

LEIBNIZ AND HOBBS ON ARBITRARY TRUTH

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Abstract:

Leibniz repeatedly claims to refute "Hobbes' doctrine of arbitrary truth". I argue against several recent expositors of Hobbes that Hobbes' view comes to nothing more scandalous than "nominalism" about kind terms. Although some have recognized that it is this thesis which Leibniz claims to refute, his argument has not been correctly understood. I maintain that the argument rests upon Leibniz' theory of signs and his account of concepts. In brief, Leibniz argues that concepts have structures which correspond to structures of (possible) things; thus, kinds are independent of language and truth is independent of arbitrary convention.

## Leibniz and Hobbes on Arbitrary Truth

In brief passages in a number of his writings, Leibniz claims to refute a doctrine which he attributes to Hobbes and describes as the doctrine that truth is arbitrary and depends on the will of men.<sup>1</sup> Out of his cryptic remarks, several related problems arise. One problem is to identify the exact view Leibniz attributes to Hobbes. It is clear from the frequency with which Leibniz returns to the matter that he considers it important to dispose of the Hobbesian view. Some of his contemporaries were also concerned about discrediting Hobbes' view and even present expositors suggest that Hobbes' account of truth is scandalous.<sup>2</sup> But it is difficult to construct a disturbing and challenging thesis from Leibniz' cryptic references to the "doctrine of arbitrary truth". Understood as the doctrine that it is arbitrary that certain combinations of letters are used to express a true proposition in a given language, the thesis is approximately true, but hardly disturbing. Understood as the doctrine that without altering the meanings of words, one can arbitrarily decide the truth of any statement in a given language, the thesis is obviously false. What is it that Leibniz supposes Hobbes claimed to be arbitrary? Does Leibniz correctly understand Hobbes' view?

<sup>1</sup>See G, iv, 424-25; G, iv, 158; G, vii, 294-95; C, 220. Hobbes is not mentioned in the following, but a similar view is in question: C, vii, 190-92; G, ix, 450; C, 431. The following abbreviations are used here and below: G = Die philosophischen Schriften von Gottfried Wilhelm Leibniz, ed. by C. I. Gerhardt, 7 vols. (Berlin, 1875-90). C = Opuscules et Fragments Inédits de Leibniz, ed. by Louis Couturat (Paris, 1903). NE = Nouveaux essais sur l'entendement humain (= Gottfried Wilhelm Leibniz, Sämtliche Schriften und Briefe, ed. by der Deutschen Akademie der Wissenschaften, series VI, vol. vi (Berlin, 1962)).

<sup>2</sup>See Antoine Arnauld and Pierre Nicole, La Logique ou L'Art de Penser (edition of 1683, reprinted in Paris, 1970), pp. 68ff; J. W. N. Watkins, Hobbes' System of Ideas, second edn. (London, 1965), pp. 104-107; R. S. Peters, Hobbes, second edn. (London, 1967), pp. 50-58.

There are further questions concerning Leibniz' refutation. Most of his claims to refute Hobbes are accompanied, not by any argument, but only by a brief description of certain of Leibniz' own doctrines. Most commonly, he mentions his distinction between nominal and real definitions. It is not clear how Leibniz' doctrines constitute an argument against Hobbes' view. This question has not been adequately explored in the literature on Leibniz. Those who mention Leibniz' argument against Hobbes offer either a superficial or a mistaken interpretation of it, as I will try to show.

2. I will begin by examining the source in Hobbes' work of the view Leibniz attacks. It is the view that all truths are arbitrary, depend on the will of men, and consist only in names. According to Leibniz, Hobbes reasons in this way: all demonstrations depend on definitions; because we impose arbitrary names on things, definitions are nominal and depend on the will of men; thus, all truths depend on the human will and consist only in names.<sup>3</sup> Hobbes seems nowhere to have urged exactly the argument Leibniz sketches. For one thing, Hobbes presumably does not believe that all truths can be demonstrated from definitions alone, for he allows that contingent propositions are sometimes true and sometimes false.<sup>4</sup> However, Hobbes does reason about certain propositions in a way similar to what Leibniz suggests. He does so in his objections to Descartes' Meditations. Descartes claims to know the essence of a piece of wax solely by his reason and Hobbes remarks that the Peripatetics also claimed that a substance could be apprehended by reason alone; then Hobbes objects:<sup>5</sup>

What shall we say now, if perhaps reasoning is nothing other than coupling and linking together names by the word "is"? From this it will follow that by reason, we conclude nothing at all concerning the nature of things, but only what concerns their names; that is to say that by reason, we simply see whether we couple the names of things well or ill, according to the conven-

<sup>3</sup>G, vii, 295.

<sup>4</sup>EW, i, 38. Here and below EW = English Works of Thomas Hobbes, ed. by Sir William Molesworth, 11 vols. (London, 1839).

<sup>5</sup>Descartes: Oeuvres philosophiques, ed. by Ferdinand Alquié (Paris, 1967), v. 2, p. 608. This passage is quoted in full in the Logique by Arnauld and Nicole, and roundly attacked; see below, note 10.

tions it has pleased us to make about their significations.

Hobbes also wrote in De Corpore:<sup>6</sup>

Now primary propositions are nothing but definitions, or parts of definitions, and these only are the principles of demonstration, being truths constituted arbitrarily by the inventors of speech, and therefore not to be demonstrated.

It is these passages, or ones like them, which Leibniz apparently has in mind when he says that Hobbes holds that truth is arbitrary. However, it is not as easy as it may at first appear to be to comprehend the position Hobbes is urging in such passages.

In the first passage, Hobbes provides an argument supposed to show that the conclusion of a demonstration is about the names of things, rather than the nature of things. The argument in support of that claim is that reasoning is linking names together and accurate reasoning is doing so in conformity with conventions for the meanings of words. But why should Hobbes think that this argument supports his claim? To begin to understand Hobbes' argument, one needs to know something about his general views about language. As the passage suggests, Hobbes holds that all words, or more accurately all subject- and predicate-expressions, are names and that every proposition consists of two of these names linked by "is".<sup>7</sup> When he says that reasoning is linking names together, he seems to have in mind arguing by syllogisms; in that form of argument, a categorical proposition, or one consisting of two phrases joined by "is", is inferred from two premises of the same form. As the second passage shows, Hobbes holds that the fundamental premises of such arguments are definitions. So Hobbes' argument can be reconstructed in this way:

<sup>6</sup>EW, i, 37. Also see EW, i, 36 and 388; EW, ii, 295-96 and 304.

<sup>7</sup>See e.g. EW, i, 31. Hobbes reserves the word "proposition" for subject-predicate sentences, and he holds that only propositions are capable of truth and falsity. We have thoughts which are not signified by propositions and are not called "true" or "false" although they may be in error; see EW, i, 48 and EW, iii, 23.

- (1) Accurate reasoning is deriving a conclusion by valid syllogism from premises which are either definitions or derived by valid syllogism from definitions.
- (2) Definitions are conventional and arbitrary.
- (3) Therefore, the conclusions one gets from accurate reasoning are about the names of things, not about the nature of things.

Reconstructed in this way, however, the argument is not obviously valid, and it is far from clear why Hobbes should have thought it was. The problem is to find some way of understanding the premise that definitions are arbitrary, from which it might be thought to follow that demonstrated propositions are about names, rather than things named. In what follows, I delineate four interpretations of the thesis that definitions are arbitrary, each of which has been thought by someone to be Hobbes' view.

(i) Hobbes embraced the view that truth and falsity are properties of sentences; he writes in De Corpore that "truth consists in speech, and not the things spoken of" and that it follows that "truth and falsity have no place but amongst such living creatures as use speech".<sup>8</sup> Now the fact that human beings use speech at all depends upon certain human conventions, such as the conventions to use a language, that particular letter combinations are words and sentences in a given language, and that a particular word has the meaning it does in a given language. Hobbes does not hesitate to call attention to the role of such conventions in the use of language.<sup>9</sup> If this is his point in objecting to Descartes, then we should understand the second premise of his argument in this way:

- (2a) Definitions are sentences true because of arbitrary conventions of human beings, such as the convention to use a language, the convention that certain letters are words or sentences in a given language, and the conventions establishing that a certain word has a particular signification in a given language.

From this, one could reason (fallaciously) that a conclusion derived from definitions is true only because of

<sup>8</sup>EW, i, 35-6.

<sup>9</sup>EW, i, 16 and EW, ii, 303.

certain arbitrary conventions. It might then seem that such a proposition would be true regardless of the characteristics of things other than conventions. So, one might draw a conclusion like (3): a demonstrated conclusion provides no information about the nature of things, but only about conventions governing the words used in stating it.

Hobbes did accept the view expressed in (2a), but it does not seem that he had just this view in mind in his objection to Descartes. As should be clear, the above line of reasoning based on (2a) is invalid. It does not follow from the fact that conventions determine what the words in a given language signify that those words do not signify the nature of things. If convention dictates that the words in a language do signify things, then true sentences in which they are used provide information about those things. Even though a conclusion which follows from a definition is "true by convention", it provides information about what is signified by the words used in stating it.

In spite of this lack of cogency, some of Hobbes' contemporaries accused him of arguing in this way.<sup>10</sup> Descartes, involved in the polemics of responding to Hobbes' objection, replies to him:<sup>11</sup>

The connection which is made in reasoning is not one of names, but rather one of things signified by names; and it astounds me that the contrary could occur to anyone.

For who doubts that a Frenchman and a German can have the same thoughts or reason about the same things, even though they conceive entirely different words? And doesn't this philosopher condemn himself when he speaks of the conventions it has pleased us to make concerning the signification of

<sup>10</sup>In their Logique, Arnauld and Nicole attribute this fallacy to Hobbes. Against him, they argue by illustrations that even though the connection between words and ideas is established by convention, the truth about those ideas, or the things they represent, is not altered by differences in those conventions. So, Arabs and Frenchmen reason about the same things although their languages involve different conventions.

<sup>11</sup>Alquié, Descartes, p. 609.

words? For if he admits that words signify something, why will he not admit that our discourse and reasoning is about the things signified, rather than about the words alone?

The fallacious reasoning Descartes attributes to Hobbes involves the error of supposing that because the meaning of a word (in a given language) depends on conventions, the truth of a sentence (in that language) is determined solely by convention; thus, a true sentence provides no information about things other than conventions.

Is Hobbes guilty of reasoning in this way? He might appear to commit just this error, not only in his reply to Descartes, but also in an argument in De Corpore; there he claims that from the fact that "truth consists in speech" it follows that:<sup>12</sup>

. . . the first truths were arbitrarily made by those who first imposed names upon things, . . . For it is true (for example) that man is a living creature, but it is for this reason, that it pleased men to impose both those names on the same thing.

Careful reading of the passage shows, however, that Hobbes is far from concluding that a true sentence provides no information about things. It is because the things named by "man" are among those named by "living creature" that the sentence "man is a living creature" is said to be true. The sentence provides information about a certain relation (identity) among the things given certain names. To be sure, Hobbes suggests that it is by convention that those things were given those names, but he does not deny that sentences in which the names are used are about the things they name. This argument from De Corpore provides no support for Descartes' interpretation of Hobbes' objection. Thus it seems that although Hobbes holds (2a), there is no compelling reason to think that his objection to Descartes is based on that thesis and involves the fallacious reasoning sketched above.

(ii) It has sometimes been thought that Hobbes' view about the meaning of words is that all words name thoughts, images, conceptions, or other "mental" entities, understood

<sup>12</sup>EW, i, 35-36.

in terms of his materialistic doctrine.<sup>13</sup> On this view, words designate conceptions, and propositions which words express must be about conceptions; if the conceptions in turn are not representative of things, then propositions are about conceptions alone. So when Hobbes says that definitions are arbitrary, he could mean that the conceptions named by words are arbitrarily formed, that is, formed without regard to whether they represent other things.<sup>14</sup> If this is Hobbes' view, then we should understand the second premise of his argument in this way:

- (2b) A definition is a correct description of the idea (conception) named by a certain word, and such ideas are formed arbitrarily, or without regard for the nature of things.

From this premise it does not follow that conclusions demonstrated from definitions are never about the nature of things, but only that we have no reason to think that they will be, in general.

There are passages which seem to give support to the proposal that Hobbes holds that words name only conceptions. For example, there is this one from De Corpore:<sup>15</sup> "Names are signs not of things, but of our cogitations"; and also this from Leviathan:<sup>16</sup> "The general use of speech is to transfer our mental discourse into verbal; or the train of our thoughts into a train of words".

On the other hand, there are a vast number of passages that show that Hobbes believes that although some words

<sup>13</sup>See J. W. N. Watkins, "Philosophy and Politics in Hobbes", Philosophical Quarterly, 5 (1955) and R. S. Peters, first edn., ch. 5, sec. 3. Both report they have changed their opinions due to J. M. Brown's review of the latter, Philosophical Review, 66 (1957); see Watkins, Hobbes' System of Ideas, ch. 8 and the second edition of Peters' Hobbes, pp. 119-20.

<sup>14</sup>This is similar to Locke's meaning when he says that ". . . the mind in mixed modes arbitrarily unites into complex ideas such as it finds convenient; . . . the mind by its free choice gives a connection to a certain number of ideas, which in nature have no more union with one another than other that it leaves out . . .", Essay concerning Human Understanding, III, v, 6.

<sup>15</sup>EW, i, 17.

<sup>16</sup>EW, iii, 19; also see pp. 28 and 30.

name our "mental" affections, many others do not. Perhaps the clearest evidence of this is Hobbes' catalogue of things "subject to names", which includes: bodies of various sorts (the living, the rational), properties of our own bodies (light, colors, sounds), accidents which we conceive to be in bodies (life, rationality), and names themselves (universal, equivocal).<sup>17</sup> Only items of the second sort include conceptions or cogitations. So, although there are passages in which Hobbes says that words are signs of conceptions, rather than things, there are others in which he indicates that words are the names of things other than conceptions.

These two strains of Hobbes' thought are not difficult to reconcile. He holds that it is one thing to be the sign of something and another to be the name of it. The theory of signs is developed in this way:<sup>18</sup>

Now those things we call signs are the antecedents of their consequences, and the consequents of their antecedents, as often as we observe them to go before or follow after in the same manner. For example, a thick cloud is a sign of rain to follow, and rain a sign that a cloud has gone before, for this reason only, that we seldom see clouds without the consequence of rain, nor rain at any time but when a cloud has gone before.

One thing is the sign of another, if it is the cause (or effect) of the other and we know this to be the case; when we come upon the one, we can thus infer that the other will occur (or has occurred).

Hobbes' claim is that words are signs of thoughts. They are unlike clouds and rain, in that they are not natural signs, but ones established by convention; but words are like clouds and rain in that the utterance of a word, given certain conventions and circumstances, allows us to make a certain inference. In particular, we can infer something about the thoughts of the person using the word; we cannot generally infer anything about things other than thoughts:<sup>19</sup>

<sup>17</sup>EW, iii, pp. 25-27.

<sup>18</sup>EW, i, 14-15. For a detailed discussion of Hobbes' views about signs and signaling, see Hungerland and Vick, "Hobbes' Theory of Signification", Journal of the History of Philosophy, 11 (1973).

<sup>19</sup>EW, i, 17.

But seeing names ordered in speech . . . are signs of our conceptions, it is manifest they are not signs of the things themselves; for that this word stone should be the sign of a stone, cannot be understood in any sense but this, that he that hears it collects that he that pronounces it thinks of a stone.

For this reason, Hobbes insists that words are signs of thoughts, rather than things.

However, words are not only signs, but also names. Hobbes appears to think that a word functions as a sign of certain thoughts, because it names certain things. That is, a person's use of the word "stone" is a sign of his thinking of a stone rather than his thinking of something else, because the word names stones. In other words, use of a word is the sign of a thought about that which the word names. Some of our words name things which are not ideas. It appears then that Hobbes' thesis that definitions are arbitrary does not express the view that words name nothing but arbitrarily formed ideas.

(iii) We have just seen that Hobbes does not hold that words name nothing but ideas. Still he does hold that certain conceptions are associated with a name by one who understands its meaning. Among the properties of a definition are:<sup>20</sup>

. . . that it give a universal notion of the thing defined, representing a certain universal picture thereof, not to the eye, but to the mind. For as when one paints a man, he paints the image of some man; so he, that defines the name man, makes a representation of some man to the mind.

It has been suggested<sup>21</sup> that these conceptions are like the connotations of words. According to this suggestion, Hobbes holds that the meaning of a word is a concept. The concept specifies various general features which anything correctly named by the word must have; moreover, the concept

<sup>20</sup>EW, i, 84; see also p. 20 (quoted below, p. 10) and EW, iv, 28.

<sup>21</sup>See Håkan Törnebohm, "A Study of Hobbes' Theory of Denotation and Truth", Theoria, 26 (1960). Peters, pp. 124-27, seems to make a similar suggestion.

serves as the criterion for applying the word to things. Now if this were Hobbes' view, then he might have a reason similar to that just discussed for saying that definitions are arbitrary; he might be concerned about the arbitrary formation of our concepts. Then the second premise of his argument could be understood in this way:

- (2c) A definition is a correct description of the concept which specifies the features anything named by a certain word must have and is the criterion for application of the word; such concepts are formed arbitrarily, or without regard for the nature of things.

Again, what would follow is that nothing gives us reason to think that in general conclusions demonstrated from definitions are about the reality of things.

There are however reasons to think that Hobbes does not hold that names have connotations and that this is not his point against Descartes.<sup>22</sup> In the first place, it should be clear that Hobbes' doctrine that sentences are signs of thoughts offers no evidence whatsoever for the suggestion that he holds that the meaning of a word is a concept which is its criterion of application. According to Hobbes' theory of signs, the use of a sentence signals the user's thought of things named by words in the sentence. That does not imply that those who use words have concepts which have as content features things must have in order to be correctly named by those words.

Moreover, for Hobbes, the conception which is given by the definition of a word is not a conception of general features of whatever is correctly named by the word. In-stead, the conception is that of the particular things which the word names:<sup>23</sup>

. . . for the understanding the extent of an universal name, we need no other faculty but that of our imagination; by which we remember that such names bring sometimes one thing, sometimes another, into our mind.

<sup>22</sup>A similar point about Hobbes' view is made by John Stuart Mill; see A System of Logic (New York, 1900), pp. 57-58.

<sup>23</sup>EW, i, 20; see EW, i, 60-1 for clarification of Hobbes' use of the phrase "universal notion" in the passage quoted immediately above, p. 9.

Further evidence that Hobbes does not hold that the meanings of names are concepts which are like connotations is found in one of his observations about false propositions:<sup>24</sup>

For whensoever any affirmation is false, the two names of which it is composed, put together and made one, signify nothing at all. For example, if it be a false affirmation to say a quadrangle is round, the word round quadrangle signifies nothing, but is a mere sound. So likewise, if it be false to say that virtue can be poured . . . the words inpoured virtue . . . are . . . insignificant . . .

It is Hobbes' doctrine that a proposition is false if and only if the subject names what is not named by the predicate.<sup>25</sup> It follows that a proposition is false if and only if the compound name formed by conjoining its subject- and predicate-names fails to designate anything; that is, the compound name is the conjunction of two names which name different things, so the compound names nothing at all. Hobbes says that such a compound name is insignificant, and that implies that a name which has an empty designation is insignificant. In other words, Hobbes holds that a word which fails to name is insignificant; it signifies no conception.<sup>26</sup>

This is only to be expected, given Hobbes' view that the conception attached to a name, and signified by a person's use of it, is a conception of the thing(s) it names. A word which fails to name will thus fail to be attached to any conception.<sup>27</sup> In

<sup>24</sup>EW, iii, 27; see also p. 32.

<sup>25</sup>See EW, i, 35 and EW, iii, 23.

<sup>26</sup>Cf. EW, i, 17-18, where Hobbes attempts to deal with the fact that there are names which do not name any actual thing by supplying things "which the mind feigns" to be named by them. In the case of a false proposition, the names combined already designate distinct things, so no feint of the mind can supply something for the compound to name consistent with the meanings of each of the combined names.

<sup>27</sup>Hobbes' view implies that the same compound name may sometimes be significant and sometimes not. For example, "some men are liars" is contingent, according to Hobbes, and may sometimes be true and sometimes false (see EW, i, 38). When the sentence is true, the expression "lying man" is significant; when the sentence is false, the expression is insignificant.

other words, the conception attached to a name presupposes at least one thing named by the word. Thus, the conception cannot serve as a criterion by which one decides what, if anything, is named by a word. This shows, I think, that Hobbes does not hold that words have connotations, or are attached to concepts which represent general features to which things in their denotations must conform. It appears then that Hobbes' concern about arbitrariness is not a concern about arbitrary construction of connotations of words.

(iv) We have seen that Hobbes holds that a definition explains which things are named by a certain word. When he says that definitions are arbitrary, I think he means that there is no reason to define a general word so that it names some things rather than others. In particular, there is no reason to select the things a word names on the grounds that they have the same nature. For instance, the word "man" names things arbitrarily selected, not things with a common nature. Hobbes' claim that definitions are arbitrary then amounts to this:

(2d) A definition is a sentence by which the thing(s) named by a certain word are determined, and those things are selected arbitrarily; that is, they are not selected on the grounds that they share a nature, essence, or other non-trivial property.

From (2d) it follows that a conclusion demonstrated from definitions does not make an assertion about things with a certain nature, but rather makes an assertion about the things we call by a certain name. In this sense, the conclusion of sound reasoning is about names, rather than natures, of things. I think that this is the correct interpretation of Hobbes' objection to Descartes.

It is, I suggest, Hobbes' view that words are names of things, and that their meaning is exhausted by conceptions of the particular things they name. In support of this, I have already discussed passages which indicate that Hobbes holds that all words (except "is") are names, that they designate things, that to understand a word is to have conceptions of the thing(s) it names, and that there are no conceptions of general attributes of things. Moreover, I argued that Hobbes' treatment of false propositions implies that names have no connotations.

It is also Hobbes' view that things are not divided naturally into kinds and that the definition of a kind term (or universal name) does not describe the common

nature of things belonging to a kind. As Hobbes writes:<sup>28</sup>

This is manifest, that genus, species, definitions, &c. are names of words and names only; and therefore to put genus and species for things, and definition for the nature of any thing, as the writers of metaphysics have done, is not right, seeing they be only significations of what we think of the nature of things.

To define a general word, then, is to choose things to form a group, and to impose a common name upon them. Human convention determines whether a particular thing should be included in a group such as that named by "man", "stone", or "animal".<sup>29</sup> So, for example, to say that a thing is a man is not to ascribe some essence or non-trivial property

<sup>28</sup>EW, i, 21.

<sup>29</sup>Watkins, pp. 104-09, claims that Hobbes does not consistently adhere to the view I attribute to him, but I think the charge of inconsistency is incorrect. Passages like the following are said to reveal the inconsistency: "One universal name is imposed on many things, for their similitude in some quality, or other accident" (EW, iii, 21). We have as an instance of this view: (a) a thing is called "body", because it has the accident of extension. But Hobbes also holds that an accident is the cause of our conceptions (EW, i, 32-3), and this cause need not be construed as a universal; what causes a certain conception may be different in every case. (Of course, one wants to say that various bodies share the property of causing a certain conception, even if the cause is always different; I am not sure how Hobbes would respond to that point.) Moreover, Hobbes holds that accidents are named by abstract names: ". . . abstract names denote only causes of concrete names, and not the things themselves. For example, . . . seeing therefore we call the things so conceived [as extended] body, the cause of that name is that the thing is extended, or the extension or corporiety of it" (EW, i, 32). In other words: (b) "extension" names what it is in bodies that causes us to apply the concrete name "body" to all of them. When (a) is understood in the light of (b), it becomes a trivial account of the reason for applying the word "body" to various things. The word is applied to things, because we perceive them as having extension, or because they cause us to regard them as ones to which we give the name "body". We apply a general word to a thing because it has the trivial property of causing us to regard it as something to which that name applies.

to it, but only to say that it is one of the things we call a man.

It has been claimed<sup>30</sup> that this view has the untenable consequence that a kind term is given meaning by a list of things to which it applies. The result is untenable, for it implies that a kind term cannot be applied to new instances without a change in its meaning, and it precludes the possibility of new members of a kind. In fact, what Hobbes says does not commit him to that untenable view.<sup>31</sup> He appears to hold that in the context of certain conventions, some things cause us to think that a certain general word applies to them. That is, once the name has been applied to some things, others will strike us as ones to which it should also be applied. Thus, he might hold that a general name applies, not only to the things to which it has been applied, but also to those which would (under proper circumstances) cause us to apply the word to them. In that way, new instances of a kind may be identified. This causal account of naming does not obscure the role of convention. It is only in the context of certain conventions that things cause us to apply names to them; moreover, in cases where we disagree about the application of a name, we must arbitrarily establish a convention about whether it applies.<sup>32</sup>

As I have said, it is this "nominalistic" doctrine, that kinds are determined by conventions rather than by natures, which leads Hobbes to say that definitions are arbitrary. This doctrine is the basis of his objection to Descartes. Moreover, it appears to be the basis in Hobbes for Leibniz' assertion that he holds that truth is arbitrary.

<sup>30</sup>Watkins, pp. 104-09.

<sup>31</sup>It is not just that Hobbes does not explicitly say that the things named by a general word are determined solely by a list; his doctrine that there are contingent propositions, or those that are sometimes true and sometimes false (EW, i, 38), implies that the things named by a word at one time may be different from those named by the same word at another time; that in turn implies that the designata of words are not determined solely by listing them.

<sup>32</sup>Reasoning by syllogism is a matter of maintaining consistency in the application of names; at EW, iii, 30-1, Hobbes says that when we cannot agree about the result of reasoning, we can only appeal to an arbitrator whose decision we agree to accept. Compare Peters, pp. 116 and 126.

In a way it is correct to say that Hobbes' "nominalism" implies that truth is arbitrary. The truth of a proposition is determined by whether things designated by one name are identical to those designated by another and it is arbitrary which things are designated by a name. But it should be understood that it is nothing but conventionalism about the application of kind terms that introduces the element of conventionalism into Hobbes' view about truth. What we include among the things named by a given word is arbitrary; but once that is settled, truth depends on whether the things in one group are identical to those in another, a matter which is not arbitrary. It would be a mistake to think that Hobbes' nominalism commits him to holding that truth is arbitrary in some more scandalous sense. Hobbes does allow that a change in the meanings of words can change a true sentence into a false one, but that is the case on any reasonable theory of meaning and truth.

3. One of Leibniz' early works, "A Short Dialogue concerning the Relation between Words and Things" is devoted to examination of the view that "truth arises from the human will and from names or characters".<sup>33</sup> The view is identified only as that of "a very gifted writer", but it seems to be Hobbes with whom Leibniz is concerned. The conversants in the dialogue agree that characters (signs) are necessary for the apprehension of truths; in spite of this, they reason, truth is neither arbitrary nor dependent on human will. To reconcile these two points, that conventional signs are necessary for truth and that nevertheless truth is not conventional, is the major concern of the dialogue.<sup>34</sup> The concern appears to arise directly from Hobbes. In a passage from De Corpore we have already discussed, Hobbes writes that "truth consists in speech" and claims that it follows that "the first truths were arbi-

<sup>33</sup>G, vii, 190-93; all quotations from the "Dialogue" are translated by Leroy E. Loemker in Gottfried Wilhelm Leibniz: Philosophical Papers and Letters, second edn. (Dordrecht, 1970); hereafter, this will be abbreviated by "L".

<sup>34</sup>The conclusion of the dialogue is: "Therefore though truths necessarily presuppose some characters, and are indeed sometimes asserted about these characters themselves (as in the theorem about casting nines), yet they consist not in the arbitrary element in their characters but in the permanent element in them, namely, their relation to things" (L, 185).

trarily made by those who imposed names on things".<sup>35</sup> This inference is strikingly similar to the one Leibniz' conversants in the early "Dialogue" refuse to accept. It seems likely then that Leibniz wrote the dialogue in response to this passage from De Corpore.<sup>36</sup>

However, although Leibniz appears to have been concerned with Hobbes' text, we have seen that there are several ways in which Hobbes' position may be understood. The details of Leibniz' understanding of Hobbes' view must be inferred from the argument he directs against it. The argument taken to establish the falsity of the doctrine of arbitrary truth is very simple:

B. But can anyone depart so far from a sound mind as to persuade himself that truth is arbitrary and depends on names, though he knows that the geometry of the Greeks, Latins and Germans is the same?

A. You are right; yet the difficulty needs to be resolved.

The fact that different languages are used to express the same geometrical theorems is taken to show that truth is not arbitrary;<sup>37</sup> the difficulty is to reconcile this with the indispensability of signs in apprehending truths. What version of the claim that truth is arbitrary is shown to be false by this simple fact about different languages?

<sup>35</sup>EW, i, 35, discussed above, p. 6.

<sup>36</sup>This has not previously been identified as the target of the "Dialogue". Couturat, in La Logique de Leibniz (Paris, 1901), p. 103, suggests that the dialogue is a refutation of Hobbes' "nominalism", but does not cite the source in Hobbes' work; similar treatment is given by Russell, in The Philosophy of Leibniz, second edn. (London, 1937), p. 289. Loemker, p. 182, suggests that the dialogue is "aimed explicitly at Thomas Hobbes' position that truth is arbitrary, but also indirectly at Descartes' view that truths rest upon God's arbitrary will". However, the argument of the dialogue, which concerns the claim that words are necessary for truth, has no application to Descartes' thesis that God is the creator of essences or eternal truths. About Descartes' thesis, see pp. 21-22, below.

<sup>37</sup>Leibniz uses the same argument against Hobbes in a work written in 1670; see G, iv, 158. The "Dialogue" was written in 1677.

Couturat suggests<sup>38</sup> that Leibniz' point is that it does not follow from the fact that signs are selected arbitrarily that truth is, as well. Once the meanings of words are settled, the matter of whether a particular combination of words expresses a truth depends on whether that combination reflects the actual relation between the things those words signify. These relations among things are not arbitrary or dependent on human will. So, Latin and German, which depend on different conventions, have words for the same things and true sentences in each language express the same relations among them.

This argument is similar to the one discussed earlier in connection with the view in (2a). The argument is surely correct, but it is not one with which Hobbes would disagree. As I have argued, even in the passage from De Corpore on which Leibniz' dialogue seems to be based, Hobbes does not make the mistake of thinking that it follows from (2a) that true sentences are not about things. Neither does he hold that, once the denotations of names are fixed, the truth of sentences in which they are used is still dependent on human will. So, if Leibniz argues against this view, then he has missed Hobbes' point.

I think Leibniz is not concerned about what follows from the thesis that the selection of words, or signs, is arbitrary. Rather, he is concerned about the thesis that truths depend on words. That thesis is closely associated with arbitrary truth. Leibniz describes the view under attack as the doctrine that "truth is arbitrary and depends on names." The relevance of the point about different languages becomes clearer when one considers a passage in the Nouveaux essais. In reaction to Locke's view that truth consists in joining words as the ideas they signify agree, Leibniz writes:<sup>39</sup>

But what I like least in your definition of truth is that according to it one is to seek truth in words. Thus the same sense, being expressed in Latin, German, English, French will not be the same truth, and it will be necessary to say with Hobbes that truth depends on the pleasure of men; . . .

Here Leibniz reasons that if truth depends on words, then sentences in different languages are different truths.

<sup>38</sup> La Logique, ch. IV, sec. 12.

<sup>39</sup> NE, 396.

When he emphasizes in the "Dialogue" that sentences in different languages are not different truths, I think he takes it to imply that truth does not depend on words. (The implication involves denying the consequent of the conditional stated in the Nouveaux essais.) So, it seems that Leibniz is arguing against the view that truth is arbitrary because it depends on words, and the observation about different languages is supposed to show that truth does not depend on words.

Now the views in (2b) and (2c) imply that truth is dependent on human concepts. Leibniz thinks it is obvious that this is not the case. Early in the short dialogue, the conversants agree that a certain theorem "is true even if you were never to think of it" and was true "even before the geometricians had proved it or men observed it". Leibniz assumes that the views in (2b) and (2c), which imply that truth is dependent on human concepts, are false. But neither view implies that truth is dependent on words, and it is the denial of that claim that Leibniz takes to be directly relevant to refuting the view that truth is arbitrary.

The view in (2d) does imply that truth is dependent on words. According to this view, which Hobbes actually held, nothing but definitions (or words) determines the things belonging to a kind. Independently of words, things are not grouped into kinds, they have no distinctive features, and so there are no truths about kinds of things. Or, to put it another way, Hobbes holds that truths involve an uneliminable reference to words. A true sentence about triangles asserts something about the things we call "triangles" and there is no word-independent way to characterize what that sentence is about.

It appears then that Leibniz' point that the same theorems are true in German and Latin is intended to show that, contrary to Hobbes' contention, truths are independent of words. It has been claimed that Leibniz decisively refutes Hobbes' view,<sup>40</sup> but it should be clear that Leibniz has failed to establish this claim about truth. The fact that different languages can be used to express the same theorems does not show that truth is independent of all languages. To accommodate the diversity in languages, Hobbes only needs to suppose that, for example, the things German speakers call "dreick" are the same ones that Latin users call "triangulum". Again, Leibniz' assertion that a theorem is true whether or not men think of it

<sup>40</sup>Couturat, p. 103.

is patently question-begging and can scarcely be called an argument against Hobbes' view. So, although Leibniz appears to understand Hobbes' position correctly, his explicit argument does not succeed in refuting it. As we will see, Leibniz offers another refutation in later works.

However it is not so much the problem of arguing that kinds, and truths about them, are independent of names that occupies Leibniz in the early dialogue. Rather, he is primarily puzzled about how names, or other signs, can be involved in apprehension of truths in view of the (presumed) fact that truths are independent of names. That puzzle is solved to the satisfaction of the discussants by an account of the way in which signs represent things. A system of signs represents certain things only if there is "a definite analogy" between the "connection, grouping or order" of the signs and that of the things.<sup>41</sup> Signs must have structures which are the same as, or at least analogous to, structures of the things they represent. It appears that Leibniz' view is that there must be an isomorphism between a sign (its components and a relation among them) and the thing(s) it represents (its components and a relation among them).<sup>42</sup> In Leibniz' terminology, things whose structures are analogous (or isomorphic) are said to "express" each other.<sup>43</sup>

There are good reasons why Leibniz should favor such an account of signs. In the first place, it explains how we can learn about things by means of signs; by studying signs

<sup>41</sup>L, 184.

<sup>42</sup>Also see G, vii, 219. William Kneale, in "Leibniz and the Picture Theory of Meaning", Révue Internationale de Philosophie, 20 (1966), suggests that Leibniz holds that words "picture" what they represent; that requires not only that words be isomorphic to things, but also that words and things belong to corresponding categories; thus, combinations of words in different categories picture the individuals, properties and relations to which they correspond. See Eric Stenius, Wittgenstein's Tractatus: A Critical Exposition of Its Main Lines of Thought (Ithaca, N.Y., 1960), ch. VI. However, it is not clear that Leibniz maintains that there is more than an isomorphism between a sign and its object. Kneale admits that Leibniz does not discuss the relation among words that supposedly pictures things.

<sup>43</sup>For Leibniz' account of the term "expresses", see G, vii, 263-4; G, ii, 112; G, i, 383; C, 15; NE, 131.

and using their analogy to things, we can read off characteristics of things. In the second place, the account of signs implies that the things represented by a sign share a common feature; the sign represents just those things whose structures are isomorphic to that of the sign. Thus, this account of representation fits well with Leibniz' contention that truths about the things belonging to a kind are not arbitrary or dependent on words.

4. In a number of other works, most of them known to be later than the "Dialogue", Leibniz offers a different argument against Hobbes' view that truth is arbitrary. This refutation, which Leibniz clearly takes to be conclusive, rests upon a distinction between nominal and real definitions. The argument is found, among other places, in the "Discourse on Metaphysics":<sup>44</sup>

. . . all reciprocal properties can serve in a nominal definition, but when a property gives us knowledge of the possibility of the thing, it makes the definition real; and as long as one has only a nominal definition, one is not assured of knowing the consequences drawn from it, for if the definition should hide some contradiction or impossibility, one would be able to draw opposite conclusions from it. This is why truths do not depend on names, and are not arbitrary as some new philosophers have believed.

There are several puzzles about why Leibniz should think that his distinction between definitions is a conclusive refutation of Hobbes' view. Not the least of the puzzles is the fact that the claim on which Leibniz appears to rest the refutation, the claim that definitions reliable in demonstrations must be consistent, is not a claim which Hobbes would deny. In fact, Hobbes insists on a similar point, and does so in major works; for instance, in De Corpore:<sup>45</sup>

<sup>44</sup>G, iv, 450; also see G, iv, 424-5; C, 220; C, 431; G, vii, 294-5.

<sup>45</sup>EW, i, 19; also see EW, iii, 27. Margaret D. Wilson called my attention to this passage: ". . . [there are] questions of human science, whose truth is sought out by natural reason and syllogisms, drawn from the covenants of men, and definitions, that is to say, significations received by use and common consent of words; . . ." (EW, ii, 295). Hobbes' turgid style obscures his meaning in this passage, but I do not believe he means to say that convention determines what is a valid syllogism; rather, I think he means to say that sound syllogisms draw conclusions from conventionally determined definitions.

Positive and negative names are contradictory to one another, so that they cannot both be the name of the same thing. . . . The certainty of this axiom, viz. of two contradictory names, one is the name of anything whatsoever, the other not, is the original and foundation of all ratiocination . . .

Definitions are subject to this fundamental axiom of ratiocination, and hence subject to the principle of non-contradiction (as well as the law of excluded middle). So, Hobbes clearly intends to assert that a definition which yields contradictory names is not permissible in ratiocination.

Still, one might think that Hobbes' insistence that definitions cannot be contradictions is incompatible with his doctrine that truth is arbitrary. This is not the case.<sup>46</sup> To be sure, there are doctrines of arbitrary truth with which it is incompatible. Descartes' thesis that eternal truths depend on the arbitrary choices of God does imply that God's choices are not limited by the principle of non-contradiction.<sup>47</sup> However, whereas Descartes is

<sup>46</sup>Hobbes' "doctrine of arbitrary truth" applied to Hobbes' axiom does not imply that it is an arbitrary decision whether the principle of non-contradiction is to be true. It does imply that it is because of arbitrary definitions that we call certain pairs of names "contradictory" and "inapplicable to the same things". One might protest that contradictory names form a kind, whose members have certain logical properties, independently of our having a name for them. But this is to protest against "nominalism" about logical kinds and not to protest (as Leibniz appears to do) that Hobbes allows contradictory definitions.

<sup>47</sup>See e.g. Descartes' letters to Mesland, 2 May 1644 (Alquié, Descartes, p. 1167) and to Arnauld, 29 July 1648 (pp. 1309-10). In attacks against Descartes' view, Leibniz does appeal to the indispensibility of the principle of non-contradiction; see G, i, 253 and also G, i, 382 where Leibniz appears to be concerned with the Cartesian view. In one essay, Leibniz indicates that the doctrine of nominal and real definition dispenses with both Hobbes' "difficulty about arbitrary truth" and "Descartes' difficulty concerning the matters under discussion" (C, 220). But there is no clear indication that it is Descartes' doctrine of eternal truths which is to be treated as Hobbes' thesis is. Leibniz may, for example, have in mind Descartes' account of false ideas, a matter Leibniz attacks elsewhere; whereas

concerned about the creation of essences, or the stipulation of truths, Hobbes is not. Hobbes' "doctrine of arbitrary truth" is just that the things denominated by a kind term share no essence, and are selected by those who define the term. This view does not imply that one may stipulate that a contradiction is a truth. So, Hobbes is not vulnerable to the charge that he allows contradictions to be "true by definition".

There is a second major question about Leibniz' refutation of the view that "truths depend on names and are arbitrary". Hobbes denies that truths, or the kinds of things they are about, exist independently of names. The puzzle is to see how Leibniz' remarks about the difference between real and nominal definitions provide any sort of argument for the independent reality of kinds, or truths about them. Not only does Leibniz need such an argument in order to refute Hobbes' position, but also Leibniz explicitly advocates that truths exist independently of all conventions. He writes that ". . . possibilities always subsist as eternal truths whose reality must, however, be founded in something actual, that is to say, in God".<sup>48</sup> The real definitions Leibniz mentions in his refutation of Hobbes are supposed to represent possibilities which exist "in the region of God's ideas". But how does Leibniz argue for that view, against the "nominalism" of Hobbes?

One might hope to solve these puzzles, especially the first one, by supposing that Leibniz did not correctly understand Hobbes' thesis that truth is arbitrary. At this point, I do not want to suggest that the view Leibniz intends to refute in the "Discourse" is one like those expressed in (2b) and (2c). There is immediate textual evidence against that suggestion. Leibniz claims to show that "truths do not depend on names", while the views in (2b) and (2c) have it that truths depend on concepts. Moreover, I think it is unlikely that Leibniz should misunderstand Hobbes' view in later works, when he correctly understands it in the early "Dialogue".

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Descartes says that a false idea "represents nothing as if it were something", Leibniz urges that a false idea is a contradiction and does not represent (see Meditations, III, Alquié, pp. 292-93 and G, iv, 422 and 425).

<sup>48</sup>G, vi, 594; see also G, i, 370.

Still, there might appear to be some plausibility in the proposal that Leibniz does not clearly see that Hobbes' view is thoroughly different from the Cartesian view that contradictions may be created as truths. Leibniz might think that according to Hobbes, it is only convention that saves us from accepting inconsistent definitions. Initially, this suggestion<sup>49</sup> appears to provide a natural account of the argument Leibniz derives from his doctrine of nominal and real definition: nominal definitions may be inconsistent and inconsistent definitions are not ones from which true propositions alone can be demonstrated. From such a definition, one can derive both a proposition and its negation, but both propositions cannot be true. Both Hobbes and Leibniz agree, however, that derivability from a definition is a sufficient condition of truth. Leibniz' point might be that the formation of definitions all of whose consequences are truths is not entirely arbitrary; it is constrained by the principle of non-contradiction.

Although this account of Leibniz' argument is attractive, it attributes to Leibniz an argument which is inadequate as a refutation of the view in question. In the first place, the argument only shows that from premises involving inconsistent applications of names, we can derive conclusions that involve inconsistent applications of names. But if Hobbes is (mistakenly) supposed to have permitted inconsistent definitions to be true, there is no reason to think he would be abashed at allowing that other inconsistent sentences are true, as well. Secondly, although the argument shows that the principle of non-contradiction places a restriction on the "arbitrariness" of definitions, it does not show that definitions are not arbitrary in the relevant sense. It provides no support for the independent reality of kinds. If Hobbes had thought that inconsistent definitions were allowable, he could have admitted that they are not without withdrawing his central contention that without (consistent) definitions there would be no kinds or truths about them. In short, this interpretation of Leibniz' argument fails to provide a solution to the second puzzle.<sup>50</sup> So, there is reason to doubt that Leibniz'

<sup>49</sup>A similar account of Leibniz' argument is suggested by William Kneale and Martha Kneale in The Development of Logic (London, 1962), p. 334.

<sup>50</sup>The importance of the absence of any argument for the independence of kinds is underscored by Leibniz' response to Locke's thesis that some of our complex ideas are "not referred to the existence of things" and are "made arbitrarily by the mind" (Essay, III, v, 14 and 15). Leibniz

argument consists in simply pointing out that consistency is a restriction on the "arbitrariness" of definitions.

Let us suppose that Leibniz correctly understands Hobbes' view. We can then begin to solve the first puzzle, that of the relevance to Hobbes' position of the point that nominal definitions may conceal inconsistencies. Leibniz appears to think that if all definitions were nominal, Hobbes might be correct in his view that truths are arbitrary.<sup>51</sup> Now the problem with an inconsistent definition is not that it is meaningless, but rather than it fails to correspond to any concept. Leibniz writes that the most rapid motion involves a contradiction, ". . . yet at first glance we may seem to have an idea of the most rapid motion, for we understand perfectly what we are saying. But we cannot have any idea of the impossible".<sup>52</sup> So, Leibniz thinks that if all definitions were inconsistent, then they would fail to correspond to concepts. But it is only when we have a concept that we can represent something in our thoughts.<sup>53</sup> So, an inconsistent definition represents nothing. This point provides the solution to the first puzzle. Leibniz emphasizes that nominal definitions may conceal contradictions, because the conclusions drawn from contradictions are not about anything; thus, if all definitions were nominal, we could not be sure that any propositions were truths.

Leibniz holds then that an inconsistent definition represents nothing real; moreover, as the second puzzle emphasizes, he thinks that a real (or evidently consistent) definition does represent a language-independent reality. To understand both points, I think one must appeal to

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replies: "I believe that what is arbitrary is found only in words and not in ideas. For ideas express only possibilities, so that if there had never been a parricide, . . . parricide would be a possible crime and its idea would be real. For ideas are in God from all eternity and even in us before we actually think of them; . . ." (NE, 300; see also pp. 292-3). Against Locke, Leibniz insists that all our ideas correspond to independent realities.

<sup>51</sup>See especially G, vii, 294-5; G, iv, 424-5.

<sup>52</sup>G, iv, 424, translation from L, 293; see also G, iv, 360; G, iv, 450-1.

<sup>53</sup>See e.g. G, iv, 449 and 451; G, vii, 264.

Leibniz' account of representation.<sup>54</sup> As we have seen, Leibniz sometimes offers the view that a sign represents a thing by having a structure which is isomorphic to the structure of the thing.<sup>55</sup> On this view, an inconsistent definition must have an inconsistency in its "structure"; thus, it both is and is not isomorphic to the structure of something else, and nothing is represented by it. A definition represents something real if and only if the definition has a structure, and this requires that it be consistent.

We can now explain the second puzzle, why Leibniz should think that real definitions provide an argument for the independent reality of kinds. A definition which is evidently consistent must evidently exhibit a structure, and it represents everything with a structure isomorphic to its own. Now Leibniz might argue in this way: the things represented by the definition are not only isomorphic to the definition, but also each is isomorphic to all the others; those things would share the feature of being mutually isomorphic whether or not the definition was ever formulated; we can conclude that the things sharing that feature belong to a kind, and their doing so is not contingent on the existence of the definition. Furthermore, Leibniz might plausibly argue that although there may not be an actual thing with this feature, unless the definition is constructed, nevertheless things with the feature are possible even if it is not constructed. He might conclude that the definition represents a possible kind of thing which is a possible kind independently of our constructing the definition.

I suggest that this reasoning is the argument by which Leibniz thinks he has refuted Hobbes' doctrine of arbitrary

<sup>54</sup>The importance of the notion of isomorphism in Leibniz' treatment of the "problem of universals" is emphasized by Karl Steigler, "Der Begriff des Isomorphismus und der Darstellung in der Metaphysik von Leibniz", Studia Leibnitiana-Supplementa XV (1975).

<sup>55</sup>To be sure, this view is found in the early "Dialogue" (1677) and the argument with which we are concerned occurs in later works (the "Discourse" is from 1686). But the thesis that representation involves expression is found in some works in which Leibniz uses this later argument against Hobbes; moreover, in works of the same period, Leibniz explains his technical notion of "expression" in much the same way as in the "Dialogue"; see letter to Arnauld, 9 October, 1687; G, ii, 112.

truth. The reasoning is directed against the view Hobbes actually holds; if the argument is sound, it refutes that view. Moreover, this account provides a solution to certain puzzles concerning the relevance to Hobbes' position of Leibniz' argument. The reasoning does not support Leibniz' full blown doctrine that possible kinds subsist as ideas in the mind of God.<sup>56</sup> Still, it suffices to refute Hobbes to establish that the things belonging to a kind share a non-trivial feature and that the possibility of things sharing that feature is independent of the conventions involved in the use of language.

5. I now want briefly to examine the theory of representation on which, as I have argued, Leibniz' refutation of Hobbes is based. The refutation is sound only if it is true that the connection between words and the things they represent is an isomorphism of the structures of words and things. This view about words is an instance of a more general view about concepts or ideas which is to be found in some of Leibniz' works, including the "Discourse on Metaphysics". I want briefly to examine that view of concepts,<sup>57</sup> in order to evaluate the success of Leibniz' refutation of Hobbes.

It should already be clear that it is a mistake to identify Leibniz' concepts with the meanings of words.<sup>58</sup> We are said to understand nominal definitions although some are contradictions and correspond to no concept. A concept

<sup>56</sup> Leibniz attempts to support that view elsewhere; see G, vi, 614; G, vii, 310; G, vi, 226; G, vi, 594.

<sup>57</sup> All the works with which I am concerned were written between 1676 and 1686. I do not wish to contend that this is the only view of concepts to which Leibniz subscribed during that period, or that this view is not found in works from other periods.

<sup>58</sup> Compare G. H. R. Parkinson, Logic and Reality in Leibniz' Metaphysics (Oxford, 1965), 1:3; a point similar to mine is made by Hidé Ishiguro, Leibniz' Philosophy of Logic and Language (Ithaca, N.Y., 1972), pp. 21-4.

involves representation of some (possible) thing,<sup>59</sup> so only those combinations of words which express a possible thing correspond to concepts. To understand such a combination of words is one way of having the concept of that thing. However, There are various other ways.

In a short essay from 1678,<sup>60</sup> devoted to explaining what an idea is, Leibniz writes that if I have the idea of a thing, ". . . there must be in me something which not merely leads to the thing, but also expresses it". He mentions that there are various kinds of expression: a model of a machine, a map of a region, the projection of a geometrical figure, as well as characters (e.g. numerals) and speech. He concludes:

That the ideas of things are in us means therefore nothing but that God . . . has impressed a power of thinking upon the mind so that it can by its own operations derive what corresponds perfectly to the nature of things.

In other words, to have the concept of a thing is to be able to think of something which expresses it. What expresses it may be a combination of words, but it may as well be anything else with a structure isomorphic to that of the thing.

<sup>59</sup>The fact that a concept must have structure explains Leibniz' remarks that ". . . not all concepts can be conjoined" (G, iv, 424) and ". . . there is another tacit affirmation which all [ideas] contain (renferment), which is that of possibility" (NE, 269). Russell, pp. 19-21, writes that true judgements about the compatibility of certain complex concepts must be "synthetic", i.e. they cannot be judgements in which the concept of the predicate is included in that of the subject. He takes this to reveal an inconsistency in the concept-containment account of truth. However, in the light of Leibniz' view that concepts have structures, it appears that there is no inconsistency. The compatibility of the elements of any concept is necessary for the existence of the concept, and the existence of appropriate concepts is pre-supposed by any judgement. The compatibility of certain concepts is not a proper subject for any judgement--it cannot be said, but can only be shown.

<sup>60</sup>G, vii, 263-4. Translations of this essay are from L, 207-08.

The concept of a thing may involve an intermediate object different from the thing, a distinct object which represents and expresses the thing. For example, Leibniz remarks that his concept of a chiliagon involves a definition of that figure; when he thinks of a chiliagon, he is aware of the definition which represents and expresses the figure. But a concept does not necessarily involve an intermediate representation of its object. To have a concept of an object is to be able to think of something which expresses it; but among the expressions of any object is the object itself. It is trivially true that, provided the object consists of definite elements related in a definite way, the object is isomorphic to itself. Leibniz seems to think that the concepts of human beings usually involve a mediating object such as speech, numerals, or figures. He also suggests that we do not need signs when it comes to primitive or unanalyzable concepts. It would seem that the need for signs is due to the limited capacity of finite minds and that God does not need them.<sup>61</sup>

The account of concepts involved in Leibniz' refutation of Hobbes is acceptable only if one is willing to accept the view that representation of objects by words, numbers, or other signs is based on resemblance and that it is independent of human intentions. Leibniz' account requires that a sign with a certain structure represent any object with an isomorphic structure and that it do so without anyone's stipulating or intending that it should. It has been suggested that for Leibniz a sign expresses an object only for someone who "sees it as" an expression of the object.<sup>62</sup> But there is reason to think this is not his view. If Leibniz held that one must recognize that every sign is the sign of some object, then the account of concepts under discussion would be untenable. For, as we have seen, Leibniz holds that human beings are unable to think of (complex) objects unless aided by expressions of them.

<sup>61</sup>For the views that human thought always requires signs, that humans need no signs for unanalyzable concepts, and that God needs no signs, see respectively G, vii, 192; G, iv, 423; NE, 396.

<sup>62</sup>Ishiguro, p. 27. Part of Ishiguro's point is that one must know the conventions involved in a language if utterance of words corresponds to an "expression in the mind" (cp. a parrot). This much is true: a sign represents its object to a mind only if the mind knows what the relevant parts of the sign are and how they are related. But the mind does not need to know that the sign represents a distinct object in order for the sign to do so.

To stipulate, intend, or even recognize that a sign represents an object, one must be able to think of the object unaided by the sign. So, this view of concepts requires that at least some signs represent their objects simply because sign and object are isomorphic.

The view of concepts further requires that the "structures" of objects of thought be determined independently of human decisions. Whether a sign is isomorphic to an object depends upon which parts of the object, and what relation among them, is in question. Now it might seem that there are many ways in which an object might be divided into parts; one might take the parts of a circle to be any arbitrarily long segments of its perimeter, or arbitrarily large portions of its area, or its properties, or the theorems true of it, and one might think that no one division into parts is the "real" one. However, Leibniz' doctrine requires that there be a "real" structure of any object. In cases where we are unable to think of an object unless we already have a sign which expresses it, we cannot stipulate the structure isomorphic to that of our sign. In sum, Leibniz' account of concepts requires a "realist" account of structures of objects, as well as the view that at least some signs represent objects solely by resemblance to them.

Leibniz' refutation of Hobbes depends on the acceptability of these views. In part, the refutation seems successful. Most would agree that at least some objects have "real" components; physical objects are, for example, "really" composed of fundamental particles, and this is the sort of view Hobbes would accept.<sup>63</sup> Isomorphisms among the structures of bodies do seem to generate natural classes of bodies, and to this extent Leibniz' refutation succeeds. However, it does not succeed in showing that true propositions are about these kinds. It does not show that our general terms (or other signs) reflect these natural structures, or that a general name stands for precisely those things which have a certain isomorphic structure. It is by no means clear that a word denotes a thing because it resembles the thing, or that it denotes independently of human intentions. Hobbes, for one, holds that a name denotes what someone

<sup>63</sup>Hobbes would not accept Leibniz' views about possible objects, or those about non-material ones. See Hobbes' "Of Liberty and Necessity", EW, iv and Leibniz' "Reflections on the Work that Mr. Hobbes published in English on 'Freedom, Necessity and Chance'", in Theodicy, ed. by Austin Farrer (London, 1951).

intends it to; moreover, he holds that one thing comes to signify another by having a causal connection to it, and only in cases where the one is recognized as sign of the other. Indeed, the fundamental and irreconcilable difference between Leibniz and Hobbes on the matter of arbitrary truth is a difference in their views about representation, denotation, and signification.<sup>64</sup>

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