory of descriptions involves variables, existence and quantification. Third, only existence and quantification are *essential* to Quine's metaontology, implying variables and descriptions are not.

As I just said, I have little protest with the first of these claims: Quine does seem to use descriptions to avoid Plato's Beard. The second claim does present a few worries. Quine argues in "Variables Explained Away" [123], that descriptions can survive without variables. Whether or not that is successful, I'll let slide; nonetheless, what is important is Quine's admittance that descriptions do not depend on variables. But, if this is right, then descriptions should be involved in Quine's metaontology inasmuch as Quine uses variables. This is to say that descriptions are, to quote Stokes, "important and helpful, yes; essential, no." As for my problem with the third claim, I have two primary problems. The first, is that there is a distinction Stokes seems to conflate; whether a theory's commitments *could* be determined in natural language, and whether a commitments *should* be determined that way. Like Stokes, I think Quine admits that a theory's commitments could be determined in natural language, but I also think a theory's commitments shouldn't be. The distinction matters. If all that concerned us is what we could do, then it seems plausible to eliminate variables, descriptions and dismiss similar notions out of hand. But, if we are concerned with how we should determine a theory's ontological commitments, then perhaps it might prove conducive to use a regimented language like our canonical language in §1.3.2. Which direction we go should be dictated by our motivations: do we want to do what we can, or do what we should?

I think Quine believes we may do both. As we noted, he does argue canonical notation may be eliminated or even suppressed for natural language. What is more, however, is that Quine believes this isn't always the appropriate reaction. He explains:

> We must recognize...that a fenced ontology is just not implicit in ordinary language. The idea of a boundary between being and nonbeing is

a philosophical idea...[We] regiment our notation, admitting only general and singular terms, singular and plural predication, truth functions, and the machinery of relative clauses; or, equivalently and more artificially, instead of plural predication and relative clauses we can admit quantification. Then it is that we can say that the objects assumed are the values of the variables.[81]

Two observations. First, a "fenced ontology" is not ordinary; similar sentiments are stated in the epigraph in the front matter of this thesis: "ontology is not the everyday game."[82] And because ontology is not the everyday game it should not be left to the ordinary language. Evidence for my claim could be amassed in the cumulative instances where Quine explicated ontology in an artificial language. Second, notice Quine gives reason—and I'll leave its details for future homework—that quantification can be explained away. Nonetheless, there is no good indication that just because we could, we should. Here Stokes may concede. Still, he may reply that it remains true that variables and descriptions are not *essential* to Quine's metaontology. This presents a second confusion; what does Stokes mean by 'essential'?

4.4.3 *Principally* And *Conveniently* Essential

It seems clear that in emphasizing the essentials of Quine's metaontology, Stokes has downplayed the pragmatic element, which, on face value, does seem essential to Quine's metaontology. To put it another way, there seem to be two different senses of 'essential'. Let us call the first sense *principally* essential. Evidently, Stokes has focused only on that which is principally essential and inessential to Quine's metaontology. By 'principally essential' I mean anything purporting to be a necessary thesis to Quine's metaontology. Such theses, for Stokes, include (E1), (E2), (P1), (P2). And if we take Stokes seriously, what we are left with are those theses which are essential in principle

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[81]Quine [119], 8, 9–10.
[82]Quine [86], 21.

and what goes by the board are variables, descriptions, quantifiers and so forth. If 'essential' is to be understood in the above sense, then there isn't any need—despite face value—for pragmatism.

In many ways this is unsatisfying, however. This is why we may argue for another sense of 'essential', called *conveniently* essential. By 'conveniently essential' I understand theses that may or may not be principally essential, but are, nonetheless, theses that are essential for convenience, utility or other pragmatic considerations.[83] It is this second sense of 'essential' that Stokes has not appreciated; for if he had, it is clear that some theses may be (principally) *in*essential, but are (conveniently) essential. For example, Quine's whole purpose in doing metaontology was to make our ontological commitments clearer, and we discussed this in §4.3.4 relating to '∃'. Yet, Quine also argues there are benefits to Russell's theory. In response to Neale [61], Quine writes:

> Another digression is prompted by Neale's mention of my elimination of singular terms other than variables by construing them as singular descriptions and then defining them away in Russell's way. The elimination brings out a startling contrast between the theory of a formalism and the use of it. For the theory we prize simplicity, and this simplification bypasses considerable apparatus. In practice, however, the elimination of singular terms would paralyze the algorithms of mathematics, whose very essence is the substitution of complex singular terms for variables. Such, then, is the boon of contextual definition, in reconciling theory and practice.[84]

It seems, then, that some (principally) inessential theses might be (conveniently) essential presuming a pragmatic aim of reconciling theory and practice. Here the analogy of '+' appears appropriate.[85] Just because any expression containing '+' is (principally) inessential, it does not follow that any such expression is (conveniently) inessential. If our purpose is to make arithmetical statements clearer, then '+' may be (conveniently) essential despite being (principally) inessential. The same holds for '∃' and

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[83]I leave this open since nothing of philosophical import seems to hang here.

[84]Quine [106], 427.

[85]This is Quine's example in [106]. There, his phrase differs slightly, as he talks of "indispensable as convenience, but they are dispensable in principle" (424).

other theses involving variables and descriptions. If our aim is to make our ontological commitments clearer, then there is good reason to suggest that canonical notation and descriptions are (conveniently) essential. After all, isn't this Quine's point?

I pause here to give a clear answer. To do so, let us be clear on what '(conveniently) essential' means. As I see it, it should incorporate both simplicity of a theory *and* utility. I emphasize 'and' since it is important; to focus exclusively on simplicity might tend to direct us toward the (principally) essential, given that all which is dispensable is dispensed with. But, if we include utility, or pragmatic considerations, then we should have a broader collection of "essential" theses. Quine explains:

> So we have here two conflicting interests; elegant simplicity on the one hand, and utility on the other... Let us not see the two as a dilemma; we can live it up in both. Even a third or fourth is not excluded. Predicate-functor logic [cf. §4.3.4] does without singular terms even to the extent of variables; but it and the familiar quantificaional logic are intertranslatable. The latter fits our intuitions better, but the other is sufficiently unlike to afford a philosophically interesting perspective, particularly on the nature and function of variables themselves.[86]

Plainly then, we use whatever language that provides enough tools to achieve the goal we are aiming for. On the one hand, if it is discussion of variables themselves, clearly canonical notation is insufficient. On the other hand, if clarity of ontological commitments is the intended aim, canonical notation is preferred. Still, however, we may use natural language where appropriate. The problem with natural language is that it is "seldom meticulous about ontology, and consequently an assessment based on... ordinary discourse is apt to bespeak a pretty untidy world."[87] Hence, if clarity of ontological commitments is our aim—and it is clearly Quine's—then ordinary language *could*, but perhaps *should not* be the preferred language. Similarly, there seems no reason to go to another artificial language since a canonical one is available.

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[86]Quine [106], 422.
[87]Quine [99], 500.

Taking stock is now easy. There is no reason to suppose that just because Quine could use an alternate artificial language or even a natural language to explain ontological commitments, that he should. In point of fact, it seems obvious that he feels there are profitable reasons for using a canonical notation. This does not, I concede, mean that canonical notation is (principally) essential, it simply establishes it is (conveniently) essential, and given this latter fact, it is altogether a benign objection to emphasize that canonical notation is (principally) inessential. It is benign, I believe, because it serves no purpose in the overall aim—viz., making our ontological commitments clearer.

4.4.4   Quine And Quinean Metaontology

From our above observations, it might become apparent that Stokes is less concerned with Quine's actual position and more interested in Quinean theses. For if he had been concerned with Quine's actual position, it seems that a strategy for connecting our metaontological theses has been sufficiently provided in Russell's theory of descriptions. A Quinean metaontology espoused by Stokes may not be interested in what he actually said, but what is (principally) essential to its success. This might be Quinean but it certainly isn't Quine.

One reason that it isn't actually Quine is painfully simple: Quine was aware that variables were (principally) inessential, though his continuous use of them implies an alternate reason for doing so. The main interests for Quine is clarity of our ontological commitments and strategies to achieve this goal. True though it may be that these strategies are not (principally) essential, they are, nonetheless, very useful in practice. Contrary to Stokes' Quinean metaontology, these pragmatic considerations are (conveniently) essential and very important to understanding how Quine answers the ontological question in (1.1).

A second reason is that Quine did use descriptions to move toward a lean ontology, and we should take notice of him doing so. To insist that he didn't have to, and that he could have used some other undisclosed strategy, seems to push for theses that are different than the one advanced by Quine. Again, Quine deserves credit; Quine could have offered other strategies, but his preferred strategy seems to be a perfectly good one to couch Quine's metaontology. To push further and demand only theses which are (principally) essential seems to presume an assumption that is more Quinean than Quine.

4.4.5   Where Is Relativism?

The last criticism I wish to make against Stokes was promised in §4.2. Chiefly, Quine's metaontology seems to demand a relativistic thesis. Without it, we are likely to encounter the same sorts of problems that plagued Stokes' definition of the ontological question—'what (really) is there?'. This seems contrary to Quine's position that an interpretation of (1.1) is to amount to what, according to our theory, there is.

Quite clearly this is problematic. If what Stokes considers to be the ontological question cannot be answered save for an interpretation of it, then clearly the interpretation is metaontological, and whether it is (principally) essential or (conveniently) essential is irrelevant. Therefore, the relativistic thesis is necessary for Quine's metaontology, since the ontological question cannot be answered with out it.

4.5   Conclusion

As we have seen, the attention given to Quine's metaontology often understates the connection to Russell's theory of descriptions. Recall van Inwagen's suggestion that Quine's metaontology can be broken up into five separate theses. His "exposition" does

not include any sustained reference to descriptions or Quine's relativistic thesis concerning ontological commitment. But, we have also seen that any exposition about *why* Quine holds these particular theses needs to address Russell's theory of descriptions. Consider one example.

Van Inwagen claims Quine holds the second thesis—that being is the same as existence—without so much as citing "On What There Is" [93]. It was in this essay that Quine devoted so much attention to ridding our ontology of superfluous objects; objects like a mental being or a being that is unactualized but existent. These different modes of being were postulated to make sense of non-referring names, but if we use Russell's theory of descriptions, then names get eliminated for descriptions. And in a description, the concern isn't the referent of a name, but the value of a variable. Conceived this way, the antidote for a bloated ontology is an elimination of names for descriptions and a healthy exercise of Quine's dictum. A curious facet of this conclusion is that it is seen as a natural outcome of Russell's theory. There simply isn't any other available recourse we could employee to achieve the lean ontology Quine finds so aesthetic.

In contrast to van Inwagen, the exposition I've provided of Quine's metaontology in §3.2 and §3.3 is seen as a natural conclusion of Russell's theory of descriptions. For Quine, the very conception of existence itself is tied to the values of variables. The strategy to formalize our ontological commitments—drawing from Quine's dictum—is just another way Russell's theory aids Quine's metaontology. And I have also suggested that such a reliance on Russell's theory does not abate van Inwagen's conception of Quine's five metaontological theses. In fact, there is nothing to suggest that van Inwagen's five theses are juxtaposed to descriptions, and I've provided adequate textual evidence to think that they're related.

Another problem with van Inwagen's exposition that I've suggested is related to

his failure to address Quine's relativistic thesis. This thesis is central to Quine's understanding of ontology since without it, Quine is doubtful that any answer to the ontological question is plausible. This observation provides sufficient reason to conclude that Quine's relativistic thesis is aptly characterized as metaontological. Notice, however, that I maintain Quine's relativistic thesis belongs to Quine's metaontology even if my claim that descriptions are central to Quine's metaontology turns out false. So, my argument against van Inwagen is essentially two fold: (i) descriptions play a role in Quine's metaontology, and (ii) the relativistic thesis is also a part of Quine's metaontology.

We have also seen how Stokes' exposition of Quine's metaontology downplays Russell's theory. Unlike van Inwagen, Stokes is concerned with the essentials of Quine's metaontology, suggesting that theses I, IV and V, variables and descriptions, are inessential. What Stokes believes to be essential are theses II and III, and what he has called the ontological commitment step. A worry for Stokes, I believe, is that his endeavor to remove the inessential theses leaves him with a Quinean metaontology that is not Quine's. For instance, Quine was aware that variables could be explained away, and that quantification could be captured in other theories that didn't use our canonical '∃'. In this sense, Stokes' exposition of Quinean metaontology adheres to Quine's own views. But, Quine also went to considerable lengths to use variables and descriptions in his metaontology. Stokes, however, believes Quine's own use of variables and descriptions was not essential to Quinean metaontology. In this sense, Stokes' has considered a Quinean metaontology that is more Quinean-like than actually Quine-like.

Here I want to again belabor the point that Quine was aware of what could be done without variables and descriptions. Despite this, Quine saw no benefit in doing so. Quine was interested in the most useful way to both discuss the ontological question and formalize our ontological commitments. To suit this purpose, Quine found

canonical notation and descriptions essential, though "essential" in a qualified sense (i.e., "conveniently essential"). If there were another preferred method to satisfy this aim, then presumably Quine would have used that method. Hence, one wonders what the point of Stokes' exposition amounts to; why stress that Quine *did not* have to use variables and descriptions when the real point should be that Quine *did* use them? This, of course, is the real point, and sadly it gets lost in Stokes presentation.

Despite Stokes' best effort, I find no compelling reason to consider a Quinean metaontology that did not use variables and descriptions. And there is also an additional worry that isn't unique to Stokes: where is the relativistic thesis? As I've already said, I have my doubts that any Quinean metaontology that excludes this thesis can be called "Quine's."

In contrast to van Inwagen and Stokes, the Quinean metaontology I've set forth in §3 espouses not only to be thoroughly Quinean, but actually Quine's. I've attempted to exposit Quine's view adhering to the argument advanced in "On What There Is" [93]. Here, descriptions are central to both understanding the ontological question and developing a strategy to answer it. I've tried to justify this claim by detailing Russell's theory in §2, Quine's metaontology in §3, and responding to those who don't view descriptions as important to a Quinean metaontology in §4. What this shows us, I believe, is that Quine's metaontology thus expounded relies heavily on descriptions.

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Appendix A

Technical Details

A.1   Proof of Theorem 3.2

Theorem 3.2: $\{\forall xFx\} \vdash \exists xFx$.

Proof: A possible derivation using a Fitch-style proof is as follows:[1]

1	$\forall xFx$	Premise
2	Fa	1, $\forall$E
3	$\exists xFx$	2, $\exists$I

A.2   Proof of Theorem 3.3

Theorem 3.3: $\{\exists xFx, \forall x(Fx \rightarrow Gx)\} \vdash \exists x(Fx \ \& \ Gx)$

Proof: A possible derivation using a Fitch-style proof is as follows:

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[1]Rules provided by Bergman [6].

1	$\forall x(Fx \rightarrow Gx)$	Premise
2	$\exists xFx$	Assumption
3	Fa	2, $\exists$E
4	$Fa \rightarrow Ga$	1, $\forall$E
5	Ga	3,4, $\rightarrow$ E
6	$Fa \& Ga$	3,5, & I
7	$\exists x(Fx \& Gx)$	6, $\exists$I
8	$\exists x(Fx \& Gx)$	

A.3   Proof of Theorem 3.4

Theorem 3.4: $\{\forall x(Fx \rightarrow Gx)\} \vdash \exists x\neg Fx \vee \exists xGx$

Proof: A possible derivation using a Fitch-style proof is as follows:

1	$\forall x(Fx \rightarrow Gx)$	Premise
2	$Fa \rightarrow Ga$	1, $\forall E$
3	$\neg Fa \vee Ga$	2, Imp
4	$\exists x\neg Fx \vee Ga$	3, $\exists$I
5	$\exists x\neg Fx \vee \exists xGx$	4, $\exists$I

A.4   Proof of Theorem 3.5

Theorem 3.5: $\{\exists xFx\} \vdash \exists x(x = a)$.

Proof: A possible derivation using a Fitch-style proof is as follows:

1	$\exists x F x$	Premise
2	$\neg \exists x (x = a)$	Assumption
3	$\forall x \neg (x = a)$	2, QN
4	$\neg a = a$	3, $\forall$E
5	$\exists x (x = a)$	4, $\neg$E

The proof appears redundant since $\ulcorner \exists x (x = a) \urcorner$ is a tautology—i.e., a truth-value that is always true—in classical logic.

A.5   Proof of Theorem 3.6

Theorem 3.6: $\{Fa\} \vdash \exists x F x \ \& \ \exists x (x = a)$.

Proof: A possible derivation using a Fitch-style proof is as follows:

1	Fa	Premise
2	$\neg \exists x F x$	Assumption
3	$\exists x F x$	1, $\exists$I
4	$\neg \neg \exists x F x$	3, DN
5	$\exists x F x$	4, $\neg$E
6	$\neg \exists x (x = a)$	Assumption
7	$\forall x \neg (x = a)$	6, QN
8	$\neg a = a$	7, $\forall$E
9	$\exists x (x = a)$	8, $\neg$E
10	$\exists x F x \ \& \ \exists x (x = a)$	5,9 &I