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CARTESIAN DUALISM AND THE PROBLEM OF HUMAN UNITY

City University of New York

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CARTESIAN DUALISM AND THE PROBLEM OF HUMAN UNITY

by

ELI COHEN

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Abstract

CARTESIAN DUALISM AND THE PROBLEM OF HUMAN UNITY

by

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The problem of Cartesian dualism is viewed as falling under a more general problem: the problem of human unity. This problem is both ancient and modern: whether a human being is a substantial (essential) unity of soul and body or merely a contingent one. I compare Aristotle's and Descartes's response to this problem. My thesis is that an important factor in generating Cartesian dualism is the rejection implicit in Descartes's metaphysical codification of the new mathematical science of nature, namely, the rejection of Aristotle's radical teleological concept of nature. It is argued that the modern intractable problem of the relation of mind to body turns historically and metaphysically on the Cartesian substitution of the mathematically refined concept of body--three-dimensional extension--for the once-influential Aristotelian teleological concept of corporeal substance.

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CHAPTER I

This essay is yet another attempt to shed light on the mind-body problem, sometimes known as the problem of Cartesian dualism. I view this problem as falling under a more general one, the problem of human unity. This problem is both ancient and modern; whether a human being is a substantial (essential) unity of soul and body or merely a contingent one. My approach to this problem is not that of a narrowly construed conceptual analysis. It is conceptual analysis broadly construed: historical and comparative. Simply put, the comparison is between two responses to the problem, Aristotle's and Descartes's. Descartes's tortured attempt to save the appearance, as it were, of human unity in the face of his dualism is contrasted with Aristotle's unique and influential "solution" to this problem. The reason for the comparison is the following thesis: I maintain that one decisive factor in generating Cartesian dualism is Descartes's implicit rejection of Aristotle's teleological concept of nature. Though this factor is by no means sufficient to account for Cartesian dualism, it is a relatively neglected one, the emphasis--exaggerated, I believe--having been placed on the role of methodic doubt in the Meditations.

The thesis elaborated: A decisive factor in generating Cartesian dualism is the rejection implicit in Descartes's metaphysical "codification" of the new science, namely, the rejection of Aristotle's teleological concept of nature. The mind-body problem is basically a metaphysical

one. The ordinary language situation justifies no standard mind-body position. The metaphysics involved is not "news from no where" nor is it merely "descriptive." It is both normative for and descriptive of a scientific research program.¹ The metaphysics--Kuhn's "scientific paradigm"--is under-determined by the scientific practice it selectively describes and for which it sets the standard on what is to count as an intelligible (acceptable) explanation. The metaphysics is best understood as a response to the scientific practice for which it is intended to serve as the model.

The argument of the thesis: Both Aristotle and Descartes were faced with the problem of human unity. Aristotle's solution was made possible by his concept of body. More precisely, it was Aristotle's concept of corporeal substance which made this possible. His concept of corporeal substance is internally related to his conceptual framework for nature (physis). The basis for the latter is a principle of intelligibility for the explanation of nature. The principle says that the reason there are natural changes of and in things is that basically things have within them a telic tendency. One important implication is that telic tendencies are not reducible; specifically, they are not reducible to the efficacy of efficient causation.

Descartes's response to the problem of human unity, on the other hand, is a tortured one and it is so precisely because his concept of corporeal substance and, in general, his conceptual framework for

nature, entail an answer, that soul and body are merely contingently connected, which--fatefully--he refused to accept as one consequence of his rigorously mechanistic concept of nature. Descartes, who was not quite himself a Cartesian dualist, wished to save the appearance of our being more than contingently connected to our respective bodies; but his mechanistic framework made this impossible. To show just how it made this impossible, I oppose the Cartesian framework to the Aristotelian. The fundamental opposition is between Aristotle's dynamic teleological principle of intelligibility and Descartes's a-dynamic non-teleological principle of intelligibility. Descartes's principle is that all natural changes in and of things are intelligible only when reduced to the local motions of bodies the essence of which is to be extended. In other words, the Cartesian scientist is a scientist only if he is a mechanistic purist. Any appeal to telic tendencies, forces, or powers was viewed from this "pure position" as Aristotelian obscurantism and occultism.² Descartes's struggle with the human-unity problem, can be best understood as the inevitable but unforeseen consequence of his attempt to make a clean break with the Aristotelian tradition of natural explanation in favor of a rational mechanics the basis concepts of which are geometrical concepts. It is surely plausible that such a clean break was needed to consolidate the initial gains of the scientific revolution: but my modest point is that this clean break directly resulted in Cartesian dualism. The problem of human unity is still a problem for many of us because our

scientifically respectable world-outlook derives from the Cartesian framework, whereas our commonsensical world-outlook is not cleanly broken from the Aristotelian tradition.

Two possible objections considered: There are (at least) two possible objections to or difficulties with my thesis. The first one: I go about elucidating the role of Descartes's Mechanism in generating Cartesian dualism by a comparison of Descartes's conceptual framework for nature with Aristotle's, focusing on the problem of human unity. It is clear that the latter is a problem for Descartes, indeed, as we shall see, an intractable one. The problem of human unity, however, is not unique to Cartesian dualism and indeed it is raised in Aristotle's De Anima in critical reference to the Pythagorean view that the soul is separable from the body it animates.³ Now it has been objected that the concept of the soul in the ancient world is so very different from Descartes's concept of soul (res cogitans) that the ancient soul-body dualism must be completely different from Cartesian dualism and thus that Aristotle's response to the dualism of his day is irrelevant to the problem of the relation of soul to body facing Descartes.⁴ As it is essential to my thesis that there is an illuminating basis of comparison between Aristotle's and Descartes's response, it is necessary to deal with this objection.

It is a familiar and correct observation that there are at least two major respects in which Descartes's concept of soul differs from

the ancient concept. 1) The ancient concept of soul is an explanatory principle of the life and motion of the body it is said to animate; whereas in Descartes the soul is denied this status: the human body is conceived as an automaton. 2) There is no concept of sensation in the ancient world which permits seeing, hearing, feeling, etc. to be ascribed to the soul independently of the (live) human body.⁵ Descartes of course claims to have just such a concept.

On the other hand, the likenesses between the Cartesian concept and the ancient one are basic. Let us take as an instance of an ancient soul-concept, the Platonic one: this has the advantage of being relevant specifically to Aristotle's concept, since the latter is partially shaped in response to the former. The Platonic concept takes the soul to be an individual distinct from the body and one to which the powers of cognition and volition are properly ascribable. Descartes's concept likewise ascribes these powers to res cogitans (rational soul). Even more decisive for my thesis, the ancient concept of the soul in general is that of a genuine agent to which activity (as opposed to mere local motion) is ascribable. Descartes follows this traditional view of activity or agency as essentially a spiritual or incorporeal function when he denies activity to mere corporeal substance and reserves this function for God and res cogitans. This move is paralleled by Plato's reserving activity for the soul, cosmic and human.⁶

In the light of the above, the reader will understand that when

I present the human-unity problem as common to the ancient and modern world, the concept of soul I have in mind is that of an incorporeal agency to which the power of cognition and volition are properly ascribable. I am basically viewing the Cartesian concept as a circumscribed version of the Pythagorean cum Platonic concept of soul--circumscribed by Descartes's Mechanism which requires the soul to be a waste receptacle, as it were, for the so-called secondary qualities and which officially restricts the science of nature to pure kinematics. The view I am taking is unoriginal and well within the mainstream of Cartesian scholarship.⁷

Let me turn to the second possible difficulty. My specific reason for considering Aristotle's concept of nature is to elicit the precise role of Descartes's metaphysics of nature in generating the modern mind-body problem. Again: I am claiming that one fundamental factor is the implicit rejection of Aristotelian teleology. I don't deny that there are other factors, specifically, the famous quest for super-certainty as expounded in the Meditations. However, I do deny a popular view which emphasizes the role of Descartes's method of universal doubt in generating Cartesian dualism. In the Meditations Descartes perhaps gives the impression that his method is sufficient to generate what he calls the real distinction between soul and body, but this impression is false and misleading. Let us look into it.

I can doubt that everything corporeal exists but not that I exist.

Hence the clear idea of myself can not contain the concept of my body as part of the concept of myself. This familiar argument presupposes that I have a sufficiently clear concept of my own body such that it is evident what it is I doubt when I doubt the existence of my body. Let us leave aside the well-discussed point that Cartesian "doubt" is not ordinary doubt and perhaps even an unintelligible epistemic idealization. Still one might well balk at accepting the presupposition that there is such a conveniently dualistic concept of one's own body. Certainly, if one has already accepted the Cartesian mechanistic concept of one's own body--i.e., accepted the reduction of one's body to a mechanism--one will not balk: the response will be--of course it is conceivable that I exist but that this flesh-and-bone machine of mine does not. For, obviously there is no conceptual or internal connection between body-as-mechanism and self (soul, mind). The point to be emphasized here, however, is that such an acceptance is not forced upon the methodic doubter. It is not a result of the method of doubt. Let me repeat: one has already to have a concept of one's own body that precludes the body's essential relation to the self for the method of doubt to generate Cartesian dualism.

Descartes's claim, after all, comes to little more than that I can conceive of myself as existing and at the sametime my body as not existing: the appeal rests on an alleged conceptual possibility: it is not doubt in the ordinary sense which is supposed to make this possibility conceivable. Indeed, Descartes himself denies that he has

proven by the method of doubt that his body is no part of his nature.⁸
 In the Replies to Objections, moreover, he defends his dualism by claiming that the clear ideas of mind (soul, self) and body are mutually exclusive.⁹ Now this defense does not involve essentially an appeal to the method of doubt. Descartes claims to have discovered the conceptual opposition between self and body by the method of doubt, but the opposition is supposed to be self-evident. Descartes would be reasoning in a circle if he attempted to defend the conceptual claim by arguing that one can doubt the existence of one's body but not of one's self, ergo there must be a conceptual opposition between self and body. After all, if one does not grant the conceptual opposition, one is certainly not going to concede that the existence of one's body is doubtful but one's own existence is certain.

Let us for the sake of argument, however, concede the following as a possibility: we have been persuaded by Descartes's evil genius argument to suspend belief in or doubt, if you like, our senses. Still, it does not follow that the existence of one's body is doubtful. Indeed, I want to argue that the alleged dubiety of the senses no more calls into question the existence of my body than it does the existence of myself. The argument is ad hominem (against Descartes).

Granted the possibility I am being deceived by this evil one, yet in whatever sense (if any) of "existence" I am justified in asserting that I exist, I am also justified in asserting that my body exists. For, as a matter of conceptual fact, it is just part

of my everyday framework that I am not externally related to my entire body. It is not as if I were related to my body as I am to the chair in which I sit or the fireplace at which I look. Perhaps it is conceivable (going along with Descartes) that I am deceived by my senses about the existence of the chair and the fireplace and all other external objects. Moreover, I will even grant that it is conceivable that I am deceived by my senses about the existence of certain parts of my body. For example, perhaps it is conceivable that my leg isn't there (phantom-limb). But it is not conceivable that my entire body isn't there (phantom-body: the ghost of the machine?) but that I am.

It is fallacious to infer from the conceivability of the non-existence of parts of my body (on the assumption that I exist) to the conceivability of the non-existence of my entire body--unless, of course, one already has a concept of one's body that permits the inference: the Cartesian concept of the body as a mechanism. Now if this were the only concept we have of our respective bodies, then it would be fair to say that the method of doubt brings to the light of reason, as it were, this one clear concept of the body: as the familiar story goes, before that, pre-critically, we were just confused...about the real distinction between soul and body. Descartes himself, as we shall later see, has two seemingly incompatible views on whether there is a pre-critical concept of one's self or just pre-critically sheer confusion. In Meditation II, he takes the latter position but in correspondence with Princess Elizabeth, he implies that we have a

clear idea of self which nevertheless does not distinguish between self (soul) and body.¹⁰

The latter view I take to be of crucial importance in that it creates the following problem for Descartes: how does the method of doubt get one from the precritical concept of oneself where there is supposedly no distinction between self and body to the post-critical distinction between res cogitans and res extensa. This problem is not recognised by Descartes in the Meditations, for there he takes the former view. In Meditation II, he represents the ordinary conceptual situation as a pre-critical confusion of soul and body-- which he analyses as follows: I think of my body as corpse-like and of myself as an invisible stuff or agency animating the corpse-like thing. Historically, this analysis says that the confusion is a prototype of occult-cause explanatory frameworks; in this instance, the self is viewed as the occult cause of the human life of the corpse-like thing. But the point I want to emphasize here is that this analysis of the supposed pre-critical confusion as to the nature of the self, reads out of the confusion a concept of the self's body which already makes it out to be externally related to the self; the occult-self construct Descartes comes up with, absurd as he thinks it is, still implies that the body is externally related to this "self." For, the body is already viewed here by Descartes as the passive recipient of an agency distinct and separable from it: the

occult self. It doesn't matter here that Descartes considers occult causes to be conceptual confusions and nothing real. The point is that his concept of the body as corpse-like is almost completely acceptable to him: he certainly does not think that this concept is confused; actually, from Descartes's point of view, its sole defect is that it presents the body as dysfunctional. But from Descartes's viewpoint, this is a minor defect as compared with the advantage of suggesting that the sole concept of the body one can read out of the pre-critical confusion about the nature of the self is of something externally related to the self--whatever the latter be.

So: how does one fight this view that there is just one concept of the body and it is of something externally related to the self: And the rest is confusion? The rest is not confusion. As a matter of fact, the situation is far more complex and fluid than a reading of the Meditations would lead one to expect. Following Wittgenstein's sensible practice, I would like to assemble some reminders of how we (some of us) talk about our bodies (ourselves).

Some people say (athletes in particular): "My body aches all over"/ "My body feels sluggish"/ "My body feels light (heavy)" Now it is in the idiom for "I" to be substituted for "my body" in these sentences: "I ache all over," etc. A Cartesian might say such talk, this interchangeability of "I" and "my body," shows the pre-critical confusion of self and body prevalent among the

unenlightened. But does it? These same "unenlightened" people, myself included, sometimes verbally distinguish between self and body; we don't always interchange "I" and "my body." For instance, I learnt from biology textbooks that the human body produces thousands of white blood cells every few minutes, and I will thus say that my body produces these cells and not that I do. A materialist may think I didn't learn the lesson well enough or I would not balk at saying that I produce these cells. So he may think me a crypto-Cartesian dualist. But he would be as wrong as the Cartesian was previously. Like many others, I recognize some distinction between self and body in my speech and writing, although I am neither a Cartesian nor a materialist.

Now there are many people who, so it seems to me, recognize no such distinction. They talk like naive materialists. They would not balk at saying "I produce white blood cells..." Where I sometimes do not distinguish between self and body--in saying that I/my body feel(s) light--they seem never to do. They say things like, "When I die I'll be part of the nitrogen cycle," a way of talking which used to annoy me but never to the point where I imagined I could show these people the "error of their ways." At the risk of being melodramatic, let me present the following hypothetical situation as a final illustration of the fluid condition of the everyday distinction-lack-of-distinction between self and body. Let us say I am in great physical pain because I have terminal cancer and

the cancerous cells have spread throughout my body. I sum up the situation by saying "Now that my body is rotting away, it aches all over." Now this might appear to be a straightforward sentence with the pronoun "it" either taking "my body" as its antecedent or having no antecedent (as in "it rains"). But for me and, I believe, many others, this is not a straightforward sentence because my use of the words "my body" in the first clause is such that I will not substitute "I" for them; whereas, I am willing to substitute "I" for the pronoun "it" in the second clause. In other words, I will not say that I am rotting away but will say that I ache all over.

For many other people, however, the same sentence is perfectly straightforward. They would say in the same situation, "I am rotting away." I would think this appropriate to say if, because of brain-deterioration, my mind started to go. I am strongly identified with my ability to think. There are many people who are not strongly identified with this ability in them but rather with a characteristic way(s) of feeling, which, if disrupted, would incline them to say that they were not themselves anymore or that they were disintegrating. None of this implies that one is or isn't a Cartesian dualist. My identifying with my ability to think is consistent with the Cartesian concept of the self but neither entails it nor is derived from it. The above observations, however, do imply that Descartes's representation of the pre-critical conceptual status of

self/body is simplistic and biased toward a conception of self in opposition to body. Where I find a diversity of self-conception and contextual flexibility, Descartes finds confusion--at least in the Meditations. If one focuses on those contexts where self and body pull apart--I am not rotting away (yet) but my body is--this viewpoint perhaps suggests Cartesian dualism. But if one focuses on just the opposite sort of context--I/my body feel(s) light--Cartesian dualism seems staggeringly inappropriate. A Cartesian typically views the former as evidence for Dualism and the latter as evidence of unenlightened confusion. But there is nothing in the diversified linguistic situation which justifies taking this approach. There is nothing to prevent a non-Cartesian from claiming that it is enlightened to identify with your body and to concentrate on those contexts where people say "I/my body ache(s) all over"...as evidence for the true metaphysical situation of the body/self. Against Descartes's epistemological claim that one can doubt the existence of one's body but not of one's self, it will then simply be objected by this non-Cartesian that his conception of the body has been shaped by ordinary contexts where "I" and "my body" are used interchangeably, thus implying an identity of self and body. Nor will the evil genius argument be of any service to Descartes here. The evil genius cannot deceive me into thinking that I ache all over when in fact I don't: this is a matter of feeling, not of belief. Now if my body concept has been derived from contexts like this one (where I complain to

my doctor that I ache all over), then, evil genius or no, it follows that, since I ache all over, my body aches all over: hence that, since I exist as the one who aches all over, my body exists as well. Clearly, it is not important to take sides here on which sort of ordinary context, if any, is metaphysically misleading. The important point is that Descartes is mistaken in taking for granted that there is but one concept of one's body that can be analysed out of the pre-critical everyday situation and, moreover, a concept which opposes self (soul) to body. Thus it should be clear by now that the method of doubt cannot of itself generate Cartesian dualism: that Descartes's epistemology is metaphysically prejudiced.

Notes to Chapter I

1. Imre Lakatos, "Methodolgy of Scientific Research Programmes," in Criticism and the Growth of Knowledge, ed. Imre Lakatos (Cambridge: Cambridge University Press, 1970), pp. 132-133.
2. Richard J. Blackwell, "Descartes' Concept of Matter" in The Concept of Matter in Modern Philosophy, ed. Ernan McMullin (Notre Dame: Notre Dame University Press, 1978), p. 59.
3. Aristotle, De Anima, trans. W.S. Hett (London: Loeb, 1936), p. 71.
4. Wallace I. Matson, "Why isn't the mind-body problem ancient?" in Mind, Matter, and Method, ed. Paul K. Feyerabend (Minnesota: University of Minnesota Press, 1958), pp. 92-102.
5. Ibid., p. 101.
6. Gregory Vlastos, Plato's Universe (Seattle: University of Washington Press, 1978), pp. 25-31.
7. Hiram Caton, The Origin of Subjectivity (New Haven: Yale University Press, 1973), pp. 66-73.
8. Elizabeth Haldane and G.R.T. Ross, eds., The Philosophical Works of Descartes, 2 vols. (Cambridge: Cambridge University Press, 1973), 2: 102-103.
9. Ibid., p. 101.
10. Anthony Kenny, ed., Descartes: Philosophical Letters (London: Oxford University Press, 1970), p. 142.

CHAPTER II

Fred Sommers has argued in a recent paper that the ontology of ordinary English is that of Cartesian Dualism.¹ Specifically, he argues that "person" as well as personal pronouns suffer from type ambiguity--precisely of the sort denied by Strawson. Another way Sommers puts it is that a person is not a genuine individual but rather a composite, namely, a composite of two types of individual: Cartesian ego (thinking thing, mind) and body (material object). Sommers's argument, however, to be fully intelligible, presupposes some familiarity on the part of the reader with his category theory.² Now I wish to argue against Sommers that, even granting the correctness of the theory, his argument does not show that ordinary English is Cartesian. It is important to my thesis to show that our language is not consistently dualistic, since my more general contention is that considerations of ordinary use give no decisive answer to the mind-body question. Finally, on the positive side, I shall argue that if any ontology is suggested by our language, it is, broadly speaking, Aristotelian (at least with respect to the ontological status of human beings).

Before we are in a position to evaluate Sommers's argument, we need to briefly review his category theory, specifically as it relates to judgments of ambiguity. Sommers points out that one common way of

enforcing judgments of ambiguity is to argue that if the same predicate covers things of different types, it must be equivocal. For example, we say that a question and a chair are hard. It is then argued that, since questions and chairs are of different type, "hard" must be equivocal. The rule implicit in this kind of argument, however, has no universal warrant: for, as Sommers shows, its general application would force us to make counter-intuitive judgments of ambiguity. For example, we say that questions and chairs are thought about, but here the difference of type does not appear to justify the judgment that "thought about" is ambiguous.³

To clarify the relation between types and ambiguity, Sommers distinguishes between type and category. Two individuals belong to the same category if and only if a given predicate is applicable to both. For a predicate P to be predicable of an individual a, it must make sense to affirm or deny P of a: either a is P or a fails to be P. For example, "blue" is predicable of chairs, since it makes sense to say a chair is not blue, whereas this predicate is not predicable of numbers, since, e.g., it makes no sense to say that the number five is not blue. Sommers terms the property of having or failing to have a property, a feature: in other words, if P can be affirmed or denied of a, a is said to have the feature (symbolized) /P/. With respect to the feature /blue/ chairs and skies are in the same category, but with respect to /overcast/ they are in different categories. Categories,

in short, are relativized to features.⁴

Now two individuals are of the same type if and only if they have all the same features: whatever is predicable of the one is predicable of the other. So, although two things belong to the same category, it does not follow that they belong to the same type. For example, though skies and chairs belong to the category /blue/, they are not of the same type, since, e.g., you can sit or fail to sit on a chair but not on a sky, while a sky can be overcast or not but a chair neither. What Ryle would call a category mistake--e.g., vanity is a mental state--Sommers would call a type-mistake. Since a feature defines a category, two things are of the same type if and only if every category which contains the one contains the other.

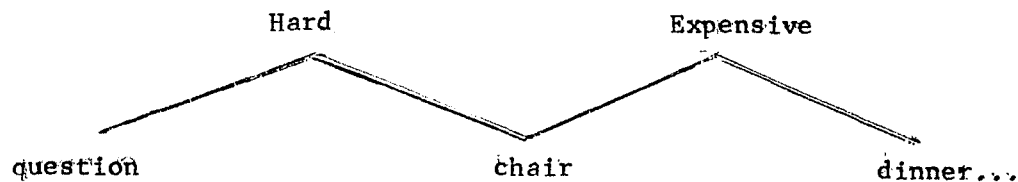
If now we take as ordinary language and absolutize all of its predicates so that instead of being able to say that a thing is P we could say only that it is /P/ we could then give only ontological information. Imagine a 'Twenty Questions' game in which the player has something in mind for us to guess (it could be an argument or a bumblebee). And imagine that in asking the questions, we are permitted to use only absolute predicates. It is evident that we could never get enough information to specify the individual thing he has in mind. All we could do is determine the sort of thing it is. We might ask whether the thing is /interesting/ but that would be a wasted question. We might ask whether it is /red/ and if the answer were yes, we would know that he has nothing like a valid argument in mind, but something physical. Following that it would be a waste to ask whether the thing is /green/. We might then ask whether it is /kind/ and an affirmative answer to that would inform us

that it is not a pebble or a tree or an inanimate object but that it is the sort of thing which is either kind or not, and so on. We could not get to distinguish the thing but we could get its ontological type in this way... The category language is embedded in every natural language. To expose it, all we need do is absolutize the predicates. A language of absolute predicates is a purely ontological language. And every natural language has its ontological skeleton, its "ontology."⁵

We now come to Sommers's "law of categorical inclusion" which states "that whenever two categories have some common membership, one of the two is included in the other."⁶ For example, the category of things with the feature (absolute predicate) /blue/ has members in common with the category /weighs 100 pounds/. According to Sommer's law, since there are things which are /blue/ but do not /weigh.../ and not conversely, the category /weighs.../ is wholly included in the category /blue/. It follows that if an individual belongs to two categories, one of the categories must be wholly included in the other.

Now we are in a position to see how Sommers goes about enforcing a judgment of ambiguity. Consider again "hard" as applying to questions and chairs. If we assume "hard" to be univocal, then, though questions and chairs are different in type, they must be included in the category picked out by the feature /hard/. Now let us choose another feature: /expensive/. Chairs but not questions belong to this category. Finally, we choose a third individual, a dinner at the Ritz. These five terms, two predicates (features) and three names (designators), entail that the

categories /hard/ and /expensive/ have common membership--chairs--with neither wholly containing the other.



(Fig. 1)

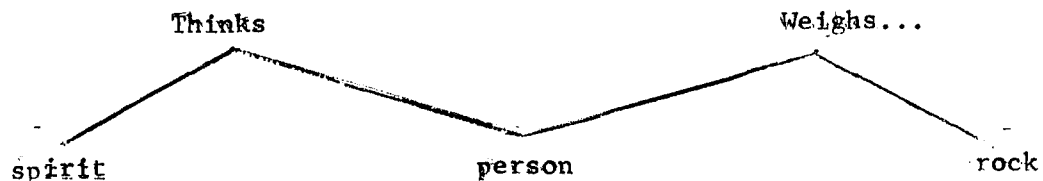
Consequently, one of the five terms must be ambiguous. Assuming the other four to be univocal, it follows that "hard" is ambiguous.⁷

In general, the rule for enforcing judgments of ambiguity is: For three individuals a, b, c and two predicates, P and Q, if P is predicable of a and b but not of c, and Q is predicable of b and c but not of a, then P or Q is ambiguous. Conversely, if we assume P and Q to be univocal, then at least one of the three names is ambiguous and thus does not name one individual.⁸

Sommers applies this rule to Strawson's ontology to show it to be incoherent. Strawson argues that "person" does not suffer from type ambiguity or, in other words, personal pronouns refer to individuals and not to composites of individuals. However, he allows for the possibility of disembodied spirits and so spirits enter into Strawson's ontology: an ontology which, according to Strawson, is sanctioned by ordinary English. So for Strawson we get an ontology of spirits, persons and bodies (material objects).

In refutation, Sommers proceeds as follows.⁹ Let us pick for our

three putative individuals, a spirit, a person, and a rock; and, for our two predicates, "thinks of Vienna" and "weighs 100 pounds." Now applying the ambiguation-rule, we find that "thinks of Vienna" is predicable of a spirit and a person but not of a rock, whereas "weighs 100 pounds" is predicable of a person and a rock but not of a spirit. So here again we have a violation of the law of categorial inclusion--with persons appearing to straddle the categories /thinks of Vienna/ and /weighs.../. It follows from the law of categorial inclusion that if predicates P and Q are predicable of a, then a is an individual if and only if /P/ is included in /Q/ or /Q/ is included in /P/. In other words, there can be no category straddlers. Therefore, on the assumption that the predicates are univocal, there can be no triad of individuals, spirits, persons, rocks (material objects). So if spirits are allowed, "person" does suffer from type ambiguity.

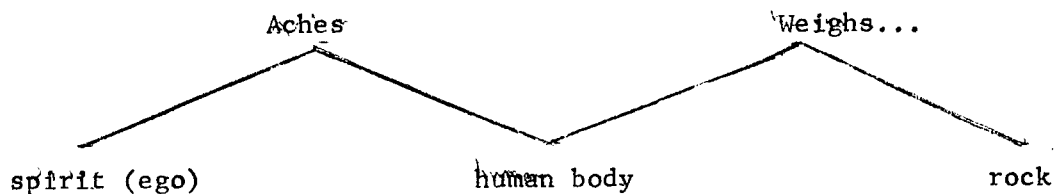


(Fig. 2)

We now come to Sommers's recent paper. Basically, what is new here is Sommers' claim that underlying ordinary English is an ontology which has as one of its categories that of spirits (Cartesian egos, minds) and hence--by the argument against Strawson--that a person is a Cartesian composite of mind and body.

Let us for the sake of argument concede the correctness of Sommers's rule for enforcing judgments of ambiguity and thus the category-inclusion law. Even so, using Sommers's own procedure, it can be shown that ordinary English does not force upon us the ontology of Cartesian Dualism. In other words, I shall show that, following Sommers's method, ordinary English does not put constraints upon an ontology such that if the latter is to be coherent, it must be that of Cartesian Dualism.

We take as our three putative individuals Sommers's triad of Cartesian ego, human body, and rock. We also keep the predicate "weighs 100 pounds." For the predicate "thinks of Vienna," however, let's substitute "aches." We then get the following result: "aches" is predicable of a Cartesian ego and a human body but not of a rock (the latter neither aches nor fails to ache). "Weights..." is predicable of a human body and a rock but not of a Cartesian ego.



(Fig. 3)

Since we have an apparent category-straddler, we must move to ambiguate at least one of the five terms. Sommers assumes of course that both Cartesian egos and rocks are genuine individuals. He has also assumed that "weights..." is univocal. So it appears that our

choice for ambiguation is between "aches" and "human body." Now the point I wish to emphasize here is that neither alternative is forced upon us by ordinary English. The fact that our language leaves us this choice shows that, contrary to Sommers, it is not Cartesian.

Now it would be a great mistake to think one could save the claim that our language is Cartesian by simply choosing to ambiguate "aches." Someone who is already a Cartesian might make this choice but, presumably, he would recognise his decision as a move to correct the vulgar tongue. It is, after all, clearly false to assert that there is a use in ordinary English of "aches" such that it makes sense to say of a rock either that it aches or fails to ache. Consequently, if one chooses to ambiguate "aches" such that it means one thing when predicated of Cartesian egos (i.e., means something mental) and another thing when predicated of rocks (i.e., something physical), then this will be an act of Cartesian linguistic legislation deriving, I suppose, from an authority allegedly higher than that of ordinary English use.

Let it be further observed that, not only does ordinary English not sanction such a move, but neither does it countenance it: that is to say, since it makes no sense to say of a rock that it does or doesn't ache, not only does the decision to give it such a sense have no basis in our language but it also runs contrary to it.

Now it is interesting to observe that the alternative move, namely, to ambiguate "human body," is at least countenanced by our language, since noting linguistically deviant need result from such a move. Let

us see what we get if we make this choice.

The immediate result is that human bodies are themselves composites. Also, notice that parts of the human body which take the predicate "aches" are also composites, e.g., teeth, muscles, heads, ears...Now again a Cartesian might well welcome such a conclusion. He might argue after Sommers that human bodies, like persons, are heterotypical, appearing to straddle the categories of Cartesian egos (minds) and bodies (i.e., materials objects like rocks, chairs...). So the Cartesian might attempt to ambiguate "human body" as follows: 1) where human bodies take mental features, "human body" just means "Cartesian ego." (A putative context of this sense might be: "I (my body) ache(s) all over."). 2) where human bodies take physical features like /weighs.../, "human body" means "material object."

This attempt to ambiguate, however, won't succeed if it is our aim to achieve an ontology which at least is countenanced by our language. The reason: according to Sommers, it will be recalled, two individuals are of the same type if and only if whatever is predicable of the first is predicable of the second, and conversely. But it makes no sense to say of a human body either that it thinks or does not think of Vienna. Therefore, one cannot treat the human body as a composite of ego and material object, unless again one does so by linguistic fiat (there is obviously no ordinary use in which "human body" means "Cartesian ego" or "thing which thinks").

Now if one chooses to legislate here, then it will appear that

neither ambiguation-choice--between ambiguating "aches" or "human body"--is countenanced by our language. What needs to be seen here is that it is not necessary to legislate provided that one ceases to hold fast to Cartesian Dualism. To see this more clearly, let us review the steps by which we have arrived at this point.

By picking "intellectual" mental predicates like "thinks of Vienna," Sommers makes it appear at first as if our language is in fact Cartesian. However, by substituting a non-intellectual mental predicate like "aches" for "thinks..." we make this appearance vanish. If now we choose to consider "human body" ambiguous and thus human bodies composites, the question arises, of what are they composites? Thus the situation in which we have landed is the following:

The type of individual we require if we are to correct the apparent category straddling revealed by the introduction of the predicate "aches"--without the imposition of a Cartesian ontology on our language--is an individual which:

1. does not take material-object features like /weighs.../
nor
2. intellectual mental features like /thinks.../
but
3. does take features like /aches/.

It will be noticed at once that this requirement precludes any ontology of ordinary English to which the Cartesian ego belongs, since the latter accepts all mental features (at the cost, it will

perhaps be recalled, of "intellectualizing" sensations--i.e., treating them as thoughts). So, the type of individual meeting the requirement will be a non-intellectual mental individual in contrast to an intellectual mental individual.

A plausible candidate would be what Aristotle takes as distinguishing animals from plants, namely, the sensitive or sentient soul. This type of individual would be in contrast to the intellect (nous) by which human animals differ from brutes, according to Aristotle. (Whether Aristotle considered the intellect an individual is not settled by Sommer's criterion of individuality, since it is not one of Aristotle's criteria.)

Now as a result of choosing this Aristotelian type of Sommer's individual, we get:

1. the human body is itself a composite of two types of individual, sentient soul and material object;
2. the human being is a composite of the intellect and the composite that is the human body.

In short, instead of Cartesian Dualism we get a pre-Cartesian trialism of intellect, sensitive soul, and material object.

To be cautious, I call this concept of the human being "pre-Cartesian." To a considerable extent, however, I would be justified in simply calling it "Aristotelian." My main reasons for this are:

1. It is an Aristotelian idea that a body to which sensation, feeling, appetite and emotion is ascribable, is essentially what it

is because it is ensouled. In other words, Aristotle's concept of animate being accommodates ordinary talk of ourselves where we say indifferently that, for example, we or our body ache(s) all over: where we say--literally--that sensation and emotion are felt in parts of our body.

2. A human being, insofar as it is sentient, is said by Aristotle to be a composite--an ensouled body-- of an individual form, the sentient soul, and its body. In Sommers's terminology, we can say that Aristotle recognizes the heterotypical character of human beings qua sentient.

3. The results we have gotten using Sommers's method show that the soul is itself heterotypical in our language, thought the feature of intellect, not of the sentient soul; sensation the feature of the latter, not of the former. This heterotypicality is reflected in Aristotle's concept of the human being.

4. The problem generated by Aristotle's conception of the human being, is whether Aristotle's concept of soul as the form of the natural organized body is sufficiently comprehensive to include his concept of the intellect. The paradigmatic mind-body problem generated by Aristotle's concept of the human being is the question of how the intellect is related--if at all--to the human body via the sentient soul.¹⁰ This problem is in sharp contrast to the Cartesian one where, to put it in Aristotelian terms, the paradigmatic mind-body problem is how to relate the sentient soul to the human body.

Through adopting Sommers's approach, it appears that our language countenances a trialism of intellect, sentient soul and body, and that the body qua human and the sentient soul are conceptually interrelated. Therefore, it seems that if any mind-body problem is suggested by our language, it would have to be the pre-Cartesian or Aristotelian problem of the relation of the intellect to the human body or, what comes to the same thing here, to the sentient soul. So this is further reason to say that our language with respect to human beings is Aristotelian.

There are, on the other hand, good reasons for withholding the designation "Aristotelian" from our so-called ordinary concept of the human being. The most obvious: the sophisticated character of the Aristotelian concept. For one thing, the latter essentially involves Aristotle's teleological philosophy of nature, in which his distinctive concepts of telic activity, substance, form and matter figure prominently. Now the reader will recall that, following Sommers's method, we got as an unexpected result that the human body is a composite and, moreover, lends itself to being represented as a composite of material object and sentient soul (since our language countenances this way of ambiguating "human body"). This result we called "Aristotelian" and, to be sure, it was no more imprecise a use of an historical tag than is Sommers's claim that our language is Cartesian. Nevertheless, it must be pointed out that, strictly speaking, Aristotle's composite is not that of a sentient soul and

a material object (the latter being understood as an individual) but rather of the former and matter (hyle) understood in a way distinctive of Aristotle's philosophy of nature.

Furthermore: the conceptual connection between 'sentient soul' and 'human body' shown through Sommers's approach, is merely this-- to the extent that the human body takes non-intellectual mental features, the term "human body" means "sentient soul" or the like. But again, strictly speaking, this is not Aristotle's view. For Aristotle, the human body would not be a body if it were not ensouled. To put it briefly, on Aristotle's conception of the human body, the conceptual (and ontological) connection between soul and body is far stronger than the one revealed in our language by Sommers's method. (This crucial matter needs and has a chapter to itself.)

Finally, I want to make a very general observation on the very attempt to find one ontology underlying the whole of our language. It seems to me that it would be very remarkable indeed if our so-called ordinary language has but one ontological "~~skeleton~~"--as opposed (to play on Sommers's metaphor) to having embedded in it the (perhaps fossil) remains of once vital ontologies. The rest of this chapter will consist of an expansion of the rival picture that I am proposing.

Sommers makes what seems to me a very perfunctory attempt to justify his substantive claim that our language is Cartesian. The sole evidence he offers is what at best would be deviant sentence:

"His mind is incoherent."¹¹ Now my question is: why is Sommers so easily satisfied? And the answer, I suspect, is that here he has accepted a picture of our language that oversimplifies the relation between sophisticated intellectual outlooks (e.g., ontologies) and everyday life. It seems that Sommers takes it for granted that once an ordinary language feature of the sort to be expected from the point of view of one ontology, is brought to light, further investigation is superfluous: and, I believe, this is because he tacitly assumes that ordinary language is sufficiently autonomous to have its own ontology (like an animal with its own skeleton).

Aside from the implicit appeal to his category theory, Sommers's argument for his claim that ordinary English is Cartesian is little more than an argument from analogy. The analogy is this: "country" is ambiguous (a country is a composite) because there are two putative individuals, a government and a land-mass such that the following obtains. It does make sense to say of a country that it is democratic or not and also that it is arid or not. Now it makes sense to say of a land-mass that it is arid or not but no sense to say of it that it is democratic or not. Similarly, whereas it makes sense to say of a government that it is democratic or not, it doesn't make sense to say of it that it is arid or not. In this case, it is clear that the features /democratic/ and /arid/ are replaceable by other features with the same result--that countries

are composites. This, however, is not the case with respect to "human being." To show that "human being" is ambiguous in our language in the Cartesian mould, Sommers needs to find acceptably ordinary uses of "mind" such that minds take features taken by human beings but not by bodies (and, of course, vice versa). Such uses, however, are not so easily come by. Certainly, the one example Sommers offers, "His mind is incoherent" is unacceptable. We say: "He is incoherent"; "His words are incoherent"; "His thoughts are incoherent."

Now I should have thought that in looking for ordinary uses of "mind" Sommers should have given such familiar ones as:

1. My mind is full of ideas.
2. His mind is full of wicked thoughts.

That is to say, if it were familiar uses of "mind" as subject for which he was looking, these are the sort of examples one would expect him to produce. But of course these and similar examples will not show that a human being is a composite of mind and body, since "mind" is replaceable by "head" in the above:

- 1' My head is full of ideas.
- 2' His head is full of wicked thoughts.

It won't do to argue that the latter sentences contain metaphorical uses of "head" on the ground that neither ideas nor thoughts can literally fill a head. For neither can a mind literally be filled with--anything. That is to say, if we restrict the literal meaning

of "full of..." to those sentences expressing the relation of one material object(s)'s being contained in another, e.g., "the bag is full of beans," then none of the above sentences are to be taken literally.

What I am arguing, then, is that, even if Sommers did manage to find the sort of Cartesian mental feature for minds for which he is looking in plain English, this find would at best show only that our language is in part suggestive of Cartesian Dualism. But this would not be a surprising result. There are many ordinary contexts where human being are written or spoken about in a dualistic way. There are also many contexts in which human beings are written about in a pre-Cartesian trialistic way. And, indeed, there are many contexts where human beings are written about in a way suggestive of Materialism.--All of these contexts are commonplaces of everyday life.

There is in short no semantic "great divide" between philosophical theoretic language and so-called ordinary language: for, if one requires that ordinary language be sealed off from the (even gradual) influence of highly theoretic outlooks, then such a language would not be our language. (Neither Austin nor Wittgenstein places so unrealistic a stricture on ordinary language. Philosophers who consider Austin and Wittgenstein to be sophisticated question-beggers, I suspect, believe that they did treat ordinary language as if this were a requirement for its being ordinary.)

Let us consider an historical example of the influence of a

theoretic outlook on ordinary language. It is an historical commonplace that Descartes's Dualism provided a conceptual framework for discourse on matters physical and psychological by writers on human physiology and medicine. I will elaborate on this point as a way of showing that my claim about our language having ontologies within it, is not aprioristic. Consider a particularly influential aspect of the Cartesian framework, namely, the conception of the human body on the model of an automation or machine in Descartes's Treatise of Man. This conceptual and visual model eventually replaced the Aristotelian concept of the human body in textbooks on human physiology and medicine. The Aristotelian concept is modelled on the concept of the animal: the exemplar of a natural teleological system.¹²

Now this replacement, though exemplified in the post-Cartesian textbook tradition, should not be thought to be confined to it. Neither, however, should it be thought that the Cartesian model completely supplanted the Aristotelian. The problem now is to explain the qualification "completely." It is a problem because there is the temptation to say that, whereas the Cartesian model superseded the Aristotelian in technical (esoteric) discourse, its victory was not complete, since the Aristotelian model survived in ordinary language. This temptation must be resisted--for something like "empirical" reasons. The Cartesian model has long since ceased to

be peculiar to the discourse of students of the life-sciences: it no more belongs exclusively to technical language than does the heliocentric model of the universe. In fact, the Aristotelian-Cartesian model-relation is partially analogous to the geocentric-heliocentric relation.

For one thing, the heliocentric model superseded the geocentric one--and of course over the centuries this replacement was not confined to the technical language of astronomers and physicists; but--to use C.P. Snow's oversimple distinction--it became a fundamental part of the common world-outlook of the "two cultures." And, for another, though the heliocentric model did completely replace the geocentric--exoterically--as the correct one--a good deal of ordinary talk of the celestial bodies still suggest the older model--e.g., we still say the sun rises or sets; the stars move across the night sky. (The disanalogy here is that the machine-model of the human body has not completely replaced the animal-model as the exoterically correct one. However, inasmuch as the popular use of the word "machine" is becoming progressively vaguer, it may eventually look as if the replacement were complete.)

Now the Aristotelian model of the human body still has application in ordinary language, existing, as it were, side by side, with the Cartesian machine-model. My remaining task is then simply to remind the reader of this commonplace cultural situation.

There is one point of clarification that needs to be made before I go on: there is no implication intended that the Aristotelian teleological concept of the body is explicitly to be found in our language alongside the Cartesian mechanistic concept. In Seventeenth Century medical texts something like such a juxtaposition is to be found:

The animal spirits, provided with the utmost fineness and elasticity, have a power impressed by God, not only of moving themselves mechanically, but doing so by choice, purposefully...and toward a definite goal. This power is called the sensitive soul, and it exists entirely in the most subtle fluid of the brain.¹³

In ordinary discourse, of course, we cannot expect to find an explicit juxtaposition of Cartesian and (what was generally considered to be) Aristotelian concepts of the human body. The Aristotelian concept even in the distorted form in which it occurs in the Seventeenth Century, does not even enter into our language through popular science: whereas the explicit Cartesian conception--mechanism--does. (Books like W.B. Cannon's The Wisdom of the Body suggest an explicit teleological stance toward the human body but this suggestion is officially annulled in the text itself.)

Now the Aristotelian model of the human body, the animal, does occur explicitly--as does the Cartesian machine-model. Moreover, the Aristotelian (Galenic) teleological way of talking about parts of the human body also occurs explicitly in ordinary language; e.g., the

sweat glands secrete in hot weather in order to cool the body. Consequently, I shall take occurrences of comparisons of the human body to the animate organism as at least suggesting an Aristotelian or quasi-Aristotelian outlook.

With respect to the Aristotelian model, there is a broad sphere of discourse within ordinary language where comparisons of the human body to the animal are commonplace. Let us call this the sphere of exhortative discourse. It will include religious and moral tracts and sermons; the "self-help" literature; books on mental and physical hygiene (e.g., on physical fitness).

Now the sort of comparisons I have in mind in exhortative discourse, are of a positive and negative kind. On the negative side: we are exhorted to resist the temptations of the flesh because, for one thing, the life of the body is the life of brute or bestial existence. We are exhorted not to sink to the degraded level of mere animal existence through the misidentification of ourselves with our body (e.g., with our bodily needs and appetites). The tone of all this is not Aristotelian but the equation of mere bodily existence with animal existence, is Aristotelian.

In contrast to this familiar puritanical talk, we have what I shall call the Rousseau tradition ("the noble savage"). Two quotations from a recent article in a non-technical journal, Sports Illustrated, will serve to illustrate this tradition as well as to attest to its popularity. The life of the body is compared positively to the life

of the animal:

...the runner does not deny his body. He accepts it. He does not suppress his instincts, he heeds ¹⁴them. And goes beyond this animal in him...

"Become first a good animal," Emerson said. I did. I came to know my body...¹⁵

We are thus reminded that the Aristotelian model is a veritable commonplace, spanning, as it does, both the familiar puritanical and anti-puritanical traditions of body-to-animal comparison.

Now examples of comparisons of the human body to the machine are so commonplace it would be tedious to enumerate them. Let me instead in conclusion anticipate a possible misunderstanding here. The concept of a machine is a teleological concept. So, it might be objected, the contrast between the animal-model and machine-model of the human body cannot be that of teleology vs. non-teleology, since both models are teleological ones.

I will content myself here with a brief reply, leaving a more elaborate one to a later chapter. It is true that both the concept of an animal and of a machine are teleological concepts. In Aristotle, however, there is a fundamental difference between the teleology of a natural system and that of an artificial system, even though the teleological notion of a purposive end is part of the concept of both types of system. The difference is that a natural system has the dynamic source of its teleological genesis and functioning internal to it--as suggested by the ordinary concept of

the animal--whereas an artificial system does not. Descartes, in artificializing nature, implicitly rejects this distinction. In comparing the human body to a machine, he is in effect denying that the operations of the body-machine can be scientifically explained by reference to a teleological dynamics: so for all intents and purposes the body is treated as if it were merely a mechanism having no purposive function. In this respect alone, one is justified in characterizing the shift from the animal-model to the machine-model of the human body as a shift from teleology to non-teleology. Strictly speaking, however, the shift is from an Aristotelian teleology to a Creationist imposed teleology: this is the historically accurate way of putting it. It will emerge as a major theme of this thesis that Aristotle's teleology was systematically misunderstood because natural teleology was identified with Creationist teleology.¹⁶

Notes to Chapter II

1. Fred Sommers, "Dualism in Descartes: the Logical Ground," in Michael Hooker, ed., Descartes (Baltimore: John Hopkins, 1978).
2. Fred Sommers, "Types and Ontology" in Peter Strawson, ed., Philosophical Logic (London: Oxford University Press, 1967).
3. Ibid., pp. 144-149.
4. Ibid., p. 142.
5. Ibid., p. 160.
6. Ibid., p. 163.
7. Ibid., p. 167.
8. Ibid., p. 165.
9. Fred Sommers, "A Program for Coherence," Philosophical Review 73 (October 1964): 522-527.
10. Oscar Hamelin, La theorie de l'intellect (Paris: J. Vrin, 1953), pp. 4-10.
11. Sommers, "Dualism in Descartes: the Logical Ground," p.232.
12. For a detailed discussion of this matter see Chapter III.
13. Frederich Hoffmann, Fundamenta Medicinae, trans. L.S. King (New York: American Elsevier Inc., 1975), p. 24.
14. George Sheehan, "The Runner," Sports Illustrated, October, 1977, p. 41.
15. Ibid., p. 42.
16. For a detailed discussion of this matter see Chapter IV.

CHAPTER III

In "Meditation VI", Descartes writes: "...I am not only lodged in my body as a pilot in a vessel, but...I am very closely united to it., and so to speak so intermingled with it that I seem to compose with it one whole."¹

This attempt to characterize the relation between the self--the thinking thing--and its body, consists in part of an analogy which is rejected as inadequate: that of a pilot's relation to his ship. The analogy occurs in Aristotle's De Anima where it is used to characterize the Platonic position on the relation between the soul and the body.² It is mentioned by Aquinas in his commentary on De Anima, a work presumably familiar to Descartes.³ In recent times, Ryle has worked a variation on the pilot-in-a-ship simile with his ghost-in-the-machine metaphor. However, he has used it to characterize Descartes' conception of the relation between self and body--though I think it is safe to infer that Descartes would have rejected the haunted-body view.

The other part of the characterization is positive: "I am very closely united to it, and so to speak so intermingled with it that I seem to compose with it one whole." This part is intended to be in contrast to the pilot-in-a-ship analogy. But, on the surface at least, it is not at all clear what the contrast is.

After all, a pilot is closely united to his ship. It is true that a pilot can exist in separation from his ship; but, according to

Descartes, so can the soul from the body.⁴ Presumably, a pilot is not--so to speak--intermingled with his ship: but then it is not clear what it is for me to be --"so to speak"--intermingled with my body. If this means anything, it means that I am not really intermingled with my body. But neither is the pilot with his ship.

The final intended point of contrast is that I and my body form a unit, whereas the pilot and his ship do not. But the pilot and his ship do form a unit: a functional unit. For the ship to function as a ship, the pilot is required, and for the pilot to function as a pilot, the ship is required.

As we shall see, Descartes does not mean by "unit", "functional unit." He means that I and my body form one single thing: a substantial unity. But it is no easy matter for any one who has accepted the Cartesian distinction between soul (mind) and body, to accept as well that they form a substantial unity.

Two passages from Leibniz will serve to clarify the distinction between functional and substantial unity. Leibniz writes:

...let us assume that there are two stones, for instance the diamonds of the Grand Duke and of the Grand Mogul: one and the same collective name may be given to account for both, and it may be said that they are a pair of diamonds, although they are to be found a long way away from each other; but it will not be said that these two diamonds compose one substance. Matters of degree have no place here. If therefore they are brought closer to one another, even to the point of contact, they will not be more substantially united on that account; and even if after contact one were to add some other body

calculated to prevent their separating, for example if one were to set them in a single ring, all that will make only what is called 'one by accident'....There is as much difference between a substance and such an entity as there is between a man and a community, such as a people, army, society, or college, which are moral entities, where something imaginary exists, dependent upon the fabrication of our minds. Substantial unity requires a complete, indivisible⁵ and naturally indestructible entity..

And in a different passage:

One will never find any fixed principle for making a genuine substance from many entities by aggregation; for example, if those parts which conspire towards one and the same end are more fitted for composing a genuine substance than those which are contiguous, all the officers of the Dutch East Indies Company will form a real substance...⁶

The point then is that a functional unity, though its parts are united as means to an end, is not a substantial unity because it is not "a complete, indivisible, and naturally indestructible entity."

Descartes goes on in Meditation VI to explain why he considers the pilot-analogy--in other words, the functional-unity view--inadequate to account for the relation of self and body. He writes that if he were in his body as a pilot in his ship, then:

...when the body is hurt, I, who am simply a conscious being, would not feel pain on that account, but would perceive the injury by a pure act of understanding, as the pilot perceives by sight any breakages there may be in the ship; and when the body needs food or drink, I should explicitly understand the fact, and not have confused sensations of hunger and thirst. For these sensations of thirst, hunger, pain, etc., are simply confused modes of consciousness (i.e. thought)

that arise from the mind's being united to,
and as it were mixed up with the body.

What Descartes is getting at here, he makes even more explicit in a letter to Regius, a would-be disciple. He writes:

...you should give out that you believe...that the mind and body are united in a real and substantial manner. You must say that they are united not by position or disposition...-- for this too is open to objection and, in my opinion, quite untrue--but by a true mode of union, as everyone agrees, though nobody explains what this means and so you need not do so either. You could do so, however, as I did in my Metaphysics, by saying that we perceive that sensations such as pain are not pure thoughts of a mind distinct from a body, but confused perceptions of a mind really united to one. For if an angel were in a human body, he would not have sensations as we do, but would simply perceive the motions which are caused by external objects, and in this way would differ from a real man.⁸

It should be clear now why Descartes rejects the analogy of the pilot-in-a-ship. For the analogy implies that a human being is not one substance but two; not an essential unity of mind and body. Descartes' claim is that I am not merely a mind but that I am essentially both body and mind. The rejected picture is that of a mind's using a body. Descartes' claim is that I am not merely a mind but that I am a substantial unity of mind and body. Whether this claim can be reconciled with what he says elsewhere, is a question I shall consider later.

Now, in the passage from the letter to Regius just quoted, Descartes says that he has given an explanation of what it means to say that mind

and body are united in a real and substantial manner; and he is clearly referring to the passage in the Sixth Meditation which I quote at length. However, what he says there doesn't sound like an explication of this assertion but rather like a justification of it. If he were giving an explication, then one plausible interpretation of what he means in saying that mind and body are in substantial union, would be simply that a human being has bodily sensation when his body is variously affected--e.g., feels pain when injured, thirst when dehydrated, and hunger when empty (or something like that).

The obvious objection to this reading is that the term "substantial" is the adjective of "substance" which, according to Descartes, means a thing complete in itself and requiring nothing else for its existence: or, for "created substance," that of which we can have a clear idea without its being referred in thought to something else in creation.⁹

A less obvious objection: on this reading, it would follow that if I succeeded in suppressing all bodily sensation, even temporarily, though my body continued to be affected as before, then I would cease to be a substantial unity of mind and body.

So I think this is what Descartes is saying: the best explanation of why I have bodily sensation when my body is affected in certain ways, is that my body is a real part of me. It is because it is a real part of me, that I take so personally, as it were, so much of what happens to it. He also implies that the existence of bodily sensation shows the inadequacy of the pilot-analogy as a characterization

of the relation between mind and body: since, if this characterization were adequate, then I would perceive my bodily affections as, for instance, an injury or empty stomach by a so-called "pure acts of understanding." Finally, he gives a metaphysical interpretation of bodily sensation as confused thought (consciousness), this interpretation having the tendentious implication that the confusion results from the substantial union of mind and body--though, in this context, it is not clear what he means by "confused."

Now I want to argue the following:

1) Descartes does not succeed in showing that the pilot-analogy is inadequate--or, in other words, that my body and I do not form a functional as opposed to a substantial unit;

2) that Descartes is trading on an ambiguity in his use of the word "confused" in asserting that sensation is confused thought;

3) that Descartes fails to reconcile his claim that there is a substantial unity of mind and body with his distinction between mind and body.

First point: If I were present in my body as a pilot is present in a ship, says Descartes, then I would not perceive (be aware of) injuries to my body, as I ordinarily do (and am) through pain-sensations but rather by a "pure act of understanding"--just as a pilot perceived breakages in his ship by visual sensation and not ordinarily by pain or other bodily sensation. According to Descartes, to perceive something by a pure act of understanding is to perceive,

notice, be aware of, be conscious of it imagelessly and non-sensorially. So, for example, I perceive by a pure act of understanding that I am a thinking thing; that a chiliagon is a thousandsided regular polygon. And clearly I don't perceive by a pure act of understanding that a part of my body has been injured. But is this because, as Descartes would have it, I am not present in my body as a pilot in a ship? Or is it rather because an injury to my body is not the sort of thing which could be perceived by a pure act of understanding?

I think the latter is the correct reason. For the purpose of the contrast he wishes to make, Descartes assumes that particular bodily states or changes might conceivably be objects of pure acts of understanding; and from the "fact" that this is not how we perceive such states, he implies the inadequacy of the pilot-analogy. But this assumption is inconsistent with what he says in the Meditations and elsewhere: namely, that particular bodies and their states are not the kinds of things that can be perceived by the understanding alone.¹⁰ So to be told that if I were present in my body as a pilot in a ship, I would perceive injuries to my body by a pure act of understanding, is on his own stated position, to be presented with an unintelligible "hypothesis." The point is that not even an angel could perceive bodily injuries by a pure act of understanding; so there is no epistemic contrast.

Now Descartes might have said against the pilot-analogy the following: if I am present in my body as a pilot in a ship, then

when I do become aware of changes in my body, it would not be ordinarily through bodily sensation but through external sensation, e.g., visual sensation. Of course, one could argue that there are many changes in his ship of which the pilot ordinarily becomes aware through bodily sensation. But it is true, I think, that the pilot-analogy might be misleading in this way: that it might lead one to over-emphasize the role of external sensation in the perception of one's own bodily states and changes. But, although this may be true of the pilot-analogy, it is not true of the conception which underlies the analogy: namely, that the unity of mind and body is merely functional. There is nothing in this conception which entails that I do not ordinarily become aware of changes in my body through bodily sensation.

Second point: Descartes says that bodily sensations are confused thoughts or modes (states) of consciousness. Now there is an outmoded sense of the term "confused" which means "to be fused together with." So when he says that sensations are confused thoughts, he may mean that they arise from the mind's being fused together with the body. But if he ~~does~~ mean this, he would be begging the question. So, what I think he is saying is no more than that the sense in which bodily sensations are confused reveals the fusion of mind and body into a substantial unity. The confusion in my thought betrays the real confusion of my mind with my body.

In what sense of "confused" are bodily sensations confused thoughts? As Descartes ordinarily uses this word, error in judgment is necessarily involved. In his reply to Arnauld, he gives this example: I make an error in judgment if I believe that a body which I feel to be cold, is really cold: that is to say, my perception is confused if I refer what properly belongs to the sensation, the coldness, to the corporeal object. He goes on to remark, however, that though the sensation has something about it which tempts us to fall into this confusion in judgment--this he terms the "material falsity" of the sensation--the sensation itself merely as a mode of consciousness is not confused.¹¹

Now, I infer from what he says here, that bodily sensations are materially false in that, on Descartes's view of the matter, these sensations would tempt us into false judgments as, for example, that when I have a headache there is really a pain in my head, or that when I feel hunger pangs, they are really in my stomach. But this is all Descartes is entitled to assert. For, by parity of reasoning, if cold sensations are not in themselves confused, neither are bodily sensations. So again Descartes has not succeeded in making a case for the substantial unity of mind and body.

Third point: Can there be a substantial unity of Cartesian mind and body?

Descartes writes to Regius that "when we consider the body alone

we perceive nothing in it demanding union with the soul, and nothing in the soul obliging it to be united to the body..."¹² But he also writes in the same letter to Regius that, while considered by themselves, body and soul (mind) are complete substances, in relation to the whole human being, they are incomplete substances. The question then is, how are they to be conceived in relation to the whole human being given that when considered in themselves nothing in either of them suggests how they could be united to form a substantial unity.

Descartes gives his answer in two well-known letters to Princess Elizabeth. He writes:

I observe that there are in us certain primitive notions which are as it were models on which all our knowledge is patterned. There are very few such notions. First, there are the most general ones, such as being, number, and duration, which apply to everything we can conceive. Then, as regards body in particular, we have only the notion of extension...and as regards soul in particular we have only the notion of thought... Finally, as regards soul and body together, we have only the notion of their union on which depends our notion of the soul's power to move the body, and the body's power to move the soul.¹³

So now it seems Descartes is implying that what it is for mind and body to be united, is a matter of self-evidence. One just knows that mind and body form a substantial union but what one knows can't be explicated because it is something unique. (This,

incidentally, is--mutatis mutandis--Strawson's position.¹⁴) Nevertheless, one might object as follows: if the union of mind and body were a matter of self-evidence, then how is it that when mind and body are considered in themselves, it is not self-evident or even clear how they could be so united?

In a follow-up letter to Elizabeth, Descartes gives his answer:

I distinguish three kinds of primitive ideas or notions each of which is known in its own proper manner and not by comparison with any other: i.e., the notion of soul, the notion of body, and the notion of union between soul and body... I observe one great difference between these three kinds of notions. The soul can be conceived only by pure intellect; the body (i.e., extension, shape, and movement) can likewise be known by pure intellect, but much better by intellect aided by the imagination; and finally what belongs to the union of the soul and the body can be known only obscurely by pure intellect or by intellect aided by the imagination, but it can be known very clearly by the senses. That is why people who never philosophize and use only their senses have no doubt that the soul moves the body and that the body acts on the soul. They regard both of them as a single thing, that is to say, they conceive their union; because to conceive the union between two things is to conceive them as one single thing. Metaphysical thoughts, which exercise the pure intellect, help to familiarize us with the notion of the soul; and the study of mathematics... accustoms us to form distinct notions of bodies. But it is the ordinary course of life and conversation, and abstention from meditation and from the study of things which exercise the imagination that teaches us how to conceive the union of the soul and the body.¹⁵

It seems, then, that we who have grasped Descartes's distinction between mind and body, find it difficult to comprehend their union, because we have given ourselves an insurmountable handicap--we have tried to use our intellect. But as long as we continue to do that, Descartes implies--perhaps with some irony--we shall miss the union for the distinction.

At this juncture, I shall content myself with two obvious critical points:

1) It may or may not be true that people who never philosophize and use their senses have no trouble conceiving the union of soul (mind) and body. But whatever mind and body it is that these people conceive as one single thing, it is not the Cartesian mind and body: for they cannot conceive as one what they have never perceived as two: and to perceive the Cartesian mind and body requires pure acts of understanding (intellect)--a requirement which by Descartes's contention, these people don't meet.

2) This objection is a corollary of the first. If I cannot understand how mind and body can be substantially united, then I cannot know that they are so united through sensation or, for that matter, in any other way.

The harsh verdict then is that Descartes's attempt to reconcile his Dualism with his claim that the human being is a substantial unity of mind and body, amounts to little more than an appeal to

ignorance. However, it would be superficial to leave the matter to rest there. For there is a deep problem in Descartes concerning the nature of the human being, a problem which underlies what we have seen to be an inconsistency on his part. As a first step to this problem, let's consider the inconsistency once again.

It appears that Descartes holds that the human being is and is not a substantial unity of mind and body.

Again, this comes out in Descartes's correspondence with Regius. The latter had entered into a dispute with certain scholastics and one bone of contention between them was over the nature of the human being. Against the Scholastic position, Regius declared that the human being is an "accidental unity" of mind (soul) and body.¹⁶ (One paradigm of "accidental unity" is given by Aristotle: this pale man. The point is that pallour is no part of what it is to be a man; it is inessential to his being what he is--he would still be that very same man even if he were not pale.)

Now Descartes was drawn into the dispute because Regius cited his authority on this matter. In a letter to Regius, Descartes concedes in effect that his real distinction between mind and body in a sense implies that the human being is an accidental unity but he denies that this is really his opinion.¹⁷ His reasoning runs as follows:

Inasmuch as mind and body can be conceived clearly and distinctly

as separable from each other, then in Scholastic terms either may be said to be an accident of the other, meaning that each is inessential to the other's existence. But we would only say this if we conceived of the human being as either a body possessing a soul or a soul possessing a body: on this conception, the human being is identified with the human mind or body and the remainder term is predicated of it. From Descartes's distinction between mind and body, it would then follow that the predication is an accidental or non-essential one and thus might make it appear that he maintains that accidental unity of the human being. But, argues Descartes, the Scholastics do not conceive of the human being in the above manner: rather they take the human being itself as the real subject (substance) of which the essential attributes are both body and soul.¹⁸

It isn't clear from this letter, however, whether Descartes is affirming the essential unity of mind and body or merely counseling Regius on the proper use of Scholastic terminology. In a subsequent letter to Regius, however, Descartes does deny that his Dualism implies the accidental unity of mind and body in the human being. Specifically, Descartes rejects Regius's attempt to represent the alleged accidental unity as a relation of disposition between mind and body.¹⁹ On this representation, the body is viewed as structured to work in co-operation with the soul and this functional relation is the sole connection between the two. Descartes's rejection

of this view, as we have seen, is consistent with his rejection of the representation of the mind-body relation as analogous to the relation of a pilot to his ship, in Meditation VI. In his correspondence with Regius, however, he does seem to acknowledge the possibility that his Dualism implies just such an analogy. Moreover, in some of his scientific writings, Descartes does represent the human being as an accidental unity, the principle of unity being merely functional interdependence.²⁰ For example, in his work on human physiological psychology, the Treatise of Man, Descartes has the mind affecting the body by altering the spatial disposition of the pineal gland.²¹ To continue the pilot-analogy, the gland would be the functional equivalent of the helmsman of the ship directed by the pilot.

Now one big problem Descartes wishes to avoid, arises immediately from looking at the mind-body relation on the pilot-analogy: namely, given the real distinction between mind and body, how is it possible for the two substances, one extended, the other not, to interact? The puzzle, as we shall see, is that, though Descartes tries to avoid this problem by affirming his belief in the substantial unity of mind and body, yet he is rightly known for his view that there is this interaction.

In a letter to Princess Elizabeth previously cited, Descartes responds to her question: how is interaction possible? how can an incorporeal soul affect and be affected by what goes on in a corporeal

substance?²² His response, however, is oblique. He doesn't attempt so much to explain how it is possible: rather he attempts to offer a way to avoid the problem as she has stated it. He attempts this by way of the Scholastic theory of substantial forms--a theory which he rejects. The theory is an attempt to explain natural change in nonmechanical terms. Briefly--as Descartes (mis)understands it--the theory attributes non-corporeal qualities to bodies as motive-forces and these qualities are taken to be substance-like: namely, capable of existing in separation from bodies--or as Descartes puts it, they are taken to be "little souls."²³

As an example of a substantial form, Descartes proffers heaviness: bodies are said to fall because they have heaviness in them; their heaviness is the cause of their falling: heaviness is taken as "interacting" with bodies, as it were. Descartes condemns this kind of explanation as being unintelligible but at the same time believes there is an intelligible basis for it. The intelligible basis is this: we can understand how mind and body interact, for we have what he terms a "primitive notion" of their union in ourselves. The proper application of this notion, however, is not as a substitute for mechanistic explanation: rather it is proper only if restricted to the interaction between body and mind in the human being. Thus Descartes introduces the primitive notion of the unity of the human being by way of its alleged Scholastic misapplication.²⁴

The question still remains, however, how what is unintelligible as an explanation of the behavior of bodies in general can be at the same time intelligible for some of the activity of human bodies. Descartes implies that it would be wrong, for example, to say that a body falls because it is heavy; but he also implies that it would be right to say that my hand goes up because I will it to do so. After all, on the Cartesian view, the human body, for all its complexity, is just another (part of) extended substance and as subject to mechanistic explanation as any other. And this is more or less the gist of Elizabeth's objection to Descartes's reply to her question.²⁵ She quite understandably wishes to know how the primitive notion of the union of mind and body can make interaction intelligible.

As we have already seen, Descartes assigns a special status to the notion of this union. It is only on the level of sensation and everyday discourse that we can have a clear idea of this union and hence of what it is to be human. Just as the ideas of mind and body are confused to sensation, so the idea of the union of mind and body is confused--or at least obscure--to intellect or to intellect aided by the imagination.

Now what exactly is it to have the primitive notion of the union of mind and body? Descartes says that it is simply to think of mind and body as one thing: the human being. It follows, then, that for Descartes the problem of interaction is solvable by a kind of conceptual

regression to the level of sensation and pre-philosophical discourse. For, it cannot arise on this level, since there we don't clearly distinguish between mind and body but do clearly conceive ourselves as a single thing. Although Descartes does not give an example of what it is to talk about ourselves on this pre-philosophical level, this might be an instance of the sort of thing he has in mind: we don't say, "My hand went up because I willed it to"--but rather we simply say, "I raised my hand." It is also "in the idiom" to substitute "I" for "my body" in many contexts. For example: "My body feels sluggish"/"I feel sluggish."

It isn't clear to me whether the above is really intended to be a solution to the problem of interaction or Descartes's way of suggesting that it is a pseudo-problem, as it were. It may be that he is saying that, though the problem arises on the level of intellect and imagination, it can be avoided by regression to the level of sensation and everyday discourse. However, it is very unlikely that Descartes would confuse the side-stepping of a problem with its solution. More plausibly, he may be suggesting that the problem is itself confused. The implication may be that the problem arises from the attempt to understand the primitive notion of the union of mind and body by the intellect and imagination. The difficulty with this interpretation is that no where else does Descartes so much as suggest that understanding is anything other than the exclusive

affair of the intellect or the intellect aided by the imagination. Indeed, Descartes normally presents sensation as an obstacle to understanding.

Now I shall argue that the difficulty we have in understanding Descartes's "answer" is that he has no answer. My contention is that Descartes is attempting to meet a fundamental objection to his Dualism by "sealing it off" from what is to be counted as philosophically relevant: the primitive notion of the union is assigned to the level of pre-philosophical discourse.

According to Descartes, to have a confused idea is to think as one what is conceptually distinct. Now he does of course maintain that there is such a distinction between mind and body constituting the human being. But to think of the human being through the primitive notion of the union of mind and body is to think of mind and body as one. So, contrary to what he writes to Elizabeth, he ought to hold that our primitive notion of the union is confused and not clear. Indeed, this is his position in his Reply to Objections VI. There he writes:

...from my earliest years I conceived mind and body as a sort of unity (noticing in a confused way that I was compounded out of them; and this occurs practically in all imperfect knowledge, viz. that many things are apprehended as a unity, which afterwards a more careful scrutiny shows to be distinct.²⁶

Let's imagine that Descartes wished to reconcile this passage with

his contention that the primitive notion is clear. How might he go about it? The simplest way would be to claim that there are two concepts of 'human being', both equally clear. One would be the primitive notion, the other that of mind and body functionally connected. But it is clear that Descartes would reject this way out. As we have seen, he denies that the human being is merely an accidental unity and moreover, insists that his Dualism does not entail this position.

One might try to defend Descartes in another way. It might be argued that Descartes's peculiar theory of abstraction permits him both the position that we have a clear idea of the human being as one single thing and the position that we have the clear and mutually exclusive ideas of mind and body. The novelty of this theory is that it takes clear ideas--not confused sensation--as the starting point for abstraction.²⁷ On this view, a clear idea can have ideas contained in it, which are elicited through abstraction. For example, we can have the clear idea of extension independently of the clear idea of shape, though the latter is implicit in the former and may be considered in abstraction form it: one merely attends to shape. Similarly, so the argument might run, the idea of the human being can be clear, though it contains the clear ideas of mind and body. The latter ideas are obtained by abstraction from the primitive idea of their union.

There are two fatal objections to this line of defense:

1) There is no question that abstraction is anything other than an intellectual operation. Now, as mentioned above, Descartes takes clear ideas to be the proper startingpoint for abstraction. But, according to him, the idea of the human being is unclear to the intellect. Therefore, it cannot serve as the startingpoint for abstraction into the ideas of mind and body.

2) The ideas of mind and body are clear provided that mind is not thought of as presupposing or implying body and conversely. Thus this situation is essentially different from the situation in which the idea of shape is abstracted from the idea of extension: for the former presupposes the latter. Since the ideas of mind and body are only clear provided that they are understood as antithetical, they cannot presuppose the idea of the substantial unity of mind and body. Quite the contrary.

So Descartes is still left with the problem of reconciling his contention that we have a clear idea of mind and body as one single thing with his conceptual distinction between mind and body. He has, however, a deeper problem than this one, though the two are closely connected. For the question now arises, how can he arrive at his conceptual distinction between mind and body--the mutually exclusive ideas of thinking unextended thing and extended unthinking thing--if not through abstraction from the primitive idea of the union of mind and body? What other method does he have available

to him?

Recalling the Meditations, one may answer, the method of doubt. This answer won't do. It won't do because the method presupposes that we have pre-critically some idea of our own body from which we are to distinguish ourselves in our quest for certainty. "In the first place, then, I considered myself as having a face, hands, arms, and all that system of members composed of bones and flesh as seen in a corpse which I designated by the name of body."²⁸ Now it is just at this point that Descartes goes wrong. For what he says here about the ordinary pre-philosophical idea of one's own body--the corpse-like thing--does not square with what he later says to Elizabeth: for what he says to her is that pre-philosophically we don't distinguish between self and body--we just think of ourselves as one single thing, neither mind nor body, as it were. One immediate consequence of this, however, is that we have no pre-philosophical concept of our body. But this position is in contradiction to the above claim that we do have an ordinary pre-philosophical concept of our body--for which the model is the human corpse no less:

To emphasize the inconsistency, I will quote from the Principles of Philosophy (Principle XII):

Those who have not studied philosophy in an orderly way have...never distinguished their mind from their body with enough care...they did not observe that by themselves they ought merely to understand their minds (when metaphysical certainty

was in question), and since on the contrary they rather meant that it was their bodies which they saw with their eyes, touched with their hands, and to which they wrongly attributed the power of perception...²⁹

Notice that he is taking it for granted here that people ordinarily have a confused idea of their own bodies, for he says they wrongly attribute the power of perception to their bodies. In effect, he is saying that people ordinarily misapply the primitive idea of the union of mind and body to their own bodies just as Scholastic scientists misapply this idea to bodies in general. The equivalent of, say, the substantial form of heaviness here would be the power of feeling as allegedly misattributed to people's own bodies.

Taken on his own ground, however, Descartes must be wrong here. When a person says that he feels a pain in his shoulder, what Descartes has said to Elizabeth about the way ordinary people ordinarily think of themselves, does not imply that the person is misattributing a sensation to a part of his body. On the contrary: if anything, it implies that he is attributing a sensation to a part of himself: since, supposedly, he thinks of himself neither as mind nor body but merely as one single thing. Indeed, as Strawson has pointed out, this would account for his saying that he feels the pain in his shoulder, not in a shoulder.³⁰

So why then does Descartes imply here that people ordinarily misconceive the nature of the self by confusing it with the body? It seems to me that here he is inconsistently imposing his post-

critically arrived at distinction of mind and body into the domain, as it were, of sensation and everyday discourse while at the same time taking this domain for granted as his pre-critical point of departure for arriving at the distinction. In plain English: he sticks the ordinary person with a conception of his own body which, according to Descartes, he cannot have; and then our Rationalist goes on to attribute to the ordinary person what for all intents and purposes is a picture of himself as a sentient corpse.

We can now see the deep problem in and for Descartes. On the one hand, he needs the primitive notion of the union of mind and body to get around the problem of interaction and to avoid the position that mind and body are merely accidentally united. On the other hand, his positing of this notion leaves him no point of departure from which to arrive at his distinction between mind and body: for the only point of departure available to him depends on the assumption that people pre-critically confuse themselves with their own bodies. But this assumption is inconsistent with his position that the primitive notion is the pre-critical concept people have of themselves and that this notion is clear.

Notes to Chapter III

1. Elizabeth Haldane and G.R.T. Ross, eds., The Philosophical Works of Descartes, 2 vols. (Cambridge: Cambridge University Press, 1973), 1: 192.
2. Aristotle, De Anima, trans. W.S. Hett (London: Loeb, 1936), p. 39.
3. St. Thomas Aquinas, Aristotle's "De Anima" in the Version of William of Moerbeke and the commentary of St. Thomas Aquinas, trans. K. Foster and S. Humphries (New Haven: Yale University Press, 1951), p. 178.
4. Haldane and Ross, Philosophical Works, 1: 190.
5. H.T. Mason, The Leibniz-Arnauld Correspondence (New York: Manchester University Press, 1967), p. 94.
6. Ibid., p. 127.
7. Haldane and Ross, Philosophical Works, 1: 192.
8. Kenny, Descartes, pp. 127-128.
9. Haldane and Ross, Philosophical Works, 1: 239-240.
10. Ibid., pp. 191-192.
11. Haldane and Ross, Philosophical Works, 2: 106-107.
12. Kenny, Descartes, pp. 140-141.
13. Ibid., p. 138.
14. Strawson, Individuals, pp. 97-98.
15. Kenny, Descartes, pp. 140-141.
16. Ibid., p. 121.
17. Ibid., pp. 121-122.
18. Ibid., p. 127.

19. Ibid., p. 127.
20. Rene Descartes, Treatise of Man, trans. T.S. Hall (Boston: Harvard University Press, 1972).
21. Ibid., pp. 92-93.
22. Kenny, Descartes p. 140.
23. Ibid., p. 129.
24. Ibid., pp. 138-139.
25. Ibid., p. 140.
26. Haldane and Ross, Philosophical Works, 2: 257.
27. Kenny, Descartes, p. 123.
28. Haldane and Ross, Philosophical Works, 1: 151.
29. Ibid., 2: 223.
30. Strawson, Individuals, pp. 96-97

CHAPTER IV

In this chapter, I intend to do something akin to what Turbayne had attempted in his book, The Myth of Metaphor. Turbayne claims that Mechanism (as a metaphysical paradigm) is based on a machine-metaphor: the world is viewed as if it were a vast machine. The paradigm, however, he argues, has obscured its own "as if" status and has made it appear as though the world were literally a machine. Like Kuhn and many others, Turbayne denies that we can circumvent an entrenched paradigm and expose its metaphorical character by directly appealing to the "facts." It is necessary rather to contrast one paradigm with another (competing) one.

Now the paradigm which Turbayne presents as an alternative to Mechanism is the one advanced by Berkeley in A New Theory of Vision: Turbayne calls it the "linguistic model." The startingpoint for Berkeley could be put this way (with some plausibility): he believed that normal visual science (Geometrical Optics) could not adequately frame an explanation for what he considered to be the anomaly in normal science of visual depth perception. Consequently, he formulated an alternative conceptual framework for vision based on the model of language rather than of machinery. In sum: Turbayne's The Myth of Metaphor, though, incidentally, a work in the history of ideas, is primarily an essay in critical metaphysics: it is committed to the position that metaphysics has a context--it is not "news from nowhere"--

and hence that critical metaphysics requires historical scholarship.

This chapter parallels Turbayne, firstly, in its general approach, and, secondly, as taking an anomaly as the starting point for the comparison of metaphysical paradigms. The problem, of course, is the putative unity of the human being. We have seen that this "appearance" of unity is an anomaly for Descartes's Dualism. What I intend to do is to show how this problem is handled in an alternative paradigm, namely, in a conceptual framework (for Nature) modelled on the organism rather than on the machine: in short, Aristotle's philosophy of nature. Now, to be sure, what I have just said suggests the anachronism that Aristotle reacted to a Cartesian anomaly. Moreover, someone might make the following objection: Aristotle's conception of the soul is so very different from Descartes's that what we have here is really another instance of incommensurable paradigms: so it is not merely anachronistic but also historically **parochial** to take Aristotle as addressing himself to the same problem as Descartes.

Sorabji has given a sketch of the differences:

...Aristotle is fundamentally unlike Descartes. He does not up the world at the same points...he does not treat mental acts as a single group, but makes a sharp distinction between perception and thought. Nor does he follow Descartes in trying to separate off from the group nutrition or in distinguishing between corporeal acts of walking and seeing, which do not belong to the group, and seeming to see or seeming to walk, which do belong.¹

Now though Sorabji does not rule out the possibility of an illuminating comparison between Aristotle and Descartes with respect to the mind-body problem it is for the reasons he mentions and the like, that Hamlyn does.

Aristotle's dealing with the tradition [read: Cartesian] mind-body problem are perfunctory. He assumes in general that his concern is with functions which are those of both body and soul...there is almost total neglect of any problem arising from psychophysical dualism and the facts of consciousness.² (xiii)

Now I have a basic reason for mentioning these objections right at the start. It is simply this: though I consider it to be wrong-headed in the extreme, I am aware that this view of Hamlyn's is not uncommon. It is especially significant, I think, that Hamlyn identifies the problem of Cartesian Dualism with the traditional mind-body problem, though he must be aware that there is a far older and more persistent mind-body problem arising from Aristotle's solution to what he took to be the mind-body problem: the relation, or lack of it, of the intellect (nous) to the animate body. So now the question remains, Is the problem to which Aristotle addressed himself in De Anima so very different from the problem of Cartesian Dualism, that his solution is irrelevant to it?

The brief reply is: Aristotle encountered a precursor of Cartesian Dualism, a view of the relation of soul to body, which bears a strong resemblance to Cartesian Dualism. This view is the

Pythagorean (or Platonic) one. As Randall put it:

Since traditionally psyche has been turned into Latin as anima and into English as "soul," it is important to realize at the outset that Aristotle is not talking about the "soul" as centuries of Christian supernaturalism, to say nothing of Cartesian dualism, have led us to conceive it. That conception of a "soul" quite independent of any body, as he encountered it in the Pythagoreans, he could not take seriously. He calls the notion "absurd"....³ (Randall, p. 63)

Randall proceeds to give the relevant citation from Aristotle's

De Anima:

Such theories attach the psyche or "soul" to, and enclose it in, body, without further determining why this happens and what is the condition of the body....The supporters of such theories merely undertake to explain what kind of thing the psyche is. Of the body which is to receive it they have nothing more to say: just as if it were possible for any soul taken at random, according to the Pythagorean tales, to pass into any body. But each body seems to have its own distinctive form....It is just like saying that carpentry can pass into flutes, for the art must employ its own instruments, and the psyche its own body.⁴ (R. 63), A Bk. I, Ch. 3 407b)

Now, as we have already seen, Descartes himself in response to Regius, Elizabeth and others, wished to avoid saying that his dualism led to such a Pythagorean account of the relation between soul and body. Moreover, as is well known, Descartes himself raises what is essentially the same question in the "Sixth Meditation"--whether the soul is in the body as a pilot in a ship (in fact this precise question

is raised by Aristotle himself). Thus I think it is fair to say that Aristotle is addressing essentially the same problem in De Anima that Descartes reluctantly addressed himself to centuries later.

The task before me, then, is to show 1) how Aristotle attempted a solution of the problem and 2) how Descartes's implicit rejection of the terms of Aristotle's solution led to the problem of Cartesian dualism. The second part of this task will be reserved, by and large, for the next chapter. I shall be emphasizing in this chapter, however, those features of the Aristotelian framework in terms of which the solution is worked out, with a view to making it clear just how and why Descartes's implicit rejection of these terms brought back the problem in the regimented form in which we find it today. Moreover, I shall be taking it for granted that the reader has at least a nodding acquaintance with Aristotle's basic concepts. Finally, since there are various interpretations of Aristotle, I shall alert the reader at the onset that I am following the line that emphasizes Aristotle's naturalistic orientation (Woodbridge-Randall-Balme) as opposed to the line that emphasizes his Platonism.

Now it would be convenient if my task could be accomplished by a straightforward comparison of Aristotle's and Descartes's conception of 'body.' Unfortunately, for the most part when they talk about bodies as bodies, both philosophers do so in informal terms. Aristotle theoretically replaces body (soma) with a set of systematically

related concepts (as of course Descartes does). The more apposite comparison is between Aristotle's and Descartes's conception of 'matter.' It has often been remarked that Descartes's concept of 'body' (his 'corporeal substance' or 'res extensa') is more akin to a concept of matter than of body, since, for one thing, res extensa is not an individuated something. Consequently, for the sake of eventual comparison, I shall concentrate on Aristotle's concept of matter.

To consider this concept, we must locate it in Aristotle's conceptual framework for nature. Now Aristotle's concept of nature is a radically teleological one and his concept of matter is an essential element in the teleology. The teleology is what I shall call an immanent teleology--as opposed to an imposed teleology. There are many clear examples of an imposed teleology. Plato's Timaeus is one such example. The Demiurge imposes a teleological order on more or less obdurate materials. On this view, the materials are at best a necessary evil, since when the teleological pattern is realized imperfectly, it is the materials which are held responsible for this imperfection.

In contrast to the teleology exemplified by the Timaeus, Aristotle's teleology is essentially involved in his concept of matter--of the materials themselves. The Timaeus implies a definite model of teleological process, that of craftsmanship. Aristotle adopts this model

but only as a way of presenting analytically the factors he considers explanatory of natural process.⁵ The craft-model allows Aristotle to separate out the factors involved in such process: the craftsman, the efficient cause; the pattern according to which he structures the material into the final product, the formal cause; the materials out of which he crafts the finished work, the material cause; and the reason why he does it--in order to realize that form in that matter--the final cause. But, more importantly, the model permits Aristotle to contrast natural with artificial process.

In natural process, paradigmatically organic genesis, the efficient, formal and final causes coincide either numerically or specifically. In craft, the form of the efficient cause is different from the form of the product. The craftsman as such does not produce human beings. With respect to organic process, however, the form of the efficient cause (for Aristotle, the form of the male parent) is of the same sort as that of the product (the offspring). The final factor coincides with the formal and efficient, since it is the form-to-be-realized by the offspring, namely, the mature form of the organism. As Aristotle says, man begets man.

In Aristotle's concept of 'matter,' we have a concept of material which is neither resistant nor indifferent to its in-formation. Instead, the material has within it a tendency toward the realization of form: in short, a telic tendency. This statement, however, can be misleading. In Aristotle's ontology, matter cannot exist without form.

Natural substances--the paradigm of which is the organism--are composites of form and matter: informed matter. An animal is made of flesh, blood, and bone: its matter. But these materials are not without their own form or structure. So, for instance, bone in turn is made of minerals (or, as Aristotle would put it, made of earthen materials) but is not just these minerals. In other words, Aristotle's concept of matter is essentially a relative or analogic notion. Matter is itself substance, albeit incomplete: matter is the matter of X, where X is a complete substance (ousia). So, to take a stock example, an acorn, which is itself an incomplete substance, is at the same time matter: material for the oak it has the (telic) power to become. The concept of matter is related to the concept of power or potentiality (dynamis). The acorn is the matter of the oak because it is potentially the oak it will become if nothing interferes with its development.⁶ This is the active potentiality of the acorn (of matter). The concept of matter, however, is not reducible to the concept of active potentiality. An acorn can be eaten or otherwise have its natural development interfered with. Matter has passive potentiality as well.⁷ In other words, matter has a telic tendency but is not identical with it. However, insofar as matter is knowable (intelligible), it is so only as active potentiality--i.e., in its dynamic telic role.

The element of 'purposiveness' in a given system, the inherent tendency toward a certain end, which is conveyed by saying

that the events happen 'for the sake of' the end, cannot be identified as a special entity which directs the behaviour from within, but consist rather in the fact that in beings with a purpose an event's being required for a given end is a sufficient condition of its occurrence. It is not a separable feature, but a property of the whole system, that by which it tends 'naturally' towards a certain result or end. It is this notion of a 'natural tendency' towards a certain result or end... which lies behind the notion that, in systems whose behaviour must be accounted for by (teleological) laws...the order which results cannot be attributed to "blind accident", that is, to principles which are only contingently connected with the bringing about and maintenance of this order; for the principle underlying the laws by which the behaviour is explained is itself a tendency to produce this order.⁸

Now Aristotle has a "second" concept of matter, which is closely related to the first one.⁹ This is the concept of the materials of the final realization of the substance which develops from the germinal substance (e.g., the matter of the actual oak). Let us tag the two concepts matter 1 and matter 2. Matter 1 does not (necessarily) persist in its transformation into the final product (the acorn, though originally matter 1 for the oak, is not present in the actual oak which germinated from it and thus is not part of the materials (matter 2) which make up the oak). But matter 2 is like matter 1 in that it is essential relative to a given substance and thus cannot exist without form.

The structure of substance (paradigmatically, the organism) is

teleological: it is a functional structure, or, more precisely, a system of such structures. The principle of intelligibility for substance is thus teleological. Moreover, in Kantian terms, the principle is a dynamical constitutive one. Consequently, the structure of substance cannot be adequately expressed in exclusively quantitative terms. The organism is Aristotle's paradigm of substance. It is thus a mistake to equate substance with 'individual' or 'concrete individual.' Artifacts, for example, are concrete individuals but not for Aristotle substances. Simply put, this is because artifacts as such have no nature. As is well known, Aristotle defines nature as the intrinsic source of motion and change (nature is thus a dynamical principle). Aristotle's concept of nature is a distributive one, since, among other things, he wishes to define the difference between those concrete individuals which are said to be by art and those which are said to be by nature. His concept of nature is not that of a system to which the behavior of substance conforms. It is rather a concept of the dynamics internal to each and every substance.¹⁰

Substance is essentially active (though it is not always clear what activities are to be ascribed to the rudimentary substances or materials in the inorganic realm). Activity is characterized by an internal teleology: the end is intrinsic to the activity. The realization (actualization) of the end does not terminate the activity. Activity is thus unlike process (motion). A typical process for

Aristotle is the construction of a house or the formation of a substance. The process of constructing necessarily terminates upon the realization of the end (e.g. the house, the mature oak). A typical example of an activity--seeing--however, does not terminate on the realization of its end, the perception of the visual object. On the contrary: the realization of the end is necessary to each and every moment of the activity.

The understanding of what an activity is, is the basic requisite to the explanation of enmattered functional structure. For Aristotle, the concept of activity is the fundamental explanatory concept. The material structure is explained teleologically by reference to the functioning (activity) of which it is the instrument or organ--it is only intelligible as such an instrument. For example: the dental structure of the human mouth--both the structure of the individual teeth and their arrangement in the mouth are explained by reference to the activity of chewing or ingestion. Moreover, the matter or dental material, the fact that the teeth are made of enamel, is also explained by reference to the function they serve: in short, **teleologically**. The so-called Aristotelian essence of substance is identified with its functional structure in Aristotle. The matter is related to the essence in that it is the sort of stuff necessary to the functional structure; to the extent that the matter has the properties necessary to the functioning of the organ it is not contingently connected to the essence. There is obviously a strong connection between form and matter in

Aristotle. Since, however, the function of chewing can be realized without the enamel--e.g., dentures need not be made of enamel--the actual material, matter 2, is not part of the essence of the teeth. The point is that the essence of a given substance, what it means to be that thing, though identified with its form or functional structure, has in its concept reference to the sort of matter necessary for its functioning. And this reflects Aristotle's concept of nature--of individual natures--as involving a teleology which, as it were, reaches into matter itself. Thus matter is only intelligible insofar as it plays a telic role.¹¹

I want now to consider at greater length what has been said to be Aristotle's maturer concept of matter (matter 2) in its relation to substance. In the Metaphysics, Aristotle says that matter is one of the things said to be substance.¹² He goes on to reject this possibility. Matter for Aristotle lacks the sort of unity which he considers necessary for substance. He says that the unity of a substance is not like the accidental unity of a heap--in this respect anticipating Leibniz.¹³ Nor is the mathematician's concept of a body, the unity of three dimensional continuity, sufficient: so body as thus defined is not substance.

What, then, is his concept of the unity proper to substance? Aristotle says that it is the sort of unity which characterizes animals and plants.¹⁴ It is the unity of a functional system. The concept of 'function,' however, needs to be explicated along Aristotelian

lines, since artefacts, machines for example, can be said to be functional systems, though Aristotle denies that they are substances. The crucial point again is that Aristotle's conception of nature (the nature of a substance) presupposes a radically teleological dynamics. It is not merely that his concept of nature is that of an intrinsic source of motion and change but also that the motion and change are telic in their tendency. Thus, though artefacts have functions through their structures or forms, the functions are imposed on the matter of the artefacts. The original matter, matter 1, has no telic tendency to realize the artificial structure. Nor does the constituent matter, matter 2, have a telic tendency (as structured) to functional self-activation. So, the timber of which a house is made, will not through its own dynamical structure become a house but rather through, as it were, the form of the builder. Nor will the wooden house of itself actualize its function, the sheltering of human beings, but it must wait, as it were, upon its tenants for this function to be realized. Similarly, what is ordinarily called a self-activating mechanism--e.g., a heating-system--can be said to turn itself on (e.g., thermostatically) but in reality its activation is necessitated by circumstances external to the "self-activating" mechanism, change in air-temperature, for example. In self-activating substances, however, the activity is originated by the substance given the appropriate circumstances. So seeing is originated by the animal

by its opening its eyes in order to see: that is, the activation is telic at the source, the substance itself.

Now, before proceeding to Aristotle's solution to "the" mind-body problem, let me consolidate the insights gained into his philosophy of nature. At this point, it will be helpful to introduce his concept of 'hypothetical necessity.'

Aristotle raises the question whether in the generation of substance, the final outcome is necessitated by the materials involved in the process. As he puts it:

The general view is that things come to be of necessity, in the way in which a man might think that a city wall came to be of necessity, if he thought that since heavy things are by nature such as to sink down, and light to rise to the surface, the stones and foundations go down, the earth goes above them because it is lighter, and the posts go on top because they are lightest of all.¹⁵

As the analogy implies, Aristotle rejects this notion of material or mechanical necessitation in favor of teleological necessitation: hypothetical necessity. As Balme puts it, Aristotle says that in natural science "we show that the end necessitates the means: the means is necessitated only by the end (not by prior mechanical causes), and it is necessitated only conditionally--on the hypothesis that the end will come about."¹⁶

Aristotle understands hypothetical necessity to comprehend all natural process and activity.¹⁷ The scope of teleological determina-

tion extends downwards, as it were, from the complex forms of organisms to the simple forms of the four elements, air, earth, fire and water.

For example, locomotion necessitates limbs, and limbs proximally necessitate certain material properties--a rigid lever, a joint. These in turn necessitate flesh and **blood**, which necessitate the action of heat and cold upon food stuff, which necessitates other actions of heat and cold upon earth and water; but these last actions are proximally necessitated not for feeding animals but for growing plants, and plants may necessitate indigestible parts like thorns and wood. Therefore the more remote a material is from the end, the more irrelevant properties it may bring, because of the complexity of nature. Some, like the breakableness of bone, are even disadvantageous....Such disadvantages are not failures of teleology, nor defects due to refractoriness in matter. They are the inevitable self-limitation of a creative process, brought about by the teleological development itself; as such they are hypothetically necessitated, but ultimately not proximally.¹⁸

The moral of the story, then, is that if we are to make sense of natural motion and change, we must grasp what these goings-on are for. But the point is that they are for the functioning ultimately of the substance(s). So, for Aristotle, teleology is the key to the book of nature and not, e.g., geometry or rational mechanics.

We are now in a position to understand Aristotle's solution to the mind (soul)-body problem. As is well known, Aristotle says that the soul (psyche) is the first (grade of) actuality of a natural organized body. "First actuality" is a kind of power, or, as we

might say, a "standing disposition." A child can be said to have the power to read in two senses of "power." In one sense, we mean that he is born with the capacity to read, though he has not yet learned how to read. In the other sense, we say he has acquired the ability to read when he had learned how to read. "First actuality" is power in the second sense. A human embryo has the power to see in the first sense: but only until he has a functional eye is he rightly said to have the power of vision in the second sense. Aristotle in fact compares the soul or first actuality of the natural organized body to the power of vision. If the eye were a separate animal, then vision would be its soul. The point is that an eye would still be an eye even if it were not actually seeing provided that it had the self-activating power to see. Similarly, the organism is still an organism and not a corpse even if it is not performing all its proper functions provided that it still has the power to do so. (There are simple organisms which can be completely dormant but this is not really to the point. There is nothing, for instance, in Aristotle's concept of the soul which entail that kryogenesis is impossible.)

The relation of soul to body, then, is the relation of functional structure to its instrumental materials (matter 2). The vital activities of the organism are the startingpoint for the explanation of the relation. There can be no opposition between soul and body because the body of the organism is necessarily an organized body instrumental to the realization of the vital activities of the

organism. This reason is both its intelligible and dynamic basis. As Aristotle says, the relation of soul to body is like the relation of the imprint to the work of a seal. Strictly speaking, then, he is not operating with the refined mathematician's concept of 'body'--three-dimensional magnitude--and relating it to the concept of soul. For the wax in the analogy would function in Aristotle's hylomorphic framework as an instance of matter. The organism is not the mathematically defined body plus the functional organization. The functional structure is not a supervening property. If that were the case, then a spatial magnitude would be essentially what an organism is. But just the contrary is true: for Aristotle, there is no substance as body qua body, nor is it the essence of a substance to be corporeal. It is the organism which is the substance and its substance or essence is its functional structure.

In effect, Aristotle has replaced informal talk of bodies--but not with a more refined notion of 'body.' His use of "body" in his definition of the soul is his way of indicating that what is essentially functional structure is necessarily the structure of materials--materials instrumental to vital activity. As he understands "body" in this context, there is no body apart from the telic organization. An eye without the power of sight is an eye in name only. Aristotle does not conceive of the soul-body problem as the problem of how to relate a corpse to the soul.

In more general terms: the form as such of the organism is not corporeal. Rather the organism is corporeal because the form of the organism telically requires a material instrument for its vital activity. For Aristotle, it is not an answer to the question, What is it to be this individual?--to say that it is to be corporeal. Nothing is a substance merely because it is extended in three dimensions. Since Aristotle is committed to dynamism in nature and, moreover, a teleological dynamism, he could hardly permit a non-dynamic concept of substance to be at the root of his conceptual framework for nature.

To further bring out the dynamic basis of Aristotle's solution, it will be useful to examine an objection to it which ignores this basis. Taking a more or less Cartesian line, W.F.R. Hardie argues that Aristotle's hylomorphism is inadequate to account for mental states. Hardie is well within the Cartesian tradition: in his claim that mental and physical phenomena are merely contingently related and in his identification of the physical with the corporeal (he takes it for granted that the ontology of nature is that of bodies). His argument runs as follows:

In its application to plants, the general formula [the soul is the first actuality of the natural organized body] does not trouble us. What it conveys is that the soul of a plant, by which we understand its life, is not a part in addition to its bodily parts but rather its form or structure, the way it lives and has its being.

Plants have psyche in Greek, but the processes which occur in them are not psychical in English. There is animal psychology but no psychology of plants. We do not believe that plants think and feel, have experiences. But we know, or think we know, that at least many animals, and not men only, have at least feelings and perceptual experiences. Now it is when we pass from vegetables to animals, from biology to psychology, that Aristotle's definition of the psyche becomes elusive and obscure.

The life of a plant is not an extra entity, whether bodily or non-bodily, but rather the arrangement and functioning of elements. This truth is expressed by saying that the plant soul is the form of vegetable matter. But sensation and images and in general the occurrent manifestations of supra-vital levels of soul, are non-corporeal events or processes. A sensation or sense—experience is an effect, not an arrangement of corporeal elements... in the passage we have been considering, (Aristotle) suggests that "anger should be defined as a certain mode of movement of such and such a body...by this and that cause and for this and that end," and that such a definition is comparable with the definition of a house as an arrangement of bricks and timber for the end of giving shelter. The comparison has several flaws.... the dissimilarity with which we are concerned with here is that, whereas a house is a physical object, a fit of anger is a process or complex of processes, which is at most in part physical and at least in part psychical.¹⁹

Why does Hardie point to the corporeality of matter as an objection to Aristotle's definition of "soul"? Apparently, he believes that Aristotle fails thereby to account for the non-bodily character of what, following Descartes, we call mental states: sensation and emotion. (Hardie also says that Aristotle fails to distinguish

psychic from physical phenomena, but his use of "physical," as we shall see, is so unAristotelian as to be question-begging.)

It seems that Hardie is assuming that mental states are "made of" another kind of matter (perhaps like the psychic hyle which Husserl says is organized by the intentional act of perception; that is to say, an incorporeal or inextended matter). His objection cannot merely be that mental states as such are inextended, since all activities as such are inextended in Aristotle. Walking, for instance, is certainly no mental state, yet for Aristotle it is not a spatial magnitude; it is necessarily related to something extended, the walker, but qua activity, it is inextended. It makes sense to ask how long a walk someone took, but this does not entail the Cartesian equation of the activity with the distance traversed...Such an equation is un-Aristotelian. For Aristotle, the inextended character of walking is brought out if one were to ask what size the walking itself is.

Hardie's objection to Aristotle's solution is, I think, really a reflection of an oversight, his overlooking the teleological dynamics underlying Aristotle's hylomorphism. Hardie assumes that the functional organization is self-explanatory in Aristotle's system. But this is a deep error. The (telic) activity is the ultimate explanatory point of reference. The functional structure is explained teleologically--the structure is there in order that the functioning be

realized. The matter or bodily elements are proximally explained by reference to the functional structure they enmatter but ultimately by the functioning to which that sort of matter is instrumental. Moreover--let me again emphasize--for Aristotle matter and form do not merely exist as if in order to realize activities but rather the realization of activity is an ultimate and irreducible dynamical principle in nature.

Now, in the light of the foregoing, the decisive rejoinder to Hardie is simply this, Aristotle's principle of intelligibility for nature is also his principle of dynamics natural motion and change are ultimately in order that activity be realized. But activity as such is non-extended. Although in nature activity is necessarily related to the corporeal, not all activity has this relation, since the Unmoved Mover(s) which metaphysically completes his physics, is both non-corporeal and active. Consequently, Aristotle's fundamental natural explanatory concept is a concept of what is in itself non-corporeal (non-extended). (If the necessary relation of natural activity to the corporeal makes such a concept impossible for Aristotle, then his 'Unmoved Mover' would be a conceptual impossibility.) Hardie's assumption that if something is as such non-corporeal (e.g., mental states), then its relation to the corporeal must be contingent, betrays his Cartesian bias. It also I think, blinds him to the dynamic basis of Aristotle's solution: otherwise he would not argue that the

corporeal character of what is functionally organized must make what is non-corporeal merely contingently connected to the former.

Let us now consider the mind-body problem generated by Aristotle. The problem is that Aristotle says, on the one hand, that mind or intellect is a "part" of the soul--intelligence--and, on the other hand, that mind is not a first actuality and hence has no organ:

Concerning that part of the soul...with which the soul knows and thinks, we have to consider what is its distinguishing characteristic, and how thinking comes about....(Mind) must (although impassive) be receptive of the form of an object, i.e., must be potentially the same as its object, although not identical with it: as the sensitive is to the sensible, so must mind be to the thinkable. It is necessary then that mind, since it thinks all things, should be uncontaminated, as Anaxagoras says, in order that it may be in control, that is, that it may know; for the intrusion of anything foreign hinders and obstructs it. Hence the mind, too, can have no characteristic except its capacity to receive. That part of the soul, then, which we call mind (by mind I mean that part by which the soul thinks and forms judgements) has no actual existence until it thinks. So it is unreasonable that it is mixed with the body; for in that case it would become somehow qualitative, e.g., hot or cold, or would even have some organ, as the sensitive faculty has; but in fact it has none.²¹

Now it may be that Aristotle is arguing the following: the mind cannot have a material instrument (organ) for its activity, since it must be receptive to all possible forms. If it had an organ, the materials composing the organ would limit the range of forms the mind

could receive. This, anyhow, is more or less the version Aquinas gives of the argument.²²

On the face of it, if this is Aristotle's argument for the separability of mind from matter, it is inconsistent both with the Aristotelian tenet that it is form, not matter, which limits and with the tenet that matter is unknowable apart from its telic role in the realization of substance or substantial activity. Consider the following argument: The reason vision is limited in the range of forms it can receive, colored shapes, is that the material composing the eye limits the forms receivable to color and shape. Consequently, if the mind had an organ, the materials composing it would limit the range of forms it could receive and thus there would be thinkable objects it could not think. Now it is easy to see what is wrong with this argument. For Aristotle, it is the form of the eye, vision, which limits the materials which can make up the eye--i.e., if vision is to be realized, then there must be such and such materials. Therefore, one might expect that Aristotle would reason thus: Given the fact that intellectual activity is going on in us, what sort of materials have the instrumental properties required for this activity? But clearly he thinks there are no such materials. It seems that here he is assuming that matter, though it does not necessitate the genesis of substance, does place certain general constraints on what can be telically realized and still be materially constituted. The obvious assumption he is making here is that we can know that there are

properties of the ultimate materials, air, earth, fire and water, which preclude there being a material instrument for the abstracted state in which one finds oneself when engaged in intellectual activity. In fact, Aristotle thinks he knows all sorts of constraints which the nature of the four elements place on the activity of substances. So, for example, he claims that there must be a fifth element, the aether, of which his celestial spheres are composed, since the four sublunar elements, he thinks, are incapable of making up the instrument whereby the stars revolve eternally around the earth. Here it is clear he believes that anything composed of the four elements must be impermanent and have a noncircular motion. Again it was open to him to reason: Given that the stars revolve eternally, what sort of instrumental properties must the matter of the instrument of such motion have? He did not have to postulate a fifth element.

Aristotle's problem is this: on the one hand, he is theoretically committed to the position that matter can only be known in its telic roles in relation to the realization of substance or the activity of substance. On the other hand, if he attempted to follow this principle of intelligibility consistently, he would debar himself from a science of inorganic substances or materials--from chemistry, for example. As Aristotle observes, even in the investigation of the parts of animals, it is not always possible to give specific explanations of the telic roles these parts play in the organism.²³ Consequently, if one insisted

on giving exclusively teleological explanations of the behavior of the materials that, for example, organisms decompose into, there is little one could say about them. This is not to deny that Aristotle does have something significant to say about these sorts of materials, specifically, the four elements, from a teleological point of view. For example, he infers that earth must be essentially dry and cold in order that bone be firm and stable in order that the skeleton perform the function of support. However, in the main, when Aristotle investigates the inorganic behavior to which his concept of teleology has no clear application, he makes do with materio-efficient causation; as, for example, in his explanation of why the sea is salt.²⁴ So it is clear that Aristotle does depart from his teleological concept of matter when giving explanations which mention non-instrumental properties of materials. (In a different explanatory context, these same properties may be instrumental to some activity, but the point is that he does not restrict himself to such contexts.)

Now it seems to me that Aristotle pays a heavy price for his departure from principle. For his mind-body problem is the result of this departure together with his simplistic qualitative theory of the basic materials available for telic organization. The point is this: methodologically, Aristotle's teleological principle functions as a leading principle (concept of reflection²⁵) and in effect it says to the investigator, if there is a certain activity, find the matter having those properties instrumental to it. So, if Aristotle were consistent in this approach to matter, an approach originated by him,

there would be no mind-body problem for him. There would of course be the empirical problem of finding the material instrument of this activity of intellect (e.g., the brain). But he would not have the fundamental theoretical problem of reconciling his definition of soul as the form of a kind of body with his claim that there is an activity of the soul which is separable from matter.

It is very significant that Aristotle gets into his own mind-body problem by his failure to stick to his teleological concept of matter. I do not think that this failure can be dismissed merely as a pragmatically motivated heuristic expediency on his part. For he could have treated his theory of the elements as tentative and revisable in light of the human-natural activity of intellect. That he did not do **so** is evidence of a certain compartmentalism in his theoretical approach to the phenomena, depending on whether they appear to him to have clear telic tendencies or not. In any case, the point that I want to emphasize is that the role of Aristotle's teleology in relation to his mind-body problem is decisive here. Though it is far from obvious, we shall see in the next chapter that the role that Aristotle's teleology plays in relation to Descartes's mind-body problem is equally decisive.

Notes to Chapter IV

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13. Ibid., p. 251.
14. Ibid., p. 251.
15. Aristotle, Physics I, II, trans. W. Charlton (London: Oxford University Press, 1970), p. 42.
16. Balme, De Partibus Animalium, p. 77.

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CHAPTER V

It is clear that Descartes's philosophy of nature is at least an implicit rejection of Aristotle's philosophy of nature. It is a nice question, however, whether this rejection is an explicit one as well. The answer seems clearly affirmative; for Descartes says as much. However, it is not at all clear that it is the genuine article he rejects. For it is a question whether Descartes understood or even knew what he rejected; specifically, it is a question whether he understood Aristotle's teleological dynamics. On the one hand, it could be argued that he understood it only too well--namely, as a verbally sophisticated form of anthropomorphism. On the other hand, Descartes is so totally out of sympathy with Aristotle's "biocentric" approach to nature, that the suspicion arises that it is more likely that what Descartes rejected is in reality a caricature of the original (just as Ryle rejects what, he admits, is a caricature of Cartesianism). It is, after all, not uncommon for intellectual pioneers to make into a strawman the traditional outlook which they are struggling to replace with their own. As we shall see, in the case of the Aristotelian outlook, there is more than one factor complicating a just assessment of the extent to which the pioneers of the Scientific Revolution--e.g., Bacon, Galileo, Descartes--distorted Aristotle's distinctive approach to nature. One such

factor (it is well-documented) is the distortion, indeed, perversion, of Aristotle's philosophy of nature by self-styled Aristotelians in the tradition of Scholasticism.¹ (I have in mind not merely the university epigoni of Descartes's day but also seminal thinkers like Aquinas.)

Now the position I have been taking is that Aristotle's teleological dynamism is not a form of anthropomorphism. Consequently, I shall be concerned to show exactly how Descartes caricatures this position and how the Scholastic tradition--from which Descartes received his Aristotle--contributed to this distortion. Moreover, I shall argue that Descartes's failure to appreciate the sui generis character of Aristotle's teleology prevented him from distinguishing his own mind-body problem from the one generated by Aristotle himself.

It is clear that a considerable portion of what Descartes rejected in Aristotle's physical system is genuine Aristotle. Basically, it is the geocentric cosmology with its view of space as a finite hierarchy of "natural places" and the theory of motion which the hierarchy implies--the distinction between natural and violent motion, etc. I want to distinguish this specific explanatory aspect of Aristotle's system of nature from his general philosophy of nature. Under the latter I include Aristotle's principle of teleological dynamism and his hylomorphic conception of substance--with all that implies: e.g., the teleological concept of matter as relative to substance; passive and active powers; the distinction between process

and activity; first and second grades of actuality, etc.

Now Gilson has shown that in large part Descartes received what he took to be Aristotle's philosophy of nature from the so-called Thomistic Synthesis.² The synthesis by Aquinas is of such diverse elements as Aristotelianism, Neoplatonism, Augustinianism and Catholic Dogmatism. The point that should be made at the outset about the Thomistic system is that it differs in aim from Aristotle's philosophy of nature. Whereas Aristotle's aim is to provide a conceptual framework for the scientific explanation of nature, Aquinas's aim is basically theological: to make intelligible the relation of God, the Creator, to the Creation. Aristotle's world-view has a basically naturalistic orientation; Aquinas's a supernaturalistic.

Let us compare Aristotle's philosophy of nature with that of St. Thomas's. First let us consider "the" concept of matter. It is a vexed question in Aristotle whether his hylomorphism extends to the four elementary substances: air, earth, fire, and water. This question is equivalent to the question whether Aristotle held as a limiting concept of matter the concept of prime matter. Prime matter would be the matter₂ common to the four elements and persisting in the changes of the elements one into another. The difficulty with this notion is that, on the hylomorphic theory, matter is always relative to a given form and identified through it. But prime matter would have to be the same matter whether it was in the elementary form of fire or water or the other elements. There are no criteria, however, by which to

individuate prime matter as the same matter. In this respect it would differ radically (i.e., conceptually) from the matter that ordinarily makes up substances.³ For example: The earthen materials composing the bones of a living organism can be identified later as the same material composing the skeletal remains of the cadaver because the form e.g., of earth, persists. Thus the concept of prime matter is not so much a limiting concept but--assuming Aristotle to have operated with it--an aberration within his system.

Perhaps Randall gives the judicious estimate of prime matter in Aristotle, when he says:

"For the understanding of Aristotle's notion of "first matter" it is important to realize that this (the change of each of the four elements into one another) is the context in which he is led into such a concept. "First matter" is his way of referring to such equivalences in the most fundamental transformations of the elements into each other. It is also of importance to realize that for Aristotle the notion of "first matter" is of minor significance. The term is not even used in the discussion of the problem in the De Generatione.⁴

In Aquinas's philosophy of nature, which supposedly is modelled on Aristotle's, the concept of prime matter occupies a central position. Aquinas typically defines substance as the composite of substantial form and prime matter, thus promoting what is at best a surd in Aristotle to a position of centrality. Since Aquinas recognizes that prime matter cannot individuate--it is pure

potentiality"--he requires another concept of matter, so-called "signated matter," for this role. This is not a problem for Aristotle, of course, since he does not define substance as the composite of substantial form and prime matter. If anything individuates in Aristotle, it is form. Form is what makes the substance the actual thing it is. In Aquinas, however, form cannot play this role.⁵

Basically, the reason this is so, is that Aquinas has a metaphysics of creation. In this metaphysics, "God" is defined as "infinite actuality." God is conceived of, on the one hand, as actual and thus having form and, on the other, as infinite and thus without limit. For Aristotle and Greek thinkers in general, form is necessarily a limit. Consequently, Aquinas's concept of form, although nominally Aristotilean, is a perversion of the Greek concept. Similarly, Aquinas's concept of matter as individuating, is a perversion of the Aristotelian concept. In short, the relation of form to matter in Aristotle is inverted in Aquinas.⁶

The centrality of God as efficient cause of the world in the Thomistic system also affects the interpretation of Aristotle's teleology. A cardinal tenet in Aristotle is that, though nature acts for the sake of ends, no deliberation is involved. Aristotle makes the analogy here to a craftsman who acts most surely when he does not have to think about what he is doing. Thus, for Aristotle, the teleological order of nature does not require an intelligence either to impose the

order or to maintain it. (Aristotle's "God"--the Unmoved Mover--is merely the final cause of the world.) Aquinas, on the contrary, although again nominally accepting Aristotle's teleology, in reality transforms it into what is more akin to the teleology of Plato's Timaeus. In short, Aquinas's teleology is that of the imposition by an intelligent director of ends on materials which of themselves have no tendency (active potentiality) to realize these ends.

Let us now compare Aquinas's conception of the relation of the soul to the body with Aristotle's. To facilitate this comparison, we need to get clearer about Aquinas's hylomorphism. Since Aquinas's hylomorphism is in large part the result of his metaphysics of creation, let us again consider how it differs from Aristotle's outlook.

Charles Kahn has expressed this difference most succinctly:

...existence in the modern sense becomes a central concept in philosophy only in the period where Greek ontology is radically revised in the light of the metaphysics of creation: that is to say, under the influence of Biblical religion....this development did not take place with Augustine or within the Greek Church fathers...The new metaphysics seems to have taken shape in Islamic philosophy, in the form of a radical distinction between necessary and contingent existence: between the existence of God on the one hand, and that of the created world on the other. The old Platonic contrast between Being and Becoming, between the eternal and the perishable (or, in Aristotelian terms, between the necessary and the contingent) now gets reformulated in such a way that for the contingent being of the created world (which was originally present only as a "possibility"

in the divine mind) the property of "real existence" emerges as a new attribute or "accident", a kind of added benefit bestowed by God upon possible beings in the act of creation. What is new here is the notion of radical contingency, not simply the old Aristotelian idea that many things might have been other than they in fact are...but that the whole of nature might not have been created at all: that it might not have existed.⁷

The Thomistic System focuses on this concept of existence. In this sense of "existence" (esse), God is said to be infinite existence. Aquinas's "philosophy of existence" transforms Plato's theory of Ideas and of Participation in the light of this concept. The Ideas become ideal possibilities in the mind of God. God imposes, as it were, these possibilities on the "pure potentiality" of prime matter through His creative activity. In Aquinas's terminology, each composite of form and matter is brought into existence by a so-called "act of existence." Aquinas analyses his own concept of substance as a composite of form, matter and the act of existence, thus making substance radically dependent on a transcendent activity.⁸

We are now in a position to evaluate Aquinas's conception of the relation of soul to body. Where in Aristotle it is unresolved whether mind (intellect) is separable from soul, Aquinas decides the issue in favor of the essential integration of intellect with soul in the human being. For Aristotle, however, this decision would entail the inseparability of the intellect from the human body. Since no activity

requiring a material instrument can survive the destruction of the latter, Aquinas is faced with the problem of reconciling this Aristotelian consequence with the Christian belief in the survival of the soul after the "death of the body." Clearly this is, to say the least, an intractable problem if we stay within the Aristotelian naturalistic framework. Aquinas's "solution" to this problem shows very clearly that he is not operating within such a framework. The Aristotelian trappings now fall away. Aquinas adheres to the letter of the Aristotelian formula, since he reiterates that the soul is the form of the natural organized body. But he goes on to say that the soul can subsist in separation from the body, thus making a radical departure from Aristotle (indeed, he sounds almost Cartesian here).⁹ As Randall points out, this un-Aristotelian concept of the soul was remarked by such Renaissance Aristotelians as Pomponazzi and Zabarella.¹⁰

Aquinas's solution depends on his conception of God as efficient and sustaining cause of (created) substance. It is possible for the human soul to subsist separate from the body because the human being, body and soul (matter and form) only exists through the creative act of existence conferred on it by the Creator. Aquinas's metaphysics is fundamentally an ontology, not of Aristotelian actuality, but rather of (transcendent) existence. Consequently, it is not an obviously impermissible conceptual move in his system to have the form of the human being subsist in a kind of incorporeal limbo, since its existence in the body is itself inexplicable (for him) apart from

the supernatural reference. Moreover, we may recall at this point that Aquinas is sufficiently a Platonist to have provided a transcendent status for form: form subsists (prior to its existential union with prime matter) in God's mind as ideal possibility.

Let us now make a quick transition to Descartes's philosophy of nature by emphasizing the Thomistic Influence. As I did in the case of Aristotle, I would like to distinguish Descartes's philosophy of nature from the more specific aspects of his physical explanatory system. By Descartes's philosophy of nature, I shall minimally understand the concept of nature as a mechanism (whose model of course is the machine). The mechanistic conception of nature is the familiar view that all change in nature is solely explicable in terms of matter in motion. Neither the concept of matter nor of motion is Aristotelian. Descartes identifies matter with corporeal substance and the latter with non-finite three-dimensional extension. There are, indeed, corporeal individuals but, for the Aristotelian standpoint, they have a merely factitious or accidental unity, the unity of a heap. The one homogeneous substance that is Descartes's nature has only accidental differences within it (Descartes's modes of extension). For Descartes, bodies are just the extrinsic determinations of the one extension originally brought about by God's creative imposition of motion on his creation. Motion is imposed and extrinsic to bodies because there is nothing in the notion of extension, their essence, which gives any

reason why anything should be either in motion or at rest. There are bodies and not just one homogeneous extension, moreover, because motion has been imposed differentially: that is to say, what would be purely ideal divisions in space are made real parts by being given quicker or slower motions. Descartes thus reduces physics to mechanics and mechanics to kinematics. There is just one dynamic source of motion: God. Consequently, Descartes's concept of motion is radically un-Aristotelian. It is basically the geometer's notion of spatial translation (as presupposed in the traditional definition of "congruence" where one figure is said to be placed upon another).

Now, though Descartes reduces physics to kinematics and nature to extension, he does not exclude teleology or dynamics from his philosophy (metaphysics) of nature. On the contrary: in the Meditations and elsewhere, he says in effect that his physics requires God as the one teleological and dynamical source of the workings of nature. Indeed, against his Scholastic opponents, he argues this dependence to be the theological virtue of his physics as against the Aristotelian physics which he claims, following Bacon perhaps, deifies nature (by placing intelligent activity within nature).¹¹

We can see the Cartesian relation of teleological dynamics to nature most clearly in its implicit opposition to Aristotle if we examine Descartes's metaphysical paradigm for nature, the machine. Now there are two complementary ways to explain the workings of a

"man-made machine." The layman's way is to look for a teleological explanation: what is the machine for. The physicist's way is not to accept a teleological explanation, however, since he wants to know how the machine works: he is interested in the mechanism and its operations. Now, so far, the physicist could be an Aristotelian, since it is essential to Aristotle's distinction between natural and artificial teleological systems to deny that the teleological structure of the latter has a real dynamical role to play in the actual workings of these systems (reference must be made to the craftsman). The Cartesian physicist, however, denies just this distinction between natural and artificial teleological systems. When Descartes takes the machine as his model of nature, he thereby makes null and void, as it were, this distinction so crucial to the whole Aristotelian scientific enterprise. For Descartes, nature itself is an artificial teleological system: God's machine. Consequently, Aristotle's more or less commonsense observation on artifacts like machines, that to explain their workings dynamically one must refer to an external agency, Descartes paradoxically applies to the workings of nature itself. But then it is not so great a paradox if one has been raised to accept that the very existence of the world depends on a transcendent providential agent.

...existence in a "derived" or created universe is entirely different from material being qua being in Aristotle. It cannot be said of a creature in such a universe that the dynamism of its self-relation will function necessarily, unless some other creature(s) interfere: Even

under optimal conditions for that particular being and its function, it is still the case this being need not be; its contingency or creative status is with it from one moment to the next. In this way the naturalism of Aristotle is, in principle subverted by the Christian notion of existence.¹²

The Thomistic influence on Descartes is now clear:

Because Aquinas retains at least the nomenclature of Aristotelian metaphysics, it is easy enough to overlook the transformation, which takes place in his system, of the actuality of creatures into creative influx, and to go on thinking of an individual creature's duration as held together by an energy emanating from within that individual. Without something like the immanent principle which was Aristotelian form, however, every moment of time, every vanishing unit of creation is a distinct production. Therefore, in the Cartesian world, there can be only one kind of active causality or dynamism at work: creation, which, when considered as continuing what has already existed, is called by Descartes "conservation."¹³

Let us see more specifically how the Thomistic distortion of Aristotle's philosophy of nature influenced Descartes in what he accepted and rejected. Descartes seems to reject Aristotle's definition of motion: the actualization of what is potential insofar as it is potential--i.e., the sort of change which terminates upon the realization of its end (process). As is well known, Descartes thinks it is unintelligible. Now the reason he thinks the definition is unintelligible is that one concept it presupposes, the concept of potentiality, he also thinks unintelligible. He believes that, e.g., to say that an acorn is potentially an oak, is to say that there is "something"--the potential

oak--that neither exists nor fails to exist. In other words, the concept of potentiality absurdly implies for Descartes that within nature there is an ontological limbo between existence and non-existence. Now it should be clear by now that if this criticism were to be directed at Aristotle's "dynamical" concept of potentiality, it would completely miss the mark, since it is not in the creationist sense of "exist" that Aristotle could be correctly interpreted when he says that an acorn is potentially an oak: he is not saying that the (perhaps future) oak both exists and does not exist in the acorn. In fact, not only is Aristotle's own concept not vulnerable to Descartes's attack but Descartes himself makes use of it when he defines "light" as a tendency rather than a motion.¹⁴ Of course, he is here being inconsistent with his own reduction of physics to kinematics. Nevertheless, if he really thought that "potentiality" means "tendency," he would be defining "light" in such a way as to make it unintelligible to himself. It seems clear, therefore, that, though Aristotle gets the undeserved censure, it is the Thomistic concept of "potentiality" as a static principle of receptivity to existence to which, in effect, Descartes opposes the Thomistic concept of existence. (Whether Descartes's criticism is fair to Aquinas does not concern me: my concern here is to show that Descartes mistakes his target.)

Let us now consider whether Descartes explicitly rejects Aristotle's teleological dynamical principle. To do that he would have to know what it is. Does he? He does of course deny that reference to ends

can explain changes in nature: but this, as we have seen, is not because he thinks there are no such ends--only that they are imposed on nature by God. Even if we could know what the workings of nature are for, we would be none the wiser as to how God's machine works, since, as we see in clocks and other "man-made" machines, the same end can be realized by diverse mechanisms.¹⁵ This epistemic point follows from Descartes's implicit denial of Aristotle's teleological principle. When, however, he actually cites examples of what he takes to be Aristotelian teleology, he shows that he has but one concept of teleology, the one that requires an intelligent, transcendent and efficient agency.

So, for example, he argues that when someone suffering from dropsy still thirsts for water, though this desire is clearly dysfunctional, it is wrong to characterize the bodily state responsible for it as contrary to nature: the body-machine, whether functioning or malfunctioning, runs (down) in accordance with the mechanical laws of motion.¹⁶ But this argument is not an argument directed against Aristotle's position; for, it presupposes that, though the human body has ends, it has them in the sense in which a machine has them. Descartes is saying that it is merely by convention that human beings are said to have a nature which can be perverted or otherwise interfered with--just as if one were to say that the nature of a machine is perverted if it is used for a purpose contrary to the one for which it was designed.

The point is that if the body, like a machine is operating at all, it is operating mechanically and thus, on Descartes's conception of nature, according to nature. No where in this argument does Descartes so much as bring under consideration the possibility that the reason that dysfunctional states of the organism might be said to be contrary to nature is that the vital ends or activities of the organism are held to dynamically determine what the organism is. It is evident what Descartes is up to in his argument. He is trying-perhaps successfully-to square the Christian belief that the teleological order of nature is God's providential order with his own conception of the order of nature as mechanistic.

The closest Descartes comes to Aristotle's teleological dynamism is in his account of what is basically a degenerate form of the Scholastic version of Aristotle's discredited theory of natural motion. Aristotle distinguishes motion into motion in accordance with the nature of the mobile--natural--and motion contrary to the nature of the mobile--violent. For example, it is natural for earthen bodies to move toward the center of the universe (to fall) because the earth-element is only fully what it is, cold and dry, when at the center. (Just as a fish's "element" is water, so the earth-element's "element" is the center of the universe.) So, for Aristotle, the dynamical reason why earthen bodies fall is that they do so in order to realize their activity insofar as their earthen materials are

instrumentally requisite for this end.¹⁷ We can see here, incidentally, that Aristotle's teleology does not imply a providential order to nature, since, for example, if an organism falls from too great a height, the fall will interfere with the realization of its nature. Teleological necessitation does not entail that what is thus necessitated is always for the sake of the thing affected--in the sense of "beneficial to it." There is a parallel to Descartes here, since he holds that God's imposed teleology is not always beneficial to the organism, as witness the thirst of the dropsical patient.

So much for Aristotle's theory. Now let us look at the theory Descartes presents for criticism.¹⁸

Bodies fall because they have heaviness (weight) in them. Heaviness is the substantial form of falling bodies.--Right from the start it becomes clear that Descartes thinks Aristotle's theory is like the "explanation" Moliere's physician gives of the sleep-inducing effect of a soporific: namely, an instance of circular reasoning in the semantic disguise of an explanation. The parallel: Why do bodies fall? Because they are heavy. And why are they heavy? Because they can (they have a tendency to) fall. The semantic disguise consists in nominalizing the adjective "heavy" so as to imply that there is a factor of sufficient ontological independence that it can be a causal factor. Or, as Descartes puts it, the Scholastics say that substantial forms are inseparable from bodies but, nevertheless, in

their nominalizing references to these forms when trying to explain motion, they treat them for all intents and purposes as if they were separable--as so many rudimentary souls.¹⁹

Descartes believes that the teleological character of this theory of motion presupposes a form of intelligent agency as directive efficient cause of the motion. Though this is not Aristotle's theory, it is possible that Descartes has in mind what passed for this theory: the hylomorphism presented in 16th and 17th century Scholastic textbooks. In these presentations, the form of substance is given a quasi-independent status: as though it could serve as efficient cause of bodily changes. In effect, what has happened is that the Thomistic conception of the status of the form of the human being, the intellectual soul, namely, that it has a quasi-independent relation to the body, was generalized to include the forms of all corporeal substances.²⁰ Unfortunately, it is this degenerate form of hylomorphism which Descartes receives as the Aristotelian conception of natural teleology.

Why do I say "unfortunately"? After all, given Descartes's metaphysical position, he is committed to rejecting Aristotle's position. So what difference does it make that he was prevented historically (contingently) from doing so explicitly?

It is unfortunate for several reasons. For one thing, it made it appear that the theory of a teleology of nature is reconcilable with Mechanism. The fundamental opposition between Aristotle's concept of

teleological necessitation (hypothetical necessity) and Mechanism was hidden not only from Descartes and his contemporaries but also from generations of thinkers to come (including, for example, Ernest Nagel). But the one reason I wish to emphasize, is the historical fact that the view of nature as the product of an imposed teleology and the tacit assumption that this view is the one and only teleological conception of nature, obscured the systematic dependence of the Cartesian mind-body problem on a metaphysics which implicitly rejects the immanence-view of natural teleology. Perhaps the most notable instance of this historical fact is Descartes himself. Descartes typically refuses to concede the role of his metaphysics in generating the Cartesian mind-body problem, seeing no essential difference between it and what he takes to be the Aristotelian problem of the relation of the rational soul to the body.²¹ Given the historical situation in which Descartes found himself, his failure is not surprising.

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Conclusion

We have seen that the modern mind-body problem was generated in part by a concept of matter which by implication denies that purposive ends are dynamically immanent in nature. The denial was not an explicit one because the sole teleological outlook on nature recognized by Descartes and other pioneers of the Scientific Revolution (e.g., Bacon) was essentially the teleology of Plato's Timaeus.

Let us review the main features of Aristotle's explanatory framework for nature. The point that I want to emphasize once again is that the basic explanatory concept is that of 'activity.' We recall that activity has its telos or end intrinsic to it: the realization of the end does not terminate what is going on, as in process (motion), but is essential to each and every moment of its continuance. Activity is what is most intelligible in nature and the rest of what goes on in or rather by nature gets its intelligibility by reference to activity. Now process is only intelligible teleologically: it is the realization of what is potential insofar as it is potential. Within matter (materials) there is the telic tendency for the realization of substance. The substance is realized when the materials have transformed themselves into a functionally structured organization

of matter: when the organized matter has the power or standing disposition for the activity or activities which define it. The concept of matter is of (incomplete) substances--e.g., acorns--which have both active and passive potentialities. The active potentiality is the telic tendency: the passive, the vulnerability of the incomplete substance to have its completion interfered with. Matter, however, is only intelligible in its telic role--in its active potentiality. Thus Aristotle's principle of intelligibility is at the same time a principle of dynamics and of teleology. The source of motion and change (the transformation of matter)--nature--is telic. Matter transforms itself in order that the activity defining substance be realized. Insofar as it is knowable, matter is knowable as the **instrument** of this realization. Consequently, the matter of the complete substance is also only intelligible insofar as its properties are instrumental to the self-activation of the substance.

As we saw, in the Creationist outlook, Aristotle's teleology is confused with what is basically the teleology of the Timaeus. On the latter conception of teleology, directedness toward an end presupposes an agent capable of deliberation. Aristotle's distinction between natural and artificial functional systems goes unrecognized. Viewed from this distorting perspective, Aristotle's teleology must appear to be a form of occultism or anthropomorphism, since it makes it look as if he were ascribing intelligent occult agencies to each and every substance. Such is the way it appeared to Descartes.

As we saw in Chapter III Descartes steadfastly refused to acknowledge that his Dualism is responsible for the modern mind-body problem, claiming that his metaphysics created no different a problem from the problem peculiar to what he took to be the Aristotelian metaphysics of his Scholastic predecessors. His blindness, we eventually saw, was understandable, since his predecessors made Aristotle's teleology look like a verbally sophisticated form of anthropomorphism to him. Indeed, this distortion is still the prevalent view of immanence-teleology. (The claim that "the" concept of goal-directedness must be analysed in terms of an agent capable of deliberation, is an instance, it seems to me, of dogmatic parochialism. In Aristotle, 'goal-directedness' is the primitive concept and 'deliberation' the derived one.)

Now it may be asked, what is the upshot of my historico-analytic investigation of the modern mind-body problem? Nothing, I think, very dramatic. The reader may conceivably be in a better position to evaluate his own intellectual stance toward the problem. If he is persuaded that, at least historically, this problem turns on the rejection of Aristotle's teleology, he may now view the problem in this new light and abandon the standard attempts to get around the problem while still retaining a basically mechanistic concept of nature (matter, body). I am not, however, going so far as to suggest that we ought to revert to an Aristotelian outlook in our conception of nature and thus adopt a radical solution to the problem.

by eliminating its metaphysical basis.

First of all, one cannot shift metaphysical paradigms at will. Secondly, let us assume that one can adopt the position that Aristotle's teleological principle is the ultimate intelligible basis for "making sense" of the goings on in nature. Still, it seems to me, given the present scientific outlook, one will have to make something like a Leibnizian move here.

We recall that, for Leibniz, some sort of teleological principle was necessary to give a metaphysical explanation of nature but inappropriate to a physical explanation of nature. The latter, he says, must be mechanistic. This radically unAristotelian compartmentalism reflects the modern cultural situation in which the aims of the modern scientific enterprise are antithetical to Aristotle's principle of intelligibility. The non-teleological principle for nature in the modern world is the outcome of two familiar complementary ideals of knowledge: Bacon's ideal of natural knowledge as giving power over nature and Descartes' ideal of natural knowledge as mathematically formulable principles of motion (Rational Mechanics). The two ideals converge in the modern principle of intelligibility for nature: which in effect says that nature is a machine only available to us epistemically and pragmatically as a mechanism. That is to say, whatever ends if any the cosmic machine serves, they are epistemically and practically irrelevant to how it works. Given that our aim is a technological control of nature, the mathematization of nature

becomes indispensable as the means to this end. The entrenched paradigm of nature as a mechanism reflects this cultural situation, since the ideal of technological manipulation of nature presupposes as the model of nature what can be thus manipulated.

Now, to be sure, if one does not accept this ideal, one may then find it easy to reject the mechanistic principle of intelligibility and opt for the Aristotelian. This move, however, leaves one at a loss to account for the enormous success the modern scientific enterprise has enjoyed in terms of the goal it has set for itself. So then there is the strong temptation to make the Leibnizian move of viewing teleology as a metaphysical as opposed to a physical principle. At this point, given the choice of living with the mind-body problem or accepting the view of metaphysics as having its own subject-matter, the reality underlying the phenomena, one may find the first alternative the more attractive one.

The question naturally arises as to the status of Descartes's claim that the sole form of intelligible explanation of the natural is the mechanistic--where corporeal substance is identified with geometrical extension and local motion reduced to a mode of extension. Actually, there are two claims here, one more general than the other. Descartes's more general claim is that the basic physical concepts must be mathematically defined. The first claim, that nature is Cartesian Mechanistic, has long since been rejected, as is well known.

The second claim, however, far from having been rejected, is modern scientific orthodoxy. Both claims are in opposition to Aristotle's concept of nature, to his view of the intelligible form of natural explanation; of how a scientist ought to go about making sense of the phenomena. So, though Cartesian Mechanism has been rejected, the more general position, that the intelligible in nature must be the mathematical, or, specifically, that physics reduces to some form of "rational mechanics," is the prevalent scientific view and deeply in opposition to the Aristotelian view of what is intelligible in nature, the immanently teleological.

Descartes adopted the geometrical concept of body as the sole clear idea there is of body; any other concept he thought unintelligible. Now of course it is evident that "body" is not necessarily a technical term, let alone a mathematical one. "Extension" as normally understood is merely a necessary condition for being a body. Both Aristotelians and Newtonians, for instance, rejected the geometrical definition of "body" as an inadequate concept of real physical bodies. Descartes equated the science of nature with rational mechanics and so required his basic concepts of nature to be mathematically defined. But what he took for the right mathematics was algebraic geometry (analytic geometry) and, to this extent, his definition of the nature of corporeal substance and the science of nature, was historically parochial. Nevertheless, one may ask why he held what he did.

Again a distinction is required. There are really two questions here. 1) Why did he think the sole intelligible form of the science of nature is rational mechanics? 2) Why did he think that rational mechanics must be the kinematics of modes of extension pure and simple?

An adequate answer to the first question is obviously beyond the scope of this essay. In thinking that physics is really rational mechanics, Descartes is in the same company as Democritus, Archimedes, Kepler, Galileo, etc. Moreover, Descartes's belief that the intelligible in nature is the mathematical has a tradition that goes back at least as far as Plato's Timaeus. It is well known among scholars that young Descartes came under the influence of Isaac Beeckman who introduced him to the new mathematical physics. It is even better known that Descartes wrote that the basis of his philosophy was the truth of the Copernican theory. The Copernican revolution of course overthrew the cosmological basis for Aristotelian dynamics. Aristotle's concept of natural and violent motion and the dynamics of both kinds, presupposed a finite geocentric cosmos where motion up, down and horizontal is absolute and universal. Aristotle's imposition of his biocentric teleological outlook on the cosmos was a speculative leap far beyond the ecological outlook which lent credence to his teleological dynamics.

Now mechanics (including celestial mechanics) is normally divided into dynamics and kinematics, the latter the science of motion

as such, the former the science of the causes of motion. Until Newton there was no adequate dynamics for the post-Copernican kinematics. This brings us to the second question, Why did Descartes think that rational mechanics must be merely the kinematics of the modes of extension pure and simple? Part of the answer is that there was no alternative to the dynamics presupposing the rejected Aristotelian cosmos. Unlike Kepler, Descartes's official position was that dynamical notions are intrinsically confused; he did not think, apparently, that there was a viable possible alternative to the discredited dynamics. Moreover, he was especially concerned to prevent the new mathematical physics from backsliding into the non-mathematical obscurity of telic tendencies and occult qualities. Furthermore, though Descartes considered mathematics to be the general science of order and measure, his own paradigm of mathematics is his analytic geometry where he believed he had succeeded in reducing the imperfectly intelligible synthetic geometry to the completely intelligible algebra--thus bringing geometry up across the Platonic line of division.

Now, as is well known, Descartes's mathematics is inadequate to define the dynamics of Galilean kinematics. Fatefully, instead of taking this to be a shortcoming of his mathematics, Descartes took the possibility of such a new dynamics to be ruled out by his mathematics. Basically, Descartes's Mechanism is the inflation of a limited model of mathematical intelligibility for rational explanation of

the phenomena falling under the more general mathematical-structure concept of nature shared by many thinkers from Pythagoras to Heisenberg. This general concept of nature is Cartesian but not exclusively so. In line with this nature concept, Descartes rejected the Aristotelian theory of abstraction: for the theory presupposed an irreducible surd between nature as the terminus of sense-perception and nature as the object of intellect or reason. Aristotle's maxim that the principle of intelligibility for a science must be commensurate with the subject matter of that science took it for granted that, because it was "evident" to the senses (and to commonsense) that real genesis, activity and telic tendency were out there, the physical could not be reduced to the mathematical--which abstracted from all this, the--for Aristotle--essential core of the physical. In a move perhaps definitive of the Rationalist tradition, Descartes rejected the Aristotelian maxim of commensurability and reduced nature as the terminus of sense-perception to nature as the object of Pascal's geometrical esprit. One metaphysical consequence of this move--it has been the concern of this thesis--is that the ancient problem of reconciling the appearance of soul-body unity with a theoretical outlook entailing that the appearance is a specious one, resurfaced and became entrenched in the intractable form of Cartesian dualism.

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