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4. DALGARNO, WILKINS, LEIBNIZ AND THE DESCRIPTIVE NATURE OF METAPHYSICAL CONCEPTS

1. INTRODUCTION

Seen from the perspective of his explicit statements, Leibniz's attitude towards the artificial languages developed by George Dalgarno and John Wilkins seems to have been dismissive. For example, he objects to Dalgarno's alphabetical symbolism that it does not display the logical multiplicity required to represent the whole range of simple, indefinable concepts.[1] Similarly, he observes that Wilkins's system of a graphical notation following the model of early chemical notations with its great number of symbols is difficult to memorize and therefore contributes more to confusion than to clarification.[2] As Jaap Maat has pointed out (Maat 2004), even in the details of the linguistic analysis of the grammar of ordinary language Leibniz almost never follows Dalgarno or Wilkins's suggestions.

However, from the perspective of such a dismissive attitude, it is puzzling why Leibniz nevertheless makes frequent use both of Dalgarno's *Art of Signs* and Wilkins's *Essay Towards a Real Character and a Philosophical Language* to structure his own work on the *characteristica universalis*. The present paper argues that Leibniz's persistent interest in both works is situated not so much on a linguistic but rather on a metaphilosophical level. To be sure, the simple concepts identified in Wilkins's and Dalgarno's artificial languages naturally lend themselves to the project of an art of invention that proceeds synthetically by combining the semantic atoms. Indeed, Francesco Piro interprets Leibniz's interest in the work of Dalgarno and Wilkins from the perspective of the applicability of artificial languages for the purposes of an axiomatic metaphysics.[3] Nevertheless, there is a complementary – analytic and descriptive – side to the projects of Wilkins and Dalgarno. In particular, Leibniz's attention focused on Wilkins and Dalgarno's views on the nature of metaphysical concepts. According to Wilkins, the task of philosophy is not the construction of metaphysical theories, but rather a description of the role these concepts play as an implicit part of everyday language. A comparable view can be found in Dalgarno's theory of categorial concepts or "predicaments." For Dalgarno, categorial concepts are implicitly contained in our everyday concepts. In a similar vein, Leibniz conceives of metaphysical concepts as constituents of ordinary concepts that only have to be made explicit. This lends a strongly descriptivist aspect to Leibniz's view of metaphysical concepts, which explains why Leibniz took a particular interest in Dalgarno's and Wilkins's views on the nature of metaphysical concepts and why their views subsequently influenced Leibniz's own work on the *characteristica universalis*.

2. LEIBNIZ AND THE DESCRIPTIVE NATURE OF METAPHYSICAL CONCEPTS

There can be little doubt that by the time he finished his university studies, Leibniz held that propositions of metaphysics are purely hypothetical. As reading notes written around 1663/64 in his personal copy of Daniel Stahl's *Metaphysical Compendium*[4] show, Leibniz regarded this as a common view shared by Fabri and Hobbes:

> *Metaphysics*, i.e. First Philosophy is a *system of theorems*, a *theorem* in turn is a proposition that is true even if nothing would exist; i.e. a merely hypothetical proposition, or one that can be reduced to hypothetical propositions. In this way Honoratus Fabri defines First Philosophy … and Th. Hobbes who divides his *De Corpore* in two parts, into First Philosophy, i.e. abstracted from existence; and Physics, i.e. dealing with the causes of the things in the world. Metaphysics is the work of mere *reason*, and derives from definitions; *sense* provides the foundations of physics. (A VI iii, 22)

Interestingly, Leibniz in this note connects the view of metaphysics as a purely hypothetical discipline with the view that metaphysics is derived from rational construction of definitions and does not have to do with causal knowledge. As we will see shortly, his view of the role of a purely hypothetical procedure is soon supplemented by a more pluralistic view of the method of metaphysics. In fact, Leibniz's picture of the nature of metaphysics begins to change quite early on. Already in another early piece, *On Transsubstantiation* [1668–1669 (?)], his portrayal of metaphysical concepts is far more complex. On the one hand, he there uses a hypothetico-deductive type of argument that purports to show the possibility of the Eucharist. For example, he characterises the starting point of his argument as follows: "This proof depends on the explication of the terms 'substance', 'species' or 'accident', and 'numerical identity'; which we will develop on the basis of the notions accepted by the Scholastics, which we will only explicate clearly" (A VI i, 508). On the other hand, this starting point is not purely hypothetical; it also is deliberately conciliatory in the sense that it rests on concepts that are common to different scholastic philosophies. As Leibniz points out later in the text, the scholastic concepts he has chosen here have counterparts in "modern" philosophy. This common conceptual scheme not only serves as an (putatively) uncontroversial starting point. Leibniz also thinks that the rational core of several ancient metaphysical doctrines can be reduced to what is expressible in terms of these concepts, and therefore also in the conceptual framework of the moderns. Moreover, although he uses a hypothetico-deductive model of explanation, he joins the idea that the conceptual basis of this explanation is common to different philosophical traditions with the idea that, in principle, the adequacy of the definitions is accessible to proof. In this sense, a little later in the text he says that

> it is to be proved through the consensus of philosophers that the substance of a thing is not accessible to our eyes. Therefore, another notion of mind is necessary than the one usurped today by sense, otherwise it would be accessible to sense perception. (A VI i, 512)

Thus, metaphysical concepts (such as the concept of substance), which function as the basis for hypothetico-deductive arguments, are not only a part of a conciliatory strategy, but at the same time are capable of being proved themselves.

This complex view of the nature of metaphysical concepts is expressed already in the *Dissertation on the Art of Combinations* (1666). The whole enterprise of a universal characteristic there is portrayed not only as something that aims at the production of discourse, but also (and primarily) as something that rests on an adequate analysis of the categorial structure of our language:

> Truly, I miss much in Lull's terms. Because his whole method is more directed at the art of extemporaneous discourse than at the pursuit of full knowledge of a given subject … He determines the number of terms arbitrarily, there are nine in each class. Why does he include among the absolute predicates, which have to be the most abstract, will, truth, wisdom, virtue, glory, why does he omit beauty, or figure, or number? To the relational predicates, there have to be added many more, e.g. cause, whole, part, requisite, etc. (Problema II, § 60: A VI i, 193)

Leibniz's own intent to provide a basis for metaphysical concepts that goes beyond their merely rhetorical, discourse-productive use is supplemented in the *Preface to Nizolius* (1670) by an analogous view of the nature of logical concepts:

> True logic is not only an instrument, but also contains somehow the principles and the true reason for doing philosophy, because it hands down those general rules, through which the true and the false can be discerned, and by means of which through the mere application of definitions and experiences all conclusions can be proven. But they also are not the principles of philosophy, or of the propositions themselves, and they do not make the truth of things, but rather show it; nevertheless they make the philosopher, and are the principles of the right way of doing philosophy, which – as Nizolius has observed – is enough. (A VI ii, 408)

Interestingly, in this passage Leibniz does not regard the principles of reasoning as something that is constitutive of philosophy as a particular theoretical discipline. Principles of reason, in his opinion, are not a tool of theory construction. Rather, they are only made explicit in philosophical analysis. In this sense, making principles of reason explicit only "shows" the truth that already is contained in our ordinary way of thinking about things. This view of the descriptive nature of philosophical knowledge leads Leibniz to the claim that philosophers do not know other things than ordinary people but rather the same things in a different way:

> And it is very true that there is nothing that cannot be explicated in popular terms, only using more of them. Therefore, Nizolius rightly urges at various places that what does not possess a general term … in common language should be regarded as nothing, as a fiction, and as useless. For philosophers do not always surpass common men in that they sense different things, but that they sense them in another way, that is with the eye of the mind, with reflection or attention, and comparing things with other things. (A VI ii, 413)

Although the example of a "comparing things with other things" mentioned at this place concerns Joachim Jungius's attempt at classifying birds through a comparison of their external features, the point Leibniz has in mind here seems to more general. The function of comparing things with each other in this context does not have the

function of arriving at empirical generalisations based on an inductive procedure. Rather, using a comparative method leads to an insight into a conceptual structure that, due to the fact that it is shared by all rational beings, can be regarded as a kind of implicit knowledge that only has to be made explicit. This interpretation of shared conceptual structures as implicit knowledge has the consequence that in writing philosophy the following rule has to be observed:

> *Whenever there are popular terms available that are equally comprehensive, technical terms should not be used*. And indeed this is one of the fundamental rules of philosophical style, which should be followed everywhere, in particular by metaphysicians; because most of the dialectical and metaphysical matters themselves occur frequently even in popular speeches, writings, and thoughts, and are used everywhere in normal life. This is why people, guided by this frequent occurrence, have designated them by specific, common, most natural and comprehensive words; in case these are available, it is a sin to obscure things through new, and in the most cases even less convenient, invented ones … (A VI ii, 415)

If one compares these remarks with the view of metaphysical concepts expressed in the reading notes on Stahl's *Metaphysical Compendium*, it becomes immediately clear that by time around 1670–1671 Leibniz's view of the nature of metaphysics has become far more complex. In particular, the framework of a hypothetico-deductive approach to metaphysics has been supplemented by an interpretation of metaphysical concepts in the framework of a theory of implicit knowledge. This implicit knowledge is understood as something that is common to all rational beings. "Common" notions not only comprise notions of arithmetic and geometry but also structure all areas of ordinary discourse. They are not common because they are abstract, Platonic, entities. Rather, mathematical and geometrical notions are common in the same way as other, non-mathematical, notions are common impli-cations of everyday language. Metaphysics is not only a matter of the construction of adequate explanatory hypotheses, but also a matter of the description of common conceptual structures.

3. WILKINS, DALGARNO, AND THE DESCRIPTIVE NATURE OF METAPHYSICAL CONCEPTS

Leibniz's views as to the nature of metaphysical concepts and their role in the universal characteristic were developed quite far, when in spring 1671 he read John Wilkins's *Essay Towards a Real Character*[5] and when in 1673, during his stay in London, he purchased copies both of this book and of George Dalgarno's *Art of Signs*.[6] Both books contain statements about the nature of the Universal Characteristic and the function of metaphysical concepts that come surprisingly close to those of Leibniz. Wilkins tells the reader about the origins of his book that the basic idea goes back to conversations with Seth Ward, the Bishop of Salisbury. As Ward pointed out to him, previous authors of artificial languages

did generally mistake in their first foundations; whilst they did propose to themselves the framing of such a *Character*, from a *Dictionary of Words*, according to some particular Language, without reference to the *nature of things*, and that common Notion of them, wherein Mankind does agree, which must chiefly be respected, before any attempt of this nature could signifie any thing, as to the main end of it. (ERC "To the Reader")

From the outset, the strategy inspired by Ward ties the idea that a universal character should represent the real order of things to the suggestion that in order to achieve this goal the conceptual framework common to all humans has to be analysed. That this type of analysis has more to do with the description of concepts that are actually used than with the introduction of hypothetical definitions becomes apparent in the terminology chosen by Wilkins. About the second part of his book, he says that it

shall contein that which is the great foundation of the thing here designed, namely a regular *enumeration* and *description* of all those things and notions, to which marks or names ought to be assigned according to their respective natures, which may be styled the *Scientifical* Part, comprehending *Universal Philosophy*. It being the proper end and design of the several branches of Philosophy to reduce all things and notions unto such a frame, as may express their natural order, dependence, and relations. (ERC I i, 1: 1)

The research program pursued by Wilkins does not start with arbitrary definitions, but rather aims at specifying concepts that represent the causal structure of reality. This type of an "enumeration and description" of notions that express the "natural order" of things, in Wilkins's opinion, is not only a tool for facilitating communication and of helping memory by a "natural method". It is also an expression of the common nature of rational beings, because it expresses the structure of the language of thought:

As men do generally agree in the same Principle of Reason, so do they likewise agree in the same *Internal Notion* or *Apprehension of things*.

   The *External Expression* of these Mental notions, whereby men communicate their thoughts to one another, is either to the *Ear*, or the *Eye*. …

   That *conceit* which men have in their minds concerning a Horse or Tree, is the Notion or *mental Image* of that Beast, or natural thing, of such a nature, shape and use. The *Names* given to these in several Languages, are such arbitrary *sounds* or *words*, as Nations of men have agreed upon, either casually or designedly, to express their Mental notions of them. The *Written word* is the figure or picture of that Sound. (ERC I v, 2: 20)

Because the goal of a "philosophical language" is to achieve a correspondence between the order of mental concepts and order of arbitrary signs, Wilkins claims that we "by learning the *Character* and the *Names* of things, be instructed likewise in their *Natures*, the knowledg of both which ought to be conjoyned" (ERC I v, 3: 20–1). The resulting view of the nature of metaphysics is that its aim "should be to enumerate and explain those more general terms, which by reason of their Universality and Comprehensiveness, are either *above* all those Heads of things stiled Predicaments, or else *common to several of them*. And if this Science had been so ordered, as to have conteined a plain regular enumeration and description of these general terms, without the mixture of nice and subtle disputes about them; it might have been proper enough for learners to have begun with." In particular, Wilkins regards metaphysical concepts as something that belongs to "such matters

as are *prima nota*, and most obvious" and that are therefore most hard to define. (ERC II i, 1: 24) In fact, the tables Wilkins sets forth in the second part of his book do not give any explicit definitions of general terms at all. Rather, they outline a hierarchy of concepts following the model of subordination of concepts of species under concepts of genera, thereby providing a sort of implicit definition of concepts through their place in the hierarchy.

Dalgarno expresses similar intuitions about the role of metaphysical concepts for the foundations of the Universal Characteristic. In a way akin to Wilkins (and probably also inspired by Ward, who was – together with Wilkins – one of the supporters of Dalgarno's work),[7] Dalgarno connects the idea of identifying elements of the symbolism of an artificial language with the idea of expressing thereby the natural order of things:

> The absolute doctrine of the first elements of signs, as far as the requirements of the present treatise demand, and brevity suggest: Before I come to *entire signs*, which can be composed from them, and given to the things themselves; it will be necessary to inspect the nature of the *things* themselves … Because *signs* are taken by us as standing for *things* themselves, it is wholly conforming to reason that the art of *signs* follows the art of *things*. And in the same way as I think that *metaphysics & logic* constitute only a single art; so does *grammar* differ not otherwise, or more, from these, as the *sign* from the *signified*: because these are correlated, the knowledge of both has to be entirely one and the same. (AS 17–8)

The grammar of an ideal artificial language would express the logical structure of reality, and in this sense, for Dalgarno, logic and metaphysics form a single discipline. In the context of such a conception of philosophical grammar, Dalgarno explicitly defends a theory of categorial concepts or "predicaments" against objections such as those in Thomas Hobbes' *On Body*.[8] For Dalgarno, the rejection of a doctrine of predicaments is "absurd and unworthy of a philosopher" exactly because it is the aim of philosophy to "lay bare the natures of things by investigating the differences & similarities; and thus, through method & order to locate & situate them among each other". By contrast, the rejection of the doctrine of predicaments, according to Dalgarno, explains such blatant philosophical errors as the claim that there are "two highest genera of things, *Body* namely & *Non-body*." As he notes, there is "no more absurd & insignificant term than *non-body*" (AS 18–9). However, his reservations go beyond the problem of how a negative concept can function as a foundation of the conceptual structure of everyday language. He also argues that predicaments are implicit presuppositions of ordinary concepts such as that of proof and description:

> And I ask those who regard no use for the *predicament*, what do these terms signify, *genus*, *species*, *difference*, *definition*, &c? Certainly, without the supposition of the predicament they are whole absurd & signifying nothing; because all *demonstration* supposes *definition*, a *definition genus & species*, *genus & species* and ordered *series of predicaments*. And if we want to speak properly, there is no *definition* or *demonstration* (and the writings of these authors abound with these terms) because no *series of predicaments* is constituted: from this follows that what is taken to be a *definition* by someone does not deserve the name of a *description* (as the distinction is commonly made) by someone else; so that what is a *demonstration* for the one, is a *sophistry* for the other. (AS 24–5)

The view of categorial concepts as necessary conditions of ordinary discourse leads Dalgarno to the claim that the nature of categories is inadequately represented in a conceptual "tree" expressing a hierarchy of concepts in the order of progressing abstraction. (AS 27) The alternative picture suggested by Dalgarno – that of a conceptual "genealogy" – captures the fact that categories play a role in concept formation. The role of reason is to discover the role categorial concepts play in ordinary concept formation: "As we through *faith* believe that all men descend from a first parent; we prove through *reason* that all particular notions derive from a first *notion of a being*" (AS 27). In Dalgarno's view, categorial concepts are what gives ordinary concepts the structure they have. Ordinary concepts and discourse cannot be thought without supposing that there are categorial concepts because they are – as Dalgarno puts it – "derived" from them. The contrast Dalgarno has mind can be described as the contrast between a view of categorial concepts as outcome of a process of abstraction and a view of categorial concepts as playing a role in structuring everyday language. This second view is – as we shall presently see – one of the aspects of Dalgarno's work that attracted Leibniz's interest over many years.

4. LEIBNIZ'S RESPONSE TO WILKINS AND DALGARNO

Leibniz's comments on Dalgarno's and Wilkins's writings begin in the early 1670s, and continue during the time of his renewed interest in the project of a Universal Characteristic during the early 1680s. In an early remark on a separate sheet added to his copy of the *Art of Signs*, Leibniz writes: "Dalgarno saw something through a mist p. 33, but horrified by the difficulty, and not seeing sufficiently how the thing could be effected, went wrong in all the rest" (A VI iii, 170). This short note does not tell us exactly what Leibniz thought that Dalgarno saw, and in which respect exactly he thought him to have gone wrong. Jean-Baptiste Rauzy has made the interesting suggestion that Leibniz here echoes Hobbes's view that the series of predicaments does not tell anything about the nature of things and natural species (2001: 219–20, note 6). In fact, Leibniz's objection seems to have something to do with the fact that the categorization as proposed by Dalgarno does not reflect the order of things. However, Leibniz's doubts rather have to do with the specific strategy Dalgarno pursues in the chapter treating the relation between predicaments and philosophical grammar than with the general project of an analysis of categories per se. Such an interpretation is suggested by the place where he disagrees with Dalgarno. Interestingly, the disagreement does not concern Dalgarno's theory of the predicaments in the third chapter of the *Art of Signs*. Rather, it concerns Dalgarno's corollaries relating to the prospects of the application of this theory to the construction of a philosophical grammar in the fourth chapter of the *Art of Signs*, entitled "Some Grammatical Corollaries following from the Exposition of the Predicament." There, Dalgarno claims that the order of the predicaments "is not an adequate foundation for the Art of Grammar" (AS 32). The argument to which Leibniz responded is that "analysis does not sufficiently lead to this notion

seen under the form of a single composite, instantly by means of a single act of the mind, graspable without a long discourse" (AS 33). According to Dalgarno, a possible alternative would be to use a purely naturalistic taxonomy, e.g. 6000 species of plants etc.; however, as he points out, such a fine grained taxonomy could not describe adequately what is common to several species of things. (AS 34–5) As a solution, Dalgarno proposes that "a selected number of primary notions should be chosen from the first & and most important sciences; of those namely which in respect to things are called the more general ones; & these should be supposed in the place of the first concepts, and the radical signs should be used to signify them" (AS 35). In addition, Dalgarno is explicit about the fact that he does not offer the tables of predicates and the "Lexicon Philosophico-Grammaticum" as a perfect series of things, but something that has a strongly arbitrary component. In this sense, he holds that the "Art of Signs does not allow for strict philosophical laws" (AS 36). Leibniz criticises this view by pointing out that it is "one thing to separate parts, another to consider distinctly, and there is no need to draw attention to all details at once; it suffices that the character is composed in a way that it can be divided as it pleases" (A VI iii, 174–75, note 14).

Leibniz's objection is not directed at the general plan of outlining a theory of categorial concepts. Rather, the thrust of Leibniz's argument is that, in matters of detail, Dalgarno did not use his theory of the predicaments in an adequate way for the construction of his artificial language. This also is the point of a retrospective remark in a letter to Thomas Burnett of 24 August 1697:

I have considered with attention the great work on *Universal Character and Philosophical Language* of Monsieur Wilkins; I find that he has put there an infinity of nice things, and we never have had a more accomplished table of predicates; but the application to characters and language is not at all conform to what one could and should have done … The objections of Monsieur Dalgarno and Monsieur Wilkins against the truly philosophical method have only the purpose to excuse the imperfection of their essays, and only indicate the difficulties they were not able to overcome (GP III, 216).

In fact, Dalgarno and Wilkins were aware of the discrepancy between their programmatic intentions and the concrete proposals at constructing a system of signs underlying an artificial language. Nevertheless, despite his own reservations, Wilkins seems to have felt that, in principle, an artificial language expressing the categorial structure of thought that matches the structure of reality could be formulated:

For the accurate effecting of this, it would be necessary, that the *Theory* it self, upon which such a design were to be founded, should be exactly *suited to the nature of things*. But, upon supposal that this Theory is *defective*, either as to the *Fulneß* or the *Order* of it, this must need add much *perplexity* to any such Attempt, and render it *imperfect*. And that this is the case with that common Theory already received, need not much be doubted; which may afford some excuse as to several of those things which may seem to be less conveniently disposed of in the following Tables … (ERC I v, 3: 21).

A similar attitude can be found in Dalgarno's work. Despite his own qualms about the applicability of predicaments to grammar, Dalgarno characterizes the "Lexicon Philosophico-Grammaticum" as containing "tables of things, and of all simple and general notions … ordered according to the predicamental order". According to

his view, notions formed through the combination of such simple notions "contain descriptions of things that are in agreement with their natures" (AS, "Lexicon Philosophico-Grammaticum", without pagination [following p. 115]).

In notes probably written between October 1677 and September 1680, Leibniz makes use of the Lexicon under exactly this perspective, when he tries to develop his own definitions of metaphysical concepts listed by Dalgarno. For example, Leibniz defines "Ens, Res" as "what can be conceived of distinctly" or, alternatively, as "what can be known" (A VI iii, 182). In entries which he crossed out again, Leibniz defines "substance" as "active and passive being, it is a being that involves all other existing beings in its notion, a persisting being", and "accident" as an "attribute of a substance" (A VI iii, 182, notes). He also makes a similar use of the tables of concepts in Wilkins's *Essay*. Again, Leibniz's thought circles around problem of finding adequate definitions of metaphysical concepts. For example, in a list of definitions following the arrangement of Wilkins's tables, he writes: "A *substance* is what has some action or passion. Or rather: whatever is thought absolutely or completely"[9] (in a first version he had written: "A *substance* is what has some action. Or rather: whatever is thought" [A VI, 2, 488, notes]). In a similar vein, Leibniz's subsequent work on the *Characteristica Universalis* focuses on categorial concepts. In an extensive collection of pieces concerning Wilkins's *Essay*, Leibniz tries to give definitions of metaphysical concepts, e.g.: "*Something* is whatever can be thought. *Nothing* is whatever cannot be thought. A *Thing* is what can be thought distinctly. ... A *Substance* is whose individual cannot be said about another. An *Accident* is whose individual can be predicated of another."[10] In *On the Classes of Things*, he compares the views of philosophers such as Aristotle and Becher on the number and order of categories, and it is in this context that he makes again use of the work of Dalgarno and Wilkins.[11] Finally, in a note probably from the summer of 1688, Leibniz writes:

There is a need for definitions such as my own, namely palpable ones, and with the help of characters bound to something sensible.

The best method to get an analysis of notions, a posteriori, is to demand the demonstration of the most axiomatic propositions, which seem to others known by themselves. Therefore, the best should be excerpted from the *Regulae Philosophicae* by Stahl and Thomasius[12] [...] In addition, the writings of Plato, Aristotle, Cardano, Galilei, Jungius, Descartes, Fabri, Hobbes [...] Spinoza should be run through [...].

Both those authors who have notable propositions, which most lead to the principles; and those who have many terms arranged in a real order, such as those who deduce predicaments to even prior concepts.[13]

And among the authors belonging to this last category, Leibniz again mentions Wilkins. These observations point to the conclusion that Leibniz's persisting interest in the work of Wilkins and Dalgarno has to do with his investigation of categorial concepts. He shares with Wilkins and Dalgarno the view that categorial concepts belong to the conceptual framework of our ordinary way of thinking about the world. This distinguishes them, e.g. from concepts underlying propositions about sensible qualities. In *On the Alphabet of Human Thoughts*, he writes: "Whatever

has a cause, cannot be conceived by itself; rather, it is conceived through its cause, from which its possibility can be demonstrated."[14] He admits that it might turn out to be difficult to specify the causes for a given sensible quality; in this case, concepts for sensible qualities can "provisionally be taken as primitive ones" (A VI iv, 270). Yet, he distinguishes between primitive concepts that derive from sensible qualities, and primitive concepts that only are perceived by means of an "internal sense", or which are common to several senses. (A VI iv, 271) He provides the following evidence for the existence of this second kind of simple concepts:

Children who have little experience nevertheless are able to understand almost everything that a prudent teacher explains to them, even if he does not reveal them anything, but only describes it. It is therefore necessary that the concepts of all these things are already hidden in them, and, for this reason, arise from the few things that they had experience of.

   In fact, a gifted and attentive child, even with very little experience, can perfectly understand a teacher talking about mathematics, morals, jurisprudence, and metaphysical matters … for us it suffices that the teacher can be understood by the child, to make it obvious, that the seeds of all these concepts were already in the child, and that therefore form the very few concepts the child had yet, the infinitely many, which the teacher explicated, are necessarily composed. (A VI iv, 271)

This passage bears analogies with Leibniz's later theory of innate ideas, and integrates metaphysical concepts into the realm of concepts accessible to "internal sense." Interestingly, the conception of internal sense at stake here does not presuppose any metaphysical theory, e.g. about the nature of substance. Rather, it is a genuinely epistemological notion that can serve as an explication for the methodological foundation of metaphysical concepts. The kind of knowledge accessible to "internal sense" not only comprises mathematical knowledge, but also metaphysics, ethics, and the theory of law. Because concepts belonging to these areas of philosophical knowledge are accessible to an internal sense understood in purely epistemological terms, they are seen as something that only need to be described by the teacher (or the philosopher) to be made known explicitly. In this sense, metaphysical concepts belong to a kind of knowledge that is accessible on descriptive grounds.

5. CONCLUSION

Comparing Leibniz's early views on the nature of metaphysical concepts with those of Dalgarno and Wilkins, and looking at the way Leibniz responded to their views, one might conclude that for all three philosophers there is more to the method of metaphysics than the axiomatic-deductive side. Although the artificial languages envisaged by Dalgarno, Wilkins, and Leibniz naturally lend themselves to the purposes of a deductive exposition starting with basic definitions and axioms, the project of a universal characteristic in all three philosophers is tied to a view of metaphysical concepts as expressions of the structure of thought and reality. As do Wilkins and Dalgarno, Leibniz regards metaphysical concepts as categorial concepts or "predicaments" as something enters into the formation of our everyday concepts and, therefore, in an implicit fashion, is commonly known. This

genuinely epistemological account of metaphysical concepts foreshadows aspects of Leibniz's later theory of metaphysical concepts as innate ideas. According to Leibniz, a comparative method can be used to bring out the implicit knowledge contained in our everyday language. In this sense, he thinks that philosophers do not know different things than non-philosophers but rather the same things in a different way. What different philosophers can know is always the same, and this common knowledge constitutes the rational core of various philosophical traditions. In this way, Leibniz's descriptive strategy in metaphysics serves as the basis for a conciliatory mode of thought that supplements an axiomatic-deductive approach to metaphysics, and at the same time provides an argumentative foundation for a conciliatory strategy that integrates elements stemming from different philosophical traditions.

NOTES

¹   *Zur Ars Signorum von George Dalgarno* (February–March 1673 [?]); A VI iii, 175, note 6.

²   *De lingua philosophica* (end 1687–end 1688): A VI iv, 907.

³   See Piro 1990: esp. 40–7.

⁴   Daniel Stahl, *Compendium Metaphysicae In XXIV. Tabellas redactum, Nuncque post Auctoris obitum emendatiùs et auctiùs editum* …, Jena: Georg Sengenwald, 1655.

⁵   See Leibniz to Henry Oldenburg, 29 April / 9 May 1671: A II i, 104.

⁶   See the entry in his travel diary (A VI iv, 169).

⁷   See the acknowledgements in AS, unpaginated page [fol. 8v].

⁸   See Thomas Hobbes, *De corpore. Elementorum philosophiae sectio prima*, ed. Karl Schumann with Martine Pécharman, Paris: Vrin, 1999, I, 2, §§15–16.

⁹   *Vorarbeiten zur Characteristica Universalis* (second half of 1671–spring 1672 [?]): A VI ii, 488.

¹⁰ *Collectanea tentamen Wilkinsii de charactere universali concernentia* (October 1677–March 1686): A VI iv, 27–8.

¹¹ *De rerum classibus* (autumn 1677–summer 1680 [?]): A VI iv, 1009–1010.

¹² See Daniel Stahl, *Regulae philosophicae*, 2 vols, Jena 1657; Jakob Thomasius, *Dilucidationes Stahlianae in partem priorem regularum philosophicarum Danielis Stahlii*, Leipzig 1676.

¹³ *De definitionibus characterisandis et propositionibus demonstrandis*: A VI iv, 924–5.

¹⁴ *De alphabeto cogitationum humanarum* (April 1679–April 1681 [?]): A VI iv, 270.