Leibniz Did Not State Leibniz's Law

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ABSTRACT

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Leibniz Did Not State Leibniz's Law

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In this thesis I propose that Leibniz did not state Leibniz's Law, the logically and metaphysically robust principle that is typically understood as the following bi-conditional: $\forall x \forall y [(x = y) \leftrightarrow \forall P (Px \leftrightarrow Py)]$. To arrive at this conclusion, I examine the three principles that have become associated with Leibniz's Law: the Substitutivity Principle (*salva veritate*), the Indiscernibility of Identicals, and the Identity of Indiscernibles. I show that Leibniz intended *salva veritate* as a semantic principle, never explicitly stated the Indiscernibility of Identicals, and understood the Identity of Indiscernibles as a metaphysical principle. In the debate about Leibniz's Law, I focus on four commentators: (1) W. V. O. Quine's construal of *salva veritate* as the Indiscernibility of Identicals, (2) Nicholas Rescher's contention that both the Identity of Indiscernibles and *salva veritate* may be construed as Leibniz's Law, (3) Fred Feldman's argument that Leibniz did not state a law or definition of identity, but only a criterion of identity for concepts, and (4) Edwin Curley's response to Feldman, that Feldman's assumptions, along with passages in Leibniz, show Leibniz did state Leibniz's Law I argue that Feldman's position is not completely correct, but can be amended with insights from Quine, Rescher, and Curley, and by reference to Leibniz's Complete Concept Theory.

DEDICATION

I dedicate this work to my wife Sarah.

Without her patience and encouragement, this thesis would not have been possible.

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INTRODUCTION

In this thesis I propose that Leibniz did not state Leibniz's Law, the logically and metaphysically robust principle that is typically understood as the following bi-conditional: $\forall x \forall y [(x = y) \leftrightarrow \forall P (Px \leftrightarrow Py)]$. To arrive at this conclusion, I examine the three principles that have become associated with Leibniz's Law: the Substitutivity Principle (*salva veritate*), the Indiscernibility of Identicals, and the Identity of Indiscernibles. I show that Leibniz intended *salva veritate* as a semantic principle, never explicitly stated the Indiscernibility of Identicals, and understood the Identity of Indiscernibles as a metaphysical principle. In the debate about Leibniz's Law, I focus on four commentators: (1) W. V. O. Quine's construal of *salva veritate* as the Indiscernibility of Identicals, (2) Nicholas Rescher's contention that both the Identity of Indiscernibles and *salva veritate* may be construed as Leibniz's Law, (3) Fred Feldman's argument that Leibniz did not state a law or definition of identity, but only a criterion of identity for concepts, and (4) Edwin Curley's response to Feldman, that Feldman's assumptions, along with passages in Leibniz, show Leibniz did state Leibniz's Law I argue that Feldman's position is not completely correct, but can be amended with insights from Quine, Rescher, and Curley, and by reference to Leibniz's Complete Concept Theory.

Background and Overview

It might be assumed that when asking 'What is Leibniz's Law?' one could simply reference a work written by Leibniz and find the answer – this assumption is a mistake.

One could ask a philosopher what Leibniz's Law is, but this question yields many answers. For example, consider the following:

> The first [Indiscernibility of Identicals] is what is (misleadingly, I think) called Leibniz's Law, which says that if A and B are identical, then everything that is true of A is true of B, or [A = B → (f)(fA ↔ fB)] (Ishiguro, 1990, p. 17).

> The principle [Identity of Indiscernibles] so formulated might be construed either as the thesis $x = y \leftrightarrow (\phi)$ [$\phi x \leftrightarrow \phi y$] or as the rule: If $x = y$ then from ϕx we may infer ϕy; and conversely (Rescher, 1967, p. 48, fn. 3).

> Sometimes the conjunction of both principles [Indiscernibility of Identicals and Identity of Indiscernibles]… is known as Leibniz's Law (Forrest, 2010).

Here we see three different claims: (1) that the Indiscernibility of Identicals (InI) is Leibniz's Law (LL), (2) that the Identity of Indiscernibles (IdI) may be construed as either a bi-conditional, or as the Indiscernibility of Identicals, and thus is Leibniz's Law, (3) that sometimes the Indiscernibility of Identicals and Identity of Indiscernibles may be combined to form a bi-conditional, which is Leibniz's Law. That there is this much uncertainty, three hundred years removed from Leibniz's death, would seem an embarrassing situation.

These three positions contain three logical formulations of principles claimed to be in Leibniz, and which either are or makeup LL. The principles so far presented are:

Indiscernibility of Identicals: If *x* is identical with *y*, then *x* is indiscernible from *y*.

$$\forall x \, \forall y \, [(x = y) \rightarrow \forall P \, (Px \leftrightarrow Py)]$$

Identity of Indiscernibles: If *x* is indiscernible from *y*, then *x* is identical to *y*.

$$\forall x \, \forall y \, [\forall P \, (Px \leftrightarrow Py) \rightarrow (x = y)]$$

While some contemporary commentators take InI to be LL, the more common view has been to combine InI and IdI to form a bi-conditional and call it LL:

> **Leibniz's Law**: An object *x* is identical with an object *y* if and only if every property of *x* is a property of *y* and vice versa.
>
> $\forall x \forall y [(x = y) \leftrightarrow \forall P (Px \leftrightarrow Py)]$

As a matter of historical accuracy, and for purposes of this thesis, *I will understand LL as the bi-conditional of IdI and InI.*

It appears the title 'Leibniz's Law' was first given to this bi-conditional by Alfred Tarski, in his *Introduction to Logic* (1941).[1] There Tarski claims the bi-conditional is "the most fundamental" law regarding identity. He formulates it, saying:

> Among the logical laws concerning the concept of identity the most fundamental is the following:
>
> x = y if, and only if, x has every property which y has, and y has every property which x has.
>
> This law was first stated by Leibniz (although in somewhat different terms) and hence may be called Leibniz' Law (p. 55).

Tarski references Leibniz in a footnote, but does not tell us which passage or passages in Leibniz he is referring to. As Tarski's work became more recognized, so did the association of the title 'Leibniz's Law' with the bi-conditional.

Almost thirty years later, in his article "Leibniz and 'Leibniz' Law'" (1970), Fred Feldman made an important observation regarding LL: "it is not at all clear just where or how Leibniz is supposed to have stated this principle" (p. 510). Looking to passages in,

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[1] Frege, in his *Grundgesetze der Arithmetik* (1893), and Russell and Whitehead, in their *Principia Mathematica* (1910), give the bi-conditional, but they do not refer to it as Leibniz Law.

and commentators on, Leibniz, Feldman concluded that Leibniz only stated two of the aforementioned principles relevant to LL: IdI and *salva veritate* (SV). He contended that SV is not a definition of identity or a metaphysical principle, and therefore cannot be LL. Feldman's findings raise an interesting question: Did Leibniz state Leibniz's Law? In order to answer this question we must first look to the writings of Leibniz.

In chapter one, I examine relevant passages in Leibniz where he stated SV and IdI. I also note that Leibniz never explicitly stated the other principle, InI. Rather, InI was first stated by Quine, as a construal of SV. Further, I claim that Leibniz intended SV to be understood as a semantic principle, as Leibniz only used it in his logical and mathematical works, and only to discuss the substitution of concepts. I then examine the IdI passages, noting that Leibniz always understood IdI as a metaphysical principle applicable to natural things. I note, however, that IdI can be extended to artifacts, as the properties of artifacts supervene on those of monads. Thus, I claim Leibniz intended IdI to be understood as a metaphysical principle. I am sympathetic with commentators who apply SV and IdI to domains other than those Leibniz intended, but as a historical/textual matter, it is important to recognize that Leibniz did not.

In chapter two I consider the views of four authors involved in the debate over whether Leibniz stated LL: W. V. O. Quine, Nicholas Rescher, Fred Feldman, and Edwin Curley. I include Quine in my discussion for three reasons: (1) to discuss his interpretation of SV as InI, (2) to explicate his insight of restricting InI to purely referential contexts, and (3) to explain his charge that Leibniz is guilty of use/mention

confusion. His critique of InI shows that when extending SV into metaphysical domains we must be aware of certain consequences.

The second position I consider is Nicolas Rescher's view that SV and IdI can both be construed as the bi-conditional form of LL. Like Quine, a problem for Rescher's interpretation is that it finds Leibniz guilty of confusing use and mention, albeit of a different sort. Rescher reads Leibniz as asserting a principle of identity that is logically and metaphysically robust. In doing so, however, he applies the principle in ways that Leibniz did not envision. Textual analysis shows that Rescher's view of LL reaches too far, as he does not restrict SV in the manner Leibniz did.

Fred Feldman appears to be the first commentator to argue that Leibniz did not intend SV to be a definition of identity or a metaphysical principle. Feldman contends that we must make three assumptions if we interpret SV as LL: (1) that Leibniz confused use and mention, (2) that Leibniz neglected to restrict SV to purely referential contexts, and (3) that Leibniz thought when we use singular terms in purely referential contexts, the rest of the proposition signifies a property. Feldman claims that to make these three assumptions is to make Leibniz seem philosophically inept. Rather, he proposes we interpret SV as a criterion of identity for concepts, and he makes a textual case for thinking that this is what Leibniz intended. Feldman points out that the SV passage quoted by Rescher is not translated correctly and is incomplete; Rescher does not include the portions of the quote where Leibniz provided examples of the concepts being substituted. Feldman takes the examples of "Triangle and Trilateral" to be picking out abstract universal concepts. He suggests that if Leibniz meant to apply SV to singular

terms, he would have used “individuals as examples” (Feldman, 1970, p. 518). He further suggests that we should read SV as a principle applicable to concepts and not things. Feldman concludes by claiming Leibniz did not state LL, but that we can construe a version of LL that is restricted to substances, even though Leibniz did not.

Edwin Curley responds by claiming that Leibniz in fact was aware of Feldman’s proposed three assumptions. First, Curley notes passages that show Leibniz was aware of and in control of the use/mention distinction. Second, Curley provides examples of passages where Leibniz restricts SV to purely referential contexts. Third, in those same passages, Leibniz used singular terms (individuals) as examples. Curley’s presentation of these passages challenges Feldman’s view that SV is a criterion for the identity of concepts. From this, Curley concludes we should interpret Leibniz’s examples as “general term(s) denoting instances of the universal” (Curley, 1971, p. 500). Given this interpretation, Curley contends we should understand SV as LL.

An issue with Curley’s interpretation of Leibniz’s examples is that it is closer to George Berkeley’s view on general ideas, than Leibniz’s understanding of abstract ideas. Berkeley thought that we could not have abstract ideas, as he believed particular ideas “become general, by being made to represent or stand for” the class of similar individuals (Dancy, 1998, p. 94). Conversely, Leibniz equates ideas to forms or essences, claiming they come from within us, and are caused by God. Further, since Leibniz has this theory about complete concepts (the Complete Concept Theory [CCT]), it makes sense that he would understand SV as applicable to concepts.

Leibniz's use of individuals (singular terms) as examples for SV does not commit him to providing a definition of identity or a metaphysical principle. Rather, since Leibniz believed there was a complete concept for every substance, I argue it is reasonable to understand SV as Feldman does, a criterion of the identity for concepts. However, I go further than Feldman, claiming that, given CCT, SV need not be restricted to universals. Rather, since Leibniz believed every substance has a complete concept, that individuals are substances, and that complete concepts contain every predicate that will ever be predicated of the individual, it is possible to account for Leibniz's use of individuals as examples for SV while still maintaining that SV's scope off application is confined to concepts. I conclude, therefore, that Leibniz intended SV to be understood as a semantic and not metaphysical principle.

CHAPTER 1: THE PRINCIPLES ASSOCIATED WITH LEIBNIZ LAW

In Leibniz's writings there are two principles commentators have referred to as Leibniz's law (LL): the principle of Substitutivity (SV) and the Identity of Indiscernibles (IdI). Leibniz states both explicitly, and he named them. Yet, there is a third principle, one which Leibniz does not state explicitly, or by name, that has come to be associated with LL: the Indiscernibility of Identicals (InI). The principle of InI is typically understood as inferred from, or entailed by, or an alternate reading of SV. Although Leibniz never stated InI explicitly, or in terms familiar to contemporary debate, it is still an important principle; if InI captures what Leibniz had in mind, then it must be considered. This raises two important questions: What did Leibniz intend when he stated these principles? and, If Leibniz did not explicitly state InI, how did it become part of the discussion surrounding LL? This chapter seeks to answer these two questions.

In answering the first question, I will argue (1) Leibniz intended SV to be understood as a semantic principle, applicable only in semantic contexts, and (2) IdI should be understood as a metaphysical principle about natural objects, though it can be extended to artifacts since the properties of monads supervene on those of artifacts. To the second question, I show that W. V. O. Quine appears to be the first person to ever use the name 'Indiscernibility of Identicals' in print.

Given the historical nature of this chapter, I will present the passages containing Leibniz' statement of the SV and IdI principles in chronological order. Before doing so, however, I provide some necessary background; thus, I begin by briefly discussing the

Principle of Sufficient Reason, Leibniz's distinction between 'full' and 'complete' concepts, and monads. Next, I will conduct an in depth discussion of the SV principle, providing examples of four different types of passages found in Leibniz. I will urge the reader to consider these passages as displaying a semantic principle, as Leibniz intended. Pausing in the timeline of Leibniz passages, I will suggest InI was first named and discussed by W. V. O. Quine, noting his contention that it is a plausible reading of SV. I will dive back into the timeline of the passages where Leibniz states IdI. There I will contend that a careful reading of the passages and their contexts reveal Leibniz always stated IdI as a metaphysical principle applicable to natural things. I also note, however, that Leibniz's metaphysics provides the resources for extending the principle to artifacts as well. I will close by explaining why I am sympathetic with attempts to apply SV, InI, and IdI to domains other than those explicitly noted by Leibniz, especially when such applications prove fruitful. However, I want to be clear about what Leibniz actually said, and about his intended use of these principles.

A Principle, Some Concepts, and Monads

In order to properly discuss the three principles associated with LL, it is important to first explicate some key notions in Leibniz's philosophy. Having a correct understanding of these notions is necessary for situating SV and IdI within Leibniz's system, and for showing how commentators have read SV as InI.

Perhaps the best-known principle in Leibniz is the principle of sufficient reason (PSR). Simply put, it says that nothing happens without sufficient reason. Or, as Leibniz so aptly puts it, "we can find no true or existent fact, no true assertion, without there

being a sufficient reason why it is thus and not otherwise, although most of the time these reasons cannot be known to us" (Ariew, R & D Garber, 1989, p. 217). With PSR, Leibniz is concerned to affirm an, in principle, intelligibility of reality.

Leibniz's definition of concepts involves a distinction between two types: full and complete. To understand this distinction, it must be noted that Leibniz uses the words 'term', 'notion', and 'idea' interchangeably with the word 'concept'. According to Leibniz, abstractions are full concepts. He says:

> Thus, taken in *abstraction* from the subject, *the quality of being a king* which belongs to Alexander the Great *is not determinate enough to constitute an individual* and does not include the other qualities of the same subject, nor does it include everything that the *notion* of this prince includes (Ariew, R & D Garber, 1989, p. 41 [italics are mine]).

Conversely, complete concepts are those that contain every predicate contained in the subject, and they only exist in the mind of God:

> …the nature of an individual substance or of a complete being is to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed." (p. 41).

Referencing the above passage on full concepts, a complete concept may contain full concepts – the concept of Alexander the Great contains the concept of kingship. Full concepts are abstractions contained in the complete concept, as they cannot sufficiently determine an individual substance.[2] Given this discussion of concepts, it is important to understand Leibniz's view on substances.

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[2] I adopted my view on 'full' and 'complete' substances from G. H. R. Parkinson (Parkinson, 1966, p.p. 125 – 128). It is important to note there are competing views; see: Broad, 1949, 'Leibniz's Predicate-in-Notion Principle and some of its alleged Consequences', *Theoria*, pp. 54 – 70. However, I take Parkinson's view to be the most consistent, and the most widely held.

Leibniz defines substances as monads: metaphysical simplicities, without parts or material composition. Further, monads are indivisible and unchangeable; they come into being by creation and go out of being by annihilation. Upon creation monads contain, at least implicitly, every property they will have, and no two monads can resemble each other completely. According to Leibniz monads have *appetition*: "(t)he action of the internal principle which brings about the change or passage from one perception to another (Ariew, R & D Garber, 1989, p. 215)." He sees *perception* as "(t)he passing state which involves and represents a multitude in the unity or in the simple substance" (Ariew, R & D Garber, 1989, p. 214). Finally, every monad mirrors the entire universe,[3] each representing a unique perspective on the universe.

With these key notions explicated, it is now important to consider the three principles that are associated with LL: SV, InI, and IdI. I will start by examining SV, as it comes first in the chronology of the three principles.

Substitutivity (*salva veritate)*

The first of the three principles associated with LL is known as the principle of substitutivity, sometimes referred to by the Latin phrase *salva veritate* (SV) – which literally means to "save truth." Some commentators[4] interpret SV as InI, and claim InI is

[3] "Indeed, there is…no substance so imperfect that it does not contain the entire universe, and whatever it is, was, or will be, in its complete notion (as it exists in the divine mind), nor is there any truth of fact or any truth concerning individual things that does not depend upon the infinite series of reasons; whatever is in this series can be seen by *God* alone" (p. 95).

[4] See: Tarski, 1941, p. 55 (Note: Tarski does not tell us what passages in Leibniz he is referring to.); Rescher; 1967, p. 48; Dummett, 1973, p. 543; et al.

LL. Others[5] claim SV interpreted as InI makes up only one of the conditionals in the bi-conditional form of LL. Still others[6] claim that it is a mistake to think of SV as having anything to do with either interpretation of Leibniz's Law; these commentators claim Leibniz intended SV as a criterion of identity for concepts, and not as an explanation or definition of identity. I am in agreement with this last group.[7]

The SV principle, I contend, should be understood as a sematic principle, and not as a metaphysical principle. Leibniz only stated SV in his mathematical and logical papers, and intended it as a principle applicable only to formal languages. Though Leibniz states SV many times, and in several different ways, I will focus my discussion on four representative passages.

One of Leibniz's first statements[8] of SV comes in his *A Specimen of the Universal Calculus* (1679). In this work, Leibniz's aim is to exposit a universal, logical language into which all propositions can be translated. His goal is to achieve a common method for solving disputes between any two adversaries. To be sure, he is not concerned with making metaphysical statements, but with how metaphysical statements can be translated into a language with mathematical precision, so that metaphysical disputes can be resolved.

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[5] See: Quine, 1943, p. 113 & 1953, p. 139; Mates, 1965, p. 145; Magidor, 2011, p. 180; et al.
[6] See: Feldman, 1970; Ishiguro, 1991, pp. 17 – 43; Maunu, 2002; et al.
[7] I will discuss this in depth in chapter two of the present work.
[8] Without further translation of the original manuscripts, it is not certain this is Leibniz's first statement of SV.

In this first example of SV, Leibniz uses the relation of "the same," and abstract examples to illustrate how the principle works. Like most of his statements of SV, this one contains key features of the principle. Leibniz says:

> Eadem sunt quorum unum in alterius locum substitui potest, salva veritate, ut Triangulum et Trilaterum, Quadrangulum et Quadrilaterum[9] (Gerhardt, 1890, VII, p. 219).
>
> Those terms are 'the same' of which one can be substituted in place of the other without loss of truth, such as 'triangle' and trilateral', 'quadrangle' and 'quadrilateral' (Parkinson, 1966, p. 34).

Leibniz's use of "terms" and "the same", along with his choice of examples are intentional, and in order to understand his intentions it is important to explain each of these three features.

Leibniz's use of the word 'term' in this passage is important, as he understands 'term' to mean concept. He says:

> By 'term' I understand not a name, but a concept, i.e. that which is signified by a name; you could also call it a notion, an idea (Parkinson, 1966, p. 39). [10]

As I mentioned above, Leibniz distinguishes between two types of concepts, 'full' and 'complete'. This statement of the principle includes the word 'term' to indicate that SV applies to both 'full' and 'complete' concepts; full concepts are associated with abstractions, while complete concepts are associated with particular substances. In this passage, Leibniz uses the examples of geometrical shapes, or full concepts. However, as I will show below, SV applies to complete concepts as well.

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[9] Also quoted in: Ishiguro, 1991, pp. 19 – 20.
[10] Also quoted in: Ishiguro, 1991, p. 22.

The examples of "triangle and trilateral, quadrangle and quadrilateral" show Leibniz is concerned with the substitution of concepts, and not just the words themselves; if he had in mind the substitution of words, he could have picked easier examples to introduce the principle. In the case of "triangle," in any proposition using the word 'triangle', we can substitute the word 'trilateral' without affecting the truth-value of the statement. Leibniz's point here is that the same *concept* or *idea* is captured by both words; there is never a case in which we can think of a triangle without thinking of a trilateral, and vice-versa. Given that his examples are meant to illustrate concepts, it is crucial to understand what Leibniz means when he says terms (concepts) are "the same".

According to Leibniz, terms are "the same" when we can substitute them in any proposition, one for the other, without affecting its truth-value. What is important to note is Leibniz is not saying the terms being substituted are *identical*, where identical means *having all their properties in common*. Rather, he is saying if the substitution does not affect the truth-value of the proposition, then the terms are the same, and by "same" he means they pick out the same concept or notion. To gain more clarity on what he means here, passages where he discusses the notion of "coincidence" are helpful.

In his *General Inquiries about the Analysis of Concepts and of Truths* (1686), Leibniz uses the relation "coincides" to discuss the relationship between terms, and the relata are again abstract examples. There he says:

> Coincidit *A* ipsi *B* si alterum in alterius locum potest salva veritate seu si resolvendo utrumque per subsitutionem valorum (seu definitionum) in locum terminorum utrobique prodeunt eadem (Couturat, 1903, p. 362).[11]
>
> *A* coincides with *B* if the one can be substituted in place of the other without loss of truth, or if, on analysing each of the two by substitution of their values (i.e., of their definitions) in place of the terms, the same appear on both sides. (Parkinson, 1966, p. 53).

Leibniz use of the word "coincide" in this passage must be read in the context in which the passage appears. In this work, he is discussing concept analysis, and noting that through analysis, two terms can be shown to coincide. If we consider a term A and a term B formally, as standing in for two definitions, and analyze those definitions into their constituent terms, we can then determine whether term A and term B coincide by seeing if they share all their constituent terms. Leibniz provides this definition of coincident right before the above passage, saying:

> . . . if, moreover, there appears in the one (term A) what appears in the other (term B), i.e. what is formally the same, A and B will therefore be 'coincident', or virtually the same (Parkinson, 1966, p. 53).

Again, here we must understand "term" as Leibniz does, as a concept or idea, and not as a word or symbol. Thus, if term A is analyzed and found to contain concepts L, M, and N,[12] and term B contains these and only these same concepts, then terms A and B coincide; substituting either term for the other in a proposition will preserve its truth-value. In a later passage and the next one I will consider, Leibniz suggests the "the same" and "coincident" are themselves intersubstitutable.

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[11] Hidé Ishiguro also uses this passage to argue Leibniz intended to discuss concept substitution, though her concern is to clear up possible use/mention confusion caused by interpreting the passage as a definition of identity. See: Ishiguro, 1991, p. 20 – 21.
[12] Here I am using Leibniz's example. See: Parkinson, 1966, p. 53.

In *A Study in the Calculus of Real Addition* (after 1690), Leibniz provides a passage where he equates the relations of "the same" with those that are "coincident," though the relata are still abstract universals. He says:

> Eadem seu coincidentia sunt quorum alterutrum ubilicet potest substitui alteri salva veritate. Exempli grata, Triangulum et Trilaterum, in omnibus enim propositionibus ab Euclide demonstratis de Triangulo substitui potest Trilaterum, et contra, salva veritate (Gerhardt, 1890, VII, p. 236).
>
> Those terms are 'the same' or 'coincident' of which either can be substituted for the other wherever we please without loss of truth, for example, 'triangle' and 'trilateral'. For in all the propositions about 'triangle' proved by Euclid, 'trilateral' can be substituted without loss of truth, and conversely (Parkinson, 1966, p. 131).

Using the Euclid example, he is also more explicit about the type of concepts he has in mind – abstract concepts.[13] When Leibniz says, "in all the propositions about 'triangle' proved by Euclid, 'trilateral' can be substituted," he is not referring to any particular triangle, but triangles abstractly. Accordingly, Euclid's propositions are not about a specific triangle, but about triangles in general. So far, the examples given in the SV passages involve abstract concepts as relata; however, there are some[14] later SV passages where the relata in the examples appear to be *individuals*. We now turn to a consideration of one such passage. In his *General Inquiries about the Analysis of Concepts and of Truths* (1686), Leibniz says:

> Idem autem esse A ipsi B significant alterum alteri substitui posse in propositione quacunque salva veritate. Nam respectus illi per propositiones sive veritates

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[13] This point is made by Fred Feldman, see: Feldman, 1970, p. 515. I will discuss it further in the next chapter, section.

[14] It appears there are only two known SV passages with examples of individuals, the one quoted here, and another which was translated by Benson Mates, see: Mates, 1972, p. 351. Mates' provides the only English translation of this passage; for the primary source he used, see: *Notationes Generales* (1695), in Schmidt, 1960, p. 475.

> explicantur. Sic Alexander Magnus, et rec Macedoniae victor Darii. Item triangulum et trilaterum, sibi substitui possunt (Couturat, 1903, p. 362).
>
> That A is the same as B means that one can be substituted for the other in any proposition without loss of truth. For those relations are explained through propositions or truths. For example, 'Alexander the Great' and 'the king of Macedonia who conquered Darius', and again 'triangle' and 'trilateral', can be substituted for each other (Parkinson, 1966, p. 53).

While this passage includes the familiar examples of "triangle and trilateral," the use of "'Alexander the Great' and 'the king of Macedonia who conquered Darius'" shows Leibniz also used examples deploying terms that pick out individuals. The inclusion of the examples of individuals illustrates a point Leibniz wants to make about the relationship between partial terms.

Leibniz uses the example of Alexander the Great to explain what he means by "partial terms." He defines them as:

> 'partial terms', i.e. relative terms, from which there also arises the particles which denote the relation of terms. The first which occurs to me on inquiry is 'the same' (Parkinson, 1966, p. 52).

Partial terms can be related in such a way that they denote the relationship of being "the same," though they are *not* the relata. They are more like Frege's "sense,"[15] as partial terms pick out different aspects of the same referent; in Leibniz's example, "Alexander the Great" and "the king of Macedonia who conquered Darius" are different aspects of the same individual. Leibniz's emphasis is that *partial* terms, when substituted, are picking out unique individuals. For example, we could not substitute 'Alexander the Great' for 'the student of Aristotle' because 'the student of Aristotle' is a concept referring to every student of Aristotle. In the case of 'the king of Macedonia who

[15] See: Frege, 1952, pp. 56 – 78.

conquered Darius', the substitution succeeds because this concept only applies to Alexander the Great. Thus, in a proposition, our *partial* concepts about the referent - 'Alexander the Great' and 'the king of Macedonia who conquered Darius' – can be substituted while preserving the truth-value. In substitutions with partial terms, Leibniz's concern is that the concepts deployed pick out the same referent or set of referents; it is the sameness of the expressions that allows the substitution to succeed. From this passage, along with those quoted above, it is clear Leibniz intends SV as a semantic principle.

Every instance of the SV principle is presented as applicable to semantic contexts, and everything Leibniz says about SV, and the examples he provides us, indicates he intended SV as a semantic principle. Further, Leibniz never refers to things or substances when discussing SV, and never discusses a thing, A, having the same properties as a thing, B, and vice-versa. Rather, he is concerned to show the conditions under which a term, A, can be substituted for a term, B, and conversely. Now that the SV passages have been examined, it is necessary to discuss the InI principle.

Indiscernibility of Identicals

Leibniz never explicitly states the InI principle, though it has received much attention in the literature. It is likely that W.V.O. Quine is the person who gave the principle its name, as he appears to be the first person to call SV the 'Indiscernibility of Identicals'. He did so in his article "Notes on Existence and Necessity" (1943).[16]

[16] This is the first instance of the name 'Indiscernibility of Identicals' I can find in print, though I would be happy to be shown otherwise. Also, portions of "Notes on Existence

Accordingly, he provides a statement of the principle that is slightly modified from Leibniz's original wording in order to clarify its use. Quine says:

> It [InI] provides that, *given a true statement of identity, one of its two terms may be substituted for the other in any true statement and the result will be true* (Quine, 1943, p. 113 [brackets are mine]).

For now, it will serve us to note that Quine understands SV as InI, as I will address this issue further in chapter two of the present work. Another principle in Leibniz, typically understood as the converse of InI, is IdI, and it is the last principle I will discuss.

The Identity of Indiscernibles

The first time that Leibniz states IdI is in his *Discourse on Metaphysics* (1686). Leibniz introduces IdI to show that it follows from PSR. IdI states:

> . . . qu'il n'est pas vray que deux substances se ressemblent entierement, et soyent differentes *solo numero* (Gerhardt, 1880, IV, p. 433)
>
> . . . it is not true that two substances can resemble each other completely and differ only in number [*solo numero*] (Ariew, R & D Garber, 1989, pp. 41 -42)[17]

Leibniz's use of the word 'substance' here is key to understanding the kinds of things he intends IdI to apply to; by use of the word 'substance' he is referring only to those things in the world that are created by God. Since, according to PSR, God has a reason for everything he does, and since God would have no reason to create two substances that are identical – creating two identical substances forces God to make an arbitrary decision when placing them in space – God would have to contradict PSR. Thus, there is no reason for the existence of two identical substances. Considering this statement of IdI, we

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and Necessity" were revised and adapted for use in Quine's chapter "Reference and Modality", in *From a Logical Point of View*, (1953).

[17] Bertrand Russell was the first person to site this passage as a statement of IdI (1900; 1937, p. 54).

know: (1) Leibniz intends it as a necessary principle of metaphysics, and (2) if he intends IdI to apply only to things created by God, then it applies only to things in nature. In his second statement of IdI, Leibniz is more specific about the 'things' he is referring to.

In his *Primary Truths* (1689), Leibniz provides his second statement of IdI, in which he clarifies that the 'things' he means the principle to apply to are those of nature. He says:

> *non dari posse in natura duas res singulars solo numero differentes* (Couturat, 1903, p. 519)
>
> *in nature, there cannot be two individual things that differ in number alone* (Ariew, R & D Garber, 1989, p. 32)

In this instance of IdI, Leibniz is specifying the substances this principle applies to, namely those found in nature. He provides examples, saying "never do we find two eggs or two leaves or two blades of grass in a garden that are perfectly similar" (Ariew, R & D Garber, 1989, p. 32). Thus far, both of his statements of IdI are consistent, and both are metaphysical principles, though Leibniz provides more details in his next statement of IdI.

The next statement of IdI appears in *On Nature itself* (1698),[18] where Leibniz is considering only natural things. Here, again, he claims that there are not two identical things in nature:

> Unde pro certo habendum (esti hoe minus adverterint, qui satis alte in haec non penetravere), talis a rerum natura atque ordine esse aliena, nullamque uspiam dari (quod inter nova et majora axiomata mea est) perfectam similaritatem. Cujus rei consequens etiam est, nec corpusculs extremae duritiri, nec fluidium summae

[18] As far as I can tell, no one has ever cited this passage when discussing IdI, though Paul Lodge does cite it when discussing the Heterogeneity Argument. See: Lodge, 1998.

> tenuitatis, materimve substilem universaliter diffusam (Gerhardt, 1880, IV, p. 514).
>
> Even if those who have not penetrated these matters deeply enough may not have noticed this, it ought to be accepted as certain that such consequences are alien to the nature and order of things, and that *nowehere are there things perfectly similar* (which is among my new and more important axioms). Another consequence of this is that, in nature, there are neither corpuscles of maximal hardness, nor fluids of maximal thinness, nor subtle matter universally diffused (Ariew, R & D Garber, 1989, p. 164).

This passage is rarely cited in the literature on IdI, though it is an important passage to consider. It is important to emphasize that Leibniz only intends this passage to refer to the things in nature, the world as it is apart from human interaction. Given that it specifies IdI as a principle applying to natural *things*, IdI here is a metaphysical principle. The next statement of IdI, another rarely cited, requires more attention to understand Leibniz's intention in stating it.

In his *Monadolgy* (1714), Leibniz adds an important caveat to IdI, so it is important to consider this instance of the principle. In section 9 he says:

> Car il n'y a jamais dans la nature deux Etres, qui soyent parfaitement l'un comme l'autre, et où il ne soit possible de trouver une difference interne, ou foudée sur une denomination intrinseque (Gerhardt, 1885, VI, p. 608).
>
> For there are never two beings in nature that are perfectly alike, two beings in which it is not possible to discover an internal difference, that is, one founded on an intrinsic denomination (Ariew, R & D Garber, 1989, p. 214).

What is clear in this passage is, like his previous statements of IdI, Leibniz is referring to things in nature, saying natural things will never be identical. What is not clear is what he means by "intrinsic denominations."

Leibniz's view of intrinsic denominations involves more than qualities (Loemker, 1976, vol. 2, pp. 23 – 28, 271 fn. 4, 652 fn. 2). For Leibniz, an intrinsic denomination

refers to the sufficient reason of a thing's changing of qualities over time (p. 652 fn. 2). According to Leibniz, only complete concepts[19] can have intrinsic denominations. In this passage, Leibniz adds the notion of intrinsic denominations to claim that, given any two objects in nature, it is possible to find an intrinsic denomination they do not share. Therefore, if we were to find two leaves that did appear identical to the naked eye, further investigation could uncover some difference. Considering this passage too, there is still no instance in which Leibniz intends IdI to apply beyond the realm of nature. Now I must turn to Leibniz's often cited, and most controversial statement of IdI - his correspondence with Samuel Clarke.

The correspondence between Leibniz and Clarke started in November of 1715 (Ariew, 2000, p. vii).[20] From the beginning of the correspondence till his death almost exactly a year later, November 14, 1716, age 70, Leibniz was under intense stress. He had been arguing to the English academy that he, not Sir Isaac Newton, was the true inventor of the calculus (Ariew, R & D Garber, 1989, p. x). These pressures, accompanied by old age and the abandonment of his friendship by those closest to him, is the context in which Leibniz wrote his letters to Clarke.

The first statement of IdI in the Clarke correspondence appears in *Leibniz's Fourth Letter, Being an Answer to Clarke's Third Reply* (1716). Taken out of the context of the letter, this statement of the principle would seem problematic to the *things in nature* interpretation being presented thus far. Leibniz says:

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[19] See above: A Principle, Monads, and Concepts.
[20] For a full discussion of the matter see Ariew's introduction of the same work, pp. vii – xiii.

> Il n'y a point deux individus indiscernables (Gerhardt, 1890, VII, p. 372).
>
> There is no such thing as two individuals indiscernible from each other (Ariew, R & D Garber, 1989, p. 327).

While this statement does not explicitly say the *things* referred to are those of nature, the context of the letter does.

First, this letter contains the first instance of Leibniz's use of the name "identity of indiscernibles." Following a statement of PSR and IdI, both of which he provides examples for, he says:

> Ces grands principles de la raison suffisante et de l'identité des indiscernables, changent l'etat de la Metaphysique, qui deviant reelle et demonstrative par leur moyen: au lieu qu'autres fois elle ne consistoit Presque qu'en termes vuides (Gerhardt, 1890, VII, p. 372).
>
> Those great principles of sufficient reason and of the identity of indiscernibles change the state of metaphysics. That science becomes real and demonstrative by means of these principles, whereas before it did generally consist in empty words (Ariew, R & D Garber, 1989, p. 328).

The context in which he names IdI makes clear he intends the principle to apply only to things in nature. Immediately preceding the quote in the previous paragraph, Leibniz says "there are no such things in nature", where 'things' refers to "bodies, equal and perfectly alike" (Ariew, R & D Garber, 1989, p. 327). If there were any doubt this was his intention, Leibniz provides an illustration of the things he intends IdI to apply to:

> Un gentilhomme d'esprit de mes amis, en parlant avec moy en presence de Madame l'Electrice dans le jardin do Herrenhausen, crut qu'il trouveroit bien deux feuilles entierement semblables. Madame l'Electrice l'en defia, et il courut longtemps en vain pour en chercher. Deux gouttel d'eau ou de lait regarlees par le Microscope, se trouveront discernables. C'est un argument coutre les Atomes, qui ne sont pas moins combattus que le vuide, par les principles de la veritable metaphysique (Gerhardt, 1890, VII, p. 372).

> An ingenious gentlemen of my acquaintance, discoursing with me in the presence of Her Electoral Highness, the Princess Sophia, in the garden of Herrenhausen, thought he could find *two leaves* perfectly alike. The princess defied him to do it, and he ran all over the garden a long time to look for some; but it was to no purpose. *Two drops of water or milk*, viewed with a microscope, will appear distinguishable from each other (Ariew, R & D Garber, 1989, p. 328 [Italics are mine]).

Leibniz's examples are of things in nature, and not of artifacts; this seems clear, as presumably God does not create artifacts.

However, it is reasonable to think Leibniz understood IdI as applicable to artifacts. While Leibniz is only discussing substances (monads), and by implication things in nature, in this passage, it is clear he would have to allow IdI to be extended to artifacts. Since the only resources for producing artifacts are those found in nature, the properties of artifacts supervene on natural things, i.e. substances (monads).

In the passages where Leibniz stated IdI, it is clear that he understood it as a metaphysical principle and that he applied it only to things in nature. These statements of IdI show that Leibniz thought we could never find two identical things in nature. Further, he does not lay out the conditions under which two things are identical, as he assumes we cannot find two such things. Whether or not we agree with Leibniz's argument and whether he should have extended its application to artifacts, what I want to emphasize here is that Leibniz intends IdI to be understood as a metaphysical principle and that he explicitly applied it to only natural things.

Conclusion

It may be the case that IdI can aid us in understanding sameness and coincidence relationships in semantic contexts, but, as I showed, such a use of the principle is beyond

what Leibniz explicitly specifies. He consistently uses IdI to explicate a relation of identity that is to be applied to natural substances and thus it is an ontological and not a semantic principle. The same could be said for applying SV to the domain of ontology, where again we would be extending the principle further than Leibniz himself does. The picture I have outlined shows that Leibniz intended SV to have application only to semantic contexts, and IdI to have application only to metaphysical contexts. The third principle relevant to LL and discussed in this chapter, InI, is Quine's interpretation of SV. The next chapter addresses the legitimacy of reading SV as equivalent to InI.

CHAPTER 2: INTERPRETING *SALVA VERITATE*

The debate about how to interpret SV is prevalent in the literature on LL. Commentators have carved out various interpretations of the principle, many of which are in conflict with one another. This chapter will focus on three of these interpretations in an effort to arrive at an understanding of SV that is aligned with Leibniz's intentions. The three views are as follows: commentators who suggest (1) that we read SV as InI, (2) that SV read as InI can be combined with IdI to form a bi-conditional known as is LL, and (3) that SV should not be understood as InI, but as a principle about concepts.

An example of the first group[21] is W. V. O. Quine, as he construes SV as InI, and views it as a metaphysical principle. In his article "Reference and Modality", Quine opens with the following:

> One of the fundamental principles governing identity is that of *substitutivity* – or, as it might well be called, that of *indiscernibility of identicals* (Quine, 1953, p. 139).

Quine shows InI does not hold in referentially opaque contexts, and his use of InI serves this explicit purpose, and should not be understood as an interpretation of Leibniz.

The second group[22] includes those who claim SV should be interpreted as InI, and that it can be combined with IdI to create the bi-conditional form of LL. These commentators[23] claim Leibniz confused use and mention when providing this definition of identity, and that we should understand LL as both a logical and metaphysical

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[21] For another example, see Bertrand Russell's "On Denoting" (*Mind*, vol. 14 [1905], p. 485).
[22] See: Frege, 1950, p. 76; Rescher, 1967, pp. 47 – 49.
[23] See: Quine, 1960, p. 116; Rescher, 1967, p. 48 & 1996, p. 132; Cartwright, 1971, p. 119; Mates, 1986, p. 124; et al.

principle. Chief among them, Nicholas Rescher suggests we may take LL as a thesis about identity or a rule of logic:

> The principle so formulated might be construed either as the thesis $x = y \leftrightarrow (\phi)$ $[\phi x \leftrightarrow \phi y]$ or as the rule: If $x = y$ then from ϕx we may infer ϕy; and conversely (Rescher, 1967, p. 48, fn. 3).

As I will discuss below, Rescher is using SV to formulate the bi-conditional, and arguing that Leibniz intended for it to be a definition of identity.

The third group[24] argues SV should be interpreted as a criterion for the identity of concepts. This group emphasizes Leibniz's use of the word 'term' as referring to concepts or ideas, and not the words or variables in the statements. From this, they argue, Leibniz did not confuse use and mention, as he did not intend to provide a general definition of identity or a general metaphysical principle of identity, but rather that Leibniz was providing only a criterion of identity for concepts. The first to argue for this view was Fred Feldman. When considering SV, Feldman says:

> Leibniz' definition of identity is not a definition at all. A closer look at the context shows that in that passage Leibniz was proposing intersubstitutability as a criterion of concept identity (Feldman, 1970, p. 517).

On Feldman's view, Leibniz is not guilty of confusing use and mention, and any bi-conditional form of LL should be understood as an extension of Leibniz's philosophy that requires the invocation of additional principles as opposed to a direct application of the conjunct of SV and IdI. In this chapter, I will align myself with a modified version of Feldman's view.

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[24] See: Feldman, 1970, pp. 510 – 522; pp. 497 – 501; Ishiguro, 1990, chapter 2.

Much like chapter 1, in this chapter I will present the views in chronological order, maintaining the historical nature of the debate. First, however, in section I will briefly discuss the use/mention distinction to provide context and background for the remaining sections. Next, I will discuss Quine's interpretation of SV as InI, and explicate his insight of restricting InI to purely referential contexts. Rescher's view will be presented, and I will discuss his interpretation that both SV and IdI may be construed as the bi-conditional form of LL. I will then discuss how Rescher's claim that LL is both logical and metaphysical rests on finding Leibniz guilty of confusing use and mention. Feldman's view will be examined. Feldman claims SV should be understood as a criterion of identity for concepts, and that this view relieves Leibniz of the charge of use/mention confusion. Feldman suggests the concepts Leibniz had in mind were universals, but Edwin Curley disagrees. I will give Curley's response to Feldman. Curley agrees with Feldman that some commentators have attributed a bi-conditional to Leibniz where only a conditional is warranted, but disagrees with the claim that Leibniz intended SV to be applicable to only universals. I will then present my own view. Here I will argue for an account of SV that is semantic, and sets out a criterion of identity for concepts, that applies to both concepts of individuals and abstract universal. I will use insights gained from the preceding accounts, and Leibniz's 'Complete Concept Theory (CCT) to argue that texts in which Leibniz might be thought to apply SV to things can still be read as applying only to concepts.

The Use and Mention Distinction

In order to understand the charge that Leibniz has confused use and mention, it is important to clarify what the distinction is. A term is used in language when we are saying something about the term's referent. For example, consider the statement "Adam is a graduate student." In this statement the term "Adam" is used to say something about the person; when the statement is made, the word "Adam" is used.

When we mention word we are no longer talking about the referent, but are discussing a quoted word as the subject of a statement. For example, when we say "'Adam' is a four-letter word" we are mentioning the word "Adam". The word "Adam" is now the subject of the statement; thus, one is mentioning the word itself but not using it to say something about its referent.

Use and mention are confused when an author oscillates back and forth between using a word and talking about a word without being explicit about which of these is in effect. Continuing with our example, consider the following argument:

Adam is a graduate student.

'Adam' is a four-letter word.

Therefore, a four-letter word is graduate student.

Here we have confused use with mention; the properties of the subject "Adam" of the first sentence are conflated with properties of the word "Adam" in the second and third. In this case, the reader would know something is wrong, but in other cases the confusion of use and mention is not as easy to detect. Below I will discuss how the interpretations of both Quine and Rescher saddle Leibniz with a confusion of use and mention.

SV as InI: Quine

As mentioned in chapter 1,[25] W. V. O. Quine is likely the person who named InI. Although Quine does not attribute InI to Leibniz, he does say we should understand SV as InI:

> One of the fundamental principles governing identity is that of *substitutivity* – or, as it might be called, that of the *indiscernibility of identicals*. It provides that, *given a true statement of identity, one of its two terms may be substituted for the other in any true statement and the result will be true* (Quine, 1953, p. 139).

Quine offers InI as an example of a principle that is commonly held to be metaphysically robust, and then shows it must be restricted to certain contexts. Specifically, Quine is concerned to show InI must be restricted to contexts that are "*purely referential*" (Quine, 1953, p. 140). In purely referential contexts, a proposition contains a name or other denoting expression of an object, and that name or expression is being used exclusively to refer to the object; in such a context, if we substituted another name for the object, so long as that name refers to the same object, the proposition's truth-value remains the same. Quine shows that if we do not make this restriction, then the substitution fails.

Contexts in which the substitution fails are called referentially opaque (or intensional, oblique, or reflexive).[26] A referentially opaque context is one where co-referential terms cannot always be substituted while preserving the truth-value of the proposition. Quine provides this example (Quine, 1953, p. 139):

(1) Cicero = Tully,

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[25] See: Chapter 1, fn. 17.

[26] These three labels are not used by Quine, but found in the literature on referentially opaque contexts. Leibniz calls them "reflexive."

(2) ‘Cicero’ contains six letters

In this context, (2) is true, but if we draw on (1) to substitute ‘Tully’ for ‘Cicero’, we get:

(3) ‘Tully’ contains six letters

which is false. The substitution fails because the truth of the proposition is codependent on the referent and form of the word. Other referentially opaque contexts include propositions which consist of quotations, involve propositional attitudes, involve modal contexts, or that make existential generalizations, et. al.

Quine’s point is that InI must be restricted to purely referential contexts for it to hold. This is no small matter, as InI was typically understood as a metaphysically robust principle, true in all contexts. Quine’s work drew attention to this important restriction on the legitimate application of the principle. Quine does not explicitly accuse Leibniz with a failure to restrict the principle to purely referential contexts; nonetheless, the fact that he notes the restriction in others, but not in Leibniz, suggests he was unaware Leibniz made this restriction.

While Quine does not explicitly charge Leibniz with a failure to restrict SV to purely referential contexts, he *does* explicitly charge Leibniz’s formulation of SV with use-mention confusion. In *Word and Object*, Quine notes that Leibniz confuses use and mention by assuming the identity relation is between two words, and not between the word and what it refers to. Quine says:

> Similar confusion of sign and object is evident in Leibniz where he explains identity as a relation between the signs, rather than between the named object and itself: *Eadem sunt quorum unum potest substitui alteri, salva veritate* (Quine, 1960, p. 116).

Here Quine charges Leibniz with confusing use and mention in SV by applying the identity relations to the referring terms, instead of their referents.

Rescher's Account of LL

Nicholas Rescher maintains that SV should be understood as the bi-conditional that we have called LL. According to Rescher, this bi-conditional should be understood as both logical and metaphysical; Rescher interprets SV as the logical statement of the bi-conditional, and IdI as the metaphysical statement. He equates SV and IdI, saying:

> In its logical formulation, the principle (IdI) reads, apart from a confusion of use and mention, exactly like a rule of substitution for identicals in modern systems of logic: *Eadem sunt quorum unum in alterius locum substitui potest, salva veritate* ["Things are the same (or *identical*) one of which can be substituted in place of the other with preservation of truth"]. There can be no doubt that Leibniz did have in mind such a logical principle, analytically explicative of the very concept of identity (Rescher, 1967, p. 48 ["IdI" is my addition]).

In a footnote to this passage, Rescher provides a symbolic formulation of SV (as a rule of substitution in logic) and correlates it with a bi-conditional formulation of LL (as a definition of identity)[27]; thus, suggesting that he views both SV and IdI as statements of the bi-conditional.

After making the point that SV is the logical statement of the biconditional, Rescher argues that Leibniz embraces a metaphysical version of the principle. He writes: Leibniz did not hesitate to put a metaphysical construction upon this logical principle:

> If, of two possible things, #1 could be put in place of thing #2 in such a way that the world is left wholly intact – the truth of every proposition about it being

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[27] Quoted in the introduction to this thesis, and to this chapter, Rescher says: The principle [the Identity of Indiscernibles] so formulated might be construed either as the thesis $x = y \leftrightarrow (\phi)\ [\phi x \leftrightarrow \phi y]$ or as the rule: If $x = y$ then from ϕx we may infer ϕy; and conversely (Rescher, 1967, p. 48, fn. 3).

> unaffected – then things #1 and #2 are not two things but must be one and the same thing identified by different labels (Rescher, 1967, p 48).

On this interpretation, Rescher is equating IdI and SV and finding both to be LL: IdI, presumably, is the metaphysical variant of LL while SV is the logical variant. Further, on Rescher's interpretation, if thing #1 can be replaced by #2, leaving the world "wholly intact," then #1 and #2 must be the same thing. Also, if this is what Leibniz intended, it is easy to see the confusion of use and mention that Rescher discussed in the *previous* quote.

The confusion of use and mention that comes on Rescher's reading is found in the fact that Leibniz speaks of substituting "things" with preservation of the truth value of propositions when, of course, it is expressions referring to things that are substituted in statements. According to Rescher, Leibniz confuses use and mention when he equates the substitution of the name/sign with the substitution of the thing being denoted. Given that the aforementioned quotes from Rescher are interpreting what he calls the "Identity of Indiscernibles" it might be wondered whether he really is equating IdI with the bi-conditional that we have called LL. Thus far, the only evidence that this is so is that Rescher provides a bi-conditional in a footnote in which he is giving a formal rendering of IdI. Perhaps that was a slip in the heat of exposition. Moreover, Rescher's published account of SV and IdI appeared in 1967; so, it may be that the intervening years and more recent literature have seen a change in his view. However, his is not the case.

In a recent email to Rescher, I expressed doubt that Leibniz ever stated LL as a bi-conditional. I said:

> it strikes me that Leibniz never did state what is called Leibniz's Law - from what I can tell, the first statement of the bi-conditional containing both the identity of indiscernibles and the indiscernibility of identicals occurs in Tarski's *Introduction to Logic* [1941, p. 54] (Hogan, personal communication, January 6, 2014).

Rescher has responded by affirming his position has remained the same – that SV is LL. As an example of a passage in which he took Leibniz to be expressing LL, Rescher referred me to the following:

> For Leibniz's statement "*Eadem sunt quorum unum in alterius locum substitui potest, salva veritate*" see his PHILOSOPHISCHE SCHRIFTEN (ed. C. I. Gerhardt, vol. 7, p. 236 (Rescher, personal communication, January 17, 2014).

From his letter, it is clear Rescher thinks of SV as expressing LL. Though Rescher continues to uphold the interpretation of Leibniz he presented in *The Philosophy of Leibniz* (1967), Fred Feldman has cast serious doubt on the accuracy of Rescher's interpretation.

Feldman's Account of LL

In 1970, Fred Feldman published his article 'Leibniz and Leibniz' Law'. In this article Feldman poses the question of whether or not Leibniz ever stated LL as a bi-conditional, and answers it negatively, arguing that Leibniz only provided a criterion of identity for concepts, and not a definition of identity that ranged over identity in all domains. Feldman begins his inquiry by citing Alfred Tarski's statement of the bi-conditional form of LL[28]:

> Among the logical laws concerning the concept of identity the most fundamental is the following:

[28] Feldman is right to use Tarski as his first example of LL as a bi-conditional, as my research, so far, has revealed that Tarski was the first commentator to call this bi-condition LL.

> x = y if, and only if, x has every property which y has, and y has every property which x has.

This law was first stated by Leibniz (although in somewhat different terms) and hence may be called Leibniz' Law (Tarski, 1941, p.55). Feldman goes on to note that Tarski does not tell us which passage(s) in Leibniz he is referring to.[29] Since Tarski does not say which passage(s) in Leibniz he is using, Feldman moves on to someone who does – Rescher.

Feldman uses Rescher[30] as a paradigm example of the view that SV should be read as a bi-conditional; on this view, LL is understood as a bi-conditional definition of identity that ranges over identity in all domains. Feldman presents Rescher's view (using the same SV passage from Leibniz cited above), and points out three assumptions on this interpretation: (1) if Leibniz intended SV to be understood as a metaphysical principle (InI), and for it to be combined with IdI, then he is guilty of confusing use and mention (Feldman, 1970, p. 513 – 514). (2) Leibniz neglected to restrict SV to "purely referential contexts" (p. 514). (3) if "a singular term appears in a purely referential context, the rest of the sentence signifies some property" (p. 514). Feldman further notes that if Leibniz intended SV as a metaphysical principle and thus to apply to things, we would expect him to say so. From these assumptions, Feldman concludes that if Leibniz intended to state LL, he did so "in a rather obscure and clumsy way (p. 515).

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[29] In a footnote, Tarski refers the reader to an earlier footnote (Cf. fn. 1, p. 19) where he merely mentions Leibniz, and does not cite any passages from Leibniz's work.

[30] Feldman also cites Quine and Parkinson as holding this view, but they differ from Rescher in that they claim LL is InI, not a bi-conditional.

Drawing upon these assumptions, Feldman presents a formulation Rescher would have to accept if SV were part of LL:

> Where *x* and *y* are singular terms the thing denoted by *x* is identical with the thing denoted by *y* if and only if *x* can be substituted for *y* in all purely referential contexts with preservation of truth value (Feldman, 1970, p. 514).

As formulated here, this statement is very different from what Leibniz says in SV. Rather than assume that Leibniz was this careless, Feldman concludes that Rescher and others have misinterpreted Leibniz. Feldman says the mistake Rescher makes is to assume LL is a general metaphysical principle, and that it is a definition of identity, when in fact Leibniz is providing a "criterion of identity for concepts" (Feldman, 1970, p.515).

Feldman begins his argument that SV should be understood as a criterion of identity for concepts by defining what Leibniz means by the word "concept." According to Feldman, for Leibniz concepts are "universal – a thing which may have instances" (Feldman, 1970, p. 515). Further, concepts can have "'conceptual parts' – things into which they can be analyzed" (p. 515). For example, Feldman gives the concept "man" and explains that it contains the concepts of "rationality" and "animality" (p. 515). Finally, Feldman says concepts are "objects of thought" (p. 515); in order to think of things in the world, we use concepts of those things. Feldman turns his attention to how Leibniz's use of the word "concept" informs Leibniz's philosophy.

Feldman lists three characteristics of concepts and three important roles they play in Leibniz's philosophy. First, Leibniz thought a person knows the meaning of a word when she understands or has the concept that the word picks out (Feldman, 1970, p. 515). For example, for a person to understand the word "eternity," she must have a concept of

eternity.[31] Second, concepts are not identical to mental images (p. 516). Third, concepts are not "*acts* of thinking" (p. 516); rather, for Leibniz concepts are what we use to think. Fourth, to be a substance means to have a complete concept (p. 516). Fifth, a proposition is a "complex thinkable" made up of concepts; the proposition "All gold is metal" is made up by the concept of 'gold' + the concept of 'metal' (p. 516).[32] Sixth, concepts play an important role in Leibniz's analysis of truth. Feldman points out "(a) sentence with a subject and a predicate express a truth…if and only if the concept of the subject includes the concept of the predicate" (p. 516). [33] After identifying these three characteristics of concepts and three important roles they play in Leibniz' philosophy, Feldman turns his attention to the identity of concepts.

Feldman notes that Leibniz mentions at least four different criteria of concept identity but that the most common criterion he suggests is intersubstitutability. [34] Feldman argues intersubstitutability is the main criterion of identity for concepts for Leibniz, and that SV should be interpreted as a principle about concepts. If this is how we read the SV passages, then according to Feldman Leibniz is not guilty of either of the above charges; namely, the confusion of use and mention and the failure to restrict the principle to referentially transparent contexts. Feldman provides a formulation of how we should read SV:

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[31] Feldman uses the "eternity" example (p. 515) that Leibniz uses in *New Essays Concerning Human Understanding*, p. 154.
[32] Leibniz uses the 'gold' example in several of his writings. See: Ariew, R & D Garber, 1989, pp. 10, 24, 32, 56, 171, 187; Remnant, P & J Bennett, 1982, pp. 267, 294, 300, 301, 312, 345, 354, 404. Et al.
[33] See: Ariew, R & D Garber, 1989, pp. 11, 13, 14, 19, 28, 29, 30, 31, 32, 40 - 41, 45, 73, 74, 75, 76, 95, 96, 97, 98.
[34] See: Parkinson, 1966, pp. 34, 52, 122, 130.

> A concept, *A*, is identical with a concept, *B*, if and only if *A* can be substituted for *B* in any proposition with preservation of truth value (Feldman, 1970, p. 517).

This formulation of SV makes explicit Leibniz's intention that concepts, not 'things' or 'words', are what we must substitute in order to preserve truth. Further, Feldman argues concepts are identical when they can be substituted one for the other without affecting the truth-value of any proposition in which they might occur. Thus, we have a criterion for the identity of concepts, and not a definition of identity or a general metaphysical principle concerning identity in Leibniz's SV passages.

Feldman offers two criticisms of Rescher's interpretation of SV. First, Rescher's translation of the SV passage includes the word "things", but the original text does not. Rescher translates "Eadem sunt quorum" as "Things are the same" (Rescher, 1967, p. 48). According to Feldman, Rescher's addition of "things," that is not present in the Latin, distracts one from the fact that the notion indicates that Leibniz is discussing concepts in this passage.

The second criticism Feldman launches has two parts: (1) that Rescher does not quote the entire passage, leaving off the examples Leibniz provided, and (2) that if Leibniz intended SV to apply to things, then we cannot make sense of his examples. As mentioned above, Leibniz continues the passage with:

> …ut Triangulum et Trilaterum, Quadrangulum et Quadrilaterum[35] (Gerhardt, 1890, VII, p. 219).

> …such as 'triangle' and trilateral', 'quadrangle' and 'quadrilateral' (Parkinson, 1966, p. 34).

[35] Also quoted in: Ishiguro, 1991, pp. 19 – 20.

Feldman points out that ‘triangle’ and ‘trilateral’ do not name individuals, but are names of concepts (Feldman, 1970, p. 517 - 518). According to Feldman, if Leibniz intended to apply SV to things, rather than concepts, we would expect him to use examples of individuals (p. 518). This leads to Feldman’s third criticism of Rescher’s interpretation.

The other part of Feldman’s second criticism is that if Leibniz intended SV to apply to things, then we cannot make sense of his examples. Feldman says:

> Surely, if Leibniz had wanted to define "is identical with" he could have picked a more obvious example, such as Cicero and Tully. However, if Leibniz were offering a criterion of identity for concepts, his purpose would require that his examples be concepts. It is reasonable to assume that he used the expressions "*Triangulum*" and "*Trilaterum*" as names for the concepts of triangularity and trilateralness, respectively (Feldman, 1970, p. 518).

Given Leibniz’s choice of examples, Feldman maintains that we should understand SV as “a concept…is identical with a concept…if and only if the former can be substituted with the later in any proposition with preservation of truth value” (p. 518). Feldman suggest this interpretation, pointing out that it makes more sense of the examples.

Moreover, if Feldman’s interpretation is correct, then Leibniz is not guilty of use/mention confusion, as is charged by Quine and Rescher. On Quine’s account, Leibniz confuses use and mention by assuming the identity relation is between two words, and not between the word and what it refers to. Quine says:

> Similar confusion of sign and object is evident in Leibniz where he explains identity as a relation between the signs, rather than between the named object and itself (Quine, 1960, p. 116).

Feldman’s interpretation avoids this charge by noting that Leibniz is substituting concepts, not words; the substitution only succeeds if the *concepts* the words refer to are the same. As mentioned above (2.3), Rescher understand the use/mention confusion in

Leibniz as substituting "things," and not the words that refer to the things (Rescher, 1967, p.48). Again, though, on Feldman's interpretation, Leibniz is substituting concepts, not things.

Although Feldman finds fault with interpretations of SV that are metaphysically robust, he believes that if we restrict the principle to substances it is possible to formulate a legitimate metaphysical principle of identity; nonetheless, he is clear that this is not Leibniz's intent in the SV passages. Restricting LL to substances, Feldman argues for a version of LL that succeeds, though is still not a definition of identity. To make this argument he introduces what he calls "'the Complete Concept Theory,' or '(CCT),'" a theory expressed by Leibniz himself (Feldman, 1970, p. 521).[36] CCT says each substance has only one complete concept, and that the complete concept contains concepts of all properties that substance will ever have. If we combine CCT with SV we get the following restricted version of LL:

> where *x* and *y* are things with complete concepts, *x* is identical with *y* if and only if *x* and *y* have all properties in common (p. 521)

Feldman points out that since this restricted version of LL confines IdI and SV to complete concepts, it cannot have wider application than to individual substances with complete concepts. If this is the case, we do not have a definition or general explanation of identity in the domain of metaphysics, for it does not extend to such metaphysical categories as modes or relations or events. Moreover, Feldman notes, we should reconsider why we would call it LL, since Leibniz does not himself draw out this

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[36] CCT should not be confused with the Concept Containment Theory of Truth (CCTT), which I will discuss below. CCT is a view that Leibniz endorses, and is stated in various ways throughout his writings. See: Ariew, R & D Garber, 1989, pp. 73, 74, 95, 100, et al.

implication (Feldman, 1970, p. 522). Feldman concludes by noting that if the restricted version of LL is the best we can get, it appears Leibniz never stated LL as we have come to understand it.

Curley

Edwin Curley responded to Feldman in an article whose title bears an important question: "Did Leibniz State 'Leibniz' Law'" (1971). Curley notes that Feldman puts forth two contentions: (1) that some commentators have confused LL with IdI, a weaker principle, thus incorrectly interpreting Leibniz as stating a bi-conditional, and (2) that some commentators have read SV as either LL, or part of LL, and interpret Leibniz as stating "a law or definition of identity for individual things" when he was in fact stating "a criterion of identity for concepts" (p. 497). Curley accepts (1), but denies (2), and argues, contra Feldman, that Leibniz did not intend SV as a principle of concept identity.

Curley presents a remarkable passage in Leibniz that addresses the assumptions Feldman thought we needed to make in order to interpret SV as LL. Again, these three assumptions are: (1) Leibniz confused use and mention, (2) Leibniz neglected to restrict SV to purely referential contexts, (3) when singular terms appear in purely referential contexts, the remainder of the sentence is a property (Curley, 1971, p. 498). Leibniz says:

> If A is B and B is A, then A and B are called the same. Or, A and B are the same if they can be substituted for one another everywhere (nevertheless, we must make an *exception* for those cases where what is in question is not the thing, but the manner of conceiving it, by which they certainly do differ; so 'Peter' and 'the apostle who denied Christ' are the same and one term can be substituted in place of the other, except when I consider this manner of conceiving itself, which some call reflexive; for example, when I say 'Peter, insofar as he was the apostle who denied Christ, sinned', I certainly cannot substitute 'Peter', i.e. I cannot say 'Peter, in so far as he was Peter, sinned') (Schmidt, 1960, p. 475 [my italics and single quotations]).

From this passage, it is clear that (1) Leibniz was aware of the use/mention distinction. With the aid of my single quotation marks,[37] it is obvious that Leibniz was in full control of the use/mention distinction. In this passage Leibniz does not see the identity relation as between two words (Quine), and clearly not as substituting things (Rescher). Next, (2) Leibniz restricts SV to purely referential contexts: the "exception" noted by Leibniz shows he was aware that the substitution fails in referentially opaque contexts. Thus, he *did* restrict SV to purely referential contexts. Finally, (3) Leibniz's examples are singular terms, and the rest of the proposition does signify a property: "Peter" and "the apostle who denied Christ" are singular terms. Further, both "Peter" and "the apostle who denied Christ" have the property "sinned," or "of sinning."[38]

Curley supplies more examples of passages that Feldman thought Leibniz neglected to provide, including other passages that include singular terms as examples (Curely, 1971, p. 499). Remember, for Feldman, that Leibniz's examples are of concepts, and not names of individuals, counts against reading SV as LL. However, using the above passage, and this one, Curley shows that at times Leibniz *does* use individuals as examples for SV:

> That A is the same as B means that one can be substituted for the other in any proposition without loss of truth. For those relations are explained through propositions or truths. For example, 'Alexander the Great' and 'the king of Macedonia who conquered Darius', and again 'triangle' and 'trilateral', can be substituted for each other (p. 499).[39]

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[37] Curley makes the same point, and acknowledges that he left the quotation marks out (p. 499).
[38] While Curley mentions that this passage handles the three assumptions, he moves through them quickly. Thus, I draw them out to make clear that Leibniz handles them.
[39] See: Parkinson, 1966, p. 53; chapter 1 of the present work.

In this passage, Leibniz uses the singular terms "Alexander the Great" and "the king of Macedonia who conquered Darius," as well as the abstract terms "triangle" and "trilateral." Here again it is clear that Leibniz intends SV to apply to singular terms, in addition to abstract terms. From the use of singular terms as examples, Curley argues that Feldman is mistaken to assume Leibniz only intended SV to apply to abstract universals.

Instead of an abstract universal, Curley contends Leibniz's "triangle" example should be understood "as a general term denoting instances of the universal" (Curley, 1971, p. 500). Curley takes as evidence for this claim a passage following an instance of SV quoted by Feldman, where Leibniz says:

> Those are diverse which are not the same, i.e. in which the substitution cannot be carried out. E.g., circle and triangle, or square (viz. a perfect square, for so the geometers always understand it) and equilateral quadrangle, for the latter can be said of a rhombus, but square cannot (Curley, 1970, p. 500).[40]

Here Curley takes Leibniz to be saying the term "triangle" is "a general term denoting instances of the universal (Curley, 1970, p. 500)". Thus, he interprets Leibniz as claiming that the identity relationship exists not between two universals, but between the actual and possible instances of the terms 'triangle' and 'trilateral'. According to Curley, the identity relation being asserted by Leibniz is between the "extensions or denotations" of the terms, or as between "the class of all possible triangles which is identical with the class of all possible trilaterals" (Curley, 1971, p. 501). He draws his argument for this interpretation from the following passage in Leibniz:

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[40] This is Curley's translation of the passage found at: Gerhardt, 1890, VII, p. 236. Also see: Parkinson, 1966, p. 131.

> A = B signifies that A and B are the same, i.e. that they can be substituted for one another everywhere (unless the substitution is prohibited, which happens in those cases where some term is declared to be considered in a certain respect; e.g., although trilateral and triangle are the same, nevertheless, if you say a triangle, as such, has 180 degrees, trilateral cannot be substituted. There is something material in this [i.e. the use of the term "triangle"]) (p. 501).[41]

From this passage, Curley argues that:

> "Triangle" is being used as a general term denoting triangles, not as a singular term denoting triangularity; it is instances of triangularity which have interior angle sums of 180 degrees, not triangularity itself (p. 501).

Curley notes that if this is correct, then he is associating Leibniz with the "doctrine of *ideal particulars*" (p. 501 [my italics]). Below, I contend this is a mistake (2.6).

The above four commentators provide helpful insights when considering what Leibniz intended when he stated SV. My aim is to use these helpful insights, along with more textual support, to develop a hybrid interpretation of SV that incorporates several of their insights and is consistent with Leibniz's intentions.

Though incorrect, Rescher's application of the principle to both domains can be seen as a confused gesture to the fact that IdI is a metaphysical principle and SV is a semantic principle. However, Rescher's reading of these principles is too quick in that it extends SV to domains that Leibniz did not. Rescher also ignores the fact that there are passages in Leibniz that show he was in control of the use/mention distinction. As Feldman suggests, so long as we restrict SV to substances, we can use it as a metaphysical principle, but we must recognize that this is an extension of the principle that Leibniz did not make. Using Feldman's stipulations, we are free to investigate both the logical and metaphysical implications of SV and IdI.

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[41] See: Couturat, 1903, p. 261.

While Quine did not have the intent of providing an interpretation of Leibniz, his suggestion that we must restrict InI to purely referential contexts is helpful. Although, it must be noted that Quine, along with Feldman, did not recognize that Leibniz himself made this restriction. Feldman realized this restriction was needed, but it was Curley who showed Leibniz was aware of this requirement (Curley, 1971, p. 499).[42] Also, the passage Curley cites is *not* the only passage where Leibniz restricts SV to purely referential contexts. Roughly ten years prior, and in the same work containing the 'Alexander the Great' passage[43], Leibniz provides another SV passage with the restriction:

> If A is B, B can be put for A, where only containing is in question: e.g. if A is B and B is C, A will be C. This is proved from the nature of coincidence, for coincidentals can be substituted for one another (*Except* in the case of propositions which you could call formal, where one of the coincidentals is assumed formally in such a way that it is distinguished from the others; but these are *reflexive*, and do not so much speak about a thing, as about our way of conceiving it (Parkinson, 1966, p. 57 [italics are mine]).[44]

Here *again* Leibniz is saying the substitution holds, except in "reflexive," or referentially opaque contexts. Given this passage is part of a discussion introducing *individuals* into SV (perhaps for the first time), this further shows Leibniz was aware of the need to restrict the principle to purely referential contexts.[45] Now we must consider further evidence that SV is intended as a criterion of identity for concepts.

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[42] See: Curley section.
[43] See last quoted passage in SV section of the present work.
[44] Also see: Couturat, 1903, p. 367.
[45] There is at least one more passage where Leibniz notes this exception/need for a restriction, translated by Hide Ishiguro. See: Ishiguro, 1990, p. 28.

Feldman & Curley: Half Right

I suggest Feldman was correct to claim that Leibniz intended SV as a criterion of identity for concepts, though he was incorrect to think SV only applied to universals. Curley provides us with an important correction to Feldman's account by showing there are SV passages in which Leibniz uses expressions that denote individuals as examples. However, Curley's characterization of the examples as "ideal particulars," or "as a general term denoting instances of the universal" (Curley, 1971, p. 500) is more closely aligned with an empiricist, like Berkeley or Hume, and not a rationalist like Leibniz.

George Berkeley's account of *ideas* is closer to Curley's interpretation of Leibniz's examples for SV than Leibniz's account. In several places in Berkeley we get passages that suggest we should favor "general ideas" over "abstract general ideas." In the introduction to *A Treaties Concerning the Principles of Human Knowledge* (1734) Berkeley explains how "particulars" become "general." He illustrates this point by considering the geometers' uses of lines:

> Now if we will annex a meaning to our words, and speak only of what we can conceive, I believe we shall acknowledge, that an idea, which considered in it self is particular, becomes general, by being made to represent or stand for all other particular ideas of the same sort. To make this plain by an example, suppose a geometrician is demonstrating the method, of cutting a line in two equal parts. He draws, for instance, a black line of an inch in length, this which in it self is a particular line is nevertheless with regard to its signification general, since as it is there used, it represents all particular lines whatsoever; for that what is demonstrated of it, is demonstrated of all lines or, in other words, of a line in general (Dancy, 1998, p. 94).

Berkeley uses the "line" example to show that a *particular* line is used to designate the *class* of all lines; the particular "becomes general" when we use it as a symbol for the class of similar individuals, but the general idea is still that of a particular. Further,

Berkeley does not believe we can have *abstract* general ideas: mental representations of *some*thing (substances, modes, relations, et al.), apart from the conditions under which the thing actually exists. By contrast, Leibniz views many ideas as abstract universals that exist in the divine mind and await our discovery.

There are passages in Leibniz where he understands ideas as having their origin in God (God is their cause)[46], and he sees our souls as expressing God and these essences. He claims that ideas always exist, whether or not we are conscious of them, and he likens them to Platonic forms. In this passage, he aligns himself with those who think of ideas as eternal forms:

> But it seems that others take the idea as an immediate object of thought or as some permanent form that remains when we are not contemplating it. And, in fact, our soul always has in it the quality of representing to itself any nature or form whatsoever, when the occasion to think of it presents itself. And I believe that this quality of our soul, insofar as it expresses some nature, form, or essence, is properly the idea of the thing, which is in us and which is always in us, whether we think of it or not. For our soul expresses God, the universe, and all essences, as well as all existences. (Ariew, R & D Garber, 1989, p. 58)

Here Leibniz claims that "the idea of the thing" is its "nature, form, or essence," and that these are expressed by the "soul." From this passage, it is clear that Leibniz believes that, contra Curley and Berkeley, a term, "Triangle," would denote an essence, i.e. "Triangularity." Now it is necessary to show Leibniz understands ideas as concepts.

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[46] See: Ariew, R & D Garber, 1989, p. 59 (where Leibniz discusses God as the cause of our ideas: "there is no other external object that touches our soul and immediately excites our perception.")

It might be contended that Leibniz did not explicitly state that ideas are, or should be understood as, concepts. Here, in a passage shortly following the above, Leibniz says that concepts are ideas that are conceived:

> Thus, the expressions in our soul, whether we conceive them or not, can be called ideas, but those we conceive or form can be called notions, concepts [conceptus]. But however we take these expressions, it is always false to say that all our notions come from the external senses, for the notions I have of myself and of my thoughts, and consequently of being, substance, action, identity, and of many others, arise from an internal experience (Ariew, R & D Garber, 1989, p. 59).

Thus, Leibniz views concepts as "ideas…we conceive," and that "arise from an internal experience," which he considers innate.[47] Further Leibniz believed that ideas and essences ground eternal truths.

In other passages[48] Leibniz claimed that God is the source of essences and ideas, and that these ground the "eternal truth." Leibniz says:

> I respond that neither those essences nor the so-called eternal truths pertaining to them are fictitious. Rather, they exist in a certain realm of ideas, so to speak, namely, in God himself, the source of every essence and of the existence of the rest (p. 151).

On Leibniz's account, it is the light of reason that enables us to grasp universals, as we can only abstract from particulars what already exists, albeit in God. To be fair to Curley's suggestion about ideal particulars, there are times when Leibniz seems to say we can abstract ideals from particulars.[49] However, it must be recognized that, in the

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[47] See: Ariew, R & D Garber, 1989, pp. 284, 285 (where he discusses our "innate" ideas and our "disposition towards knowledge"), 288 (where he discusses our "innate idea of God"), 293 (where he discusses the internal principles).
[48] See: Ariew, R & D Garber, 1989, pp. 27 ("it is necessary not only that there actually be in God an idea of absolute and infinite extension but also that there be an idea of each shape"), 55 ("God is our light").
[49] See: Ariew, R & D Garber, 1989, pp. 87, 178, 179, 183, 229, 259 – 260, 297, et al.

background of these passages, Leibniz believes "abstraction is not an error, provided we know that what we are ignoring is really there" (p. 298).[50] Since Leibniz believes the source of our abstractions "is really there," and that this source is God, it follows that Curley's interpretation is not correct. This brings us to Leibniz's theory of concepts, which handles the worry about individuals as examples in SV.

Feldman thought that if Leibniz intended SV as a law or definition of identity, then he would have used individuals, not universals, as examples. Curley showed that Leibniz does use individuals as examples, and from this concluded that Leibniz intended SV as a law or definition of identity. I argue that both are only half right in that Leibniz's 'Complete Concept Theory' can preserve Feldman's contention that SV is a principle of concept identity despite Curley's noting, correctly, that there are some texts in which Leibniz appears to use individuals to illustrate SV.

Leibniz's 'Complete Concept Theory' (CCT) shows that he thought every substance has a concept so complete that it can only be fully understood by God. He states CCT in the *Discourse on Metaphysics* (1686) as:

> we can say that the nature of an individual substance or of a complete being is to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed (Ariew, R & D Garber, 1989, p. 41).

[50] See: Ariew, R & D Garber, 1989, pp. 65 (where he states animals "cannot discover necessary and universal truths"), or 58 (where he says "I believe that this quality of our soul, insofar as it expresses some nature, form, or essence, is properly the idea of the thing, which is in us and which is always in us, whether we think of it or not").

From this, given any substance, that substance *has* a complete concept[51] containing all its predicates; note that a 'substance' is not synonymous with its 'concept', but that it has, correlated with it, a complete concept. According to Leibniz, it is only God who can comprehend the complete concept of a substance, and individuals are substances.

Since Leibniz affirms CCT and thus correlates each individual substance with a complete concept, it is perfectly reasonable that he would use individuals as examples for SV, despite understanding SV as exclusively a criterion of identity for concepts. In fact, there are times when Leibniz uses the same individual examples from the SV passages to explain CCT:

> Thus when we consider carefully the connection of things, we can say that from all time in Alexander's soul there are vestiges of everything that has happened to him and marks of everything that will happen to him and even traces of everything that happens in the universe, even though God alone could recognize them all (Ariew, R & D Garber, 1989, p. 41).

> The complete or perfect notion of an individual substance contains all of its predicates, past, present, and future. For certainly it is now true that a future predicate will be, and so it is contained in the notion of a thing. And thus everything that will happen to Peter or Judas, both necessary and free, is contained in the perfect individual notion of Peter or Judas, considered in the realm of possibility by withdrawing the mind from the divine decree for creating him, and is seen there by God (p. 32).

Given that Leibniz uses both "Alexander the Great" and "Peter" as examples of complete concepts, it makes perfect sense that he would use them as examples for SV if he were providing a criterion of identity for concepts. Thus, we should not count Leibniz's use of individuals as examples as indicating that SV should be understood as a law or definition of identity. Further, Feldman's worry (that examples of individuals would count against

[51] It should be kept in mind that Leibniz uses 'concept' and 'notion' interchangeably.

his interpretation) disappears, and Curley's contention (that examples of individuals show SV to be a law or definition of identity) would seem unwarranted; CCT can account for the concepts of individuals, as well as universals; thus, it is not at all surprising that Leibniz would use expressions that have complete concepts as their intension and extensions of a single individual.

I claim SV should be interpreted as a semantic principle about concepts and not a metaphysical principle about substances and their properties. If Leibniz had intended SV to be understood as a metaphysical principle, then we should expect he would have said so and listed it among his important metaphysical theses. Instead, he lists PSR and IdI as his major contributions to metaphysics:

> Those great principles of sufficient reason and of the identity of indiscernibles change the state of metaphysics. That science becomes real and demonstrative by means of these principles, whereas before it did generally consist in empty words (Ariew, R & D Garber, 1989, p. 328)

Rather, Leibniz only discusses SV in his mathematical and logical works, and always in terms of creating his universal characteristic, a language to solve all disputes by making clear the meaning of words. While Leibniz did not have robust theories of meaning, as we do today, his use of SV exclusively in such formal contexts suggests that the principle is best seen as a precursor to the pursuits of many branches of contemporary semantics: conceptual semantics, formal semantics, and proof-theoretic semantics. Further, the SV passages are concerned with *how we discuss things* and our *concepts* of them, and not with the things themselves. To my knowledge, in all Leibniz's writings that are readily available to us, he never once discusses metaphysics when discussing SV, and,

conversely, when discussing metaphysical issues of identity, he never uses SV. Thus, we should conclude that SV is a semantic and not a metaphysical principle.

Conclusion

The account of SV we may attribute to Leibniz is semantic, and it sets out a criterion of identity for concepts, both of individuals and universals. Also, Leibniz restricted SV to purely referential contexts, and did not confuse use and mention when stating it.

CONCLUSION

As I have shown, it appears that Leibniz did not state Leibniz's Law (LL), if by LL we mean a bi-conditional that is applicable in the logical and metaphysical domains. Further, even those following Quine who understand the Indiscernibility of Identical (InI) as LL are extending the *salva veritate* (SV) principle beyond Leibniz's intentions. My interpretation of the Identity of Indiscernibles (IdI) shows that Leibniz understood it as a metaphysical principle; my interpretation of SV suggests that we understand it as a semantic principle. Further, it appears Leibniz never discussed applications of either principle outside of their respective domains. Those seeking to interpret Leibniz as applying SV to metaphysical inquiry will have to provide textual evidence to support their claims.

I have examined the interpretations of four authors treating the subject of LL: W. V. O. Quine, Nicholas Rescher, Fred Feldman, and Edwin Curley. In so doing, I have aimed to show that, while each view contains crucial insights, they all fall short in some respect.

Quine showed us that SV must be restricted to purely referential contexts, though he did not appear to realize Leibniz did so himself. Moreover, Quine construed SV as a metaphysical principle, and mistakenly thought that Leibniz confused use and mention in his own formulation of it.

Rescher claimed Leibniz presented us with a principle that was both metaphysical and logical, with comprehensive applicability to both domains. Though incorrect, Rescher's application of the principle to both domains can be seen as a confused gesture

to the fact that IdI is a metaphysical principle and SV is a semantic principle. Rescher neglected to dive deep enough into the text, and he too saddled Leibniz with use/mention confusion.

Feldman's interpretation provided us with a more careful look into Leibniz's intentions with SV. He showed Leibniz was really discussing concepts, and not providing a definition of identity, or a metaphysical principle. Feldman's fault was that he did not consider all of the relevant SV passages and missed the fact that some contain individuals as examples.

Curley provided helpful corrections to Feldman's account, showing that there are SV passages in Leibniz that use individuals as examples. Further, Curley showed that Leibniz restricted SV to purely referential contexts, and was in control of the use/mention distinction. However, Curley's claim that Leibniz intended his examples for SV as ideal particulars needs further support. Additionally, even if such support could be provided, it is still not clear this would commit Leibniz to using SV as a definition of identity or a general metaphysical principle.

Perhaps a text from Leibniz's corpus will be found that explicitly states LL or provides a definitive account of the relation among IdI, InI and SV. For now, however, the evidence supports the conclusion that Leibniz never stated LL, where LL is understood as a bi-conditional, applicable to both the logical and metaphysical domains.

REFERENCES

Ariew, R., & Garber, D. (Eds.). (1989). *G. W. Leibniz Philosophical Essays*. Indianapolis, IN: Hackett.

Dancy, J., (Ed.). (1998). *A Treaties Concerning the Principles of Human Knowledge*. Oxford, United Kingdom: Oxford University Press.

Couturat, L., (1903). *Opuscules et fragments inédits de Leibniz*, Paris.

Curley, E. M., (1971). "Did Leibniz state 'Leibniz' Law'?", *The Philosophical Review*, 80: 497-501.

Feldman, F., (1970)."Leibniz and 'Leibniz' Law'", *The Philosophical Review*, 79: 510-522.

Forrest, Peter, "The Identity of Indiscernibles", *The Stanford Encyclopedia of Philosophy* (Winter 2012 Edition), Edward N. Zalta (ed.), Retrieved from http://plato.stanford.edu/archives/win2012/entries/identity-indiscernible/.

Frankfurt, H., (1972). *Leibniz*, Garden City, New York.

Geach, P., & Black, M. (eds.). (1952). *Translations from the Philosophical Writings of Gottlob Frege*. Oxford: Oxford University Press.

Gerhardt, C. I., (ed.). (1875 – 1890). *Die philosophischen Schriften von Gottfried Wilhelm Leibniz*, 7 vols. Berlin.

Ishiguro, H., (1991). *Leibniz's Philosophy of Logic and Language*, Ithca, New York.

Loemker, L., (1969). (ed. and trans.), *G. W. Leibniz: Philosophical Papers and Letters*, (2nd ed.), Dordrecht: D. Reidel.

Magidor, O., (2011). "Arguments by Leibniz's Law in Metaphysics", *Philosophy Compass*, 6: 180-195.

Maunu, A., (2002). "Indiscerniblity and Substitutivity in Leibniz", *History of Philosophy Quarterly*, 19: 367-380.

Parkinson, G. H. R., (1966), *Logic and Reality in Leibniz's Metaphysics*, Oxford: Oxford University Press.

Quine, W. V. O., (1953). *From a Logical Point of View*, Cambridge MA: Harvard University Press.

Quine, W. V. O., (1960). *Word and Object*, Cambridge MA: Harvard University Press.

Rescher, N., (1967). *The Philosophy of Leibniz*, Englewood Cliffs, N. J.: Prentice Hall.

Russell, B., (1900). *A Critical Exposition of the Philosophy of Leibniz*, Cambridge: The University Press.

Tarski, A., (1941). *Introduction to Logic: and the Methodology of the Deductive Sciences*, New York, N. Y.: Oxford University Press.

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