Being Qua Identity in Russell's Ontologies

Jan Dejnožka

for Raul Corazzon

February 10, 2018

This essay is about being qua identity theories in Bertrand Russell. A being qua identity theory is any theory that aims to define, explain, or understand some concept of being, reality, existence, or reference in terms of some concept of identity. Most philosophers know that Quine coined the slogan "no entity without identity," and that Wittgenstein understood reference in terms of identity criteria. Most also know that Russell was a primary influence on Wittgenstein and Quine on many logical and metaphysical issues. But it is not well known that Russell was also a "no entity without identity" theorist influencing Wittgenstein and Quine on the deepest ontological level. Here I explain all of Russell's main ontological phases as belonging to a kind of being qua identity theory which I call modified realism.[1]

I shall begin by explaining what I mean by "modified realism." I hold that there is a kind of 'no entity without identity' ontology, modified realism, which great analysts such as Frege, Russell, Wittgenstein (both early and late), and Quine share not only with each other, but with most great Western philosophers, such as Aristotle and Aquinas.[2] Modified realism is the thesis that in some sense there are both real and less than fully real identities, or if you please, both real distinctions and, say, distinctions in reason or in language. Thus in modified realism there are always *some* real beings which are the basis for accommodating possibly huge amounts of conceptual or linguistic relativity, by logically slicing or combining real beings into less than fully real beings. Thus I hold that on the basic level of ontology, the linguistic turn to analytic philosophy was not a radical break from traditional substance metaphysics.

Modified realism must satisfy two necessary conditions. First, it must be realism, since by definition modified realism requires the admission of at least one fully real entity. This entity must be mind-independent and language-independent at the very least. Second, a modified realist

---

[2] This is the main thesis of my [2003].

must also admit at least one item which is less than fully real. This item can be dependent.

The seeming conflict in the analysts between their private language arguments, which imply various sorts of realism, and their recognition of the fact that objects shift as we shift our sortal concepts or sortal terms, which suggests a deep relativism, is best resolved by, and is in fact implicitly resolved by, their respective kinds of modified realism. The origins of private language arguments are ancient,[3] and the distinctive feature of the great analysts' forms of realism is their heavy reliance on private language arguments to establish realism.[4]

While in the analytic tradition ontology and philosophy in general are held to be supervenient on language, or more deeply on logical and conceptual theses, there is in the four great analysts I examine enough reformulation and presupposition of ontological themes, enough express pursuit of metaphysics through logical analysis, and enough reliance on private language arguments, to allow analogies to some basic theses of the substance tradition. At least some of this is familiar ground. That analytic philosophy reformulates ontological insights was argued by Gustav Bergmann; that arguments against metaphysics presuppose metaphysics was noted by F. H. Bradley.[5]

I assimilate the four great analysts' views to Aristotle's metaphysics as the paradigm of modified realism. Far from constituting the world, and far from being barriers between us and the world, Frege's senses, Russell's sense-data as well as his knowledge by description, the later Wittgenstein's criteria and language-games, and Quine's scientific theories are all intended (in Russell's case, at least in certain phases) precisely as the vehicles by which we learn all we can of a mind-independent, language-independent real world.

All this may appear to attack the analytic lion in its own den. For example, did not Russell deride substances as confused and at best a mere linguistic convenience?

An important clarification is in order. While Quine coined the slogan "no entity without identity," many very different kinds of thesis might be appropriately so described, some of which are not only incompatible with each other, but even with Quine's thesis. When I use that slogan, I do not mean Quine's thesis specifically, but any thesis which understands some conception of existence in terms of some conception of identity. Any such thesis is a being qua identity theory

---

[3] See my [1995].
[4] On Russell, see my [1991].
[5] Bergmann [1967] p. 1–77; Bradley [1897] p. 1–2.

(*ens qua unum*, or better, *ens qua idem*), and implies the full biconditional, "entity if and only if identity."

Russell is an important example of this. In his first major logicist work, *The Principles of Mathematics*, Russell is very close to Quine in understanding "no entity without identity" as reductive, not eliminative. For Russell in 1903 and Quine alike, numbers are defined as classes of classes which preserve the identity conditions numbers ought to have, but they are not eliminated as logical fictions. Rather, they are reduced to classes, and classes are admitted as entities. That is, numbers exist but have no special arithmetical character; they belong to theory of classes.

But from 1905 on, Russell comes to divorce his "not always false" existential quantifier from existence, reserving existence for any simple things which may constitute an ultimate interpretation of true existentially quantified statements. Thus Russell's "no existential quantification without identity conditions" theory comes to apply to logical fictions as well as to simples. Such a merely nominal existence-identity connection is incompatible with Quine's thesis, since so to speak, it takes the entity out of "no entity without identity" in the case of quantification over logical fictions. Yet on my very general usage, it is clearly a "no entity without identity" thesis, since Russell still requires identity conditions for, and permits quantification over, logical fictions which can be said to exist only in a nominal sense. For Russell permits and even requires quantification for formal paraphrase of the ordinary or pre-analytic level of talk about the world, and on all non-ultimate levels of logical analysis.[6] And Russell comes to eliminate numbers. He continues to define numbers as classes of classes, but now rejects classes as literally nothing.

Yet from 1927 to 1959, Russell is far closer to Quine on the *role* 'no entity without identity' plays in philosophy. For during this period Russell questions and then weakens the analytic-synthetic distinction, adopts a holistic, social, and pragmatic theory of knowledge (if not theory of truth), and ends up assimilating philosophy to science. Thus the 1927–1959 Russell is closest to Quine on the role identity conditions play in defining physical events, space, and time, even though he is furthest from Quine on the literal existence of numbers as classes of classes.

I define three main kinds of being qua identity theory. First, there is the theory of radical relativity, on which all identities are conceptual or linguistic. Protagoras and Carnap are radical

---

[6] Russell [1927] p. 2–9.

relativists. Second, there is radical realism, on which some identities are real and the rest are unreal or fictitious. Parmenides is a radical realist, since his One is real and his Many are unreal. Third, there is modified realism, on which some identities are real and some identities are less than fully real. Historically, modified realism is a sort of golden mean. Aristotle is a paradigmatic modified realist; his substances are fully real and his other categories are less than fully real. We may regard radical realism as an extreme limit of modified realism, since unreal things are less than fully real. Also note that I am indiscriminately lumping together under the single heading of "distinction of reason" what many traditional philosophers took pains to keep apart: mere distinctions of reason that exist only in the mind, and formal distinctions with a basis in reality. Other philosophers admit modal distinctions based on various relations of dependence. I shall return to these further distinctions later.

The basic argument for radical relativity is that objectual identities shift as concepts shift, so that every entity is both one and many; but such a contradiction cannot exist in reality. Thus nothing can be an entity. A second argument is that whatever is, is one, and cannot be many; but every entity, or at least every thing we ordinarily consider to be real, is also many, e.g., can be analyzed as many atoms, many appearances, many temporal slices, and so on. But being an entity implies being one, and being one implies not being many. Thus nothing we ordinarily consider to be real can be an entity. Neither argument can succeed because their conclusion, radical relativity, is self-defeating. If everything is relative, then so is radical relativity; but if radical relativity is really the case, then something is really the case. But what is specifically wrong with these arguments?

One might try to explain what is wrong with radical relativity by showing that (a) some things are one and real but not many, that is, are logically simple entities, or by showing that (b) something can be one, many, and real after all. On option (b), one might argue that classes are one in a sense and many in another sense, and that they are real in the sense in which they are one. But Russell does not take either option. He argues that classes cannot exist because they would be both one and many. To that limited extent, he agrees with radical relativity. But he then explains where the arguments for radical relativity go wrong by using propositional functions. Russell takes option (c): number-predicates are predicated of propositional functions (or if you please, logical predicates) as opposed to objects and to classes. Thus it is logically ill-formed

even to *say* of classes that they are one or many in the first place, since they are not propositional functions.

Frege gives a similar solution in *Grundlagen*, where numbers are predicated of concepts. The only major difference is that while Frege deems his concepts to be abstract entities, Russell deems his propositional functions to be logically incomplete expressions that denote nothing. Thus, far from 'relativizing' numbers to concepts or propositional functions, both Frege and Russell give number-predicates logically determinate logical subjects. And because numbers are determinately predicated of *flower* and *petal*, we can say that the flower is determinately one object and its petals are determinately five additional objects.[7] Flowers and their petals are distinct only in reason from each other, but flowers are really distinct from each other, and their petals are really distinct from each other. Such logical intertwining of real identities and less than fully real identities is characteristic of all the great analysts, as well as of traditional substance metaphysicians.

But even granting this much of the Frege-Russell logico-ontological sort of solution, the problem remains that objects in the world still overlap: 52 cards still are, in some sense, one pack. That is the basic problem that motivates radical relativity. The four great analysts solve it by various forms of modified realism on which only certain objects are really one, i.e., by a mix and match intertwining of real identities and less than fully real identities. Russell does this by using three senses of "real" or "exists" which he sees as working together in a complex but unified ontology of modified realism. This is best seen in his 1914–1918 logical fictionalist phase, and especially in his 1918 "The Philosophy of Logical Atomism."

The first sense of "real" is the minimal Parmenidean sense that to be real is not to be nothing. Russell says that "there is no such thing as the unreal" and that "the unreal is simply nothing."[8] This sense is more or less a negative survival of Russell's notion of being in *Principles of Mathematics*. As everything has being in this sense, it is anti-Meinongian, even though Russell considered it Meinongian in *Principles*.[9] (The implied definition, "To be is not to be nothing," is not circular. The first occurrence of "to be" is existential, but the second is copulative.) In this first sense of "real," hallucinated or phantom particulars "have the same

---

[7] Frege [1974] p. 34.
[8] Russell [1911] p. 149–50.
[9] Russell [1938] p. 449–53.

reality as ordinary sense-data. They have the most complete and perfect and absolute reality that anything can have;" and "they differ from ordinary sense-data only in the fact that they do not have the usual correlations with other things."[10]

Russell's second sense of "real" is correlative. In the second sense, to be real is to be correlated with (indefinitely many other) particulars (sensed and unsensed sensibilia) in certain ordinary or lawful ways. Real individuals in the secondary sense include other minds, bodies, and electrons. Particulars (sensibilia) are not real in the secondary sense. A single particular is not a logical bundle of correlated particulars. This secondary sense of "exists" is purely nominal and implies no ontological status. What is said to exist in this sense is fictions, and fictions are nothing. But the sense is important; it analyzes our ordinary talk of existence. This correlative sense is due to Berkeley and Hume.

The third sense is formal. It concerns the logical form of existence assertions. This is the sense Russell has in mind when he says, "Existence is … a property of a propositional function."[11] Here being qua identity appears as the thesis that to be is to be a value of the logical law of identity, or better, to be determinately identifiable, since the whole of our logic applies to whatever we quantify over in our logic, including our identity theses. This sense is due to Frege.

How do these three senses work together in Russell's ontology to solve the basic problem of radical relativity? For Russell, an ordinary thing, i.e., logical fiction, satisfies a description if and only if the description in effect indicates what correlations among particulars (sensibilia) we normally expect, and these correlations in fact obtain. Thus for ordinary things, i.e., logical fictions, the third sense determines the *logical form* of assertions that they exist, and the second sense determines *whether* they are truly said to exist, on the level of logical analysis in question. And while ordinary things are logical fictions, they are logically composed of simple entities that are real in the first sense. Thus simple entities are the fully real building blocks, ordinary things are the less than fully real (merely nominal) compositions, and the logical theory of existence or quantification allows us to assert the existence of things in a way that prevents the problem of radical relativity from even being statable. For on the ultimate level of analysis, our existence assertions are about fully real simple things. On any other level, our existence assertions are

---

[10] Russell [1918] p. 274.
[11] Russell [1918] p. 232.

about less than fully real, i.e., logically complex, things.[12] Thus the basic problem of radical relativity emerges as a confusion of levels of reality, a category confusion. For levels of logical analysis are levels of logical degree of ontological commitment, and in that sense levels of logical degree of reality. Russell says in 1959:

> If a waiter in a restaurant tells me, "We have some very nice fresh asparagus," I shall be justly incensed if he explains that his remark was purely linguistic and bore no reference to any actual asparagus [due to logical analysis]. This degree of ontological commitment is involved in all ordinary speech.[13]

Definitions of the different kinds of logical fiction proceed by identity conditions, that is, by defining what it is to be the same thing of that kind, at least for tables, persons, and numbers.[14] How can logical fictions be informatively identified for Russell? The very same particulars (sensibilia) that are correlated together confirm both informative existence and informative identity propositions about the logical fiction in question. Thus to exist in the second sense is to be informatively identifiable. Of course, even an identity statement about a simple particular can be informative if at least one subject-term is a description;[15] but this is not the same thing.

Thus Russell really exercises all three options for handling the problem of radical relativity. He uses option (a) on Parmenidean level (1), option (b) on Berkleyan-Humean level (2), and his officially stated option (c) on Fregean level (3). Thus his officially stated option is only the tip of the iceberg of his full theory.

Russell is no verificationist. Logical fictions are not all that ordinary things can *mean* to us. Rather, Russell is applying Occam's razor to "replace" an ordinary thing with a logical fiction.[16] Russell says, "Nominal entities...may or may not exist, but there is no good ground for assuming that they do.".[17] He thinks we can have no empirical evidence that there are really stones or other people's minds behind the curtain of appearances, and thinks we can make do with constructions out of appearances (both sensed and unsensed) themselves.

---

[12] Russell [1927] p. 2–9.
[13] Russell [1959] p. 173.
[14] Russell [1918] p. 273, 277.
[15] Russell [1918] p. 246; see 245–247.
[16] Russell [1959] p. 179.
[17] Russell [1959] p. 101.

Russell says as early as 1903, "The whole theory of definition, of identity, of classes, of symbolism, and of the variable is wrapped up in the theory of denoting."[18] This is 57 years before Quine said, "The whole apparatus [of "objective reference: our articles and pronouns, our singular and plural, our copula, our identity predicate"] is interdependent,"[19] nine years before Russell met Wittgenstein, and supposedly shortly before Russell read Frege with any genuine understanding.

But Russell's "no entity without identity" has a root in the past. Frege and Russell alike were influenced by Leibniz. Russell's deepest lesson from Leibniz was the dictum, *quodlibet ens est unum*, whatever is, is one, and the biconditional of which it is part, *ens et unum convertuntur*, being and unity are interchangeable. Russell says in *The Philosophy of Leibniz*:

> "Where there are only beings by aggregation," Leibniz says, "there are not even real beings. For every being by aggregation presupposes beings endowed with a true unity, since it only derives its reality from that of those of which it is composed, so that it will have none at all if every component is again a being by aggregation."....What is not truly one being, is not truly a being [for Leibniz].[20]

The dictum's influence may not be obvious, since Russell does not include it among Leibniz's five "principal premisses," or even mention it in his later account of Leibniz in *A History of Western Philosophy*.[21] Thus he may appear not to consider the dictum important even to Leibniz. Indeed, Russell sometimes denies that there must be simples if there are complexes, and affirms both that complexity is presented and that presentations must be real. These views come close respectively to denying that beings by aggregation derive their being from beings that are truly one, and affirming that beings by aggregation are real. Moreover, Leibniz's dictum cannot even be significantly stated for Russell or Frege. For if every item is one ("is a unit" for Frege), then it cannot be informative to say that there is one such-and-such. Yet Russell says in *Principia*:

> In the case of descriptions, it was possible to prove that they are incomplete symbols. In
> the case of classes, we do not know of any equally definite proof, though arguments of

[18] Russell [1938] p. 54.
[19] Quine [1960] p. 53.
[20] Russell [1900] p. 103–5; see 71.
[21] Russell [1945] p. 581–596.

more or less cogency can be elicited from the ancient problem of the One and the Many.*

*Briefly, these arguments reduce to the following: If there is such an object as a class, it must be in some sense one object. Yet it is...of classes that many can be predicated. Hence, if we admit classes as objects, we must suppose that the same object can be both one and many, which seems impossible.[22]

This "more or less cogent" argument's first premiss openly states *quodlibet ens est unum*: "If there is such an object as a class, it must in some sense be one object." Russell also says:

> What was wrong was assuming individuals which have no being.... I now extend this to all classes. The error seems to me to lie in supposing that many entities ever combine to form one new entity.[23]

Here Russell endorses *ens et unum convertuntur*. *Quodlibet ens est unum* is implied by the second sentence, and its converse is implied by the first sentence.

 Ens et unum convertuntur is the ontological power behind the throne of Russell's logical atomism. It explains Russell's lifelong tendency to equate the real both with the simple and with what is empirically given as one thing. Conversely, it explains his rejection of classes as fictitious or unreal. In short, the dictum explains Russell's modified realism, on which some identities are real and others are conceptual. Where Occam's razor is the negative epistemic root, *ens et unum convertuntur* is the positive ontological root of Russell's rejection of classes. It is the positive reason for his logical fictionalist solution of "the fundamental problem of philosophy."[24] For the problem of classes is the logical version of the basic problem of radical relativity. That in *Principia* class-expressions are logically incomplete (syncategorematic) and that quantification over them is nominal is more conclusion than premiss in the big picture.

 Russell rejects traditional substances and essences. But he admits six sorts of beings or substance substitutes over his career. (1) All entities, both existing and subsisting, have timeless being in 1903. (2) Universals and particulars have being in 1912. (3) Being is timelessness in 1914. (4) Being is logical atoms in 1918. (5) Being is what is named by object words in 1940. (6)

[22] Whitehead [1927] p. 72.
[23] Russell [1906] p. 68.
[24] Russell [1938] p. 346.

Being is qualities (particulars, not universals) in "bundles" in 1940–59. In addition, Russell admits two substitutes for material substances. (7) Ordinary physical things are causal lines (persistent causal relations) in 1927–59.[25] "Thus the persistence of substance is replaced by the persistence of causal laws."[26] (8) Relations of percepts of events in space-time are what are probably real in 1927–59.[27] Russell speaks of "substantial structures" which replace "pieces of matter" and also of structures of events.[28] (8) includes (7); a causal line is an instantiated structure.

Russell, in *Principles of Mathematics*, might seem to be a radical relativist. He says:

> Numbers cannot be asserted of objects, because the same set of objects may have different numbers assigned to them (Gl. p. 29); for example, one army is so many regiments and such another number of soldiers. This view seems to me to involve too physical a view of objects: I do not consider the army to be the same object as the regiments."[29]

However, in that every application of a concept "presupposes numerical diversity," in that every entity has its own immediate identity, *Principles* suggests a radical realism. The one thing *Principles* seems to reject is modified realism, since Russell expressly denies the distinction between real distinctions and conceptual distinctions.[30] But this seems wrong to me.

Surely the truth is that *Principles* indulges in a rich and complex modified realism. Russell says spatial, temporal, and material points are kinds of terms which differ only immediately. Material points are really distinct from each other. They are not classes but real physical individuals. Classes are intensional "objects denoted by concepts." Stones are "classes as one" of material points. But he says armies and regiments are "classes as many." Thus it seems that at least some classes as one and some classes as many are physical objects. He says classes as one such as tables and chairs have empirical existence. Like material points, they are individuals, logically contingent, mobile, and causally capable. Indeed, they are analyzed as

---

[25] Russell [1927] p. 285; [1948] p. 453–60, 489–90; [1959] p. 146–47.
[26] Russell [1927] p. 285.
[27] Russell [1927] p. 249–57; [1948] p. 250–66, 460–75, 491–92; [1959] p. 147–48.
[28] Russell [1948] p. 461.
[29] Russell [1938] p. 519.
[30] Russell [1938] p. 466.

composed of material points. Now, surely material points can exist even if tables and chairs do not; and surely the reverse is not the case. I would also think that minds must be really distinct for the 1903 Russell, since the "psychic existents" in a mind would be dependent on the mind's existence. As Russell would express it much later, he used to hold that minds are "pin-point particulars."[31] I think the number one, i.e., the class of unit classes, would be a class as one that is a timeless logical object, while the class of even numbers would be a timeless class of many.

Consider also Russell's distinction in *Principles* among actual existence, logical existence, and nonexistent being, in order of progressively muted substance substitutes. Empirical existents are much like Frege's concrete objects. Logical existents are much like Frege's abstract objects. Logical existents seem less real than empirical existents, but more real than nonexistent beings such as golden mountains. Spatial points and temporal instants seem to be in between empirical existents and logical existents in degree of reality, since the geometry of the actual world has a definite empirical aspect. Being is the general status of which the foregoing are kinds. Objects are a hybrid (terms plus classes as many). Terms are simply beings. Classes as many have mathematical existence, or better, logical existence. Properties and relations are probably hybrid classifications, since some are empirically given and others are logico-mathematical. I speculate that there are similar gradations of ontological status among nonexistent chairs, nonexistent material points, merely possible colors, and so on.

The 1914–1918 logical atomist Russell might seem to be a radical realist. Bodies, numbers, and minds (except one's own mind) are logical fictions with fictitious identities. And "there is no such thing as a fiction."[32] (In 1919, this becomes a neutral monist distinction between impressions and fictions, since then even one's own mind is a fiction.) Thus it might seem that Russell admits only real things and logical fictions. But I classify the 1914–18 Russell as a rich and complex modified realist, since I find five distinctions among different kinds of real things.

First, universals and particulars have different kinds of reality. Particulars are mind-independent, ultimate logical subjects of predication, and are logically independent of each other. "Each one might happen to be the whole universe."[33] Russell says:

---

[31] Russell [1959] p. 120.
[32] Russell [1918] p. 189.
[33] Russell [1918] p. 201.

> Particulars have this peculiarity,... that each of them stands entirely alone and is completely self-subsistent. It has that sort of self-subsistence that used to belong to substance, except that it usually only persists through a very short time, so far as our experience goes.[34]

Whether or not this implies that the 1918 Russell's universals are in re (since ante rem universals might seem to be more aptly deemed self-subsistent than particulars), it certainly implies that his universals are not self-subsistent. Russell appears to be well aware of this. He says:

> When I say of a universal that it exists, I should be meaning it in a different sense from that in which one says that particulars exist. …. E.g. you might say 'Colours exist in the spectrum between blue and yellow'....You mean simply that the propositional function 'x is a colour between blue and yellow' is one which is … sometimes true.[35]

And if the generic universal *color between blue and yellow* exists if and only if there is an instance, a specific shade-universal, then surely the shade-universal exists if and only if there is an instance, a particular which has it. But in any case it is clear that for Russell, particulars and universals have very different kinds of reality, since particulars cannot be "sometimes true" of anything.

Second, sense-data and simples have different kinds of reality. For sense-data can be complex. They can have parts, and if you attend to their parts, these parts become new sense-data (new real beings) in their own right.[36] Also, sense-data are given to us as real in awareness. Russell believes there are simples too, but he is uncertain about this because we can arrive at them only through the "analysis" of "complex things," and he admits that analysis could go on forever.[37] Sense-data "have the most complete and absolute and perfect reality that anything can have. They are part of the ultimate constituents of the world."[38] Sense-data are epistemologically ultimate. They must exist because they are given. Simples, on the other hand, are logically

---

[34] Russell [1918] p. 201–02.
[35] Russell [1918] p. 258.
[36] Russell [1918] p. 202–03; see also [1911] p. 114–15; [1940] p. 334.
[37] Russell [1918] p. 202.
[38] Russell [1918] p. 274.

ultimate. "Simples," Russell says,

>...are of an infinite number of sorts. There are particulars and qualities and relations of various orders, a whole hierarchy of different sorts of simples, but all of them, if we are right, have in their various ways some kind of reality that does not belong to anything else.[39]

Thus sense-data as such and simples as such have different kinds of reality. This is not to deny that some sense-data may be simple; such sense-data would have both kinds of reality.

Third, since only particulars are self-subsistent, while simples include qualities and relations, self-subsistence is not the same as the kind of reality simples have.

Fourth, facts are not entities in the sense in which simples are. Russell says, "No facts are simple," since "facts are the sort of things that are asserted or denied by propositions, and are not properly entities at all in the same sense in which their constituents are."[40]

Fifth, facts are not particulars, since you can name particulars (with logically proper names), and you cannot name facts; and only facts can make statements true.[41] Thus self-subsistence is not the kind of reality facts have. Yet facts belong to the objective world; you cannot completely describe the world merely by listing all the particulars.[42]

Russell admits his own mind as an entity as late as 1918. He abandons this view in 1919, adopting a neutral monism in which all bodies and minds are logical fictions. But I see no reason to think he abandons the five distinctions among kinds of reality which I just described, even though he replaces sense-data with sensations.

Russell's 1927–59 representational realism is a kind of scientific realism. In *The Analysis of Matter*, he defends physical realism against his former view that the physical world is a logical fiction. He says, "There are many possible ways of turning some things hitherto regarded as 'real' into mere laws concerning the other things. Obviously there must be a limit to this process, or else all the things in the world will merely be each other's washing."[43] And he does not merely mean that we must admit simples on the ultimate level of analysis. He says, "We must find some

---

[39] Russell [1918] p. 270.
[40] Russell [1918] p. 202, 270.
[41] Russell [1918] p. 182–83, 270; see also [1914] p. 132.
[42] Russell [1918] p. 183, 270.
[43] Russell [1927] p. 325.

reality for the electron, or else the physical world will run through our fingers like a jelly-fish."[44] Thus he no longer regards physical structures such as electrons as mere logical fictions. Two electrons are really distinct if they have no constituent event in common.[45] And he assigns even higher metaphysical status to the events which compose electrons, and the highest status to whatever entities may comprise the final interpretation of physics.[46] This suggests a modified realism in which instantiated physical structures are real physical facts, but are less real than any ultimate constituents they may have.

Russell adopts a major new theory of universals in 1940. Now specific sensible qualities are particulars and generic properties are universals. This too seems a kind of modified realism, since "qualities...are syntactically more akin to substances."[47]

Russell still admits facts as well as events and properties in 1948 in *Human Knowledge*, and no doubt also in 1959 in *My Philosophical Development*.

It might be objected to my entire paper so far that Russell follows Frege in admitting only one form of identity.[48] Therefore, the objection continues, Russell does not admit, and should not be interpreted or even glossed as admitting, a distinction between real distinction and distinction in reason, since this implies a distinction between real identity and identity in reason, which are two different forms of identity. I cannot take this objection seriously. For Russell also follows Frege in admitting an analytic-synthetic distinction, as well as an a priori-a posteriori distinction. For Russell and Frege, real identities and real distinctions would simply be definable as those identities which are described by synthetic a posteriori identity statements. They are real identities if such statements are true, and real distinctions if such statements are false. For Russell and Frege, identities in reason and distinctions in reason would be definable as those identities which are described by analytic identity statements. They are identities in reason if such statements are tautologically true, and distinctions in reason if such statements are synthetic a priori true. Whether Russell and Frege understand the analytic-synthetic distinction in exactly the same way or would accept the same instances does not matter to this point.[49]

---

[44] Russell [1927] p. 319.
[45] Russell [1927] p. 288.
[46] Russell [1927] p. 2, 9.
[47] Russell [1959] p. 127. I argue for my interpretation of the 1940 Russell's qualities in my [2003] p. 292–95 n.4.
[48] Frege [1967] p. 128 says, "[I]dentity is...given to us in so specific a form that it is inconceivable that various kinds of it should occur."
[49] Russell's admission of synthetic a priori truths must not be confused with his rejection of Hegelian "identity-in-difference," which for Russell concerns monism, not formal identity. The only thing these two topics have in

The main point is that Russell would find nothing wrong with talk of several forms of identity, provided that such talk can be defined or analyzed away in terms of his single formal identity relation. And he expressly distinguishes two kinds of identity statement, informative and uninformative. Each of his identity statements always has two subject-terms. And each subject-term is always either a logically proper name or a definite description. Russell says that an identity statement is nontautologous only if at least one of its subject-terms is a description.[50] The reason is that if both subject-terms are logically proper names, then the identity statement in question is either tautologically true or (tautologically) false. For the meaning of a logically proper name is its denotation. Thus if both subject-terms are the same logically proper name, they denote the same entity because they have the same meaning. And if they are not the same logically proper name, then they cannot denote the same entity, again in virtue of their meaning.

I shall return now to the topic of formal and modal distinctions. So far, we have discussed real distinctions and distinctions in reason. Analytic a priori distinctions are always distinctions in language, and arguably at least sometimes also are or involve distinctions in thought or reason. Synthetic a priori equivalent descriptions are always distinctions in reason at the very least. Wholly distinct entities are always really distinct entities, at least if deductive inference involves logical containment. If particulars are wholly distinct, their descriptions cannot be analytically, synthetic a priori, or even synthetic a posteriori equivalent. And if descriptions are analytically, synthetic a priori, or even synthetic a posteriori equivalent, then they cannot be of wholly distinct particulars. But Russell and Frege also admit different but overlapping objects, and this invites analysis in terms of formal and modal distinctions.

As we saw earlier, Russell regards an army, its regiments, and its soldiers all to be different objects.[51] Suppose that (1) soldiers overlap regiments, (2) soldiers can exist even if regiments do not,[52] but (3) regiments cannot exist without soldiers. Then we may say that for Russell, soldiers and regiments are formally distinct insofar as soldiers are the "foundation in reality" for regiments,[53] and are modally distinct in Descartes' first sense of modal distinction, since regiments are ontologically dependent on soldiers but not vice versa.[54]

---

common is that both concern internal relations.
[50] Russell [1918] p. 246; see 245–247.
[51] Russell [1938] p. 519, repeating note 29.
[52] This might seem doubtful for soldiers and armies, if soldiers must belong to armies in order to be soldiers at all.
[53] Wolter [1965] p. 45; see King [2003] p. 22–23.
[54] Descartes [1969] p. 244, principle #61.

Second, consider particulars and the universals they exemplify. Particulars are what they are in virtue of the universals they exemplify, and cannot be identified independently of identifying those universals. But universals are not what they are in virtue of the particulars that exemplify them, and can be identified in thought independently of identifying any particulars. Thus we may say that for Russell, particulars and universals are formally distinct insofar as universals are at least part of the basis in reality for particulars, and are modally distinct in Descartes' first sense insofar as particulars are dependent for their being (qua identity) on universals.[55] Note that Russell admits no featureless particulars.[56]

Third, Russell holds that synthetic a priori truths describe relationships among universals.[57] Where red's being a color is synthetic a priori, specific universals such as red are what they are at least in part in virtue of the generic universals (such as color) they exemplify, but not vice versa. Thus we may say that for Russell, specific universals and generic universals are formally distinct insofar as generic universals are at least part of the basis in reality for specific universals, and are modally distinct in Descartes' first sense insofar as specific universals are dependent for their generic nature, and in that sense for their being, on generic universals.[58] Of course, if specific and generic universals are all timeless beings for Russell, then we cannot say generic universals can have being even if specific universals do not, except in a per impossibile sense. But even if he sometimes holds that universals are in re, and that we can think or speak of red without thinking or speaking of color, still red could not exist if color did not, we could not identify red the way we do unless we could in principle identify what it is to be a color, and red would not be what it is if it were not a color.

Thus I find at least three different sorts of formal and modal distinctions implicit in Russell.

I omit mutual exclusions of same-level universals. For example, no surface can be wholly red and wholly green at the same time. That would seem to be for Russell a synthetic a priori truth with a basis in reality in the nature of red and green, independently of what we think or say.

[55] Compare Grajewski [1944] p. 140–53 on Scotus on particulars and universals as formally distinct; see Wolter [1965] p. 54.

[56] I disagree with Gustav Bergmann's interpretation that Russell's particulars are bare. Russell does not expressly say whether his particulars are bare or not, but his examples of sense-particulars are always things like color patches and sounds. If Bergmann were right, these would not be particulars but facts for Russell. Of course, even for Bergmann, bare particulars cannot exist entirely by themselves.

[57] Russell [1912] ch. 9.

[58] Compare Grajewski [1944] p. 137–140 on Scotus on grades of being as formally distinct; Wolter [1965] p. 54.

But red and green are more than just formally distinct, since they are not the same *at all*. Thus I think their distinction is best described as a second sort of *real* distinction implicit in Russell. But they are modally distinct in Descartes' second sense of modal distinction, since red and green are both dependent on the same third entity, color.[59] We may introduce a corresponding second sense of formal distinction as well, since at least in part, color makes both red and green the kind of universal they are. Indeed, it *is* the kind of universal they are. If, per impossibile, red were not a color but a sound, then red would not exclude green.

Insofar as "basis in reality" means what makes a thing what it is, and not what it depends on for its existence or being, it seems a synthetic a priori truth that all and only formal distinctions are modal distinctions. Insofar as the reason why one thing ontologically depends on another is that the second makes the first what it is, we may say that the formal-modal distinction is itself formally and modally distinct, with modal distinctions being dependent on formal distinctions, since formal distinctions make modal distinctions what they are. I offer this as an independent and general point, as well as applying implicitly to what I find implicit in Russell.

As for Russell, so for Frege. Frege gives card-pack and leaf-foliage examples just like Russell's soldier-regiment.[60] Frege's concepts are universals ante rem, since many objects or none can fall under a single concept. Frege admits synthetic a priori truths, though differing from Russell on what they are and on which truths they are. Frege rejects featureless objects.[61] He accepts both specific and generic universals, all of which he deems to be concepts or more generally functions. And I see no reason to think he would not accept color exclusions. Thus the whole formal-modal distinction analysis of Russell applies to Frege as well.

At this deep ontological level, Frege and Russell are very close, and are more traditional than one might think. But they depart so far from traditional philosophy of mind, and belong so much to modern Cartesian philosophy of mind, that horses and mental ideas of horses across minds are not formally identical for them, much less necessarily similar. And this is why they face Wittgenstein's "beetle in a box" problem of private language, unlike Aristotle, Boethius, Anselm, Augustine, Aquinas, Scotus, or Scotus, and why they offer private language arguments.

The Aristotelian tradition has an implicit mental language argument,[62] which I sketch as

---

[59] Descartes [1969] p. 244, principle #61.
[60] Frege [1974] p. 28.
[61] Frege [1971a] p. 109, rejecting variables as entities because they would have to be be featureless entities.
[62] It is sometimes rather explicit. See Aquinas [1962] p. 24 commenting on Aristotle's *On Interpretation*.

follows. (1) Spoken and written language is social.[63] (2) Social language communicates our private mental thoughts of things.[64] (3) Ideas cannot be what they are independently of the things they are ideas of; rather, they are identifiable as the ideas they are only by what they are ideas of.[65] (4) Therefore our ideas of, say, horse are *formally* identical across persons, and also with horses in the world, which are the basis for teaching and learning public words like "horse."[66] That is, while ideas are essentially private and therefore *ontologically* (i.e. literally or numerically) different across persons,[67] their equally essential *formal* identity across persons suffices to prevent the private language problem.[68] For it suffices to prevent Wittgensteinian or Quinean problems of permutation of private meanings. But whatever kind of less-than-numerical identity of ideas across minds may suffice — formal identity, functional identity,[69] sign type identity,[70] or something else — and regardless of whether these alternatives coalesce or are

[63] For Aristotle, man is a social animal. This includes social communication, without which we would scarcely be social animals. See Aquinas [1962] p. 24 commenting on Aristotle's *On Interpretation*; Spade [2002] p. 83–84 on Aristotle, Augustine, and Aquinas; 87–88 ("The Aristotelian-Augustinian-Boethian-Buridanian-sometimes-Scotist view....emphasizes the social role of language for intercommunication"); 95; Spade [1982] p. 189–190; Perler [2003] p. 165, 167.

[64] E.g. Kirwan [2001] p. 203 ("Augustine has founded his theorizing about language on the underlying principle that its general function is to transmit thoughts from one mind to another"). This might not have been Ockham's *primary* emphasis; see Spade [2002] p. 84 and Gibson [1998] p. 340–341; compare Spade [1998] p. 407.

[65] O'Callaghan [2003] p. 235–243, 256–257 on Aquinas; see 167, 170–171, 202, 212; see 238, 268 on Aquinas on Aristotle; Kenny [1980] p. 79–81 on Aquinas; see 78–79; Panaccio [1999] p. 53 on Boethius and Ockham; Klima [2009] p.32 on Buridan. Descartes is the one who abandons this thesis, due to his radical skepticism (Kenny [1980] p. 28), despite his distinguishing the formal reality of an idea from its objective reality.

[66] Kretzmann [1993] p. 139 on Aquinas; see 154 n.38, 155 n.47; O'Callaghan [2003] p. 37–39, 227–228, 238–247, 257 on Aquinas; Leckie [1965] p. xxi on Aquinas; Lisska [2006] p. 160–161 quoting Haldane [1999] p. 54.

       Forms are the same nature existing in things in one way and in minds in another way (Aquinas [1965] p. 17; Leckie [1965] p. xxi on Aquinas; Kenny [1980] p. 80–81 on Aquinas]; O'Callaghan [2003] p. 209, 215 on Aquinas; Perler [2003] p. 168–170 on Scotus and Avicenna) But this does not imply that that we know everything we perceive or think of exactly as it is. This is to misunderstand the typically limited, vague, or even confused way a nature exists in the mind. See O'Callaghan [2003] p. 272–273 on Aquinas. This is so much so that Scotus distinguishes four kinds of names, ranging from least perfect to most, allowing many degrees or blends of referential and attributive use of names, Perler [2003] p. 179–183; compare Donnellan [1966].

[67] Perler [2003] p. 165, 167; Panaccio [1999] p. 53; Spade [2002] p. 101–102.

[68] Spade [2002] p. 83–84 on Aristotle, Augustine, and Aquinas; 87–88, 95; Perler [2003] p. 165, 166, 167; Panaccio [1999] p. 53; Klima [2009] p. 33–35, 299 n.1; Normore [1990] p. 55–56, O'Callaghan [2003] p. 193, 296, 255–257; see 297–298 on the externalism of Aquinas, *pace* Hilary Putnam.

[69] If our private ideas of horse across minds are formally identical, then they are also *functionally* identical, or more specifically, *representationally* identical, across minds, since their function is specifically to represent (Perler [2003] p. 165–66 on Scotus; O'Callaghan [2003] p. 231, 257 on Aquinas; compare Shields [1990] on Aristotle in general). This is precisely the traditional theory of "[c]oncepts in their capacity as natural signs" (Kretzmann [1967] p. 370), which has roots in Plato's *Cratylus* (Kretzmann [1967] p. 360–61).

[70] In the case of the later Ockham's identification of concepts with acts and with natural signs, Claude Panaccio proposes a type-token distinction where concept-acts of horse are different token-signs in different minds, but are of the same type across minds. See Panaccio [2004] p. 55–58; see also 28, 119–143 (ch. 7), 170–176. Gyula Klima makes a similar point about Buridan (Klima [2009] p. 28–29). Leckie says Aquinas and Aristotle identify "the object of knowing and the act of knowing" (Leckie [1965] p. xxxii). I think Panaccio's and Klima's proposal boils down to

distinct only in reason, our ideas of horse across different minds must be not merely similar in some vague sense, but "exact duplicates" that "differ only 'numerically'."[71]

Since Frege and Russell would reject conclusion (4), they would reject premiss (3) and therefore also premiss (2). Thus as the saying goes, one philosopher's modus ponens is another philosopher's modus tollens. Each side begs the question against the other, and each starts from plausible premisses. Either way, the identity of ideas is the heart of it.

Frege does argue that our ideas must have "some affinity" for art to be possible,[72] and Russell says we can have some degree of "'knowledge by description'" of "other people's minds."[73] But this is too weak for either the traditional mental language argument (Aristotle, Aquinas) or the analytic philosophers' private language arguments (Frege, Russell, Wittgenstein, Quine) to succeed. We need either public meanings or formally identical private meanings.

I conclude that the mental language tradition is immune to the Frege-Russell attack on pyschologism.[74] In that tradition, even though our language expresses private mental concepts, they are formally identical across persons and, for Aristotle and Aquinas, also with forms *in rebus*.[75] The Frege-Russell attack applies only to what Aristotle calls the phantasm (image).[76]

We may say that in the Aristotelian tradition, ideas are materially private but formally public. Of course, ideas would not consist of *matter*. Rather, their "materiality" would consist of their ontological individuality, and their "formality" would consist of their being ideas of the same thing.[77] I think that such an argument, or perhaps better, several arguments much like it, are

---

formal identity, since Ockham and Buridan would not consider types to be universals that are literally identical across tokens. So in simplest terms, it is just another way of speaking. At the same time, Ockham is not rejecting ideas, but identifying them with acts and with signs. It seems to me that anyone who takes mental language seriously must identify ideas at least with signs. I am thinking here of Boethius, Anselm, and Augustine; Boethius seems to have thought this of Aristotle, and not unreasonably so. But we need not accept the theory that our thought is itself literally a mental language in order to admit that we communicate our ideas in our public languages. We need not even accept that thought is *analogous* to language, though I think it is (see Aune [1985] p. 68–89, 212 n.18; [1977] p. 67–68; [1967] p. 103). We need only admit that our communicated ideas are identifiable only in terms of the things they are ideas of, and that these things are public.

[71] Spade [2002] p. 95; see Pasnau [2003] p. 290–291. That like must be cognized by like is a major thesis of Aristotle's *De Anima*. Aristotle attributes the idea to Empedocles. See also Aquinas [1999] p. 30–31, 41,43, 98–101, 186–189, 199–202, 321–322.

[72] Frege [1971] p. 61.

[73] Russell [1912] p. 52; see 54–55, 57.

[74] See e.g. Klima [2009] p. 35; [2001] p. xxxiv; Panacchio [2004] p. 170–171; Yrjönsuuri [2001] p. xi.

[75] See Geach [1969] p. 33.

[76] See Kenny [1969a] p. 287.

[77] See Perler [2003] p. 166–67. If one balks at calling ideas "material" in any sense, one might prefer Descartes' scholastic terminology: the private mentality of ideas is their formal reality, and what they are ideas of is their objective reality. But on that terminology, ideas of horse are ontologically different across minds in their *formal*

19

implicit in the mental language tradition, which runs from Aristotle through Boethius, Augustine, and Anselm to Aquinas, Scotus, and Ockham.[78] If I am right, then the Aristotelian tradition implicitly asked and answered Wittgenstein's "beetle in a box" question over two thousand years before Frege, Russell, or Wittgenstein did. And while tradition answered the question in a very different way, being qua identity for ideas or meanings was equally at the heart of it.

The difference is deep. Tradition admits two kinds of being and identity, formal (natural kind) and material (numerical). Frege and Russell admit only one kind of being and identity for all entities, represented respectively by the existential quantifier and the identity sign. But these views are not as incompatible as they seem. We may simply define formal identity as the identity of forms, or more broadly of universals, and material identity as the identity of particulars. Russell admits many different kinds of being. Frege admits not only both particulars and universals, but also a distinction between concrete and abstract entities. Frege's and Russell's logics have infinitely many type-levels of existential quantification, and Russell has even more logical notations for existence than that. And while no one should ever confuse Frege with Russell, or for that matter Aristotle with any of the great medievals, all of whom are profoundly different, I have wanted to point to the arguably deeper similarities. The deepest similarity is, of course, "no entity without identity" itself. For Aristotle says, "That 'unity' has in some sense the same meaning as that of 'being' is clear...."[79]

References

Aquinas [1962] – T. Aquinas and Cajetan, *Aristotle: On Interpretation: Commentary by St. Thomas and Cajetan (Peri Hermeneias)*, trans. by Jean T. Oesterle, Marquette University Press, Milwaukee, Wisc., orig. Latin of Aquinas 1269–1272, Latin completed by Cajetan 1496.

Aquinas [1965] – T. Aquinas, *Concerning Being and Essence (De Ente et Essentia)*, trans. by George G. Leckie, Appleton-Century-Crofts, New York 1937, orig. Latin 1265.

Aquinas [1999] – T. Aquinas, *A Commentary on Aristotle's De Anima*, trans. by Robert Pasnau, Yale University Press, New Haven, orig. Latin 1267–1268.

Aristotle [1973] – Aristotle, *Aristotle's Metaphysics*, trans. by Hippocrates G. Apostle, Indiana

---

reality, and are formally identical in their *objective* reality.

[78] See note 67.

[79] Aristotle [1973] p. 164 (*Metaphysics* 1054*a*10–15).

University Press, Bloomington, Ind., 1966, orig. Bekker edition 1831, orig. Greek ca. 347–322 B.C., possibly in different phases.

Aune [1967] – B. Aune, "Thinking," [in:] Paul Edwards, Editor in Chief, *The Encyclopedia of Philosophy*, vol. 8, Macmillan Publishing Co., Inc. and The Free Press, New York.

Aune [1977] – B. Aune, *Reason and Action*, D. Reidel, Dordrecht, Holland.

Aune [1985] – B. Aune, *Metaphysics: The Elements*, University of Minnesota Press, Minneapolis.

Bergmann [1967] - G. Bergmann, *The Metaphysics of Logical Positivism*, 2d ed., University of Wisconsin Press, Madison.

Bradley [1897] - F. H. Bradley, *Appearance and Reality*, 2d ed., Clarendon, Oxford, 1st ed. 1893.

Dejnožka [1991] - J. Dejnožka, "Russell's Seventeen Private-Language Arguments," *Russell* (n.s. 11/1) p. 11–35.

Dejnožka [1995] - J. Dejnožka, "Origins of the Private Language Argument," *Diálogos* (66) p. 59–78.

Dejnožka [2003] - J. Dejnožka, *The Ontology of the Analytic Tradition and Its Origins: Realism and Identity in Frege, Russell, Wittgenstein, and Quine*, reprinted with further corrections, Littlefield Adams, Lanham, Maryland, orig. printing 1996, reprinted with corrections, 2002.

Descartes [1969] – R. Descartes, *The Principles of Philosophy,* [in:] *The Philosophical Works of Descartes*, trans. by Elizabeth S. Haldane and G. R. T. Ross, Cambridge University Press, Cambridge, England, 1st ed, 1911, reprinted with corrections 1931, orig. Latin 1644.

Donnellan [1966] – K. Donnellan, "Reference and Definite Descriptions," *Philosophical Review* (77) p. 281–304.

Frege [1967] – G. Frege, *The Basic Laws of Arithmetic: Exposition of the System*, trans. and ed. by Montgomery Furth, University of California Press, Berkeley, orig. German 1893.

Frege [1971] – G. Frege, "On Sense and Reference," [in:] *Translations from the Philosophical Writings of Gottlob Frege*, 2d ed., trans. by P. Geach and M. Black, Basil Blackwell, Oxford, orig. German 1892.

Frege [1971a] – G. Frege, "What is a Function?," [in:] *Translations from the Philosophical Writings of Gottlob Frege*, 2d ed., trans. by P. Geach and M. Black, Basil Blackwell, Oxford,

orig. German 1892.

Frege [1974] – G. Frege, *The Foundations of Arithmetic: A logico-mathematical enquiry into the concept of number*, 2d rev. ed., trans. by J. L. Austin, Northwestern University Press, Evanston, Ill., orig. German 1884.

Geach [1969] – P. Geach, "Form and Existence," [in:] Kenny, ed., *Aquinas: A Collection of Critical Essays*, 1976.

Gibson [1998] – A. Gibson, "Ockham's World and Future," [in:] John Marenbon, ed., *Medieval Philosophy*, Routledge, London. Routledge History of Philosophy vol. 3.

Grajewski [1944] – M. Grajewski, *The Formal Distinction of Duns Scotus: A Study in Metaphysics*, Washington, D.C., The Catholic University of America Press.

Haldane [1999] – J. Haldane, "A Return to Form in the Philosophy of Mind," [in:] *Form and Matter: Themes in Contemporary Metaphysics*, ed. by David S. Oderburg, Blackwell, Oxford.

Kenny [1969] – A. Kenny, ed., *Aquinas: A Collection of Critical Essays*, University of Notre Dame Press, Notre Dame, Ind., 1976.

Kenny [1969a] – A. Kenny, "Intellect and Imagination in Aquinas," in *Aquinas: A Collection of Critical Essays*, 1976.

Kenny [1980] – A. Kenny, *Aquinas*, Hill and Wang, New York.

King [2003] – P. King, "Scotus on Metaphysics," [in:] *The Cambridge Companion to Duns Scotus*, ed. by Thomas Williams, Cambridge University Press, Cambridge, England.

Kirwan [2001] – C. Kirwan, "Augustine's Philosophy of Language," in Eleonore Stump and Norman Kretzmann, eds., *The Cambridge Companion to Augustine*, Cambridge University Press, Cambridge, England.

Klima [2001] – G. Klima, Introduction to John Buridan, *Summulae de Dialectica*, trans. by Gyula Klima, Yale University Press, New Haven.

Klima [2009] – G. Klima, *John Buridan*, Oxford University Press, Oxford.

Kretzmann [1967] – N. Kretzmann, "Semantics, History of," [in:] Paul Edwards, Editor in Chief, *The Encyclopedia of Philosophy*, vol. 7, Macmillan Publishing Co., Inc. and The Free Press, New York.

Kretzmann [1993] – N. Kretzmann, "Philosophy of Mind," [in:] *The Cambridge Companion to Aquinas*, ed. by Norman Kretzmann and Eleonore Stump, Cambridge University Press,

Cambridge, England.

Leckie [1965] – G. Leckie, Preface to St. Thomas Aquinas, *Concerning Being and Essence (De Ente et Essentia)*, trans. by George G. Leckie, Appleton-Century-Crofts, New York, 1937.

Lisska [2006] – A. Lisska, "Medieval Theories of Intentionality: from Aquinas to Brentano and Beyond," in *Analytical Thomism: Traditions in Dialogue*, ed. by Craig Paterson and Matthew S. Pugh, Ashgate, Aldershot, England.

Normore [1990] – C. Normore, "Ockham on Mental Language," [in:] J-C. Smith, ed., *Historical Foundations of Cognitive Science*, Kluwer, Dordrecht, Holland.

O'Callaghan [2003] – *Thomist Realism and the Linguistic Turn: Toward a More Perfect Form of Existence*, University of Notre Dame Press, Notre Dame, Ind.

Panaccio [1999] – C. Panaccio, "Semantics and Mental Language," [in:] *The Cambridge Companion to Ockham*, ed. by Paul Vincent Spade, Cambridge University Press, Cambridge, England.

Panaccio [2004] – C. Panaccio, *Ockham on Concepts*, Ashgate, Aldershot, England.

Pasnau [2003] – R. Pasnau, "Cognition," [in:] Thomas Williams, ed., *The Cambridge Companion to Duns Scotus*, Cambridge University Press, Cambridge, England.

Perler [2003] – D. Perler, "Duns Scotus's Philosophy of Language," [in:] Thomas Williams, ed., *The Cambridge Companion to Duns Scotus*, Cambridge University Press, Cambridge, England.

Quine - W. V. O. Quine [1960], *Word and Object*, M.I.T. Press, Cambridge, Mass.

Russell - B. Russell [1900], *A Critical Exposition of the Philosophy of Leibniz*, George Allen & Unwin, London.

Russell - B. Russell [1906], letter to Philip Jourdain dated January 1, 1906, [in:] *Dear Russell-Dear Jourdain*, ed. by Ivor Grattan-Guinness, Columbia University Press, New York, 1973.

Russell - B. Russell [1911], "On the Relations of Universals and Particulars," [in:] *Logic and Knowledge*, 1971.

Russell [1912] – B. Russell, *The Problems of Philosophy*, Oxford University Press, London, 1974.

Russell - B. Russell [1914], "On the Nature of Acquaintance." In *Logic and Knowledge*, 1971.

Russell - B. Russell [1918], "The Philosophy of Logical Atomism." In *Logic and Knowledge*, 1971.

Russell [1929] – B. Russell, *Our Knowledge of the External World as a Field for Scientific Method in Philosophy*, 2d ed., Mentor, New York, 1960. 1st ed. 1914.

Russell - B. Russell [1927], *The Analysis of Matter* Dover, New York, 1954.

Russell - B. Russell [1938], *The Principles of Mathematics*, 2d ed., W. W. Norton, New York. 1st ed. 1903.

Russell - B. Russell [1940], *An Inquiry into Meaning and Truth*, Unwin Paperbacks, London, 1985.

Russell - B. Russell [1945], *A History of Western Philosophy*, Simon and Schuster, New York.

Russell - B. Russell [1948], *Human Knowledge: Its Scope and Limits*, Simon and Schuster, New York, 1976.

Russell - B. Russell [1959], *My Philosophical Development*, Unwin, London, 1985.

Russell - B. Russell [1971], *Logic and Knowledge*, ed. by Robert Marsh, Capricorn Books, New York.

Shields [1990] – C. Shields, "The First Functionalist," [in:] J-C. Smith, ed., *Historical Foundations of Cognitive Science*, Kluwer, Dordrecht, Holland.

Spade [1982] – P. Spade, "The Semantics of Terms," [in:] Norman Kretzmann, Anthony Kenny, Jan Pinborg, and Eleonore Stump, eds., *The Cambridge History of Later Medieval Philosophy: From the Rediscovery of Aristotle to the Disintegration of Scholasticism, 1100–1600*, Cambridge University Press, Cambridge, England.

Spade [1998] – P. Spade, "Late Medieval Logic," [in:] John Marenbon, ed., *Medieval Philosophy*, Routledge, London. Routledge History of Philosophy vol. 3.

Spade [2002] – P. Spade, *Thoughts, Words, and Things: An Introduction to Late Medieval Logic and Semantic Theory*, version 1.1, online at http://pvspade.com/Logic/docs/thoughts1_1a.pdf .

Whitehead - A. Whitehead and B. Russell [1927], *Principia Mathematica*, vol. 1. 2nd ed. Cambridge University Press, London. 1st ed. 1910.

Wolter [1965] – A. Wolter, "The Formal Distinction," [in:] *John Duns Scotus, 1265–1965*, ed. by John K. Ryan and Bernardine M. Bonansea, The Catholic University of America Press, Washington, D.C.

Yrjönsuuri [2001] – M. Yrjönsuuri, Preface to Mikko Yrjönsuuri, ed., *Medieval Formal Logic: Obligations, Insolubles, and Consequences*, Kluwer, Dordrecht, The Netherlands.