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MATERIALISM:
A CRITICAL EVALUATION OF
THE VARIOUS ATTEMPTS TO DEFEND
THIS THESIS FROM THE PROBLEM PRESENTED BY
THE PHENOMENAL PROPERTIES OF SENSATIONS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By

Albert William Flores, B.A., M.A.

* * * * *

The Ohio State University
1974

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ACKNOWLEDGMENTS

This dissertation marks the final point of my formal education and the beginning of a new career. It is appropriate at this time to express my sincerest appreciation to members of my family, my friends, and my teachers who encouraged and assisted me through all these years. Among these there are a few who deserve special recognition: to Albert Vega Flores for whom my education held the highest value, to Dorothy Turk Flores whose gentleness, love and comfort never diminished, to Thomas Burton Lloyd my best friend and colleague, to George Pappas who introduced me to the mind-body problem, gave me the theme of this thesis, and molded my philosophic standards, and finally to Marshall Swain whose encouragement, friendship, and respect gave me confidence, to these people I am most grateful.
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CHAPTER ONE

The Identity Theory and Materialism

I Introduction

The student of philosophy is often plagued with questions and problems which have a peculiarly tenacious immunity to any final solution; one such question which traditionally attracts considerable speculation and philosophic debate concerns the nature or ontological status of those things we know to exist, i.e., what are the ontological kinds of things which the universe is made up of. Without much inspection, we can determine quite readily that much of the universe is composed of physical or material entities, hence the metaphysical doctrine of materialism is very attractive as an answer to this question. There are, nevertheless, serious difficulties facing those who defend this thesis; for some entities, namely persons have minds or at least exhibit a host of what appear to be mental features like thought, sensations, belief, imagination, intention, and emotion, to name only a few, which do not prima facie appear susceptible to a materialist interpretation. It is
with these troublesome entities\(^1\) that we find the most
difficult obstacle to the final acceptance of materialism.
Anyone who defends this thesis must give some account
of these entities which is consistent with the materialist
metaphysics, i.e., he must defend a materialist theory
of mind.

In recent years, many philosophers have made a
concerted effort to construct and defend just such a
theory of mind. As part of that effort, many philosophers,
- have argued for what is commonly called **The Identity
  Theory**; indeed the philosophic literature is replete
with discussions of this theory and while in that respect
the present undertaking may appear fashionable, in fact,
more recently the identity theory has found less favor
with the philosophic community than it originally had.
This is due mainly to the commonly held belief that
the identity theory could not be defended against a
long list of Leibniz' Law type objections. These
objections generally take the following form. If, for
example, it is claimed that sensations are identical with
brain processes, as J.J.C. Smart has argued,\(^2\) then

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\(^1\) As I shall use the term 'entity', I mean to refer
ambiguously to either an object, event, state or process,
but not to a property; when it is necessary for clarity
sake, I shall use a less ambiguous term.
\(^2\) Smart, "Sensations and Brain Processes", *The Philoso-
sensations and brain processes have all their properties in common. Instead, it appears that sensations possess properties brain processes could not possess and, conversely, brain processes possess properties sensations apparently could not possess; thus, it is argued, sensations cannot be identical with brain processes. Consequently, many philosophers have abandoned the identity theory in favor of some other materialist theory of mind, most notably either eliminative materialism or a materialist version of functionalism.

There is, however, reason to believe that the abandonment of the identity theory was premature. For it has been persuasively argued that the Leibniz' Law objections rest upon a serious misconception of the proper application of Leibniz' Law. The assumption most critics make is that if the identity theory fails to satisfy this principle it must, therefore, be mistaken, without first recognizing the limits of applicability of the principle. For instance, one necessary condition for satisfying this principle, viz.:

is that 'Øx' and 'Øy' both have a truth-value. But, for example, if we consider mental predicates like 'being intensely painful' then it makes no sense to say of brain processes that they possess such a property, because, to use Ryle's terminology, this ascription involves a category mistake. Hence, one of the predicate expressions will not have a truth-value and the principle will not, therefore, be applicable. On the other hand, since it is arguable\footnote{Roderick Chisholm, "Sentences about Believing", Proceedings of the Aristotelian Society, LVI, (1955-56), pp. 125-147; W.G. Lycan, "On 'Intentionality' and the Psychological", American Philosophical Quarterly, VI (1969), pp. 305-311; and J.W. Cornman, Materialism and Sensations; pp. 44-46.} that all mental predicates are non-extensional, it is to be expected that the principle will not be satisfied, since it is plausible to believe that Leibniz' Law holds only for extensional predicates. Consequently, since the principle does not actually apply in such cases, we cannot appeal to Leibniz' Law to refute the claim that sensations are identical with brain processes.

Because there is ample reason to believe that these Leibniz' Law objections do not refute the identity theory, and because there seem to be some good inductive reasons in support of the theory, viz., the growing number of psycho-physical correspondences of sensations
and brain processes, together with an appeal to Occam's razor, and the analogy between this identity claim and others already established by science, it would appear that the identity theory may in fact be true. I want, therefore, to grant, for the purposes of this dissertation, that sensations are identical with brain processes.

Have we then granted the materialist all he requires for a defense of his metaphysical point of view? It may seem that we have, particularly if the identity theory is crucial in defense of a materialist theory of mind, as it is for Smart. We should not, however, be so easily convinced of the success of materialism, for two reasons.

First, showing that sensations are identical with brain processes is only the first step in defense of a full materialist theory of mind, since a materialist must still give some account of the remaining apparently mental geography, e.g., thoughts and beliefs. Nevertheless, it is a significant first step because if the materialist should be unable to give an account of sensations he would then have little hope of sustaining any materialist theory of mind. Smart, for example, argues that although some of these entities, such as emotions or despositions, can be elucidated in some behavioristic fashion. For example, 'anger' can plausibly be said to refer to certain
characteristic behavior patterns. Sensations resist such a treatment. "There seems to be some element of 'pure inner experience'"^5 associated with sensations which cannot be elucidated in terms of behavior patterns. In fact, one can experience a sensation without exhibiting any behavior whatever; they just happen to us and there is nothing we need to do when we have one.

Sensations appear to be instances of what one would call a common garden variety of mental event. In that case, by focusing on sensations, the materialist takes on an apparently formidable challenge and should he prove equal to the task then it is expected that the remaining list of troublesome entities can also be accounted for. Sensations have the added advantage of being what Smart would describe as "neat" inner experiences. Everyone knows what a sensation is, whereas it is far from clear that we can with equal precision say what a thought or a belief is. This difference is partly due to the fact that there is apparently little difficulty in specifying the properties which a particular sensation possesses, particularly its duration. This is not the case for thoughts and beliefs. The fact that sensations are

relatively "neat" also makes the identity claim more susceptible of careful scrutiny, both philosophically and empirically. Thus, by focusing upon sensations, the materialist has opted for a strategy which offers him a difficult challenge but, because sensations are in important respects unlike the remaining entities which plague his metaphysics, he also has what appears to be the best chance of success.

Second, although the focus on sensations and establishing the identity of sensations with brain processes is admittedly an essential part of the materialist strategy, showing that sensations are identical with brain processes does not suffice to show that sensations are "nothing but" or "really are" material entities, which is the materialist's intention. Indeed, all this would show is that the number of kinds of entities in the universe is much smaller than previously believed; where it was once believed that when one spoke generally of sensations and brain processes, one was speaking of two different kinds of things, in fact

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there is actually only one kind of thing. It should not be forgotten that the identity theory is compatible with other metaphysical views incompatible with materialism. For example, if idealism is true then all existing entities, including brain processes, would be mental entities and this is compatible with the identity of sensations and brain processes. Thus showing that sensations are identical with brain processes does not demonstrate that sensations are material entities, and unless that is shown we are not warranted in accepting the materialist's metaphysical point of view.

For the materialist who defends the identity theory, there is, however, a very difficult problem affecting any attempt to demonstrate that sensations are nothing but material entities. The problem is that the phenomenal properties of sensations, i.e., the properties we are directly aware of by introspection and make reference to in our verbal reports of sensations, appear to be psychic properties. As Smart describes it, the objection grants that

...it may be possible to get out of asserting the existence of irreducibly psychic processes, but not out of asserting the existence of irreducibly psychic properties. 7

Smart, "Sensations and Brain Processes", p. 148; as I construe the term 'psychic property' a bona fide psychic property is irreducibly psychic, hence to talk about "Irreducibly psychic properties" is just to speak of psychic properties simpliciter.
If we cannot avoid asserting that sensations possess psychic properties, then, by claiming that sensations are identical with brain processes, we are committed to the existence of entities with two different kinds of properties, viz., psychic and physical properties. Although the existence of entities with both psychic and physical properties may be compatible with some form of neutral monism, it is not compatible with materialism because such entities would possess properties no material entity possesses. Thus, if sensations possess psychic properties then not only are sensations not material entities, but if sensations are identical with brain processes, then materialism would be false.

This problem should not, however, be confused with the problem presented by the properties of sensations and brain processes which is central to the Leibniz' Law objections. The Leibniz' Law objections are aimed at refuting the identity theory, but since a materialist need not be an identity theorist and since the identity theory is neither sufficient for the establishment of a materialist theory of mind nor incompatible with metaphysical views not compatible with materialism, refuting the identity theory does not refute materialism. The problem discussed in the previous paragraph, which I henceforth shall refer to as the problem of
properties, grants the materialist the truth of the identity theory. But by granting this, the aim is to refute materialism. It is consequently, a significantly more serious problem than the Leibniz' Law objections, a problem which unfortunately has too long been obscured by misguided efforts to refute materialism by refuting the identity theory.\textsuperscript{8} By so obscuring the problem, the relatively few attempts by some materialists to constructively and effectively deal with the problem of properties have either gone unnoticed, or have been grossly misunderstood.

Hence, it is the purpose of this thesis to focus needed attention upon a problem which has the potential to refute materialism. Moreover, I want to critically examine ways in which materialists who defend the identity theory attempt to solve this problem. Specifically, in Chapter Two, I more fully discuss the problem of properties, with an emphasis on the ways in which this problem can be generated. In the following two chapters, I discuss and critically evaluate two related but different approaches to this problem, viz., Smart's attempt to defend topic-neutral translations and Cornman's defense of the thesis he calls adverbial materialism.

\textsuperscript{8} Cf. Cornman, Materialism and Sensations, p. 58.
I argue that both of these attempted solutions fail; leaving the materialist with a very difficult and as yet unresolved problem. In the last chapter, I summarize my arguments, indicate what I believe are the consequences that follow from these arguments, and make some recommendations concerning the strategy a materialist might take in defense of his metaphysical point of view.

Preparatory to beginning a more informative and complete discussion of the problem of properties and absolutely essential to one's understanding the reason why it is a problem in the first place, we must first know what a materialist metaphysics is. In the past very few attempts to provide a definition of materialism have been made, probably because it was believed gratuitous to define what seemed so obvious. But, as we shall soon discover, what may appear obvious is not easy to precisely and adequately state. It is the aim of this chapter to provide an adequate definition of 'materialism'.

II Conditions of Adequacy for the Definition of 'Materialism'.

In the course of this chapter, I consider several proposed definitions of 'materialism'; it is hoped that this will lead to an adequate definition. In order to evaluate these proposed definitions, it is important
and very useful to make it clear what I would take to be an adequate definition. Any proposed definition of 'materialism' will be adequate if it meets the following two necessary and jointly sufficient conditions. First, the definition must not be too narrow. There are several ways in which a putative definition might fail to meet this condition. One obvious way is to exclude from its domain entities which are preanalytically thought to be material, e.g., if it failed to include tables or chairs as material entities. Other ways in which a definition of 'materialism' might be too narrow is if it ties materialism to some form of reductionism, where everything is reduced to some basic entity or to entities of some basic science, or if it ties materialism to some form of determinism, such as mechanism, or to the scientific explainability of everything. Materialism can be true even if both of these theses prove false, thus it is logically independent of them. Second, the definition must not be too broad. A definition of materialism is too broad if it includes among its domain entities not usually and preanalytically considered material. More generally, if a proposed definition of 'materialism' is compatible with metaphysical theories incompatible with materialism, then the definition is too broad and therefore inadequate.
I want to stress the importance of this second adequacy condition. If 'materialism' is defined in such a way that it is compatible with competing metaphysical views, then we would undoubtedly be justified in arguing that this trivializes materialism. If everything turns out to be material, including all those entities an idealist would accept then there is no real contrast between claiming the universe is either mental or material. The metaphysical debate between materialists and idealists, for instance, is significant because it is assumed that the entities to which these two theses are committed make up an exhaustive and mutually exclusive list of entities. Without this incompatibility what then would be the nature of the debate? To paraphrase Rorty⁹, we cannot define 'materialism' as the thesis which entails a commitment to the existence of entities that might turn out to be either mental or material entities, because we cannot define any term as something that might turn out to refer to what is denoted by a term intended to be its contrary. Thus, any adequate definition of 'materialism' must not entail a commitment to the existence of any mental entities.

III Smart's Definition of 'Materialism'

Since Smart is the foremost advocate of the identity theory, let us begin the task of providing an adequate definition of 'materialism' by first examining Smart's definition; he says,

By 'materialism' I mean the theory that there is nothing in the world over and above those entities which are postulated by physics (or, of course, those entities which will be postulated by future and more adequate physical theories)... in the last resort the world is made up entirely of the ultimate entities of physics, namely space-time points. 10

He further adds, "Nor do I hold that materialism implies determinism". 11 It seems that insofar as materialism does not imply determinism, this definition satisfies the first adequacy condition. But an examination of Smart's rationale for making this claim illustrates that this definition is too narrow, as Smart interprets it. Smart holds that materialism does not imply determinism because, as he argues, "If physics is indeterministic on the micro-level, so must be the materialist's theory". 12 In other words, Smart is actually claiming that materialism would imply

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11 Ibid.
12 Ibid.
indeterminism if physics does and it would seem that, on the other hand, if physics were deterministic then materialism would imply determinism; which is just a denial of the claim that materialism is compatible with either determinism or indeterminism. If we take determinism to be the view that there are no scientifically unexplained or uncaused events and indeterminism to be its denial, then whether or not science produces causal explanations for every event, and whether or not there is a science at all, has no bearing on the correctness of the materialist's metaphysics. Although Smart seems to believe that materialism implies indeterminism and not determinism, it actually implies neither and is compatible with them both. Thus, as Smart interprets his definition of 'materialism', it is inadequate because it is too narrow.

Although Smart interprets his definition in such a way that it fails to meet the first adequacy condition, it need not be interpreted in this way. In fact, as stated the definition appears to be neutral on the issue of determinism and indeterminism. In that case, the above objection to accepting this definition might be avoided. Unfortunately, there are other reasons for claiming that this definition is too narrow. If the
phrase "there is nothing in the world over and above..." is interpreted strictly, in the sense that the only existing entities are those entities postulated by physics, and nothing else, then the domain of entities dictated by this definition of 'materialism' would exclude entities that should obviously have been included within the materialist's domain, e.g., all macro-objects like bodies, tables and chairs. On this view, even brain-processes are excluded. None of these entities are entities postulated by physics. Clearly Smart does not want his definition of 'materialism' to have this consequence; which means that the phrase "there is nothing in the world over and above..." must be interpreted more loosely, in order not to exclude these other entities not postulated by physics. One interpretation which has this effect involves a commitment to some form of reductionism; on this interpretation although there are macro-objects, they are, nevertheless, reduced to only those entities postulated by physics. Thus, if all such entities are reduced, there is nothing in the world but those entities postulated by physics. Unhappily, this has the effect of saddling materialism with some form of reductionism, either of macro-objects to micro-objects or of entities like brain processes which are postulated by one science, neurophysiology,
to entities postulated by another science, physics. Since materialism is compatible with the denial of reductionism, the above definition is inadequate because it is too narrow.

It can be more readily seen that Smart's definition of 'materialism' fails to satisfy the first adequacy condition because it is possible that all existing entities are material entities and that none of these are postulated by or reduced to entities postulated by physics, just in case there is no physics. Materialism is compatible with there being no science, even no physics. Even granting a physics, it is conceivable that there are material entities which may resist reduction to the entities of physics; hence the domain of entities this definition allows a materialist would be unduly restrictive.

But even more serious than the fact that Smart's definition is too narrow is that it is apparently too broad. On the one hand, physics might have to postulate entities not within the domain of entities preanalytically considered material, e.g., to explain psychokinesis, or the movement of objects caused by the will of a person with so-called "psychic" powers. The reply that such postulated entities are material entities because they are postulated by physics will not do,
since it appeals to the definition presently in question. There is, furthermore, nothing which logically precludes a physicist from postulating entities which are not material, particularly if physicists in the future are able to free themselves of the substantival assumption, i.e., the view that there must be enduring basic spatial entities. Future physics may result in the postulation of entirely novel entities, entities we might resist calling 'material'.

Notwithstanding these possibilities, there is another way in which this definition is too broad. There is nothing which would prevent a physicist who accepts the existence of all the entities postulated by physics from holding a metaphysical position incompatible with materialism. These entities might be considered to be nothing but permanent possibilities of sensation; hence this definition is compatible with some form of reductive phenomenalism. Or the entities postulated by physics might be identified with some third kind of thing; hence a neutral monist position appears to be compatible with this definition. In either case, the fact that the entities are postulated by physics does not imply that they are entities that are within the domain of entities prescribed by the materialist's point of view. Thus, since physics; and the entities postulated by it; appear to be compatible with other
metaphysical views incompatible with materialism, to define 'materialism' in terms of the domain of entities postulated by physics is to provide a definition which is too broad. Therefore, not only is Smart's definition too narrow, but, because it does not allow us to distinguish materialism from views incompatible with it, it also fails to satisfy the second condition of adequacy.

**IV An Alternative Definition of 'Materialism'**

Although Smart's attempt to define 'materialism' is unsuccessful, in searching for an adequate definition of 'materialism', we might consider some of the plausible suggestions of other philosophers. A definition which does not appear to have the same deficiencies as Smart's can be derived from C.J. Ducasse's definition of 'the material world'.

Materialism =_df_ the doctrine that for every entity (a) either it is or can be publicly observable by normal observers under normal conditions, or (b) it is a constituent of those which are publicly observable by normal observers under normal conditions. 13

^ 13 Cf. C.J. Ducasse, Nature, Mind, and Death, (LaSalle, Ill.: Open Court, 1951), pp. 222-23; and also James W. Cornman, Materialism and Sensations, p. 5-6, for a parallel version.
In critically appraising this putative definition, I shall ignore the problems which any definition breeds when "normal observers under normal conditions" are mentioned. Although the problems of characterizing normal conditions are well known, they are not problems seriously affecting questions of adequacy. Another difficulty that this definition has is with the notion of 'constituent of'. In what sense is any entity a constituent of another entity and what are the grounds for making such a determination? Although these are interesting questions, they do not appear to be questions relevant with regard to the adequacy of this definition.

Although this definition does appear to satisfy the first condition of adequacy, there is serious doubt as to whether it satisfies the second condition, for it appears to be compatible with metaphysical views not compatible with materialism. For example, tables, chairs, and bodies, are all publicly observable, but if they are really bundles of sensory ideas or sense-data, as Berkeleian idealist would claim, then on this definition we would be unable to distinguish materialism from idealism. Since materialism is clearly incompatible with idealism, it is evident that this definition is too broad. This definition of materialism is also compatible with two other metaphysical views incompatible
with materialism, viz., Cartesian dualism and neutral monism. On the former view, a person consists of a mental and material substance which are causally related and, since persons are clearly publicly observable, this definition is compatible with the existence of mental substances which are constituents of publicly observable persons. On the other hand, a neutral monist who identifies sensations with brain-processes, but allows that they have the phenomenal properties of sensations and the physical properties of brain-processes, would hold a position which is compatible with this definition. These entities would be neither purely mental nor purely material, but something outside the domain of the materialist's metaphysics. Since this definition does not allow us to distinguish between four different metaphysical positions, including materialism, it cannot stand as an adequate definition of 'materialism'; therefore we must reject it.

5 Cornman's Definition of 'Materialism' and 'Topic-Neutral Properties'

In his recent book *Materialism and Sensations*,

J.W. Cornman also considers various attempts to define 'materialism', some similar to ones we have already examined, and comes to the conclusion that not only do these various definitions fail to qualify as adequate definitions, but, furthermore, that it would not be worthwhile to try to amend them. He believes, nevertheless, that we can adequately define 'materialism'. To this end he suggests that we begin by defining 'materialism' simply as the thesis that every entity has a property only if it is a physical property.\(^{15}\)

The obvious problem with this definition concerns the term 'physical property', for clearly the adequacy of this definition will depend on how this term is defined, a task perhaps even more difficult than trying to define 'materialism', as Cornman acknowledges.

Before considering the definition of 'physical property', however, there is another problem with this proposed definition which can be more readily

\(^{15}\) Cornman, op. cit., p. 6; although Cornman uses the term 'individual' instead of 'entity' I prefer to use the latter broader term, which refers ambiguously to individuals, events, states, and processes; where it is important to distinguish these entities I shall use a less ambiguous term. Similarly, my use of the term 'property' following Cornman, is ambiguous as between properties and relations; where it is important to distinguish the two we can speak of non-realtional properties and relations.
disposed of. The problem is that not all the entities which a materialist might admit exist are entities which have properties only if they are physical properties. For example, on this definition a materialist would be committed to denying the existence of abstract entities such as classes, numbers, universals and propositions simply because they are entities which have properties that are not physical. In order to remedy this deficiency, Cornman suggests that we limit the properties mentioned to what he calls "a posteriori" properties

...where one of these, roughly, is a property or relation it is reasonable to claim entities have or lack only if there is some experiential evidence or theoretical scientific reason to support the claim. 16

There are, however, unexpected difficulties with this remedy. In order to satisfactorily determine that some property $0$ is an a posteriori property there are several questions which we must first answer. For instance, what type and how much experiential evidence is sufficient to support the claim that $0$ is an a posteriori property? What counts as an adequate theoretical scientific reason for saying that $0$ is an a posteriori property? These questions admit of no easy answers. Although

16 Ibid., p. 7.
Cornman believes that we can avoid committing the materialist to denying the existence of abstract entities by defining 'materialism' in terms of a posteriori properties, it would be nice if there were some other solution, which is free of these difficulties. Happily, there is such a solution; it is a solution which also remedies another problem facing this proposed definition of 'materialism'. Before we present this solution, let us examine this additional problem.

By defining 'materialism' as the thesis that every entity has a property only if it is a physical property, we not only commit the materialist to denying the existence of abstract entities, but also to denying the existence of persons. Persons have properties such as being good or beautiful which are apparently not physical properties. Thus, because persons do not possess properties only if they are physical properties, a materialist would on this definition be committed to denying the existence of persons, or any other entity which has the non-physical properties of being good or beautiful. Any definition of 'materialism' which has such a commitment would obviously be unacceptable.

Moreover, there are properties like being self-identical or existing through time which every entity would possess, but which cannot be said to be physical properties since, if there are mental entities, then these entities would also have these properties. Hence, by limiting the definition of 'materialism' to entities possessing properties only if they are physical properties a materialist would be committed to denying the existence of every entity, a commitment he would obviously wish to avoid. If a materialist is committed to the existence of entities possessing properties other than physical properties, then the definition of 'materialism' must be revised accordingly.

But what kind of properties are these other non-physical properties? I suggest that they are topic-neutral properties, whereby 'topic-neutral' I mean the following:

\[ \varnothing \text{ is a topic-neutral property } \Rightarrow \text{ there are conditions in which } \varnothing \text{ would be a property of entities which are material entities and there are conditions in which } \varnothing \text{ would be a property of entities which are not material.} \]

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18 Cornman calls these properties "physical-neutral" properties, but since he is taking this suggestion from Smart, I shall use Smart's terminology. Cf. Smart's *Philosophy and Scientific Realism*, p. 103.
19 For a similar definition see Cornman, *op. cit.*, p. 8.
It is clear that being self-identical or existing through time are topic-neutral properties, in this sense, for they are properties both of entities which are material and non-material. If they are properties of both material and non-material entities then they must be neutral with respect to the metaphysical kind of entity which they are properties of. That is, they cannot be either physical or psychic properties because these properties are not metaphysically neutral. Similarly, whether persons are analyzed as purely material or mental entities or a combination of the two, it is still the case that some persons are good or beautiful. Hence, if some persons have normative properties like these, then because they do not appear to be either physical or psychic properties we can conclude that being good or beautiful are also properties which are topic-neutral properties.

If we amend Cornman's original suggested definition of 'materialism' in such a way that would allow a materialist to be committed to the existence of entities possessing topic-neutral properties, then we can avoid the problem presented above. That is, if we define 'materialism' as follows:

Materialism = df. the thesis that every existing entity E has a property \( \varnothing \) only if \( \varnothing \) is either a physical property or a topic-neutral property.
then a materialist is not committed to denying the existence of persons who have the properties of being good or beautiful, nor is he committed to denying the existence of entities which possess the properties of being self-identical or existing through time. On this amended definition of 'materialism' we can also avoid the problem which the original unamended definition has, viz., that it entails a commitment to the non-existence of abstract entities. To see this, we need only note that whether materialism or idealism is true, either thesis is compatible with the existence of abstract entities. If the existence of abstract entities like numbers or classes is compatible with incompatible metaphysical theses, then these entities must possess properties that are neutral with respect to both theses. That is, abstract entities possess properties which are topic-neutral properties. If so, then by defining 'materialism' in terms of entities possessing either physical or topic-neutral properties, we avoid committing the materialist to denying the existence of abstract entities.

There is, however, yet another difficulty facing this definition of 'materialism'. If 'materialism' is defined in terms of a commitment to the existence of entities which possess properties only if they are
either physical or topic-neutral properties, then if these entities are material entities, we can define 'material entity' as an entity which has properties only if they are either physical or topic-neutral properties. But if 'materialism' and in turn 'material entity' are terms partly defined by 'topic-neutral property', then because our definition of 'topic-neutral property' is defined by material entity, the resulting definition of 'materialism' is consequently circular.

We can, nevertheless, avoid this circularity by redefining 'topic-neutral property' using terms other than 'material entity'. Thus, a definition of 'topic-neutral property' which captures the intent of the previous definition but avoids its problems is:

\[ \emptyset \text{ is a topic-neutral property } = \text{df. } \emptyset \text{ is a property that is neither a physical property nor a psychic property.} \]

The issue now before us is whether by defining 'materialism' in terms of entities possessing properties only if they are physical or topic-neutral properties provides us with an adequate definition of 'materialism'. Before any such determination can be made, however, we must first define 'physical property'.

VI Defining 'Physical Property'

In conjunction with his attempt to define
'materialism', Cornmen offers the following definition of 'physical property', limited for simplicity's sake to individuals, where by 'individual' he means objects rather than events, states, or processes. We can, nevertheless, provide parallel definitions for properties of each of these other kinds of entities.

P is a physical property of individuals = df

(1) P is an a posteriori property that, under certain conditions, would be a nonrelational property of or a relation among spatiotemporal individuals which are neither living individuals nor attached parts of living individuals, and

(2) P is not a property or relation that a spatiotemporal individual, which is living or is part of a living individual, would have only if it or what it is part of were living. 20

Cornman does not claim that this is a fully adequate definition of 'physical property'; rather, as he describes it, it is only an "approximate" definition of the term. 21 This is due to the fact that there is a further amendment required in order to account for properties peculiar to living individuals or their parts, i.e., those properties not possessed by any non-living individual, which seem to be physical properties but fail to satisfy

20 Materialism and Sensations, p. 12.
21 Ibid., p. 13.
his definition. For example, Cornman argues that it is plausible that there are nerve impulses in the brain which take a specific route only when the brain is a part of a living person, perhaps as a result of the effect of some "mental" phenomenon on certain nerve synapses of the brain. Although there seems to be no good reason to deny that this property of taking a specific route is a physical property, nevertheless, according to the above definition of 'physical property' this would not be a physical property. In that case, the definition would appear to be too narrow, hence inadequate as a definition of 'physical property'. Although this particular property is not itself directly accounted for by the definition, Cornman argues that because it is a species of a property that does meet the definition, viz., the property of taking some route through the brain, this property would, therefore, be indirectly shown to be a physical property. He suggests that we need only amend the definition to allow all such properties which are species of properties that satisfy the definition of 'physical property' to be physical also. Consequently, by amending the definition in this way, Cornman believes that the

\[\text{Ibid., p. 12.}\]
definition of 'physical property' will be adequate.

But this amended definition will be adequate only if we assume that all physical properties peculiar to living individuals are species of properties which satisfy this definition. In other words, we must assume that all physical properties peculiar to living individuals are species of properties of non-living individuals. Cornman believes that it is "reasonable" to make this assumption because if a physical property were possessed by a living individual, "...then it could be brought about when the individual is not living". However, I think we can question the reasonableness of this assumption. There are numerous examples of properties peculiar to living individuals which seem preanalytically to be physical properties, but under no conditions could be construed as species of properties possessed by non-living individuals nor could be brought about when the individual is not living. For instance, properties like being diseased or being in good health are certainly physical properties peculiar to living individuals, but they cannot conceivabley be construed as species of properties of non-living individuals. What could those properties be? It does not even make

23 Ibid., p. 13.
sense to say that we could bring it about that a non-living individual were diseased or in good health. If so, then it seems false to assume that these are species of properties of non-living individuals.

There are, furthermore, numerous other properties peculiar to living individuals which fall under the general descriptive titles of "natural biological function" or "overt behavior" that are clearly physical properties but cannot conceivably be viewed as species of any property of a non-living individual, e.g., the properties of regeneration of living tissue, reproduction of life, or the properties of speech, sleep, or aggressiveness, to name only a few. Such properties are not species of any property a non-living individual possesses and cannot be brought about when the individual is not living. If so, then again it is false to assume that all physical properties peculiar to living individuals are species of properties of non-living individuals. Thus the amended definition of "physical property" will not be adequate if this assumption is false.

It may be objected, however, that we have begged the question; for although it may not seem plausible to regard these properties as species of properties of non-living individuals, it would be plausible if we accept the view that the properties peculiar to living
individuals can be reduced to properties of non-living individuals, hence they are but species of these properties. In other words, if some thesis like the unity of science were true, then it would be plausible to regard all physical properties peculiar to living individuals as species of properties of non-living individuals, because the former are reducible to the latter. We cannot, however, accept the consequences of defining 'physical property' in such a way that it implies a commitment to some reductionist thesis. For not only is the correctness of such a thesis doubtful, but if thoughts and sensations are viewed, as Cornman views them, as properties peculiar to living individuals, then if we define 'physical property' in such a way that there is this implied reductionist commitment, then thoughts and sensations would be by definition physical, a consequence we previously wanted to avoid. Moreover, since materialism is compatible with the

falsity of such a thesis, the assumption that physical properties peculiar to living individuals are species of properties of non-living individuals, with its commitment to some form of reduction, has the result of making our definition of 'materialism' too narrow. Since this assumption is the only way to support Cornman's suggested amendment of the definition of 'physical property', unless there is some other more viable way of accounting for all those physical properties peculiar to living individuals, then we are faced with a dilemma whose consequences are disastrous for the adequacy of the definition of 'physical property' and in turn for the definition of 'materialism', viz., the definition of 'physical property' is too narrow with or without Cornman's suggested amendment.

There is, finally, a general difficulty inherent in any attempt to define 'physical property' in this manner, viz., the problem of specifying criteria which will allow us to distinguish non-living from living individuals. Indeed there are general criteria, but for our purposes they are much too indefinite; unless we can clearly demarcate living from non-living individuals we cannot precisely and adequately define 'physical property' in terms of properties of non-living individuals.
Cornman's attempt to define 'physical property' is not without some merit, however, for it does seem to capture the essential aspect of what we mean by 'physical property', viz., that a physical property is a property characteristic of entities which occupy space. Certainly, if anything is to count as a material entity, spatial entities should, hence we can define physical property as follows:

\[ \emptyset \text{ is a physical property} \equiv \text{df } \emptyset \text{ is a property such that an entity has } \emptyset \text{ only if that entity occupies space or it occurs or obtains at a place.} \]

Examples of physical properties are length, width, bulk, figure and motion. Admittedly, we may mean something more by 'physical property', but attempting to specify what more we mean is no easy task and is unnecessary for our present purposes. This definition avoids all of the problems discussed above and at the same time provides with appears to be an adequate definition of 'physical property'; it appears to be neither too broad nor is it too narrow. We have, therefore, accomplished the task of this section, i.e., defined 'physical property'.

Having accomplished this task, I think we can now conclude that the definition of 'materialism' as the thesis that every existing entity has a property only if it is either a physical or topic-neutral property is an adequate definition. This definition is not
compatible with metaphysical theses incompatible with materialism and it does not commit the materialist to determinism or any form of reductionsim. Thus it is neither too broad nor is it too narrow. Accordingly, this definition characterizes what we can call the materialist framework. The question now before us is whether sensations can be accounted for within this framework.
CHAPTER TWO

The Problem of Properties

I The Materialist Identity Theory and the Problem of Properties

Many materialists, like J.J.C. Smart, believe that if materialism is to be considered a viable metaphysical view some account of sensations must be given; where by 'sensation' I mean those phenomenologically given entities of which only we are directly aware, like after-images, pains, tastes, itches, etc. Because sensations do not appear to possess properties only if they are physical or topic-neutral properties, they seem to be the sort of thing left outside of the materialist framework. One quick way to account for sensations which is compatible with materialism is to eliminate sensations as Richard Rorty has recently suggested.¹ Since such views amount


37.
to denying that sensations exist, Smart argues that they are extremely implausible. Not only are we directly aware by introspection of what he calls "pure inner experiences" such as pains, after-images, hallucinations and various other sensations but when we make a sensation report like "I see a yellowish-orange after-image", we are truly reporting the occurrence of the existence of something. As Smart puts it,

It seems clear that the content of my report cannot be exclusively a set of purely behavioral facts, there seems to be some element of 'pure inner experience' which is being reported, and to which only I have direct access. You can observe my behavior, but only I can be aware of my own after-image or my pain. 2

It seems

...on the face of it implausible to relegate talk of our aches, pains, and the like to the realm of talk about witches and poltergeists... Is a person really in metaphysical error when he reports a toothache or the having of an after-image? 3

The answer is obviously a negative one; consequently it does not seem at all plausible to deny the existence of sensations. If we cannot reasonably deny that there are sensations, then some account of sensations must be given which is compatible with materialism.

In order to provide such an account, some materialists, impressed with the development of neurophysiology and its discovery of law-like correspondences between sensations and certain brain processes, argue for a materialist theory of mind that has at its core a commitment to the identity theory. That is, they defend the following thesis:

(A) Sensations are contingently identical with brain processes.

But as we have already seen, establishing the truth of (A) is not sufficient for showing that sensations are material entities, since the truth of (A) is compatible with metaphysical views incompatible with materialism. Hence even if sensations are identical with brain processes, unless the materialist can show that sensations possess properties only if they are either physical or topic-neutral properties, he will not have shown that the existence of sensations is compatible with materialism. Consequently, if we assume that brain processes have only physical or topic-neutral properties, then, in addition to defending thesis (A), the materialist must defend something like the following thesis:

(B) Sensations possess all and only those physical or topic-neutral properties possessed by brain processes.

In other words, if the materialist can establish the truth of theses (A) and (B), he will then have established
the claim that sensations are nothing but brain processes
and, because brain processes are obviously material
entities, sensations will, consequently, be nothing
but material entities.

In conjunction with the defense of these two
metaphysical theses, many materialists, who are convinced
that sensation reports are genuine reports of something
that we are directly aware of, defend the following
linguistic claim:

(C) Sensation reports are reports that happen
to be about brain processes.

The materialist theory of mind set forth by theses (A),
(B) and (C) is sometimes called reductive materialism,
because sensations and our talk about sensations is
reduced, in some sense or senses of 'reduced', to brain
processes. If sensations can be accounted for in this
manner, then it appears that the materialist point of
view will be vindicated; whether such a vindication is
forthcoming depends upon how the problem of properties
is resolved.

The problem of properties is a problem involving
the phenomenal properties of sensations, where for our
purposes:

∅ is a phenomenal property = df ∅ is a property
which we are introspectively and non-inferentially
aware of our sensations possessing.
The problem is that sensations possess some phenomenal properties which do not readily appear to be compatible with the properties a materialist can accept. In other words, some of the phenomenal properties of sensations would be materialistic properties because they appear to be neither physical nor topic-neutral properties. If sensations possess non-materialistic phenomenal properties then sensations cannot be material entities. For even if we grant that sensations are identical with brain processes, if sensations also possess properties over and above the materialistic properties of brain processes, it is false that sensations possess all and only those materialistic properties possessed by brain processes. In short, even if thesis (A) is true, if sensations possess phenomenal properties that are neither physical nor topic-neutral properties then thesis (B) would be false. Because the truth of (B) is crucial to the success of the reductive materialist's program, it is clear that this problem with the phenomenal properties of sensations is sufficient to refute reductive materialism; for, if sensations do not possess all and only the materialistic properties possessed by brain processes, then sensations cannot be reduced to brain processes, and it is false that sensations are nothing but material entities.
But it is not only the reductive version of materialism that is refuted by this problem. For if it is in fact true that sensations are identical with brain processes, then because thesis (A) is true it follows that there are existing entities not possessing properties only if they are either physical or topic-neutral properties, which is just the denial of the thesis of materialism. Thus, very simply stated, the problem of properties is the problem that if sensations possess non-materialistic phenomenal properties and thesis (A) is true, then the metaphysical doctrine of materialism is refuted.

We can now see why this objection is so menacing. It grants the materialist the truth of the identity theory but if there are phenomenal properties of sensations which cannot be shown to be physical or topic-neutral properties, then a defense of the identity theory ironically leads to the falsity of materialism. If we cannot avoid admitting that sensations possess non-materialistic properties, then it seems that the only other plausible way of supporting a materialist metaphysics is if we move toward some form of eliminative materialism wherein the existence of sensations is denied. But if the identity theory is true then this option is not open to the materialist, since obviously he cannot deny
the existence of sensations if they are identical with brain processes. He therefore cannot avoid admitting the existence of some entities possessing properties other than physical or topic-neutral properties, and this clearly refutes his metaphysics.

We can summarize the previous discussion of the problem of properties by the following argument:

(A) (1) Sensations are contingently identical with brain processes, i.e., thesis (A) is true.

(2) If (1), then brain processes possess the phenomenal properties of sensations.

(3) Sensations possess phenomenal properties that are neither physical nor topic-neutral properties.

(4) If brain processes possess the phenomenal properties of sensations and (3) is true, then brain processes possess properties that are neither physical nor topic-neutral properties.

(5) If brain processes possess properties that are neither physical nor topic-neutral properties then there are existing entities which do not possess properties only if they are either physical or topic-neutral properties.

(6) If there are existing entities which do not possess properties only if they are either physical or topic-neutral properties, then materialism is false.

(7) Therefore, materialism is false.

If, in the above argument we substitute for premise (1) the claim that sensation reports are reports that happen
to be about brain processes, i.e., thesis (C), then we have another argument, call it argument (C), which also leads to the falsity of materialism.

Both of these arguments summarize the problem which I have called the problem of properties. Obviously the crucial premises of these arguments are premise (2) and (3). In the next two sections I shall show that premise (2) is true for both arguments (A) and (C). The remainder of this Chapter will be devoted to showing that it is plausible to regard premise (3) as true. Once these tasks are accomplished, we shall, in the next two chapters, critically evaluate two separate attempts to solve the problem of properties.

II First Argument showing that Brain Processes Possess Phenomenal Properties

The argument which demonstrates that if sensations are identical with brain processes then brain processes possess phenomenal properties is an argument involving two sub-arguments. The first argument states that sensations are contingently identical with brain processes. Unlike many true identity statements that are true by virtue of the meanings of the terms involved, e.g., "Bachelors are identical with unmarried males", the identity statement "Sensations are identical with brain
processes" is not true by virtue of the meanings of the terms 'sensation' and brain process'. These two terms are conceptually distinct, such that they may denote numerically distinct entities, whereas the terms 'bachelor' and 'unmarried male' cannot possibly denote numerically distinct entities because they mean the same thing. Admittedly, all identity statements which are necessarily hence not contingently true are not always true by virtue of the meanings of the terms involved, e.g., the identity statement: "two plus two is identical with four". But whereas the nature of the entities and concepts involved trivially imply the necessary truth of this identity, (which is clear from the fact that to deny this statement results in a contradiction), nothing about sensations and brain processes trivially indicate that they are identical; we can without contradiction deny the truth of the identity theory. Thus if the identity theory is true it asserts an identity that is contingently or factually true. That is, just as we empirically discover facts which justify claiming that the morning star actually is the same star as the evening star, it is said that we may be inductively justified in asserting the identity between sensations and brain processes as a result of the discovery of certain psycho-neurophysiological
facts.\textsuperscript{4} What distinguishes the identity theory is that it is put forward as a truly informative non-trivial thesis, a mark it could not have if the thesis did not involve a contingent identity statement. Consequently, to say that sensations are contingentely identical with brain processes is just to say that it is an empirical thesis justified as a matter of fact not of logic.

If sensations are contingently identical with brain processes, then those properties by which we identify sensations must be logically distinct from those by which brain processes are identified. The identity asserted between sensations and brain processes would not be a contingent identity if these properties are not logically distinct. To quote Smart,

\begin{quote}
For suppose we identify the Morning Star with the Evening Star. Then there must be some properties which logically imply that of being the Morning Star and quite distinct properties which entail that of being the Evening Star. \textsuperscript{5}
\end{quote}

If these properties which distinguish the morning star from the evening star trivially imply that they are in fact the same star, then the assertion that they are identical would not be a contingent one. Hence, Smart

\textsuperscript{4} It is readily conceded that because the science of neurophysiology is still in its developmental stage much of this empirical evidence has yet to be uncovered, but the projected hope is that it will be, and that is only a matter of time.

\textsuperscript{5} Smart, "Sensations and Brain Processes", \textit{loc. cit.}, p. 148.
concedes,

Now it may be said that if we identify an experience (i.e., sensation) and a brain process and if this identification is, as I hold it is, a contingent or factual one, then the experience must be identified as having some property not logically deducible from the properties whereby we identify the brain process. 6

Thus by claiming that sensations are contingently identical with brain processes, it follows that we are committed to sensations possessing properties logically distinct from those possessed by brain processes, properties by which sensations are independently identified. This completes the first sub-argument.

The second sub-argument depends upon the first in the following way: if sensations possess properties logically distinct from those possessed by brain processes, and it is by these properties that sensations are independently identified, then what are these properties? An appropriate response to this question would depend upon what properties we know that sensations possess and no one would deny that we know that sensations possess phenomenal properties like being yellow, loud, or sharp. Are these the properties by which we identify our sensations? It seems so; my belief that I am experiencing the same kind of pain that I had yesterday is often

6 Smart, Philosophy and Scientific Realism, p. 94; my addition in parenthesis.
justified by an appeal to the fact that they both have phenomenal properties such as being intense, sharp and throbbing. As further support for the claim that we identify sensations by means of their phenomenal properties is the fact that our evidence for the one-to-one simultaneity correspondence between sensations and brain processes could not at present be acquired unless sensations are identified by means of their phenomenal properties. Thus, we can apparently conclude that sensations are identified by their phenomenal properties. From this conclusion it follows that if sensations are contingently identical with brain processes, then brain processes possess phenomenal properties. We have, consequently, shown that premise (2) in argument (A) is true.

The truth of this premise can, however, be challenged if we can avoid being committed to sensations possessing properties logically distinct from those possessed by brain processes. Max Deutscher has, for example, argued that the identity theory "is not a theory that something is first identified in one way and then in another."\footnote{Max Deutscher, "Mental and Physical Properties" in The Identity Theory of Mind, ed. C.F. Presley, (Brisbane: University of Queensland Press, 1967), pp. 71.} The supposition that it is such a theory is
dependent upon the failure to distinguish between identity statements and identification statements. According to Deutscher an identification statement does not require that something be identified in at least two ways, hence it does not entail that the relata of the identity have logically distinct properties.

Unfortunately, Deutscher has said very little more which would allow us to clarify this distinction. From what he has said, we can, however, piece together the following explanation of what an identification statement is. When the question: "What is an x?" is asked, the appropriate answer to give would be an identification statement, where x as the first relata of the statement, is identified as a y either ostensively, or by definition, or in any other appropriate way that something is identified as something else. In a sense by giving an identification statement in answer to the question: "What is an x?", we are explaining what an x is. On the other hand, the relata of an identify statement are already identified as something. In an identity statement our concern is not with answering questions which explain what an x is, but with showing that x is identical with y. Where identity statements are symmetrical (x is identical with y and y is identical with x) identification statements are not symmetrical (it is
inappropriate to say that \( y \) is identified as \( x \) if the identity statement purports to answer the question: "What is an \( x \)?"). Thus, because identity statements presuppose identification statements, but the converse is false, there is clearly a distinction to be made between identity and identification statements.

Given this distinction, Deutscher claims that although it is assumed that the identity theory involves an identity statement, in fact it involves an identification statement; that is, the identity theory is

...a theory expressed in terms of something known in part, but not identified, by the subject, and known more fully and identified as a brain state, by an observer. 8

Although it is doubtful that the sole aim of the identity theory is the explanation of what sensations are, let us for the moment grant Deutscher's claim that the identity theory involves an identification statement. The significant issue is whether in granting this we can avoid being committed to sensations possessing properties logically distinct from those possessed by brain processes. In other words, is it true that identification statements do not require that the referents of the terms of this statement be identified in logically

8 Ibid.
distinct ways? In defense of this claim, Deutscher asks us to consider the following analogy.

In "The man I met last night was the real assassin of Kennedy", the first expression mentions no property by which the man was identified by me, or by which he might be re-identified. The next day I may identify him as the man I met last night, but his relational property of being met by me last night cannot be a property by which I identify him when I meet him, or by which I might re-identify him again. This sort of analogy is much more suitable for the physicalist's identification of mental states as states of the brain, than is the case in which two properties are mentioned, each adequate for identifying the one object. 9

Although the above example is intended to show that identification statements do not require that there are properties by which each relatum of the identity are identified, a careful examination of this example proves that the opposite is the case. Although the expression 'the man I met last night' mentions no property by which he was first identified by me, it does not follow that there was no property by which he was first identified. In fact, unless there were some property or properties by which he was identified how could I assert or even know that I met anyone last night? Moreover, to assert that it was a man that I met implies that there are properties by which that which

9 Ibid., p.66.
I encountered is identified as a man and not a chair or a gooseberry. Moreover, if we cannot for some reason state what the property is by which he was first identified, there is nonetheless some property which he is to be identified by. In addition, if I am to re-identify him on some other occasion, which surely I must do if I am to justify asserting some identification statement, then there must again be some property by which I am justified in claiming that he is the same man that I met last night without which I could not know that he is the same man or claim that he is to be identified as the real assassin of Kennedy. Even if it is not by means of the relational property of being met by me last night, there must be some property by which he is first identified and later re-identified as the same man, who is to be further identified as the real assassin of Kennedy. Thus, although the identification statement mentions no property by which the first relatum of that statement is independently identified, we are, nonetheless, committed to claiming that there is some property or that there are some properties by which that relatum is to be identified.

It might be objected that even though we are committed to some property by which the first relatum of the identification statement is identified, it does not
follow that that property needs to be logically distinct from the properties by which the remaining relatum is identified, hence we can still avoid the commitment to logically distinct properties of sensations. For example, the property or properties by which I first identified the man I met last night might be the same as some of those by which the other relatum is identified, hence these properties need not be logically distinct. Smart would have to concede the correctness of this objection if "Sensations are brain processes" is not taken as an identification statement that is contingently true, but because he holds that it is contingently true, and hence that the properties by which each of the relata are identified must be logically distinct this reply would not be acceptable. For if the properties by which sensations are identified implied that they were brain processes, then even though it is an identification statement, it would not be contingently true. Consequently, even if we construe the identity theory as committed to identification statements, not identity statements, it is not clear that we absolve ourselves from a commitment to sensations possessing properties logically distinct from those possessed by brain processes.

I have said that it is not clear that the above
suggestion will allow us to avoid this commitment, because failing to show that this commitment can be avoided may not be due so much to the paucity of the suggestion as to the defectiveness of the analogy used to illustrate the suggestion. Perhaps a more useful analogy which Deutscher also appeals to, can be made by likening the identity theory to the thesis which identifies genes as DNA molecules. Genes had been postulated to explain how hereditary characteristics were transferred from one generation to another, but the nature of genes was unknown. It was only later that genes were identified as DNA molecules. On this analogy, sensations are to be construed as some unknown, postulated to explain behavior and only later identified as brain processes. If sensations are like genes in that they are unknown causes of certain effects, i.e., something we are attempting to identify, then it would be unnecessary to have logically distinct conditions, or any conditions, for identifying sensations. The identification statement would still be contingent because the truth of the statement would rest upon a matter of fact; nonetheless, we would not be committed to sensations possessing properties logically distinct from those possessed by brain processes.

Although this analogy goes a bit further toward
showing that if we construe the identity theory as involving an identification statement we can avoid the commitment to logically distinct properties of sensations, there are significant disanalogies which undermine this construal. Unlike genes which are theoretical entities postulated as the unknown cause of known effects, i.e., entities about which there is only inferred knowledge, sensations cannot plausibly be construed as postulated theoretical entities, because we have non-inferential knowledge of sensations. What we are directly aware of can hardly be either postulated or theoretical. Indeed, we have considerable knowledge about sensations, knowledge that enables us to distinguish between kinds of sensations, e.g., after-images, pains, tickles, etc., and to distinguish sensations from thoughts, beliefs, and emotions, for example, independently of their effects. Moreover, we can readily describe sensations for they present themselves to us in clearly definable ways. Without this considerable knowledge about sensations, we would have little evidence to support the psycho-physical correspondences that are empirically fundamental to the identity theory. These factors all substantiate the view that it is highly implausible to regard the identity theory as analogous to genes—DNA model.
Moreover, interpreting sensations in such a way has the consequence of preempting one of the more significant arguments offered in support of the identity theory, viz., an appeal to Occam's razor. The appeal to Occam's razor is made under the following circumstances:

If it be agreed that there are no cogent philosophical arguments which force us into accepting dualism, and if the brain-process (identity) theory and dualism are equally consistent with the facts, then the principles of parsimony and simplicity seem to me to decide overwhelmingly in favour of the brain-process theory. 10

It is evident from this quotation that dualism is presumed to be a thesis equally qualified with the materialist identity theory as the correct account of things. If, however, sensations are likened to genes as some unknown cause of known effects and the identity theory is interpreted as involving an identification statement, wherein sensations are identified as brain processes, then the identity theory is an more qualified account, since dualism would involve a commitment to entities whose identification has yet to be determined. The appeal to Occam's razor would, therefore, not be required or justified, a consequence not entirely acceptable to proponents of the identity theory. What

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10 Smart, "Sensations and Brain Processes", loc. cit., p. 156; my addition in parentheses.
makes an appeal to Occam’s Razor so significant is that if by admitting that the dualist position is as plausible as the materialist identity theory, the materialist can still show that there is good reason to accept the identity theory, then the defense of his position will be much more persuasive. Moreover, since the materialist does not want to be charged with too easily smoothing the way for the final vindication of materialism, it is to his advantage to avoid controversial avenues which have that effect. Consequently, because there are disanalogies between sensations and genes and because the interpretation of the identity theory as involving an identification statement is not clearly acceptable, there is reason to reject the claim that the identity theory involves an identification statement wherein sensations are to be identified as brain processes.

Unless there is some more plausible suggestion, I think we may grant that the identity theory involves a contingent identity statement which commits us to the claim that sensations possess properties logically distinct from those possessed by brain processes. Hence, if sensations possess phenomenal properties and sensations are contingently identical with brain processes, then brain processes possess phenomenal properties. Thus, Smart concedes,
So I must agree that if sensations are brain processes and sensations are nostalgic, then some brain processes are nostalgic. This sounds an odd thing to say, but oddness is not the same thing as falsity. No doubt the plain man does not talk of brain processes being nostalgic, but this can be explained simply enough by the fact that the plain man does not believe that sensations are brain processes. 11

We have, thus, some reason to think that if sensations are identical with brain processes then brain processes possess phenomenal properties, i.e., some reason to think that premise (2) in argument (A) is true.

III Second Argument showing Brain Processes possess Phenomenal Properties

In this section, I argue that if sensation reports are reports that happen to be about brain processes then; because sensation reports are reports that ascribe phenomenal properties to something, brain processes would have phenomenal properties. An important part of the argument depends upon the following admission:

It does seem simply obvious, a matter of fact, that we do report something, in a perfectly full-blooded sense of 'report' when we tell the dentist that we have a pain or the psychologist that we are having an after-image. 12

12 Smart, Philosophy and Scientific Realism, p. 91.
Since there are arguments aimed at refuting the claim that sensation reports are genuine reports, we must first show that they are ineffective, if the argument of this section is to get off the ground.

As I understand the term 'report', a report is an assertion that is used to make an identifying reference to something that someone is or was very recently aware of. By 'identifying reference' I mean that some property or properties are ascriptively mentioned by which that thing is described and identified. Sensation reports like "I see a dazzling blue female-shaped after-image" or less dramatically "I am in pain" do seem to be reports in this sense of 'report'. Clearly, it does seem that I am asserting that I am aware of something that is described and identified by the property of being a dazzling blue female-shaped after-image or just as being in pain.

Not everyone, however, would admit that sensation reports are genuine reports in this sense of 'report'. Rather, it is argued by some that putative sensation

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13 This notion of 'report' is similar to that advanced by Cornman in Metaphysics, Reference and Language, (New Haven: Yale University Press, 1966), p. 34, and Materialism and Sensations, pp. 79--80.

14 Cf. Smart, "Sensations and Brain Processes", loc. cit., pp. 143-144 and Philosophy and Scientific Realism, pp. 90-91, where he considers such arguments.
reports like "I am in pain" are not assertions at all but are a sophisticated sort of wince, i.e., a verbal expression like "Ouch" which replaces pain behavior and of which it makes no sense to say either that it is true or false or that it makes an identifying reference to anything. Wittgenstein, who is interpreted as defending such a thesis, says that we use words like 'pain' in such a way that "The verbal expression of pain replaces crying and does not describe it".15 Although Smart, for example, finds such an expressive account congenial, he rejects it because it conflicts with obvious facts, he says,

When a person says "I have an after-image" he is making a genuine report and that when he says "I have a pain", he is doing more than "replace pain-behavior", and this "more" is not just to say that he is in distress. 16

Thus, he says

It is hard to accept the view that so-called "reports" of inner experiences are to be construed as surrogates for behaviour, as if a report of a pain were a wince-substitute. 17

There is, however, an argument based on the private language argument, which is aimed at showing that if

15 L. Wittgenstein, Philosophical Investigations, section 244, see also sections 367 and 370.
16 Smart, "Sensations and Brain Processes", loc. cit., p. 144.
17 Smart, "Materialism", loc. cit., p. 660.
sensation reports are admitted as genuine reports then they cannot be meaningful. An expression is meaningful only if there are criteria for its correct application. If there are criteria for the correct application of an expression, then we must be able to check on whether criteria are satisfied. We cannot, however, check on whether the criteria for the correct application of sensation reports are satisfied, because at most one person could check, viz., the person who makes the report, and even that person cannot check, because he cannot distinguish between thinking that the criteria are satisfied and actually satisfying the criteria. It follows that sensation reports cannot be meaningful. 18

Smart argues that the first premise in this argument is doubtful. He claims that even though we may admit that

You can have no criterion of correctness when you report a sensation... But must I have such a criterion? On my view my internal mechanism is just built so that I react in the way I do. And I may in fact

react correctly, though I have no criterion for saying that my reaction is correct. 19

Although he offers little more than this dogmatic assertion, it may be possible to support the lesser claim that many meaningful expressions are used where there are no criteria for their proper application by pointing to the dynamic character of language. Language cannot be viewed as static, made up of expressions whose criteria for their correct application are eternally established or established at all. Many expressions that we meaningfully use are used where the criteria for their correct application are neither precise nor fully developed; this is true of new expressions introduced into the language or old ones whose meanings are changing. Through experimentation on use in meaningful contexts such criteria may evolve, but the fact that the criteria may be non-existent does not show that the expressions are without meaning. It may not be possible that this could be true of all expressions at one time, but it is certainly true of some of them. Thus, it is plausible that even though

19 Smart, "Materialism", loc. cit., p. 656; he has another response to this argument in "Sensations and Brain Processes", loc. cit., pp. 153-154; for a discussion of why this response is inadequate see Gormann, Metaphysics, Reference and Language, pp. 47-49.
sensation reports may not have criteria for their proper application, this does not permanently brand them as meaningless, for their criteria may be developed through their use in contexts where their meaning may only at first be presumed.

There is then no compelling reason to reject the view that sensation reports are genuine reports, but as Smart says "I am not so sure that to admit this is to admit that there are non-physical correlates of brain processes"20 to which these reports refer. Smart holds what is sometimes called the "double language theory", a thesis which may be summarized as follows

It is that in so far as 'after-image' or 'ache' is a report of a process, it is a report of a process that happens to be a brain process. It follows that the thesis does not claim that sensation statements can be translated into statements about brain processes. Nor does it claim that the logic of a sensation statement is the same as that of a brain process statement. All it claims is that in so far as a sensation statement is a report of something, that something is in fact a brain process. 21

Hence, the double-language theory is the view that we have two non-intertranslatable languages - the sensation language and brain process language - that can be used to report the occurrence of the same entity,

20 Smart "Sensations and Brain Processes, loc. cit., p. 144.
21 Ibid., pp. 144-145.
We are now in a position to show that brain processes possess phenomenal properties. If sensation reports are genuine reports that happen to be about brain processes, then brain processes would possess those properties ascribed to them by sensation reports that are true. The properties mentioned in sensation reports are phenomenal properties like being colored, intense, tingling, throbbing, loud, pungent. Therefore, brain processes possess phenomenal properties. To paraphrase an earlier remark made by Smart, if sensation reports are reports that happen to be about brain processes, then some brain processes are nostalgic because some sensation reports are reports that ascribe phenomenal properties like these to brain processes. Consequently, premise (2) of argument (C) is also true.

IV Do Sensations Possess Non-Materialistic Phenomenal Properties?

In the last two sections I have argued that premise (2) is true for both versions of the argument which summarizes the problem of properties. In this section my aim is to show that it is plausible to accept premise (3), i.e., the premise that sensations possess properties that are neither physical nor topic-neutral properties.
Showing that this premise is plausible is all that is required in order to show that the materialist has a problem with the phenomenal properties of sensations.

To begin with, the claim that sensations possess nonmaterialistic phenomenal properties derives some of its plausibility from the fact that sensations do not appear to be the kind of entity that is compatible with the metaphysics of materialism. Simply stated, unless it were plausible that sensations possess non-materialistic phenomenal properties, the existence of sensations would not pose a problem for the materialists. Hence because it is clear that sensations do present a problem for the materialist, it is plausible to regard sensations as possessing non-materialistic phenomenal properties.

There is, however, a more convincing reason for supposing that the phenomenal properties of sensations are non-materialistic properties, i.e., neither physical nor topic neutral properties. Consider for a moment the following principle: For any property $\emptyset$ of a material entity $x$ there are in principle intersubjective or public criteria by which one can determine that $x$ has $\emptyset$. I can see no reason why a materialist would not find this an acceptable principle; indeed it seems that if anything is a material entity then it satisfies this principle. In short, material entities possess properties
for which there are intersubjective criteria. If it can be shown that the phenomenal properties of sensations do not possess or do not appear to possess intersubjective criteria then this will be a good reason for saying that these properties are non-materialistic properties.

Are there any intersubjective criteria for the phenomenal properties of sensations? The only plausible candidate is overt behavior. For example, when one is wincing and moaning this is generally good public criteria for saying that one is in pain. But is it good public criteria for saying that a pain has the phenomenal property of being intense or sharp? It may be, but only in a very limited number of cases. The limitations that are inherent in appealing to behavior as intersubjective criteria for phenomenal properties are due to the complexity and ambiguity of behavior itself. The same type of behavior in two different persons may be related to radically different sensations or at least to sensations of the same type but with different phenomenal properties. This is clear from the fact that with pain, for example, people have quite different tolerances which makes it unlikely that we could specify the phenomenal properties of their pains. Moreover, since pain behavior is learned, the type of behavior persons exhibit will depend upon their training,
and because training is not uniform, behavior will be a very poor intersubjective criteria for saying that a pain has a particular phenomenal property.

Although the above remarks may not be fully convincing, there is another point which does refute the claim that overt behavior is an intersubjective criteria for the phenomenal properties of sensations. I think that we can reasonably assert that if P is an intersubjective criteria for determining that x has Ø, then the justification that P is such a criteria is also intersubjective. There is, however, no intersubjective way by which we can justify the claim that behavior of a particular general type is a criterion for saying that someone is experiencing a sensation of a certain phenomenological type. In order to justify this criterion we must depend in part upon non-intersubjective supported claim that someone is experiencing a sensation as having a particular phenomenal property. Another way of putting this point is that the phenomenal properties of sensations are private in the sense that no one besides myself can be aware of them. Thus, we cannot in the end intersubjectively justify behavior as an intersubjective criteria for the phenomenal properties of sensations. Strictly speaking, then, overt behavior will not do as intersubjective criteria for phenomenal properties.
There do not appear to be any other more likely candidates as intersubjective criteria for the phenomenal properties of sensations. It is reasonable to conclude, therefore, that because the phenomenal properties of sensations do not have intersubjective criteria for their application, then phenomenal properties are non-materialistic properties.

I admit that I have not conclusively established that sensations possess non-materialistic phenomenal properties, but that was not my purpose. To have conclusively shown that sensations possess non-materialistic phenomenal properties would in effect be to prove that materialism is false if there are sensations. Indeed, materialism is not so easily refuted. My purpose here was just to show that it is plausible to accept the premise, i.e., premise (3), that sensations possess phenomenal properties that are neither physical nor topic-neutral properties. We have now completed the two major tasks of this chapter.

V Summary of Possible Solutions to the Problem of Properties

It was the purpose of this Chapter to explain the problem of properties and to show how it affects the materialist's metaphysics. Simply stated, it is the
problem that sensations possess phenomenal properties that appear neither to be physical nor topic-neutral properties. Thus, even if we grant the materialist the truth of the identity theory, because sensations are contingently identical with brain processes it follows that if sensations possess non-materialistic phenomenal properties, then brain processes also possess non-materialistic phenomenal properties. If brain processes possess non-materialistic properties then there are existing entities which possess properties other than the properties that a materialist can accept and this refutes materialism.

If materialism is to remain a viable metaphysical thesis, then certainly the philosophic task that should engage us at this point is the refutation of the problem of properties. In particular, some account of the phenomenal properties of sensations must be given that is consistent with materialism. There are only three ways open to the materialist by which that end can be achieved: (1) show that there are no sensations, hence there is nothing which possesses phenomenal properties, (2) reduce the phenomenal properties of sensations to physical or topic-neutral properties, and (3) eliminate the phenomenal properties of sensations. The first alternative can quickly be
rejected, because it is inconsistent with the identity theory. As we previously saw, it is precisely because the identity theory is defended that we can generate the problem of properties. Thus we must either reduce or eliminate the phenomenal properties of sensations. But neither alternative seems at all plausible.

The attempt to reduce the phenomenal properties of sensations to physical or topic-neutral properties presupposes that we can show that the phenomenal properties of sensations, or at least instances of these properties, are identical with physical or topic-neutral properties. Establishing this identity is implausible on at least two grounds. First, since no phenomenal predicate is synonymous with any physical or topic-neutral predicate, we cannot appeal to the synonymy of predicates as required for the identity of properties. It might be argued that there is some other criteria for the identity of properties that does not require that their predicates by synonymous. Indeed, given Quine's remarks concerning the difficulties attendant with the notion of 'synonymy' this objection loses some of its force. But since at this time there is no adequate criteria for the contingent identity of properties and none is immediately forthcoming, it is implausible to believe that the phenomenal properties
of sensations can be shown to be identical with either physical or topic-neutral properties. Secondly, and more importantly, even if we had some adequate criteria for the contingent identity of properties, it would not help us here, because it is just prima facie false that phenomenal properties are identical with either physical or topic-neutral properties. For as Cornman has forcefully stated

> It is initially evident that instances of bitterness of taste, loudness of sound, phenomenal color of after-images and the throbbing of pains are not identical with instances of physical properties or of physical-neutral properties, and I find no way to overturn the weight of this evidence. 22

Thus, because there are reasons to reject the claim that the phenomenal properties of sensations are identical with physical or topic-neutral properties, we can conclude that any attempt to reduce phenomenal properties to either of these other properties will fail. It is, consequently, not a viable alternative for solving the problem of properties.

We are thus left with only one remaining alternative solution, viz., eliminate the phenomenal properties of sensations. There are, however, two ways to

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22 J.W. Cornman, Materialism and Sensations, p. 124.
interpret this final alternative. First, by the elimination of phenomenal properties we might mean that we eliminate those things which have them, thereby *indirectly* eliminating phenomenal properties. This interpretation reduces this final alternative to the first proposed solution, which we have already rejected, because the elimination of sensations is incompatible with the identity theory. Thus, if we are to distinguish this final alternative solution from the first, then we must mean that the phenomenal properties of sensations are to be *directly* eliminated. Although it is unclear how this would be accomplished, there is good reason to believe that any attempt to do so must be doomed to failure. It is quite apparent that we are introspectively aware of the phenomenal properties of sensations. Moreover, what we report when we make a sensation report is that sensations are, e.g., yellow, intense, loud, sharp, or irritating. Nothing can be further from the truth than to claim that there are no phenomenal properties.

There are, however, other reasons which make this proposed solution unacceptable. First, it is only because of the phenomenal properties of sensations that we are able to distinguish after-images from pains, itches from tickles, sounds from smells, and
tastes that are bitter from tastes that are sweet. The fact that we do make these distinctions can be explained only by admitting that sensations have phenomenal properties that we are aware of. Furthermore, the elimination of phenomenal properties also eliminates any hope of establishing the psycho-physical correlations of sensations and brain processes that are so crucial to the identity theory. These correlations are possible only if we can distinguish and report, e.g., yellow after-images or sharp, as opposed to dull pains. Because no one else has access to our sensations, the neurophysiologist must, in that case, depend upon our ability to recognize and distinguish sharp as opposed to dull pains, in order to locate those brain processes which constantly occur when sharp pains are reported but not when a dull pain is reported. The fact that the science of neurophysiology has already achieved some success in cataloguing a number of these correlations is evidence that the claim that there are no phenomenal properties of sensations must be mistaken. Finally, if sensations possess no phenomenal properties and there are no other properties of sensations which we are introspectively aware of, then how are sensations to be identified? It is a necessary condition for the contingent identity of sensations and brain processes
that there be some set of properties by which sensations are identified. Without some such property or properties, it is hard to see how we could even begin to argue that sensations are identical with brain processes. Moreover, by eliminating the phenomenal properties of sensations it would appear that this leads to the elimination of sensations themselves, which is surely an unacceptable consequence. In conclusion, the proceeding considerations leave little doubt that the attempt to solve the problem of properties by the direct elimination of the phenomenal properties of sensations is an approach that has little initial plausibility.

The above considerations notwithstanding, both Smart and Cornman defend solutions to the problem of properties which involve opting for the elimination of the phenomenal properties of sensations. In the next two chapters I shall explain and critically evaluate their respective attempts to solve the problem of properties.
CHAPTER THREE

Topic-Neutral Translations and Phenomenal Properties

I Smart and The Problem of Properties

Among the few philosophers who are cognizant of the problem which I have referred to as the problem of properties, there are fewer still that have ever attempted to solve it. There is, however one notable exception. J.J.C. Smart defends a thesis which he believes will solve the problem of properties. This thesis is known as the Topic-Neutral Translation Thesis. In general, it is the thesis that certain translations of our sensation reports show that when we report our sensations, we do so in such a way that our reports are said to be "topic-neutral".

The significance of this thesis vis-a-vis the problem of properties is, however, difficult to assess; for the most part this is due to the fact that, in his several writing on this topic, Smart has failed to clarify exactly how this thesis will allow him to handle the phenomenal properties of sensations. What he has said is that topic-neutral translations thesis was
intended to allow him "... to deny the existence of p-properties."¹ He defines p-properties as those properties which sensations possess which would prevent us from defining 'sensation' in terms of the properties brain processes possess.² In other words, p-properties are non-materialistic properties which inhibit the reduction of sensations to brain processes. Smart believes that his topic-neutral translation thesis will allow him to deny the existence of any non-materialistic properties of sensations.

But how does this affect the phenomenal properties of sensations? In the last chapter I argued that the phenomenal properties of sensations appear not to be materialistic properties, hence is Smart's solution to the problem of properties aimed at eliminating these phenomenal properties? Although it can be interpreted in this way, there is also another way to interpret Smart's claim that topic-neutral translations thesis allows him to deny the existence of non-materialistic properties of sensations. If by offering topic-neutral translations of sensation reports the phenomenal

² Ibid.
properties of sensations are shown to be reduced to physical or topic-neutral properties, then Smart will have shown that sensations do not possess non-materialistic properties. In that case, although the phenomenal properties of sensations may prima facie appear not to be materialistic properties, the topic-neutral translations thesis demonstrates that they are in fact materialistic properties. Hence the topic-neutral translation thesis may be interpreted as leading either to the elimination or the reduction of the phenomenal properties of sensations.

The proper interpretation of this putative solution to the problem of properties will depend upon how the topic-neutral translations of sensation reports allows us to deny the existence of non-materialistic properties of sensations. In particular determining whether Smart intends to eliminate or reduce phenomenal properties will depend upon how the crucial concept of "topic-neutrality" is explained. What is most disturbing about this concept, however, is the fact that Smart has nowhere given an adequate explanation of "topic-neutrality". His infrequent attempts to provide such an explanation are often very sketchy and obscure. Generally, when explaining what he means by the concept of 'topic-neutrality', he uses metaphors such as "openness",.
"colorless", "being very abstract", or "being general", all of which are no clearer than that which they are intended to explain.³ To further complicate matters, Smart's topic-neutral translation thesis is intended not only as a solution of the problem of properties, but to explain, for example, "how sensations can be brain processes and yet how a man who reports them need know nothing about brain processes", ⁴ or to explain "the fact that materialists and non-materialists can perfectly well swap talk about their aches, pains, etc.",⁵ to mention only some of the various uses this thesis enjoys. One soon discovers that in order to make these explanations plausible, Smart must mean different things by 'topic-neutral', in different contexts. Thus not only is it very difficult to say exactly what he means by 'topic-neutrality', we have, in addition, the very difficult problem of distinguishing that sense of the term which is relevant to the solution of the problem of properties. Certainly, until we clarify the notion of 'topic-neutrality' we cannot hope to come to any final conclusion concerning how Smart intends to solve

³ Smart, "Sensations and Brain Processes", loc. cit., p. 149, 150, 153.
⁴ Ibid.
⁵ Smart, "Further Thoughts on The Identity Theory", loc. cit., p. 152.
the problem of properties or whether this putative solution is actually successful.

Hence it is the purpose of this chapter, first, to provide an explanation of the concept of 'topic-neutrality' relevant to the solution of the problem of properties and consistent with what Smart has only vaguely suggested. Once this task is accomplished, we will then be in a position to state Smart's putative solution to the problem of properties, i.e., explain how he intends to handle the phenomenal properties of sensations. It is only then that we will be able to critically assess this proposed solution. Before we can begin these tasks let us first explain the topic-neutral translation thesis.

II Smart's Topic-Neutral Translation Thesis

Smart claims that when we report our sensations, we do so in terms of their likenesses or unlikelinesses to what goes on in us in some typical situations. For example, consider the following sensation report:

(1) I see a yellowish-orange after-image.

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Smart claims that when we make such a report we do so in effect as follows:

(2) There is something going on which is like what is going on when I have my eyes open, am awake, and there is an orange illuminated in good light in front of me, that is, when I really see an orange. 7

In other words, the subject of our reports •••is described by reference to a typical stimulus which causes experiences of that sort. Sometimes, again, it may be more plausible to give the analysis by reference to a typical response. 8

For example, the sensation report

(3) I have a stabbing pain.

can be translated as

(4) What is going on in me is like what goes on in me when I groan. 9

The two approaches can be combined in such a way that my report is in terms of both stimulus and response conditions; for example

(5) What is going on in me is like what goes on in me when a pin is stuck into me or I groan. (Or even conjunctively: '...when a pin is stuck into me and I groan'). 10

Smart has recently argued that since a lot of things are going on in me which are obviously not the subject

7 Smart, "Sensations and Brain Processes", loc. cit., p. 149.
9 Ibid.
10 Ibid.
of our sensation reports, e.g., the functioning of my vital organs, if we make use of the concept of causality in our analysis of sensation reports, we can get nearer to specifying what is going on in us when we report a sensation. Hence (3) is translated as

(6) What is going on in me is like the sort of process which is caused by stabbing with pins and which causes groans. II

Thus, Smart concludes that this analysis of sensation reports shows that when we report our sensations what we are actually reporting is the similarity or dissimilarity of the present experience with other experiences we have had when certain characteristic causal conditions are satisfied.

Although it is not clear whether Smart intends to eliminate or reduce the phenomenal properties of sensations, if we make our sensation reports in the way that Smart suggests, then we have, at least, a partial response to the charge that it is implausible to attempt to eliminate the phenomenal properties of sensations. Because he admits that sentences like (1) are genuine reports, he is not therefore committed to defending the implausible claim that we never describe our sensations. The translations of sentences like (1) into

II Ibid., p. 348.
sentences like (2) illustrates the fact that we do describe our sensations but only in terms of characteristic stimulus or response conditions. What may make the proposal that we eliminate phenomenal properties so implausible is the supposition that if this were accomplished then it would follow that we could never describe our sensations. The translations show that this supposition is false and, in turn, supports the claim that it is not absolutely implausible to suggest that the phenomenal properties of sensations be eliminated. Of course, there are still a number of other reasons which make this putative solution implausible, but we shall have to postpone any further discussion of this until later on in this chapter.

With regard to this account of sensation reports, if it is to have any degree of plausibility then obviously i) we must have sensations when we are actually seeing an orange, for example, and ii) sensations must be events and not objects, if reports of them are reports of things "going-on" and goings-on are clearly not objects.

In the first case, if our reports of sensations of yellowish-orange after-images are reports of a similarity or dissimilarity of the present experience with those we have previously had, viz., when we really
see an orange, then of course when we really see an orange something must be going on in us. If as we have already granted, sensations are identical with brain processes, then either in the case of seeing a yellowish-orange after-image or in the case of seeing an actual orange, what is going on is some kind of brain process which typically occurs when I have experiences like these. There is no reason to believe that these brain processes occur only when we see after-images and not actual oranges. Moreover, given Smart's analysis of 'color' as the power of objects to produce in us certain discriminatory responses, there is further evidence that when we see an orange we are having a sensation; for as Smart says, these powers are also "powers to cause sensations in human beings".¹² Thus, it would seem to follow that if we have sensations when we really see an orange, then just as our reports of after-images are analyzed as "Something going on like what goes on when...", the same analysis would also be appropriate for our reports of really seeing an orange. Not surprisingly, Smart makes just this claim.

¹² Smart, "Sensations and Brain Processes", loc. cit., p. 149.
There is no reason why a person should not say the same thing when he is having a veridical sense-datum, so long as we construe 'like' in the last sentence (i.e., in (2)) in such a sense that something can be like itself. 13

Thus, when we report that

(7) I see an orange.

it is not intended to imply that there is no sensation occurring in us; for although it is clearly about an orange which is external to us, it is also about something going-on in us and insofar as it is about some sensations of ours, then Smart claims that (7) can also be translated as (2).

As for the second point, Smart denies that there are actually any sensations such as pains, after-images or sense-data, but he does not deny that there are experiences of having sensations like these. 14 Although Smart is often careless with regard to what he says about sensations, in some cases implying that he is referring to them as objects, in fact by the term 'sensation', he intends to refer to events and not objects. 15 There are obvious reasons for his refusal

13 Ibid., my addition in parenthesis.
14 Ibid., p. 150.
15 To avoid needless prolixity I shall continue to use the terms 'sensation', 'pain' and 'after-image' although these terms should be understood as the experiences of having a sensation, etc. 

to countenance the existence of sensations as objects, e.g., how are objects to be reduced to events such as brain processes? However, for Smart the most important reason for rejecting sensations as objects is that not to do so would render his identity theory indefensible. If sensations as objects are identical with brain processes, then if the former are circular, yellow, loud or pungent, then obviously the identity theory would be false, for nothing in the brain is ever circular, yellow, loud, or pungent. Thus, although Smart rejects the existence of sensations as objects, he does not deny the existence of sensations as events or more accurately the existence of experiences of having sensations. Hence, if our sensation reports are reports of events, then it is to some degree plausible to construe these reports as reports of something going-on.

As explained so far, Smart claims that when we report our sensations what we are actually saying is something like this: "There is something going on which is like what is going on when...," where this sentence is completed by a statement of typical stimulus or response conditions. What has not been explained thus far is that, in addition to this claim, Smart also says that these translations of our sensation reports are what he calls topic-neutral translations. If
these translations succeed then our sensation reports can also be said to be topic-neutral. Here, as we previously noted, the difficulty is in saying exactly what it means for some sentence to be topic-neutral. Although Smart has not been very clear about what he means by this, I want to suggest two possible interpretations which appear to be consistent with what he has generally said in regard to this issue. To accomplish this, the procedure which seems the most promising is simply a careful inspection of the proposed translations of sensation reports.

By examining putative translations of sensation reports like (2), it is obvious that there is no mention made in this specimen translation of either afterimages or the property of being yellowish-orange. Let us first focus on the fact that no sensation term or name of a kind of sensation is used. In attempting to explain the notion of 'topic-neutrality', Smart says that the italicized words in (2) are all "quasi-logical or topic-neutral words" and that sentences like (2) are "extremely open and general". 16 Obviously, this is not a very precise characterization of the

16 Smart, "Sensations and Brain Processes", loc. cit., p. 149, 153; cf. also Philosophy and Scientific Realism, p. 94-96 for a similar characterization.
concept of 'topic-neutrality'; nevertheless, I think we can arrive at some approximate characterization of what he may mean. The fact that we do not use the name of any particular kind of entity, hence fail to mention some kind of entity, except to say that something is going on, shows that these sentences and, in particular, the subject terms used, are indeed very general. Here Smart draws a helpful analogy between something and someone. When we say that "Someone is coming", we are saying only very generally what could be said more specifically, if the name of the person who is coming were used. Moreover, to say that these sentences are extremely open is to say that because these sentences do not use the name of and, consequently, do not mention any particular kind of entity, they leave it open or it is indeterminate what it is that we are reporting. These remarks suggest that sentences like (2) can be said to be topic-neutral in the sense that these sentences are neutral with respect to the ontological status of the referent of the subject term of these sentences. These sentences do not imply a sentence like "The something that is going on is a mental entity" or any similar sentence. Consequently, to say that sentences like (2) are topic-neutral is simply to say that these sentences entail nothing about
the ontological status of the referent of its subject term.

For our purposes, however, this sense of 'topic-neutrality' does not appear to be relevant to the solution of the problem of properties. What does appear relevant is the fact that no mention is made of any phenomenal properties of sensations in the translations of our sensation reports. Smart claims that what we are doing when we make a sensation report is responding directly to the likenesses and unlikenesses of our internal goings on "without stating in what respect they are alike or unlike".\(^\text{17}\) Except for indicating the typical causal situations within which these experiences are like or unlike each other, no other property is attributed by us to our sensations. As a result, Smart again says that because "we do not indicate in what respect they are alike, this makes our reports of immediate experience quite open or 'topic-neutral'".\(^\text{18}\) What I think he means by this is just simply that the complex relational properties of being like or unlike what goes on in typical causal situations

\(^{17}\) Smart, "Reports of Our Immediate Experiences", loc. cit., p. 354.

\(^{18}\) Smart, "Materialism", loc. cit., p. 656.
are properties which happen to be topic-neutral properties. If they are topic-neutral properties then they are properties that an entity of any ontological status can possess. Consequently, our sensation reports do not imply anything about the ontological status of what we report. This is consistent with the sense of 'topic-neutrality' we have already distinguished. But more importantly we can say that sentences like (2) are topic-neutral in the sense that they are sentences using no expressions which mention phenomenal properties but only containing expressions which describe certain complex relational properties that are topic-neutral. Certainly, if sensation reports are topic-neutral in this sense then we have at least eliminated any mention of those troublesome phenomenal properties. How this will lead to the solution of the problem of properties is something we shall discuss in the next section, but clearly this is the sense of 'topic-neutrality' we have been searching for.

Before we proceed to an examination of the argument which will allow us to solve the problem of properties, we must first take note that there are, according to Smart, two exceptions to his claim that our sensation reports can be translated as something going on in me like what goes on in typically defined causal situations.
First, he says that "we certainly can say"\textsuperscript{19} of our pains, for example, that they wax or wane, that they are more intense or less intense, or come intermittently. Secondly, we also say of our pains that they are "in my thumb" or "in my back".\textsuperscript{20} If we do truly ascribe all of these properties to our sensations, as Smart admits, then how does this affect his attempt to solve the problem of properties. In particular, what kind of properties are these and how, if sensations are identical with brain processes, can a brain process have the property of being "in my thumb"?

In response to the first question, Smart says that although not all our sensation reports are translated in the fashion he suggests, this does not seriously affect his attempt to solve the problem of properties, because properties like waxing, waning, being more or less intense, coming intermittently, or those properties of bodily location, are all topic-neutral properties.\textsuperscript{21} Because they are topic-neutral properties, the fact that we ascribe these properties to our experiences is not incompatible with his materialism.

\textsuperscript{19} Smart, Philosophy and Scientific Realism, p. 103; Cf. also "Reports of Immediate Experiences", loc. cit., p. 350.
\textsuperscript{20} Ibid.
\textsuperscript{21} Ibid.
or the claim that our sensation reports are topic-neutral. Thus, although we may sometimes say something more in our sensation reports than what the topic-neutral translation suggests, as far as Smart is concerned, this is unimportant, so long as these properties are topic-neutral properties.

Smart has not, however, presented any arguments which would support his claim that these properties are topic-neutral properties. Let us see if there are any reasons which would support this claim. The property of coming intermittently is a property that a discontinuous event possesses, hence to say that it has the property of coming intermittently is to say that it is temporally broken up. It is, consequently, a kind of temporal property and, clearly, temporal properties are topic-neutral properties.

The properties of waxing or waning are properties which indicate either that a certain event is still unfolding or that it is undergoing a gradual diminution. It would seem that any entity of any ontological status could possess properties like these; in that case, they too would appear to be topic-neutral properties. But if we admit that sensations have properties like these, then there are, flowing from this admission, consequences which Smart could not tolerate.
For if we truly say that a pain, for instance, is waning, then we can only say that if we are also aware that this same pain is no longer throbbing and sharp, but dull and less irritating, for example. In other words, in order to report that some pain no longer waxes but is waning, we must be aware of some change in that pain, which justifies that report. Obviously, the change is that the pain no longer has certain phenomenal properties but that it has certain others. Thus, even if we admit that our sensation reports are translated as Smart suggests, we are far from eliminating those troublesome phenomenal properties of sensations which plague his defense of materialism.

A similar argument can be given for the properties of being more or less intense. But what is more interesting about these properties is that they appear to be no different in kind from the phenomenal properties which Smart desires to eliminate; hence it seems quite unreasonable to claim that these are topic-neutral properties. Certainly, if they are topic-neutral properties then not only is it difficult to say why they are topic-neutral, but if sensations possess them then only the brain processes that are identical with sensations possess properties like these, which is evidence that perhaps they may not be properties Smart
could tolerate. Moreover, I see no reason why Smart limits these properties just to our pains. After-images, itches, or sounds are also more or less intense, but again these seem to be just the phenomenal properties which form the backbone of the problem of properties.

Smart also claims that properties of bodily location, like the property of being in my thumb, are also topic-neutral properties. Why Smart believes that he can seriously make such a claim is surely a mystery. This will become clearer as soon as we see how he answers our second query raised above, viz., how is it possible for sensations to have the property of being "in my thumb", if sensations are identical with processes in the brain? Smart's response is that when we say that my pain is "in my thumb", we do not mean to say that it is literally in my thumb, in the sense in which a bone or an abscess can be there. "This is obvious when we consider that I might have a pain 'in my thumb' even though my thumb had been amputated". It should be noted that pains are not the only sensations which we report as being "in" some part of our body; itches, tickles, aches, twitches, tastes and feels are all sensations that we report as having some bodily location.

22 Ibid.
But because these sensations are identical with brain processes these properties are properties of brain processes, properties which allow us to indicate the location in my body of the cause of that brain process. What then is the nature of these properties? How do we describe them? What distinguishes them from each other such that we can correctly locate the cause of the present experience? When I report that I have a pain in my thumb, the doctor can treat my thumb with novocaine and the pain will cease. How can we do that? Smart has not a single answer for any of these questions except to claim that we do make such reports and that brain processes have these properties. Clearly, unless Smart can provide answers to questions like these, then there is good reason to believe that these properties are far more bizarre than those phenomenal properties of sensations Smart is so anxious to eliminate. Furthermore, unless we can say what the nature of these properties is, how then can we even hope to claim that they are topic-neutral properties?

The foregoing considerations strongly suggest that it is inadvisable for Smart to concede that we say something more in our sensation reports than what is given by his putative translations. There are other reasons for rejecting Smart's concession that there are
exceptions to his translation thesis, but because they arise in another context, we shall have to return again to these issues.

III First Attempt to Solve the Problem of Properties

Having completed the tasks of the previous section of explaining Smart's topic-neutral translation thesis and giving an interpretation of 'topic-neutrality' which appears relevant to the problem of properties, the task now before us is to determine how this thesis leads to the solution of the problem of properties. The crucial difficulty I earlier noted was that Smart never clearly explains how his topic-neutral translations of sensation reports allows us to deny that sensations possess non-materialistic properties. If these translations are topic-neutral in the sense that they are sentences using no expressions which mention phenomenal properties, but only contain expressions which describe certain complex relational properties that are topic-neutral, then I want to suggest that if we construe Smart's attempt to provide topic-neutral translations of our sensation reports as analogous to the analytical behaviorist's attempt to analyze our psychological sentences by offering behavioral translations of them, then in the same way that these latter translations
may be interpreted as leading to the elimination of mental entities, it is reasonable to believe that Smart's topic-neutral translations of sensation reports will allow him to eliminate the phenomenal properties of sensations.

It may be objected, however, that it is more plausible to interpret Smart's putative solution of the problem of properties as involving not the wholesale elimination of the phenomenal properties of sensations, but rather the reduction of these properties to topic-neutral properties, because if we eliminate the phenomenal properties of sensations then this will have the result of leading to the elimination of sensations. Obviously, this is a consequence Smart could not accept, he cannot therefore intend to eliminate the phenomenal properties of sensations. In response to this objection, there are two things which we can say. First, as we shall see in the next section there is considerable textual evidence which supports the claim that Smart intends to eliminate the phenomenal properties of sensations, while on the other hand there is no textual evidence to support the claim that he is reducing phenomenal properties to topic-neutral properties. It may be further objected that textual evidence notwithstanding, it is still not plausible that he should take the route of eliminating rather than reducing
because the former leads to the ultimate elimination of sensations while the latter does not. Although I agree that reducing the phenomenal properties of sensations does not lead to the elimination of sensations, it is not, however, obvious that eliminating the phenomenal properties of sensations eliminates sensations. It would only have this consequence if it is assumed that the only properties sensations possess are phenomenal properties. But clearly this assumption is false. For sensations also possess the non-phenomenal properties of being had by me, of being experienced by me, of being self-identical, of existing through time, and finally of being a sensation of a pain or after-image, to mention only a few of the most obvious properties sensations possess. Thus, my second point is simply that because sensations possess other properties besides phenomenal properties it does not follow that the wholesale elimination of the phenomenal properties of sensations also entails the elimination of sensations.

Thus, I suggest that it is not altogether implausible to suppose that Smart intends to eliminate the phenomenal properties of sensations. One way to interpret this eliminative argument is by drawing an analogy between Smart's topic-neutral translations and the analytical behaviorists analysis of psychological sentences. To see
if this analogy works, let us begin by briefly reviewing the analytical behaviorist's eliminative argument.

Analytical behaviorism is the thesis that all sentences using psychological terms can be translated into sentences using no psychological terms, but only terms that describe bodily behavior or dispositions to behave. The behavioral translations of psychological sentences are actually contextual definitions, where by 'contextual definition' we mean the behavioral translations are synonymous with the psychological sentences, but they contain no expression which is synonymous with any psychological expression in the psychological sentences. If the psychological sentences are synonymous with the behavioral translations then the referents of the substantive terms of these sentences must be the same. The behavioral translations use terms that refer only to bodily behavior or dispositions to behave. From which it follows that no term in the psychological sentences refers to any mental entities. In that case, even though psychological sentences are often true, because the referring terms of these sentences can be contextually defined by behavioral translations which use terms that refer only to behavior or dispositions to behave, we have, consequently, eliminated mental entities.
Although analytical behaviorism has been extensively criticized, most notably by Chisholm, for the present it is only important that we determine if a similar argument can be constructed along these lines which will lead to the elimination of the phenomenal properties of sensations.

As I have interpreted Smart's topic-neutral translation thesis, sensation reports can be translated into sentences using no expression which mentions any phenomenal properties of sensations, but only certain expressions which describe complex topic-neutral relations. If we construe the topic-neutral translations of our sensation reports as contextual definitions, then these translations will be synonymous with the sensation reports but no phenomenal predicate of the sensation report is synonymous with any expression in the topic-neutral translation. If sensation reports are synonymous with topic-neutral translations then the substantive terms in these sentences have the same referents. The only substantive terms we are presently concerned with are the predicate expressions that refer to certain properties, although as we shall momentarily see, a

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parallel argument can be constructed which focuses on the subject term of these sentences. If the predicate expressions of the topic-neutral translations use terms that only refer to certain complex topic-neutral properties such as being like what goes on when my eyes are open and I really see an orange, then no phenomenal predicate refers to any phenomenal property. In that case, even though our sensation reports are genuine reports, because the phenomenal predicate expressions of these reports can be contextually defined by topic-neutral translations which use predicate expressions which only refer to complex topic-neutral relations, we have, consequently, apparently succeeded in eliminating the phenomenal properties of sensations by defending topic-neutral translations of sensation reports. If phenomenal properties can be eliminated in this fashion, then there is no longer any reason to believe that materialism need be plagued with a problem of properties.

Thus, although Smart does not provide anything which resembles the previously stated argument, by showing that there is a very close analogy between Smart's topic-neutral translation thesis and the modus operandi which is used by the analytical behaviorists, we can now see how Smart's defense of topic-neutral translations might allow him to solve the problem
of properties by eliminating the phenomenal properties of sensations.

To draw this analogy out somewhat further, let me suggest another possible way in which Smart's defense of topic-neutral translations might allow him to solve the problem of properties. Although in the last section I distinguished two different senses in which his putative translations of sensation reports are topic-neutral, there is another sense of 'topic-neutral' that applies to expressions and not to sentences, viz., if a property $\emptyset$ is a topic-neutral property then the expression '$\emptyset$' is a topic-neutral predicate, and conversely. We can generalize on this principle by saying that if some entity or property $\emptyset$ is respectively either a topic-neutral entity or a topic-neutral property, then the expression '$\emptyset$' is a topic-neutral expression and conversely. With this principle in mind, and in conjunction with the above analogy, we can now construct another argument which solves the problem of properties by the elimination of those troublesome phenomenal properties of sensations that are neither physical nor topic-neutral properties.

Smart claims that in sentences like (2) the italicized words "There is something going on which is
like what is going on when" are all topic-neutral words. Given the principle stated above, it would follow that if these words are indeed topic-neutral words, then one way to interpret this claim is to say that the entity referred to by these words is a topic-neutral entity. If our sensation reports are translated in such a way that the terms we use to refer to our sensations are contextually defined by a topic-neutral sentence, which itself employs only expressions which are topic-neutral expressions, then although we may not have eliminated sensations, we have eliminated the supposition that what we are reporting is some kind of mental entity and not a brain process. If the entities referred to by the subject term of the topic-neutral translations are topic-neutral entities, then they cannot possess non-materialistic properties. Thus, by defending the claim that our sensation reports are translated in such a fashion that only topic-neutral entities are reported, we have another argument which will allow us to solve the problem of properties.

There is however, only one thing wrong with this argument, and that is, although sensation reports may

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24 Smart, "Sensations and Brain Processes", loc. cit., p. 149; Cf. also his Philosophy and Scientific Realism, p. 95.
be shown to be topic-neutral by Smart's translations, they cannot be reports of topic-neutral entities, if they are reports of brain processes. Brain processes possess physical properties and no entity that has properties like these can be considered a topic-neutral entity. We must, therefore, reject this particular argument for the elimination of the phenomenal properties of sensations.

There is, however, an even more serious problem facing both versions of this attempt to eliminate the phenomenal properties of sensations, viz., that unless sensation reports are synonymous with their topic-neutral translations, we cannot then conclude that these translations use expressions which refer to the same entities referred to by sensation reports. In that case, we have no basis which will warrant the elimination of the phenomenal properties of sensations. Thus, it is essential to the present interpretation of Smart's proposed solution of the problem of properties that sensation reports are synonymous with the topic-neutral translations.

We can very quickly see that Smart's translations cannot be synonymous with all of our sensation reports. For example, Smart claims that topic-neutral translations like (2) are translations of sentences like (1), "I see
a yellowish-orange after-image", but because what we are reporting can be like itself, then (2) is also a translation of sentences like (7) "I see an orange". If (2) is synonymous with both (1) and (7) then (1) and (7) are synonymous with each other. But obviously when I say I see a yellowish-orange after-image I do not mean the same thing as when I say I see an orange. Thus sentences (1) and (7) cannot be synonymous. If (2) is a translation of both (1) and (7), and (1) and (7) are not synonymous, then (2) cannot be synonymous with them both. Thus, the topic-neutral translations are not synonymous with all our sensation reports.

Although the above argument leaves it open that perhaps some of the topic-neutral translations of our sensation reports are synonymous with these reports, Cornman has convincingly argued\(^\text{25}\) that none of these translations can ever be considered synonymous with any of our sensation reports. His argument proceeds along the following lines. If the sensation report (1) and the topic-neutral translation (2) are synonymous sentences, then these two sentences must be logically equivalent and to say that they are logically equivalent

is to say that they will be implied by and imply exactly all the same sentences. There is, however, a sentence, 
viz.,

(8) I see a roughly spherical shape.
which implies (2), but does not imply (1). Thus (2) must not be synonymous with (1). We might attempt to avoid this problem by modifying the topic-neutral translation in such a way that it is not implied by (8). Cornman suggests that this modified translation, call it (9), "would refer not merely to an orange but to some $n$ number of things that have only one thing in common, their yellowish-orange colour."²⁶ Hence, because not all of the $n$ things would be of any specific shape, then we can avoid the troublesome implication from (8) to (9). We cannot, however, completely avoid the problem that the topic-neutral translation (9) and the sensation report (1) are not synonymous, for there is another sentence, viz.

(10) I see a coloured after-image.
which implies (9), but does not imply (1). Here again, we can draw the conclusion that (9) and (1) are not synonymous. Thus, Cornman concludes that any other proposed modification of Smart's translation

²⁶ Ibid.
will similarly fail to evade this criticism because the crucial part of these translations "there is something going on" happens to be "just too general".²⁷

If the reason why these translations fail to be synonymous with sensation reports is due to the use of the expression "there is something going on", then perhaps Smart could avoid this criticism if he refrained from translating sensation reports by means of this expression. As we saw in the previous section, there are two senses in which these translations are topic-neutral and only one of these senses is related to the use of this expression. Suppose, in that case, instead of using this expression in our translations of sensation reports, we translated (1) as

(11) The after-image is like what goes on when I have my eyes open, am awake, and there is an orange illuminated in good light in front of me, that is, when I really see an orange.

Translating our sensation reports in this fashion does not affect the claim that they are topic-neutral because they would still be topic-neutral in the sense that no expression which mentions a phenomenal property is used, rather only expressions which refer to complex topic-neutral properties are employed. Since it is

²⁷ Ibid.
in this sense of topic-neutral that these translations are relevant to the problem of properties, there is no reason then to avoid using the offending expression. Will this allow us then to avoid Cornman's criticism? I think not, because it is still not the case that (11) and (1) are synonymous. To see this, we need only note that the sentence "I see a colored after-image," i.e., (10), implies (11), but does not imply that I see a yellowish-orange after-image, i.e., (1).

Consequently, it is not only because the expression "there is something going on" is too general that sensation reports are not synonymous with topic-neutral translations, but in addition because the predicate expression of being "like what goes on when..." is also too general. Thus, even if we translated sensation reports in such a way that they are topic-neutral only in the second sense which we have discussed, we still cannot avoid Cornman's criticism.

Consequently, because we cannot apparently avoid Cornman's criticism, we must conclude that the relationship that exists between sensation reports and the sentences which Smart offers as topic-neutral "translations" of them cannot be one of synonymy. Since it is crucial to the present interpretation of Smart's solution to the problem of properties that the topic-
neutral translations be synonymous with our sensation reports, we must reject this interpretation of Smart's solution. In other words, the analogy with the program of analytical behaviorism, which suggests that Smart intends to eliminate the phenomenal properties of sensations, breaks down on the crucial issue of synonymy.

It is interesting, at this point, to note that we can now rule out the interpretation of Smart's putative solution to the problem of properties as being one that reduces rather than eliminates the phenomenal properties of sensations. As I previously noted, Smart has never made it clear how his topic-neutral translation thesis is intended to handle the phenomenal properties of sensations. If, however, he intends to reduce the phenomenal properties of sensations to topic-neutral properties, then one necessary condition for reducing phenomenal properties to topic-neutral properties is showing that these properties are identical. The only way that is apparently open to Smart for showing this is if sensation reports which ascribe phenomenal properties to sensations are synonymous with Smart's topic-neutral translations. If these sentences are synonymous then it would appear that the properties which each of these sentences attribute to something are the same or identical properties.
Unfortunately, as we have discovered these sentences are not synonymous. Consequently, if Smart's translations cannot be shown to be synonymous with sensation reports, then the suggestion that Smart intends to reduce the phenomenal properties of sensations to topic-neutral properties is not a viable interpretation of Smart's solution to the problem of properties.

Nonetheless, even if Smart's translation schema could be modified in such a way that they are synonymous with sensation reports, it may be objected that this alone will not be sufficient to show that phenomenal properties are identical with topic-neutral properties. One reason for believing that establishing this synonymy is not sufficient for showing that these properties are identical properties is that the synonymy of sensation reports and topic-neutral translations only establishes an identity of reference not an identity of properties. It is claimed that in addition to showing that there is this identity of reference something else is required in order to establish that these properties are also identical. I do not, however, subscribe to this objection mainly because the only plausible way of interpreting the claim that there is an identity of reference between sentences using phenomenal predicates and sentences using topic-neutral predicates is if these predicates refer to the same property. Hence, if they refer to the same
property, then what else could we mean except that these properties are identical. In other words, if there is an identity of reference then there is an identity of things referred to, although of course, the converse is not true. Thus, if we could establish that sensation reports are synonymous with Smart's topic-neutral translations then we could conclude that phenomenal properties are identical with topic-neutral properties. The difficulty is that we cannot establish this synonymy. Moreover, even if we could establish this identity the additional step of reducing phenomenal properties to topic-neutral properties must be defended and Smart has not offered anything which we could interpret, however sympathetically, as leading to this reduction.

In Smart's defense, it might be argued that identity of properties does not require synonymy of predicates for there is some other method for showing the contingent identity of properties; consequently phenomenal properties can be shown to be identical with topic-neutral properties even though the topic-neutral translations are not synonymous with sensation reports. Hence the reduction interpretation of Smart's solution to the problem of properties would still be a viable position. But this is in effect to admit that the topic-neutral translation thesis is itself a failure as a means of dealing with
the problem of properties, a consequence Smart obviously
does not accept. Thus if we cannot accept this
alternative and if we cannot show that sensation reports
are synonymous with topic-neutral translations then
we cannot argue that Smart intends to solve the problem
of properties by reducing the phenomenal properties
of sensations to topic-neutral properties.

Therefore, the only plausible alternative remaining
is to interpret the topic-neutral translation thesis
as somehow leading to the elimination of the phenomenal
properties of sensations. But saying how this is to be
accomplished is no easy task. For although Smart has
not addressed himself directly to the criticism
discussed above which Cornman raises, he has made some
startling remarks, in recent articles which lead one
to believe that he construes this criticism as an

ignoratio elenchi. For he concedes that

Because to some extent ordinary mentalistic
idioms may be contaminated with a common-
sense immaterialistic metaphysics, the
'topic-neutral' pattern of analysis may not
tirely do justice to them. 28

Thus, we cannot obviously claim that they mean the
same thing; in fact, he now says it was never his intention

28 Smart, "Further Thoughts on The Identity Theory",
loc. cit., p. 152.
that his "translations" of sensation reports be synonymous with these reports.

Indeed I always thought of the topic-neutral analysis as mainly of heuristic value: as showing the sort of thing sensation reports are rather than as giving a strict translation of them. (That is, they are reports of likenesses and unlikenesses of our inner goings on without specifying the respect in which these likenesses and unlikenesses pertain).  

But if Smart concedes that his topic-neutral translation thesis is not intended to provide synonymous translations of our sensation reports, then what relationship exists between sensation reports and these so-called topic-neutral translations such that these translations allow us to deny that sensations possess non-materialistic properties? We have not only found reason to deny that these translations are ever synonymous with our sensation reports, but they are also not even logically equivalent with our sensation reports.

If the previous quotation is any indication of how Smart would respond to this question then it is clear that he believes that the topic-neutral translations of our sensation reports show us "the sort of thing that sensation reports are." Namely, they are reports of

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likenesses or unlikenesses of experiences without stating the respect in which these likenesses or unlikenesses obtain. But what reason is there to believe that these translations show us that our sensation reports are like this? Moreover, how does the fact that our sensation reports are of this nature allow us to eliminate the phenomenal properties of sensations if this is the only viable interpretation left to us? Certainly, if sensation reports are not synonymous with Smart's topic-neutral translations, then the falsity of this crucial premise vitiates this first attempt to solve the problem of properties. Smart must therefore believe that there is some other argument which by defending topic-neutral translations allows him to eliminate the phenomenal properties of sensations and, in turn, solve the problem of properties. What is this argument? In the next section I shall attempt to provide answers to these questions.

IV Second Attempt to Solve the Problem of Properties

Although I have previously distinguished two different senses in which sentences are topic-neutral (and another sense in which expressions are topic-neutral), there is a third sense in which we can interpret our sensation reports as topic-neutral and
it is only in this sense that I believe Smart can defend both his topic-neutral translation thesis and solve the problem of properties. In particular, I want to show that if we interpret 'topic-neutrality' as an epistemic term which describes both our propositional and non-propositional knowledge of sensations, then we have captured the sense of the term that Smart has all along intended. The previously distinguished senses are secondary to this epistemic sense. Once this epistemic sense is explained and we can show that sensation reports are topic-neutral in this sense, then we can state that argument which Smart believes will allow him to eliminate the phenomenal properties of sensations.

In order to explain this epistemic sense of 'topic-neutrality', let us begin by seeing how Smart might reply to the following question: What reason is there to believe that sensation reports are reports of something going on in us that is like or unlike other experiences we have had, without stating in what respect these likenesses or unlikenesses consist? Smart says of his topic-neutral translation thesis that

For this account to be successful, it is necessary that we should be able to report two processes as like one another without
being able to say in what respect they are alike. 30

Otherwise, we could say something more in our sensation reports than what Smart suggests. But how is this necessary condition to be satisfied? That is, what must be the case such that we could report our sensations as like others we have experienced, but not be able to say in what respect they are alike? The only possible answer that would explain why we cannot say in what respect these likenesses consist, would be if we are not aware of the respects in which they are alike. In other words, although we may be aware of our sensations as like others we have experienced, we could not say in what respect they are alike if we are unaware of any of the properties which are the basis for this likeness.

Although this seems to be the only possible answer, it is an answer that does not appear to be very plausible. It just seems false that we could report our sensations simply in terms of a likeness without being aware of some respect in which they are alike. For if we are not aware of any respect in which they are alike, then

30 Smart, Philosophy and Scientific Realism, p. 95; since Smart generally ignores mentioning unlikenesses, I shall follow his example and speak of only likenesses, where, of course, anything we say about the latter can also be said mutatis mutandis about the former.
what could possibly be the grounds for saying they are alike? If we say or report that something is like something else, then obviously it must be because of some property which they have in common and that we are aware of which is the basis for making our report. Moreover, the fact that we do truly report that something is like something else implies that they are alike in some respect or other, which we are aware of and by which we could justify our report. Therefore, it is just false that we could report our sensations as like one another without being aware of the respect in which they are alike. A similar argument can be made for our reports of unlikelinesses between sensations.

Smart is aware of this objection, for he states

Now it is tempting, when we think in a metaphysical and a priori way, to suppose that reports of similarities can be made only on the basis of the conscious apprehension of the features in respect of which these similarities subsist. 31

Nevertheless, although he recognizes the seriousness of this objection, he does not believe it to be as persuasive as it may seem. His response to this objection consists in appealing to the case of our constructing a mechanism

which reports, in a loose sense of 'reports', that things are similar but does not report what the similarities are. For example:

Consider a machine for recognizing likenesses and unlikenesses between members of a set of round discs, square discs, and triangular discs. It would probably be easier to construct a machine that just told us (on a tape, say) "like" or "unlike" than it would be to construct a machine that told us wherein the likenesses consisted, whether in roundness, squareness, or triangularity. 32

To carry his argument further, he argues that if we view man as a physical mechanism, then

Thinking cybernetically it is indeed easier to envisage the nervous system as being able to react to likenesses of its internal processes without being able to issue descriptions of these likenesses. 33

Consequently, if we accept this analogy the suggestion presumably is that we can report likenesses without being aware of the respects in which these likenesses obtain. Let us, however, momentarily postpone critically examining this response until the next section. What is more important to notice is that if we are not aware of any of the properties which are the basis

32 Smart, "Materialism", loc. cit., p. 656; cf. also Philosophy and Scientific Realism, p. 95.
33 Smart, "Sensations and Brain Processes: A Rejoinder to Dr. Pitcher and Mr. Joske", loc. cit., p. 253; see also "Sensations and Brain Processes", loc. cit., p. 149.
for saying that there is a likeness among our sensations, then because we cannot say in what respect these sensations are alike, this satisfies what Smart says is a necessary condition for his topic-neutral translation thesis to be successful.

There is, however, in addition to this necessary condition another necessary condition that must be satisfied if Smart's translation thesis is to be successful. According to Smart our reports of our sensations are reports of the existence of something going on in us "...without having any idea whatever of what in particular is going on..."^34. What must be the case if our sensation reports are reports wherein we cannot say anything more than that something is going on in us? I submit that the only reason we could not say what is going on in us besides saying that something is going on, is if we are unaware of any of the properties of sensations which would allow us to say what it is. But it is not just simply that we are unaware of the properties of sensations that are characteristic of certain kinds of entities, which prevents us from saying anything more than that something is going on in us, rather the reason we can

^34 Ibid., p. 96.
only say that something is going on is because we are not directly aware of any of the properties of sensations, except for a few topic-neutral properties like waxing or waning. In other words, Smart is committed to the view "...that sensations, as 'raw feels', are colourless in the way in which something is colourless." Here, the word 'something' suggests that what we are aware of is featureless, that there is a subject of our awareness but no descriptive content to it. We are just aware of the existence of our sensations and report them as something going on, but we are not aware of anything particular about them, hence we cannot pin any properties on them. Thus, not only are we not aware of the properties which are the respects in which our sensations are alike, we are more generally unaware of any of the properties of sensations which would allow us to say what they are. If this is the case, then not only is the second condition satisfied, but the first as well.

Smart admits that to say that our sensations are

35 Smart, "Further Thoughts on Sensations and Brain Processes", loc. cit., p. 407.
36 Smart, "Sensations and Brain Processes", loc. cit., p. 150.
colorless, i.e., that we are unaware of the properties of sensations, does not mean that sensations do not have any properties. "It only means that in speaking of them as being like or unlike one another we need not know or mention these properties". Indeed, if sensations are brain processes then they certainly have lots of neutophysiological properties "... but these features, save perhaps for some topic-neutral ones like waxing or waning, are not immediately apprehended or mentioned in the sensation reports." This explains why we are unable to say in what respects our sensations are alike. According to Smart, if I have an experience of having an after-image I may report it

...as like the experience I have when I see an orange, and this likeness, on my view, must consist in a similarity of neuro-physiological pattern. But of course we are not immediately aware of the pattern; at most we are able to report the similarity. Thus, if sensations are brain processes, then sensations possess numerous neutophysiological properties, but since no one would ever claim that we are aware of these properties, he is committed to the view that

37 Ibid., my italics.
38 Smart, "Further Remarks on Sensations and Brain Processes", loc.cit., p. 407, my italics.
39 Smart, Philosophy and Scientific Realism, p. 95.
we are unaware of any of the properties of sensations, except of course for a limited number of topic-neutral properties.

Nonetheless, although we are not directly aware of the properties that sensations possess, because they are neurophysiological properties, we can still provide very general descriptions of our sensations. Since every sensation occurs in some context, we can, relative to that context, issue very general descriptions of our sensations. For example, when I have an after-image, although I am not directly aware of its properties, I am aware of the conditions within which it occurs. That is, I am aware of my eyes being open, of being awake, of the flash bulb popping, etc., and insofar as I am aware of these general conditions, I can give a vague description of my sensations as something occurring in this context. As I learn to make sensation reports, I may learn to make these reports in a somewhat more precise manner by issuing generic descriptions of my sensations of having after-images. These generic descriptions may be made by reference to their likenesses to characteristic stimulus or response conditions. Thus, although I may have an after-image when no flash bulbs have popped, I can still report my after-image as typically like what goes on when flash bulbs pop.
What I cannot do is say in what respect these likenesses consist, because I am not directly aware of the neurophysiological properties which are the ground for these likenesses. Consequently, if I am to describe my sensations, I do so relative to the general causal conditions in which they occur. In other words, if I am going to say anything about my sensations, then my "...sensation talk must be learned with reference to some environmental stimulus (or response) situation or another."\(^{40}\)

We are now in a position to answer the question with which this section began, viz., What reason is there to believe that our sensation reports are reports of something going on in us like what goes on in typical stimulus or response situations, without saying in what respect these likenesses consist? The answer is that if our direct awareness of our sensations is such that we are only aware of the existence of some colorless or featureless event going on in us, then when we make a sensation report, we obviously cannot report anything more than that something is going on in us like what goes on in us when... We cannot say more than this because those properties which sensations possess are

\(^{40}\) *Ibid.*, p. 96; my addition in parenthesis.
veiled from us. For if sensations are brain processes then naturally we are not directly aware of the neurophysiological properties that sensations possess. Accordingly, Smart proclaims that "If my view is correct, we do notice brain processes, though only in a 'topic-neutral' way: we do not notice that they are brain processes".  41

Having completed the task of answering this question, we are now in a position to explain the sense of 'topic-neutrality' which I believe will explain how Smart's topic-neutral translation thesis leads to the solution of the problem of properties. To begin with notice that for Smart to claim that we are aware of our sensations - brain processes - in a topic-neutral way, amounts to making what can only be considered an epistemic claim, both about our non-propositional knowledge of sensations, as well as about our propositional knowledge of sensations. In particular, to say that our non-propositional knowledge of our sensations is topic-neutral is to say that although we are directly aware of our sensations, we are not directly aware of the properties which sensations possess, these properties are veiled from our immediate

41 Smart, "Materialism", loc. cit., p. 656 fn.
apprehension. Hence we know of the existence of our sensations, but not anything about them per se. We can call this type of awareness of sensations topic-neutral awareness.

An analogy might help convey what I mean by topic-neutral awareness. Suppose we have a radar device that is able to detect objects within a certain definable radius. Suppose further that this device is not very sophisticated; for although it can detect the existence of something within its range of coverage it cannot detect anything about these "intruders", e.g., whether they are friend or foe. In a very loose sense, we can say that the radar device is "aware of" something, but it is not aware of any of the properties of this something. Indeed, the word 'something' suggests that the object of its awareness is colorless and featureless, as Smart would say. Thus, when the radar device detects something, this detection is devoid of descriptive content. It is just able to detect the existence of something but not what that something is, i.e., it is unaware of the properties that this thing possesses.

In the same way that this radar device detects intruders, I want to suggest that our direct awareness of sensations is just an awareness of the existence of something going on in us, but we are no more directly aware of the properties of that something, than the
radar device can detect the properties of the intruder. In other words, we are topic-neutrally aware of our sensations.

As we have already seen, it is only because we are not directly aware of the properties sensations possess that we can support the claim that sensation reports are reports of something going on in us like what goes on when... We can now explain what Smart means by saying that these translations show that our sensation reports are topic-neutral. A sensation report is topic-neutral if and only if what it is about is non-propositionally known in a topic-neutral way. For example, when we make a sensation report, I take it that what we purport to have is some knowledge about our sensations, or more simply, we make a knowledge claim. But what is it that we claim to know when we make a sensation report? I submit that Smart's topic-neutral translations provide the answer to this question. That is, if we are only aware of our sensations as something going on which we may learn to describe very generally by reference to the typical stimulus or response conditions within which they occur, then what we purport to know is that something is going on in us like what goes on in us in typical causal conditions. In other words, Smart's topic-neutral
translations should not be understood as indicating the meaning of our sensation reports, but rather they should be understood as indicating what our propositional knowledge of our sensations happens to be. Indeed, we could mean something more by our sensation reports than what is given in the translations, particularly if these reports are to some extent "contaminated with a commonsense immaterialistic metaphysics." But we cannot claim to know more than what is given by Smart's "translations", because we are not directly aware of anything more. Thus to say that our sensation reports are shown to be topic-neutral by these "translations" is just to say that what we claim to know when we make a sensation report is that something is going on in us like what goes on in typical causal situations. It is in this sense that our propositional knowledge of our sensations is topic-neutral.

Thus, as Smart describes his topic-neutral translation thesis,

According to the present account I may know that I have an itch but not be able to say how I know it, or even describe what it is of which I am aware, other than as 'an itch'.

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42 Smart, "Further Thoughts on The Identity Theory", loc. cit., p. 152.
or as like or unlike other experiences, I do not know the respects in which these likenesses consist, though of course there must be some such respects. 43

Which is just to say that both our propositional and non-propositional knowledge of sensations is topic-neutral. 'Topic-neutrality' is, therefore, primarily an epistemic concept.

In summary, by examining the necessary conditions which must be satisfied if Smart's translation thesis is to be a success, we were led to the suggestion that these conditions can only be satisfied if we were not directly aware of the properties that sensations possess. This suggestion became the basis for answering the question of why Smart believes that our sensation reports are reports of something going on in us like what goes on in us in typical causal situations, and for explaining what Smart meant by 'topic-neutrality'. Having, consequently, distinguished what appears to be a sense of 'topic-neutrality' which is consistent with Smart's defense of his translation thesis, the question now before us is: Will this epistemic sense of 'topic-neutrality' lead to a solution of the problem of properties? In other words, we must still answer

43 Smart, "Reports of Immediate Experiences", loc. cit. p. 355; my italics.
the important question of how the topic-neutral translation thesis will allow Smart to eliminate the phenomenal properties of sensations.

The answer should by now be quite apparent. If the translations Smart offers are interpreted in an epistemic way, i.e., as giving the state of our propositional knowledge of sensations, then clearly they show that we do not know that sensations possess phenomenal properties. If we do not know that sensations possess phenomenal properties, then there cannot be a problem of properties, because we can generate this problem only if we know that sensations possess phenomenal properties. But Smart's topic-neutral translations show that we do not have any knowledge of this sort. Thus, since we do not have any propositional knowledge of phenomenal properties, there is no reason to believe that there is any problem of properties. Phenomenal properties have been eliminated and the problem of properties is solved, or more precisely dissolved.

There is, however, another version of this argument which focuses on our non-propositional knowledge of sensations. Since our propositional knowledge of sensations is dependent upon our non-propositional knowledge of sensations then this argument is epistemologically more basic. If our direct awareness of
sensations is topic-neutral, then we are not directly aware of any of the properties of sensations. If we are not directly aware of any of the properties of sensations, then we are not directly aware of sensations possessing phenomenal properties. If we are not directly aware of sensations possessing phenomenal properties, then there are no phenomenal properties of sensations given our earlier characterization of 'phenomenal property'. Consequently, the phenomenal properties of sensations are eliminated if our direct awareness of sensations is topic-neutral. In other words, when we have an ache, for example, what we are aware of is something going on in us like what goes on in us in typical causal situations, i.e., we are topic-neutrally aware of sensations of having an ache. But to say that our awareness of sensations of having an ache is topic-neutral entails that we are "...denying that we introspect any non-physical property such as achiness". There are, therefore, no phenomenal properties of sensations to be aware of, hence there is no problem of properties.

In conclusion, it is by means of arguments similar

\[^{44}\] Cf. Chapter Two, p. 40.
\[^{45}\] Smart, "Materialism", loc. cit., p. 654.
to these that I believe Smart is able to eliminate the phenomenal properties of sensations, and thereby solve the problem of properties. These arguments can only be generated if we distinguish the proper sense of 'topic-neutrality' which Smart intends, and as I have argued, that sense would appear to be an epistemic sense.

V Critical Evaluation of the Second Attempt to Solve The Problem of Properties

The task now before us is to find out whether we can be topic-neutrally aware of our sensations. If it is not possible, then this will certainly be the death blow for this second attempt to solve the problem of properties.

To begin with, it does not seem possible that we can be directly aware of something without being aware of it as having some property. To say that someone is aware of the existence of something presupposes that they are aware of it possessing some property or other. We cannot be aware of something as nothing, i.e., without any properties. If so, then it does not seem possible that our direct awareness of sensations can be an awareness wherein we are unaware of any of the properties of sensations.
Consequently, if we are directly aware of our sensations then we must be aware of them as possessing some phenomenal properties.

There may, however, be grounds for rejecting this conclusion, if it is true that in some cases we are aware of the existence of something without being aware of any of the properties of that thing. For example, we are aware of the existence of the planet Pluto but the vast majority of us are not aware of any of its properties. At the other extreme, we may be aware of the existence of certain microscopic germs but not be aware of the properties these germs possess.

Although examples like these show the falsity of the claim that being aware of something presupposes being aware of some property of that thing, there is, however, an important difference between these cases and the case of our sensations. Our awareness of such things as the planet Pluto or microscopic germs is an awareness which Russell would have called knowledge by description, as opposed to having knowledge by acquaintance, a type of non-inferential knowledge. We are aware of their existence, not because we are acquainted with these things, but because we know that certain propositions which entail that they exist happen to be true; knowledge we may have gained from something we have
read or heard. If on the other hand, instead of having knowledge by description of these objects, we had an acquaintance with these objects, then obviously if we are acquainted with an object we are aware of some property of that object. For how could we be acquainted with something without being acquainted with some property of that thing by which it is made known? Certainly, then, since our awareness of our sensations is direct or non-inferential, we cannot say that the knowledge we have of the existence of our own sensations is knowledge by description. Thus, we cannot apparently avoid allowing that our sensations possess some phenomenal properties, if to be directly aware of something presupposes that we are aware of it as having some property.

Smart might avoid this conclusion if he denied the claim that we are directly aware of our sensations. But I can see no reason to support such a denial; moreover, it is obvious that we are directly aware of our sensations, as Smart has himself conceded.⁴⁶

Although we may not be able to avoid allowing that there are some phenomenal properties of sensations, this would not be a serious problem if these properties are topic-neutral properties, i.e., properties tolerated

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⁴⁶ Smart, *Philosophy and Scientific Realism*, p. 89.
by the materialist's metaphysics. Actually, Smart does not claim to eliminate all the phenomenal properties of sensations, for as we have seen, he admits that sensations may possess properties such as waxing or waning, but because topic-neutral properties are compatible with the materialist metaphysics they do not represent a problem for the materialist. Although Smart does not defend the claim that these properties are topic-neutral properties, I have in section II offered reasons which would support this claim. If these reasons are accepted, then a commitment to phenomenal properties which are topic-neutral properties is not a commitment to phenomenal properties that is pernicious. Thus, by admitting that our sensations possess some phenomenal properties, Smart can apparently avoid our first objection, but only if these are topic-neutral phenomenal properties.

Nevertheless, the admission that sensations possess some phenomenal properties generates more problems than it allows us to avoid. First, I previously argued that to admit that sensations possess topic-neutral properties like waxing or waning entails a commitment to the existence of certain other phenomenal properties. For example, if a sensation of having a pain is waxing, then we are aware of this property only
if we are aware of our pain as having the properties of throbbing more rapidly than previously, or that it is now sharp as opposed to previously being dull. In a sense, properties like waxing or waning are second-order phenomenal properties, for our awareness of these is relative to our awareness of the changes in our sensations, changes which are manifested by certain other phenomenal properties like being dull, sharp, or throbbing more rapidly. Since these are precisely the phenomenal properties of sensations which Smart finds unacceptable, the admission that our sensations possess some topic-neutral properties, therefore, commits him to the existence of the very phenomenal properties he must eliminate.

We might avoid this problem by refusing to countenance the existence of these topic-neutral properties, hence their commitment to other phenomenal properties. However, if we did this, then we are again faced with the problem of being directly aware of absolutely propertyless events. Interestingly enough, the admission that our sensations possess some phenomenal properties like waxing or waning does not in fact allow us to avoid the problem that we cannot be directly aware of our sensations as propertyless events. For the topic-neutral properties like waxing or waning, and the two
or three others which Smart mentions, are properties which relatively few of our sensations possess. In almost all cases these are properties of our sensations of pain, while it is very unlikely that very many of our perceptual sensations wax or wane, for example. Alternatively put, since so few of our sensations possess these topic-neutral properties, we cannot say that it is these properties that we are directly aware of when we are aware of our sensations. Thus there must be ipso facto some other property or set of properties which sensations possess if we are directly aware of our sensations. Certainly, if we are directly aware of our sensations then these will be phenomenal properties, given our understanding of what a phenomenal property is, but whether they are topic-neutral phenomenal properties is something that is far from certain.

Consequently, if in order to avoid the objection that properties like waxing or waning commit us to the existence of the very kind of phenomenal properties which we are attempting to eliminate, we deny that our sensations possess properties such as these, we are, nevertheless, faced with a commitment to the existence of some other phenomenal properties of sensations which Smart does not mention. To see that this is so, we need only note the following. If,
as Smart claims, we are directly aware of our sensations as something going on in us, which is to say we are aware of our sensations as events and not as objects, then of course sensations must have some phenomenal properties which we are directly aware of, that warrants our making this claim. It is unclear what these properties might be. In Smart's defense, however, there is some reason to believe that they may be topic-neutral properties. It is plausible to believe that the properties which distinguish events from objects are properties that are not unique to entities of any ontological status, hence they would be topic-neutral properties. If this were true, then these properties would be well suited for relieving us of the problem that we cannot be directly aware of absolutely property-less events; hence if sensations possessed phenomenal properties like these, then this would be a definite asset. Unfortunately, we cannot say what these properties are, and until they are identified, we cannot begin to prove that they are topic-neutral properties. Thus, Smart is obviously committed to sensations possessing some phenomenal properties which we are directly aware of, but it is far from clear what these phenomenal properties are.

Although Smart cannot apparently avoid being
committed to sensations possessing some phenomenal properties, there is good reason to believe that some of the properties he must accept are the very ones he intends to eliminate. For example, since we can distinguish between seeing an orange and seeing a yellowish-orange after-image, or hearing a loud piercing sound and a soft mellow one, or feeling a sharp throbbing pain and a dull minor one, we might ask ourselves the following question: How are these distinctions made? The obvious answer is that we can make these distinctions because we are aware of certain phenomenal properties which our sensations possess. In particular, we seek medical attention when we have sharp and irritating pains but usually tolerate dull and minor pains; the important difference here is that the former kind of pains possess the phenomenal properties of being sharp and irritating, while the latter possess the phenomenal properties of being dull and minor. Furthermore, we are unconcerned about aches and itches, although sharp throbbing pains will cause us concern; undoubtedly there must be some phenomenal properties which allow us to distinguish these different kinds of sensations, and which accounts for our being able to choose the appropriate type of behavior in response to our different sensations. Since Smart does not deny that we do
accurately make distinctions between different sensations of the same kind and sensations of different kinds, he must explain how we can do this if the only reasonable means for making these distinctions, viz., our being directly aware of different and distinguishing phenomenal properties of sensations, is an awareness he cannot tolerate because it falsifies the claim that we are topic-neutrally aware of our sensations and because it commits us to the existence of phenomenal properties of sensations which he wants to eliminate.

Smart has attempted to provide an answer to this question, but it hardly seems satisfactory. For example, he says of our ability to distinguish aches from other sensations that we do so without being directly aware of any phenomenal property such as achiness; rather

To say that a process is an ache is simply to classify it with other processes that are felt to be like it, and this class of processes constitutes the aches. 47

But felt to be like it in what respect? Smart is not unaware of this question; for he quite succinctly summarizes the objection as follows:

It will be said that anything is like anything else in some respect or other...And if you say

47 Smart, "Materialism", p. 655; my italics.
139.

that they are likeness or unlikenesses in virtue of properties that are or are not held in common, will these properties not have to be properties (e.g., achiness) that are beyond the conceptual resources of a physicalist theory? 48

We have encountered this objection before, although in a somewhat different context. In the preceding section we noted that Smart's topic-neutral translation thesis can be successful only if we can report our sensations as like (or unlike) without being directly aware of the respects in which these likenesses (or unlikenesses) consist. There I objected that this condition cannot be satisfied because it is false that we can report likenesses without being directly aware of some property which our sensations possess or fail to possess which is the basis for this report. Nevertheless, it was also pointed out that Smart believes that this objection is "...less persuasive when we think out, in terms of bits of cybernetic hardware, what it is to recognize likenesses and unlikenesses." 49

Although we earlier postponed critically evaluating this argument, we are now in a position to do this.

Before we do this, however, it should be noted that the importance of this argument does not simply

48 Ibid.
49 Ibid.
reside in supporting the claim that we can distinguish our sensations as being like others we have had without being directly aware of any property wherein this likeness consists, but indirectly it is also a defense of topic-neutral awareness. For if we can distinguish our sensations with respect to their similarities with other sensations without being directly aware of the properties which ground these similarities, then it would seem no less reasonable to believe that we can be directly aware of our sensations without being directly aware of their properties, such that we can say "this is an ache". That is, we could report a sensation as an ache because it is like other aches but we would do this without reference to any distinguishing property which this sensation might have.

Briefly, Smart's argument consists in drawing an analogy. He claims that it would be easier to construct a machine that would report, perhaps on a punched tape, similarities of objects, than it would be to construct a machine which would report wherein the similarities consisted. Analogously, Smart believes that if we think cybernetically about the human nervous system, then he sees no reason why we should not be able to report likenesses without being consciously aware of the respects in which our sensations are alike.
Although Smart does not advance the following argument, there is another argument that is analogous to Smart's machine example. It is well known that male and female baby chicks are indistinguishable. There are, however, some persons who are able to distinguish male from female baby chicks without being able to say how they can make these discriminations. If they could say how they make these discriminations then they could tell us, so we could do the same. But because they cannot say in what respect they make these discriminations, being a chicken-sexer is not something someone can be trained to be. Thus, chicken-sexers can make reports of similarities even though they cannot say in what respect these similarities consist.

Do either of these two arguments, taken separately or together, refute the objection raised above and in turn support Smart's thesis? Let us consider the lattermost first. The fact that chicken-sexers cannot say what it is that female baby chicks have in common that male chicks fail to have, does not prove that the chicken-sexers are not aware of some property or other which is the basis for their discriminations. Certainly, there are a number of cases wherein persons claim that two things are alike but are unable to say in what respect they are alike; but not being able to say what
the likenesses are, does not prove that they are not aware of some property wherein these things are alike. In fact we would say that if chicken-sexers and others truly say that things are alike without being able to say in what respect this likeness consists, then ipso facto we can say that they must be aware of some respect in which things are alike. Consequently, this kind of argument does not establish the claim that we can make reports of likenesses without being aware of some respect in which things are alike.

Turning now to Smart's argument; in order to show that his argument can be similarly criticized, I must introduce a thesis which Smart believes follows from the reduction and identification of sensations with brain processes. He claims that if his version of reductive materialism is correct "then it is in principle possible that an appropriately constructed robot might be conscious, i.e., have sensations." In other words,

There would seem to be no reason why a sufficiently complex electronic gadget should not be conscious or have experiences. If consciousness is a brain process, then presumably it could also be an electronic process.

50 Smart, Philosophy and Scientific Realism, p. 105.
51 Ibid., p. 106.
Let us assume that Smart's scanning machine for recognizing likenesses among variously shaped discs is sufficiently complex so that we could say that it is conscious. Clearly, then, when the machine reports "like" then if it is conscious it is aware of something. But is it topic-neutrally aware?

Smart believes that his machine example demonstrates that it is possible to report likenesses, for example, without having any awareness of some common feature wherein the things reported as "like" are alike. However, the fact that the machine does not state wherein the similarities consist, and perhaps may be unable to state any respect in which things are similar, only shows that as far as the reporting function of the machine goes, it is not one of its functions to make such detailed reports. It does not, however, show that it is unaware of any common feature when it makes the report. In other words, although the machine makes reports of likenesses, it is not conclusively shown that it is topic-neutrally aware of what it reports.

Thus, Smart has failed to show that it is possible to make reports in terms of likenesses without being aware of any respect wherein the things reported as being like are similar.
From the perspective of one who might design such a scanning machine, I think we can say that just the opposite is shown by Smart's example. In order for the machine to report "like", it must have the proper stimulus upon which to base such a report. The proper stimulus, as determined by the designer, would be some one property or set of properties which discreet things have in common which the machine could detect, and on the basis of this information make its report. It cannot make its report in a vacuum. Unless it has the information that discreet things have some feature in common, then even though no mention is made by the report of what this commonness might be, it is still only on the basis of information of this caliber that a report such as "like" could possibly be made.

Consequently, Smart has not only not shown that it is possible to make sensation reports in terms of likenesses of stimulus conditions, without being aware of any respect in which these likenesses may consist, but there is still good reason to believe that there is no possibility that sensation reports could be made in those terms unless we are directly aware of some property which our sensations have in common in virtue of which we make these reports. I suggest that there are no other properties that we are directly aware of
than those particular phenomenal properties Smart is so anxious to eliminate. Moreover, if we cannot make our sensation reports in the manner that is suggested by Smart's topic-neutral translations without being directly aware of some of the properties of sensations, then ironically instead of these "translations" leading to elimination of the phenomenal properties of sensations, they demonstrate that we cannot avoid admitting that sensations possess phenomenal properties.

Furthermore, the failure of Smart's analogical argument to refute the objections raised above shows that there is no good reason to believe that we are topic-neutrally aware of our sensations, which implies that the arguments given at the end of the last section, which purport to show that there are no phenomenal properties of sensations, should be rejected. In short, because we cannot avoid claiming that sensations possess phenomenal properties, we must reject the claim made by Smart that his topic-neutral translation thesis will allow him to eliminate the phenomenal properties of sensations. The conclusion we have reached, consequently, is that Smart cannot solve the problem of properties by defending the topic-neutral translation thesis. However, before we can further conclude that the failure of the topic-neutral translation
thesis to solve this problem warrants our rejecting Smart’s materialist metaphysics, there is one final argument which Smart defends that we must consider, before any final conclusion can be drawn. To this we now turn.

VI Solving the Problem of Properties – The Final Attempt

Smart maintains that in order to make a report about our sensations our "...sensation talk must be learned by reference to some environmental stimulus situation or another." To put it more precisely,

Our talk about immediate experiences is derivative from our language of physical objects. Here he means by 'physical object' what we have defined as material object, i.e., an entity that has properties only if they are either physical properties or topic-neutral properties. If material objects possess properties only if they are physical or topic-neutral properties, then the properties we attribute to these objects when we say something about them are properties

52 Smart, "Brain Processes and Incorrigibility", The Australasian Journal of Philosophy, (1962), p. 69; and for the same quote see also, Philosophy and Scientific Realism, p. 96.
that can only be physical or topic-neutral properties. In other words, our material object language contains predicate expressions which refer only to physical or topic-neutral properties. If the language we use to talk about our sensations is derived from our material object language, then when we talk about our sensations we can only use predicate expressions which refer to physical or topic-neutral properties. Thus, the phenomenal properties we attribute to our sensations when we make sensation reports are not properties that present a problem for the materialist because these properties are either physical or topic-neutral properties, in other words, properties compatible with the materialist metaphysics. Thus Smart concludes that when we describe our experiences of having sensations,

...this experience is described indirectly in material object language, not in phenomenal language, for there is no such thing. We describe the experience by saying, in effect, that it is like the experience we have when, for example, we really see a yellowy-orange patch on the wall. Trees and wallpaper can be green, but not the experience of seeing or imagining a tree or wallpaper. (Or if they are described as green or yellow this can only be in a derived sense). 54

Consequently, the solution to the problem of properties

which this argument presents is a solution intended to show that the phenomenal properties of sensations are identical with either physical or topic-neutral properties; in this way we can avoid the problems associated with trying to solve the problem of properties by eliminating the phenomenal properties of sensations. Will this final attempt to solve the problem of properties succeed?

I think not; since the only way Smart can defend the claim that our sensation reports must be learned by reference to some environmental stimulus situation or another is if we are topic-neutrally aware of our sensations, and we have already found reasons to reject this thesis. This objection might be avoided, however, if we interpret Smart not as holding a thesis about how we must learn the language we use to describe our sensations, but more simply as holding a thesis about the nature of this phenomenal language, viz., that it is derived, in some sense, from the material object language. Unfortunately, Smart does not explain in what sense the phenomenal language is derived from the material object language. Moreover, the only thing that he has said in defense of such a view is that to deny it amounts to committing what U.T. Place has
called the "phenomenological fallacy". That is, it is the mistaken assumption that

...because our ability to describe things in our environment depends on our consciousness of them, our descriptions of things are primarily descriptions of our conscious experience and only secondarily, indirectly, and inferentially descriptions of the objects and events in our environments... In fact, the reverse is the case. 56

But it is not clear to me that to deny the thesis that our phenomenal language is derived from the material object language, we must assume that external objects are indirectly described by reference to our descriptions of our sensations. In other words, to deny the Smart-Place Thesis does not commit one to affirming that the material object language is derived from the phenomenal language. There is another alternative, viz., that the way we describe our sensations is logically independent of the way we describe material objects, hence neither language is derived from the other. Moreover, even if we do make this assumption, it is not clear why it is mistaken; by calling it the phenomenological fallacy, the suggestion is that we have made some type of logical error. But


I cannot imagine what this logical error could be. J.R. Smythies has persuasively argued that neither of these competing views is logically any better or worse off than the other; they are both equally possible accounts, hence it is misleading to say that one commits a fallacy if they deny The Smart-Place Thesis. More importantly, neither Smart nor Place has provided any arguments in defense of the view that the phenomenal language is derived from the material object language, except to dogmatically assert that the converse of this thesis is false. Until we have some supportive arguments one way or another, the question as to whether the phenomenal language is or is not derived from the material object language certainly must remain an open question. Consequently, without some defense of the crucial premise that the phenomenal language is derived from the material object language, there is no reason to accept this final attempt to solve the problem of properties.

Nonetheless, even if we were to grant Smart this crucial premise, it will not yield the conclusion that phenomenal properties are either physical or topic-neutral properties. To say that we describe our sensations

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in the same terms that we describe material objects is emphatically not to say that the predicate expressions we use when we describe our sensations mean the same thing as when we describe material objects or refer to the same properties as they did before. In short, we may, for example, describe our after-images as yellowish-orange but we do not mean the same thing by describing an after-image in this way as we do when we describe an orange by this expression. This is clear from the fact that if sensations are brain processes then we cannot mean the same thing by the predicate expression 'yellowish-orange' as we do when we say that an orange is yellowish-orange; for if brain processes are any color they are gray not yellowish-orange. Simply put, because the properties we ascribe to each of these things must be different, then obviously the sense of these terms must be different. Thus, even if our phenomenal language is derived from the material object language it does not follow that the predicate expressions we use to describe our sensations refer only to physical or topic-neutral properties. Some other premise which shows that the terms in our phenomenal language refer to properties like these must be defended, and it is far from clear how that would be accomplished.
Interestingly, if the phenomenal language is derived from the material object language, then it seems incongruous to claim that the phenomenal language, i.e., our sensation reports are topic-neutral in either of the first two senses of the term which were previously distinguished.

Consequently, if the view that our talk about sensations is derived from our talk about material objects does not entail that the predicate expressions employed in our sensation talk refer to physical or topic-neutral properties, then without this entailment Smart cannot claim that the phenomenal properties of sensations are either physical or topic-neutral properties. Since there is still good reason to believe that the phenomenal properties of sensations are non-materialistic properties, Smart has again failed to solve the problem of properties.

VII Summary and Conclusions

From the beginning it was noted that part of the difficulty in evaluating Smart's putative solution of the problem of properties was that Smart said very little concerning how his topic-neutral translation thesis would allow him to deny the existence of non-materialistic properties of sensations. In particular,
the very essential notion of 'topic-neutrality' presented the most difficult challenge because of its obscurity and Smart's overextended use of it to solve problems besides the problem of properties. It was hoped that if we could arrive at some clearly definable sense of 'topic-neutrality' that we would then be in a position to fully state Smart's putative solution to the problem of properties. It was only after we had accomplished these tasks that we could critically assess the success of Smart's proposed solution.

After explaining the nature of the translations which Smart believes can be given of our sensation reports, we examined some specimen translations with an eye on explaining what it means to say of them that they are topic-neutral. Of the two different senses in which these translations are topic-neutral, only one seemed relevant to the problem of properties, viz., these sentences are topic-neutral in the sense that they are sentences using no expressions which mention phenomenal properties but only expressions which describe certain complex relational properties that are topic-neutral. With this sense of topic-neutral, we were able to note the striking similarity of the analytical behaviorists attempt to analyze our psychological sentences by offering behavioral translations to
Smart's offering of topic-neutral translations of our sensation reports. By pointing out this similarity it was hoped that in the same way that these behavioral translations are interpreted as leading to the elimination of mental entities, we could also construct an analogous argument that would lead to the elimination of the phenomenal properties of sensations. Although the analogy appeared remarkably successful, one fatal flaw was soon discovered; the crucial premise of this argument requiring the relationship between the sensation report and the topic-neutral translations to be one of synonymy was shown to be false. Although some effort was made to elude this problem, we soon realized that the appeal to the analogy with the analytical behaviorists eliminative argument was doomed from the start because Smart claimed never to have intended his "translations" to be translations in the strict sense of being synonymous with sensation reports.

With the failure of what appeared to be plausible way of construing Smart's claim that his topic-neutral translation thesis would allow him to deny the existence of non-materialistic properties of sensations, we were left at the end of section III with two very important questions: a) What reason was there to believe that our sensation reports are reports in effect that
something is going on in us like what is going on in us when certain characteristic stimulus or response conditions are satisfied?; and b) What then is Smart's argument for the solution of the problem of properties?

In an attempt to provide answers to these two questions, I suggested that if we interpreted 'topic-neutrality' as an epistemic term which describes both our propositional and non-propositional knowledge of sensations then we have captured the sense of the term that would lead to answers for these questions. In order to defend this suggestion, we noted that the only way to satisfy those conditions Smart deemed necessary for the success of his translation thesis was if he defended the view that our direct awareness of our sensations was not an awareness of any of the properties of sensations. Considerable textual evidence was adduced to show that Smart was indeed committed to this view. Although we immediately raised an objection to our being directly aware of our sensations in this manner, Smart had an argument intended to rebut this criticism. Setting aside an evaluation of this argument at that point, we were instead in a position to provide an answer to the first question raised above. If our direct awareness of our sensations is an awareness simply of something going on in us
without being directly aware of the properties of that something, i.e., if we are topic-neutrally aware of our sensations, then when we report our sensations we cannot claim to know more than what is given by Smart's so-called "translations", because we are not directly aware of anything more than that something is going on like what goes on in typical causal situations. In other words, Smart's topic-neutral translations should not have been understood as indicating the meaning of our sensation reports, but rather they should be understood as indicating the extent of our propositional knowledge of our sensations. Thus, to say that our sensation reports are topic-neutral is just to say that the subject of these reports are non-propositionally known in a topic-neutral way.

With this epistemic sense of 'topic-neutrality' we presented two different, although not unrelated, arguments which have as their conclusions the elimination of the phenomenal properties of sensations. Simply stated, if our direct awareness of our sensations is not an awareness of the properties of sensations then there is no reason to believe that sensations possess any phenomenal properties. Consequently, because the problem of properties can be generated only if it is known that sensations possess phenomenal properties,
the defense of topic-neutral awareness dissolves the problem of properties.

We had, by this time, successfully accomplished the first two major tasks we had set for ourselves, i.e., explaining the proper sense of 'topic-neutrality', and showing how this allows Smart to eliminate the phenomenal properties of sensations. All that remained was a critical assessment of the success of this proposed solution of the problem of properties. Unfortunately, we quickly found that Smart could not avoid being committed to sensations possessing some phenomenal properties. Nor did Smart's analogical argument establish that we could distinguish our sensations as to their kinds, or make reports in terms of likenesses, without being directly aware of the properties in which these differences and likenesses consisted. Ironically, it seemed that this argument showed that we must be directly aware of some properties or another in order to make these distinctions, or make reports of likenesses. In short, it appeared evident that there was no possibility of Smart avoiding being committed to the existence of the phenomenal properties of sensations. We concluded that there was, therefore, no reason to accept the thesis that we are topic-neutrally aware of our sensations, and because there was no more plausible
way to construe Smart's topic-neutral translation thesis, we rejected the claim that Smart makes that he could solve the problem of properties by defending the topic-neutral translation thesis.

One final attempt to solve the problem of properties was quickly rejected. The crucial premise of this argument was the claim that the language we used to describe our sensations is derived, in some sense, from the language we use to describe material objects. Since the expressions of the latter language refer only to physical or topic-neutral properties, then if our phenomenal language is derivative from it, then it was argued that the predicate expressions we use in the phenomenal language also referred to properties like these. Although no defense was offered for this claim, we found that even it is were true, this would not prove that the phenomenal properties of sensations are either physical or topic-neutral properties.

In conclusion, we have found reasons to reject every argument put forward by Smart in defense of his materialist metaphysics and in response to the problem of properties. Unless there is some other way to handle the phenomenal properties of sensations, it would appear that there is ample reason, therefore, to reject the materialist's metaphysical point of
view. Happily enough, there has recently been another attempt to defend materialism against the problem presented by the phenomenal properties of sensations, viz., James Cornman's adverbial materialism; consequently, we must examine this new proposal for its merits and this will constitute Chapter 4.
CHAPTER FOUR

Adverbial Materialism

I Introduction to Adverbial Materialism

We have thus far been frustrated in our attempts to defend materialism against the problem of properties; for if the phenomenal properties of sensations are neither physical nor topic-neutral properties, then even though we admit that sensations are identical with brain processes, not only are sensations not reducible to brain processes, but there are existing entities which possess properties no material entity can possess and this is sufficient to refute materialism.

Recently, however, James Cornman has advanced a version of materialism which he believes demonstrates that sensations are reducible to, hence are nothing but events possessing properties only if they are either physical or topic-neutral properties. He calls this version of materialism "adverbial materialism", because sensations are interpreted as consisting of "...nonrelational, objectless events and states of persons which are modified abverbially."¹ If, by

¹ James W. Cornman, Materialism and Sensations, p. 15.
defending this version of materialism Cornman can indeed show that sensations are nothing but events possessing either physical or topic-neutral properties, then the phenomenal properties of sensations cannot present a problem which refutes materialism. It is the aim of this chapter to determine whether or not adverbial materialism is a version of materialism which can successfully avoid the problem of properties.

Before we proceed to this task, however, we must first explain adverbial materialism more fully. Prior to providing this explanation, it is critical that we recall an important distinction which we discussed in the previous chapter, viz., that the term 'sensation' can be used to refer to two quite different kinds of entities. We sometimes use the term 'sensation' to refer to entities which are objects, like pains or after-images. Instead of using the ambiguous term 'sensation', we might in such contexts use the terms 'appearance', 'sense-data', or as Cornman suggests 'sensa', in order to make it clear that what we are referring to is an object. On the other hand, the term 'sensation' is also used to refer to events, or what Smart called 'experiences of having a sensation', where it is clear that what we are referring to here are not objects like pains or after-images but events
like having a pain or having an after-image. Cornman suggests that to avoid confusion we could use the term 'sensing', when we are referring to sensations as events, but not as objects.

With this distinction in mind, we can explain adverbial materialism. According to Cornman, adverbial materialism is the thesis which "...requires eliminating sensa and reducing objectless sensing events to brain events." In order to satisfy these two requirements of adverbial materialism, the following state the conditions that Cornman believes must be met.

1. There are no phenomenal objects of sensings, i.e., there are no sensa.
2. Each objectless event of a person sensing in a particular way is identical with some material event.
3. Each extentional property of each sensing event either is physical or topic-neutral.
4. Each instance of a person's sensing in some way is nothing but an instance of some physical or topic-neutral property.

If we are justified in concluding that all four conditions are met, then we can accept adverbial

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2 Ibid., p. 185; insofar as Smart also denies the existence of sensa, and reduces sensings to brain processes, we could also construe Smart as holding adverbial materialism; a construal Cornman agrees with, cf. p. 187.
3 Ibid., p. 185; since Cornman means the same by 'physical event' and 'physical-neutral property' as we mean by 'material event' and 'topic-neutral property', respectively, I have taken the liberty to substitute the latter for the former in the above set of conditions.
materialism.

In particular, if we can justify the elimination of sensa, i.e., justify (1) then Cornman believes that we can avoid

...the problem raised by the phenomenal properties which sensa seem to have but which are neither eliminable nor reducible to materialistic properties of brain entities. 4

However, although eliminating sensa will allow us to eliminate the phenomenal properties of sensa, hence avoid any problem that these properties might raise, this is not sufficient to solve the problem of properties nor are these the properties that have formed the core of the problem which has so far frustrated our acceptance of materialism. Both of these claims will be evident if we recall that Smart also holds the metaphysical view that there are no sensa, but his materialist theory of mind is still faced with and cannot avoid a problem with properties, viz., the phenomenal properties of sensings or experiences of having sensations. Hence, because the elimination of sensa is not exactly appropriate to the solution of the problem which we have consistently considered, it would not serve our purposes to critically evaluate Cornman's

4 Ibid., p. 186.
justification for the elimination of sensa.

There are, however, two points relevant to the justification of (1) which should be noted. First, although Cornman shows that neither perceptual facts nor the unification of science requires the existence of sensa, the claim that there are no sensa can be at best provisional, because

...it may be that the scientific theories that explain such facts will in some way require the theoretical postulation of sensa...Furthermore, it might be argued that the most reasonable philosophical theory of perception and the external world requires sensa rather than objectless sensings. 5

Consequently, if some reasonable scientific or philosophic theory of perception required sensa, then this would be some evidence against adverbial materialism. However, because no scientific theory of perception is yet developed enough to provide us with reliable clues as to whether sensa are required to explain perceptual facts and because none of the strongest arguments for the existence of sensa succeed, it is at least initially plausible that neither scientific nor philosophic theories of perception will require sensa. Thus, Cornman concludes that, based on the best available evidence, it is reasonable, although still provisional,

5 Ibid., p. 18.
to hold that there are no sensa.

Secondly, because it is reasonable to believe that there are no sensa, there is good reason for the materialist to accept the adverbial interpretation of sensations, which was first suggested by Chisholm.\(^6\) Simply stated, it is the view that sensations are to be interpreted as objectless sensings which are modified adverbially. According to this view, when we make a sensation report like

(1) I feel a throbbing ache.

we are not saying that there are two individuals, a person and an ache, possessing a certain relationship. Rather, on this view, instead of there being a sensation which is an ache with the phenomenal property of throbbing, there is only the person in a non-relational state of aching throbbingly. In other words, the sensation reported by (1) is actually the event of a person sensing in a particular way. Because sensation reports like (1) misleadingly suggest that what we are reporting is an object which is an ache, it would perhaps be better to restate (1) as

\(^6\) Cf. Roderick M. Chisholm, *Perceiving: A Philosophical Study*, pp. 115-141; and also his *Theory of Knowledge*, (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1968), pp. 91-102; strictly speaking, Chisholm first proposed his adverbial terminology for appearances; but since appearances are just one kind of sensation, this terminology is equally applicable for all sensations.
(2) I am aching throbbingly. 

where it is clear that what we are reporting is an objectless event which is modified adverbially. As we shall momentarily see, the acceptance of this adverbial interpretation of our sensations is critical to Cornman's defense of adverbial materialism.

The adoption of this adverbial approach is, however, significant in another less crucial respect. Because sentences like (1) are generally misleading, we are often led to ask puzzling philosophical questions, such as whether yellow after-images have backsides. If, however, we want to report our sensations

...in that way which is least puzzling philosophically, then this strange and artificial terminology would seem to be the least misleading. The alternative terminologies entangle us in philosophical questions we can avoid if we talk in terms of sensings. 7

Consequently, if it is true that by adopting Chisholm's adverbial interpretation of our sensations we can avoid bizarre philosophical questions, then not only does this provide positive reinforcement for our adoption of this adverbial approach, it further substantiates the corresponding metaphysical view that there are no sensa. In short, based upon the

7 Chisholm, Perceiving: A Philosophical Study, p. 124.
fact that there are good reasons to suppose that there are no sensa together with Chisholm's point that the adverbial interpretation of sensations dissolves puzzling philosophical problems, Cornman concludes that "...it is reasonable to reject sensa and accept the adverbial theory of sensory experience as required by condition (1)."

Because we have already granted the materialist the truth of the identity theory, we have granted that our sensings are identical with some material event, i.e., with some process in the brain. In that case, we are not only committed to accepting condition (1), but because the identity theory has been granted we are also committed to accepting condition (2). Thus, the first two of the four jointly sufficient conditions for adverbial materialism have been satisfied, at least by assumption.

What about the other two conditions? If Cornman can show that condition (3) is satisfied, then, he claims, the satisfaction of these three conditions entail that each sensing event is nothing but some physical or material event. In other words, the materialist

8 Cornman, Materialism and Sensations, p. 187.
...can achieve the latter if he solves the problem of properties that sensing events might have that are neither eliminable nor reducible to materialistic properties of brain events. He would solve it if he were to justify that each sensing event is nothing but an event which has an extensional property only if the property is either physical or physical (topic)-neutral. 9

In short, if Cornman can accomplish these tasks, then he will have solved the problem of properties. In section III we shall examine his attempts to justify condition (3). As for condition (4), we shall examine its justification only if condition (3) is satisfied; for if condition (3) is not satisfied then this refutes adverbial materialism.

Obviously, the crucial question facing the claim that sensings are nothing but processes in the brain is whether there are any properties of sensing events which thwart this reductive claim. In response to this question, the procedure Cornman follows is to examine those extensional properties of sensing events that appear most likely to be neither physical nor topic-neutral properties; if none of these properties actually thwart the reduction, then he inductively concludes that the reduction of sensing events is justified. In other words, instead of showing that

9 Ibid., p. 186; my addition in parentheses; instead of extensional properties I think Cornman means to say extensional properties. I shall discuss this distinction in the next section.
each extentional property of each sensing event is either physical or topic-neutral, Cornman proceeds by examining those properties of sensing events which appear to falsify condition (3) and claims that because he can find none that do falsify this condition, then we can inductively conclude that we are justified in accepting condition (3). If so, then this together with conditions (1) and (2) are sufficient to support the claim that sensings are reduced to, hence are nothing but processes in the brain. In order to examine this procedure we must first explain the notion of 'extentional property'.

II Problems with Extentional Properties

From what Cornman has said about extentional properties, we can define 'extentional property' in the following way:

\[ \emptyset \text{ is an extentional property } \iff \emptyset \text{ is a property which is neither intensional nor intentional.} \]

He also defines 'intensional property' and 'intentional property' as follows:

A property, \( P \), is intensional just in case some instantiation of \( P \) using a singular

\[ \text{Cf. Ibid., p. 46.} \]
term for 'x' is intensional, and it is intentional, just in case some instantiation of 'P' is intentional. 11

There are two interrelated points I would like to note here, one is in connection with these definitions and the other has to do with the procedure for justifying the reduction by focusing only on extentional properties.

First, Comman has claimed to have shown in a previously published paper12 that "the class of intentional sentences and the class of intensional sentences are not co-extensive."13 His support for this claim is simply that some intentional sentences are extensional sentences. In conjunction with this claim, he also claims that "All intentional properties are intensional,"14 although the converse of this claim is false. If, however, we accept these claims, then given the definitions stated above there is a serious problem with the definition of extentional property which affects the justification of the reduction of sensings. However, in order to clarify this problem, we must first supply one additional definition, viz., of 'extensional property'. Because

11 Ibid., p. 45.
13 Ibid., p. 49.
14 Comman, Materialism and Sensations, p. 46.
extensional properties are just nonintensional properties and conversely we can say that a property $\emptyset$ is extensional just in case some instantiation of '\(\emptyset x\)' using a singular term for 'x' is nonintensional.

Now, if the class of intentional sentences and the class of intensional sentences are not co-extensive because some intentional sentences are extensional sentences, then this is the same as saying that the class of intentional sentences and the class of non-intensional sentences are not co-extensive, then given the definitions stated above of 'intentional property' and 'intensional property', it is false that all intentional properties are intensional properties. That is, if the necessary and sufficient condition for a property $\emptyset$ to be intensional is that some instantiation of the sentence '\(\emptyset x\)' be intensional, then if '\(\emptyset x\)' is nonintensional, $\emptyset$ cannot be an intensional property. Thus, although $\emptyset$ is an intentional property because '\(\emptyset x\)' is an intentional sentence, this argument shows that not all intentional properties are intensional properties.

We can restate this argument in another way. If some intentional sentences are extensional sentences, then by the definition given above, some intentional sentences that are extensional sentences express
intentional properties that are extensional properties. Consequently, if some intentional properties are extensional properties, then it is false that all intentional properties are intensional properties. We could avoid this conclusion either if we changed the definitions stated above or rejected the claim that the class of intentional sentences and the class of intensional sentences are not co-extensive. There is no reason, however, to believe that the former is an option at all open to us, hence is there any reason to reject the latter alternative? I think not. Cornman's defense of this claim appears to be irrefutable. He argues\(^{15}\) that the sentence

(3) John is thinking of Alaska.

is an intentional sentence, by Chisholm's criteria of intentionality.\(^{16}\) However, it is also an extensional sentence because it is a sentence in which an expression can be replaced by an extensionally equivalent one under any circumstances, salva veritatae. The only expression which may appear to violate this condition is the expression 'Alaska'; Cornman says, however,

But when we say that John is thinking of

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\(^{15}\) Cornman, "Intentionality and Intensionality", loc. cit., p. 49.

Alaska we are claiming that he is thinking of a particular place and what name or description we use to express this claim is limited only by the condition that it indeed apply to the place. 17

I can see no good reason to dispute this claim; thus it is reasonable to conclude that he has indeed established the claim that because some intentional sentences are extensional sentences, then the class of intentional sentences and the class of intensional sentences are not co-extensive. Consequently, we cannot avoid the conclusion that it is false that all intentional properties are intensional properties.

The fact that we cannot avoid this conclusion seriously affects Cornman's attempt to justify the reduction of sensing events to brain processes. For, if not all intentional properties are intensional properties, hence some are extensional properties, then by focusing only on the extentional properties of sensings we cannot but ignore some extensional properties which will of course be relevant both to the justification of the claimed identity and to the reduction of sensings to brain processes. In short, the class of extentional properties does not include all extensional properties. Thus to show that each sensing event has an extentional property only if it is either a physical or topic-neutral

17 Cornman, "Intentionality and Intensionality", loc. cit., p. 49.
property, will not be sufficient to allow us to conclude that sensings are nothing but brain processes; for we have not shown that all the extensional properties of sensings are either physical or topic-neutral properties and certainly we must show this if we are going to claim that sensing events are nothing but brain processes. In that case, it would suit our purposes better if we returned to considering extensional properties of sensings instead of the more limited class of extensional properties. In this way, we can avoid the problems generated by considering only extensional properties. Thus, I shall reinterpret condition (3) as requiring that each extensional property of each sensing event is either physical or topic-neutral.

III Solving the Problem of Properties by Reducing Sensings

Are there any extensional properties of sensing events which are neither physical nor topic-neutral which prevent us from reducing sensing events to brain processes? If the answer to this question is a negative one, as Cornman believes he can establish, then by defending adverbial materialism the materialist can avoid the problem of properties. In this section I want to critically examine Cornman's arguments that
purport to show that all of the apparently troublesome non-materialistic properties of sensing events are actually either physical or topic-neutral properties.

Cornman begins by saying that

The kinds of properties that initially raise the problem for the claim that sensations are nothing but brain entities are phenomenal properties of sensa, such as being yellow, round, homogeneous, fading, loud, bitter, rough, intense, and throbbing. But, as we have seen, on the adverbial sensing theory there are no objects to have such properties. 18

He then inquires whether there are any other troublesome properties that would inhibit the reduction of sensing events to brain processes, the clear implication being that none of these properties present the adverbial materialist with a problem.

To see more clearly how the adverbial materialist will, according to Cornman, handle properties like these, let us consider an example he presents of a particular sensing event, viz., the event of John having an intense pain, or simply H. We can, using the adverbial sensing terminology he has introduced, translate this into the claim that John hurts in an intense way, or more simply as John is hurting intensely. Cornman readily admits that the properties of being

18 Cornman, Materialism and Sensations, pp. 268-269.
in an intense way or simply that of being intensely hurting are neither physical nor topic-neutral properties. Hence, if these are properties of \( H \) then this would refute the reduction of sensings to entities that possess properties only if they are physical or topic-neutral properties and this, obviously, is sufficient to refute adverbial materialism. In response to this objection, Cornman makes the following two replies.

First, just as modifying John's hurting with 'intensely' merely describes the particular event more precisely, so does 'in an intense way'. John hurting in an intense way is no more than John hurting intensely, and \( H \) does not have the property of being in an intense way. Second, it is not the event of John hurting that would have such a property; if anything, it is the hurting or the pain which John has that has the property of being intense. But since on the adverbial interpretation there are no hurtings or pains which are individuals or events or states to which people have relationships when they hurt, there is nothing to have the property. Again, 'in an intense way' like 'intensely,' does not function to ascribe properties to the event or to some individual involved in the event. They function to specify more precisely a particular event, such as the one that happens to John at 10:00. 19

Thus, by defending adverbial materialism, Cornman believes that the materialist can avoid the problem

19 Ibid., p. 271; italics added.
presented by these phenomenal properties, because the entities which possess such properties do not exist. In short, these properties are eliminated by eliminating those entities which possess them.

Does this putative solution to the problem of properties fare any better than Smart's? I think not. Cornman states, first, that the property of being in an intense way is not a property of the sensing event but a property of the object which is a hurting or a pain; secondly, the predicate expression 'in an intense way' does not function to ascribe properties to the sensing event or to some individual named John, who is involved in the event. To begin with, let us examine the first point. It is clear that in the sentence 'John is hurting in an intense way', Cornman would admit that the predicate expression 'in an intense way' does purport to ascribe the property of being in an intense way to some entity, but he suggests that it is a sensa which is a hurting or a pain that would have this property. Fortunately, since there are no such objects as these, the property of being in an intense way which these objects would possess, is eliminated, because these objects are eliminated. Certainly, he would not say that it is the sensa that has this property unless the predicate expression 'in an intense way' does in fact
ascrbe the property of being in an intense way to something. Moreover, it is only if sensa possess these properties that we can eliminate these properties and, consequently, relieve ourselves of the problem which these properties present for the materialist metaphysics.

If the sentence 'John is hurting in an intense way' is true and the predicate expression 'in an intense way' does ascribe a property to some entity, then if sensa do not exist we obviously cannot be ascribing the property of being in an intense way to sensa. And yet if the materialist cannot eliminate this troublesome property, his materialism is still faced with a serious problem.

I submit that if what we are referring to when we say that John is hurting in an intense way is not some non-existent sensa, but a sensing event of John hurting in an intense way, or simply the event of John hurting intensely, then it is this sensing event which has the property of being in an intense way and not any non-existent sensa. In order to further substantiate this let us more carefully examine the second of Cornman's claims mentioned above.

He claims that the predicate expression 'in an intense way' does not function to ascribe the property
of being in an intense way to the sensing event, rather it functions to specify this event more precisely or it merely describes the event more precisely. But what does it mean to say that these predicate expressions specify or describe more precisely a particular event? The only plausible answer is that we are ascribing a property to these events, but this is precisely what Cornman is denying. But then what else does he mean? Unfortunately, Cornman has said nothing which could give us a clue as to what else he believes that we are doing here nor can I conceive of any plausible interpretation which might help us understand him. Again, I submit that we cannot avoid claiming that the predicate expression 'in an intense way' does in fact function to ascribe a property to something, viz., the sensing event of John hurting in an intense way.

Cornman's supposition that these troublesome non-materialistic properties are properties of sensa but not properties of sensing events, rests upon a misinterpretation of Chisholm's adverbial sensing terminology. By interpreting sentences like 'John is having an intense pain' or 'He is having a white appearance' adverbially, as in 'John hurts intensely' or 'He is appeared to whitely', Cornman is correct
in saying that this adverbial interpretation makes it clear that we are not committed to the existence of some object like sensa. But he is mistaken in saying that we do not attribute these properties to sensing events.

In support of both of these claims, let us see what Chisholm says about his adverbial sensing theory.

When we say "The appearance of the thing is white", our language suggests that we are attributing a certain property to a substance. But we could just as well have said "The thing appears white," using the verb "appears" instead of the substantive "appearance." And in "The thing appears white," as already noted, the word "white" functions as an adverb. Ordinarily, the point of an adverb is not to attribute a property to a substance, but to attribute a property to another property ("He is exceptionally tall") or to attribute a property to an event, process or state of affairs ("He is walking slowly").

We might say, then, that the word "white" in what we have called its sensible use, tells us something about that state of affairs which is an object's appearing; it tells us something about the way in which the object appears, just as "slowly" may tell us something about the way in which an object moves. 20

It is clear from this passage that Chisholm is maintaining that the adverbial predicate expression

20 Chisholm, Theory of Knowledge, pp. 95-96, italics added, except for on 'way'; Chisholm notes that predicate expressions like 'white' are often ambiguous. Sometimes they are used to refer to properties of ways of appearing and at other times they refer to properties or dispositions of physical objects. The former use is what he calls their sensible use and the latter is a dispositional use. Cf. p. 95.
does not function to attribute or ascribe a property to some substance or object like an appearance or sensa, but it does function to attribute or ascribe a property to an event such as a sensing. It is also clear that both of these claims are in opposition to Cornman's use of this adverbial terminology in defense of adverbial materialism.

The source of Cornman's confusion may be partically explained by the following passage from Chisholm.

For in saying "He is appeared to white," or "He senses whitely," we are not committed to saying that there is a thing - an appearance - of which the word "white" in its sensible use, designates a property. We are saying, rather, that there is a certain state or process - that of being appeared to, or sensing, or experiencing - and we are using the adjective "white" or the adverb "whitely" to describe more specifically the way in which that process occurs. 21

Chisholm does indeed claim that the predicate expression 'white' or adverbially 'whitely' does not, in its sensible use, designate a property. However, this claim is qualified, i.e., the adverbial predicate expression 'whitely' does not, in its sensible use, designate a property of some object, appearance, or sensa, but this does not imply that it does not designate a property of a way of appearing or of

21 Ibid., p. 96; Cf. also his Perceiving: A Philosophical Study, pp. 115-117.
a sensing event. A few pages later, in discussing Smart's identity theory, Chisholm says quite explicitly that the adverbial predicate expressions do designate and ascribe properties to the way of appearing or sensing event. For he states

J.J.C. Smart has suggested that appearances "are nothing over and above brain processes." His view thus presupposes an adverbial theory of appearing rather than a substantival theory of appearances; he is concerned with the process of appearing and not with certain substances called "appearances." Given his view, such sentences as "Jones experiences a red appearance" are misleading, for...we could make use of a locution similar to our earlier "Jones is appeared red to". But since we do not want to say that the word "red", in application to a process, has the same meaning that it has in application to a concrete thing or substance, our locution will be even less misleading if we express it, once again, as "Jones is appeared to redly." This awkward locution, as we have emphasized, has the theoretical advantage of suggesting that appearing is a process, that the adverb "redly" designates a property of a process (Just as "swiftly" and "slowly" designate properties of processes), and that the process of being appeared to does not involve a second process which is the experiencing of the process of being appeared to. 22

Consequently, Chisholm clearly maintains that although the predicate expressions 'whitely', 'redly', 'intensely', etc., do not ascribe properties to some object which is an appearance or a sansa, they do, nonetheless

22 Ibid., p. 100-101, the italics for the phrase "...that the adverb "redly" designates a property of a process..." are mine.
function to ascribe properties to events which are ways of appearing or sensings.

I can see no reason to dispute this conclusion of Chisholm's; indeed I think he is correct. On the other hand, I can see no reason to interpret these adverbial predicate expression as Cornman does. Thus, I think we can reasonably conclude that phenomenal properties such as being yellow, red, round, homogenous, fading, loud, bitter, rough, intense, and throbbing, are properties that cannot be eliminated by eliminating sensa and opting for an adverbial sensing terminology. Reinterpreting sentences about our sensations in such a way that we are referring to events or objectless sensings does not imply that the adverbial predicate expressions which we use in these sentences do not function to designate properties of our sensings. Thus, objectless sensing events possess phenomenal properties such as those mentioned above.

If we cannot avoid attributing phenomenal properties to our sensings, then because these phenomenal properties are clearly neither physical nor topic-neutral properties, our sensings will possess some extensional properties which are neither physical nor topic-neutral properties. If some of the extensional properties of our sensings are neither physical nor topic-neutral properties, then
obviously we cannot justify condition (3), viz., that each extensional property of each sensing event either is physical or topic-neutral. Since this condition is necessary if we are to claim that sensings are reducible to, hence are nothing but processes in the brain, the failure to satisfy this condition is sufficient to refute the reductive claim that sensings are nothing but physical or material events.

With the failure to justify condition (3), which is necessary to the success of adverbial materialism, we are, consequently, justified in rejecting Cornman's adverbial materialism.

IV Conclusion

The last conclusion shows that the problem of properties is fatal to the considered versions of materialism. Although Cornman believes that by defending adverbial materialism, he can both show that sensations, which are interpreted as objectless sensings that are modified adverbially, are nothing but events in the brain and show that this version, consequently, also avoids the problem presented by the phenomenal properties of sensations, we have seen that this version of materialism will not allow us to eliminate these troublesome properties of sensations. Even if we interpret our
sensations adverbially, as objectless sensings, we cannot avoid predicating phenomenal properties of these events, properties that are neither physical nor topic-neutral properties. Thus, just as Smart's topic-neutral translation thesis will not allow us to solve the problem of properties, Cornman's adverbial materialism is also impotent against this problem. Consequently, because there are existing entities which are identical with processes in the brain that possess some properties which are neither physical nor topic-neutral properties, the existence of these entities with their non-materialistic phenomenal properties remains a problem for materialism.
CHAPTER FIVE

Summary and Conclusions

In the last decade, renewed efforts to defend the metaphysics of materialism were inspired by J.J.C. Smart's bold defense of what he called the Identity Theory. Simply stated, it is the theory that sensations such as having an after-image or a pain are nothing but processes in the brain, where this implied that sensations and brain processes are identical and that sensations possessed all and only those properties which brain processes possess; from which it followed that sensations are actually material entities, contrary appearances notwithstanding. This theory was, however, quickly rejected on the grounds that the claimed identity between sensations and brain processes seemed easily refutable. Sensations appeared to possess properties no brain processes possessed, and conversely; so it was concluded that these entities could not be identical. With the apparent refutation of the identity claim, materialists were forced to find other means of defending their metaphysical point of view.

At the outset of this enterprise, however, I argued that the rejection of the identity theory on
these grounds could be seriously questioned, and if so, then the rejection of the identity theory was, consequently, premature. Moreover, since there appeared to be good inductive reasons in support of the identity theory, I suggested that it would not be unwise to admit that perhaps sensations are indeed identical with brain processes.

But in granting this, it does not immediately follow that sensations are nothing but brain processes, hence, that they are material entities. In order to support this latter claim, the materialist must demonstrate that sensations possess properties only if they are properties a material entity possesses. But what are the properties a material entity possesses? In other words, what is a material entity? In response to this question, we were led to examine various definitions of materialism in the hopes that if we could clearly and adequately define this metaphysical thesis we would arrive at a reasonable answer to our question. Successfully accomplishing this task became the primary aim of Chapter One. After considerable effort, the definition we arrived at entailed that a material entity is an entity possessing properties only if they are either physical or topic-neutral properties. Obviously, unless we had some idea what
these properties are, this answer could hardly be suitable. Thus, we were further required to provide definitions of these properties. Once these tasks had been accomplished, all that was necessary for the materialist to show that sensations are nothing but material entities was to demonstrate that the properties of sensations are either physical or topic-neutral properties.

Demonstrating this, however, presented a serious problem for the materialist. For the properties of sensations which we are directly aware of, i.e., the phenomenal properties of sensations, appear to be neither physical nor topic-neutral properties. In other words, the phenomenal properties of sensations appear to be non-materialistic, or psychic properties. Thus, if sensations possess non-materialistic properties then not only are sensations not material entities, but if sensations are identical with brain processes, then materialism is refuted because there are existing entities which possess properties no material entity possesses. I called this the problem of properties.

Although the purpose of Chapter Two involved explaining more fully this problem and supporting the claim that the phenomenal properties of sensations are neither physical nor topic-neutral properties, it was evident that we had only brought this problem
into focus because we had antecedently defined materialism as the thesis that every existing entity has a property only if it is a physical or topic-neutral property. Otherwise, it would not have been clear why the phenomenal properties of sensations present a problem for the doctrine of materialism nor how, or to what extent this problem affects the metaphysics of materialism. Indeed, with the potential that this problem has to refute materialism, it is unfortunate that it has been so long obscured, and consequently ignored by most philosophers.

Nonetheless, a few philosophers have noted the seriousness of this problem, notably J.J.C. Smart and James Cornman, and both have tried to provide what they believe are adequate solutions which will be consistent with materialism. Providing such a solution is, however, complicated by the fact that the only possible solutions open to the materialist all seem extremely implausible.

In Chapter three, our aim was to critically examine Smart's attempt to solve the problem of properties by defending the topic-neutral translation thesis. Simply stated, this thesis involves first, translating our sensation reports into sentences like "There is something going on in us like what is going
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on when..." where this sentence is completed by specifying certain characteristic causal conditions, and second, claiming that these translations, and in turn the sensation reports, are topic-neutral, in some sense. We noted that part of the difficulty in explaining Smart's putative solution of the problem of properties was that the notion of 'topic-neutrality' was far from clear. Nonetheless, we were initially able to distinguish two different senses of the term, only one of which seemed relevant to the problem of properties, viz., sentences, like the one given above, are topic-neutral in the sense that they are sentences using no expressions which mention phenomenal properties of sensations but only contain expressions which designate certain complex relational properties which are topic-neutral.

With this sense of 'topic-neutrality' in mind, we were led to an analogy between the analytical behaviorists' attempt to eliminate mental entities by offering behavioral translations of psychological sentences and Smart's attempt to eliminate the phenomenal properties of sensations by providing topic-neutral translations. Although the analogy is interesting, the conclusion does not follow because the crucial premise, which required that these translations be
synonymous with the sensation reports, proved to be false. In fact, although Smart is somewhat misleading on this point, he denies that these translations are synonymous with sensation reports. He must, therefore, intend to solve the problem of properties in some other way, but the question of how this is to be done remains. Moreover there is a problem about how he is going to support his claim that our sensation reports are actually made in the terms he suggests, if these so-called "translations" are not synonymous with our sensation reports.

In response to these two problems, I suggested a third possible interpretation of 'topic-neutrality' which Smart is committed to that is suggested by a number of remarks which Smart makes. I claimed that if we interpret 'topic-neutrality' as an epistemic term which describes our propositional and non-propositional knowledge of sensations then we have captured the sense of the term which Smart intends when he claims that our sensation reports are topic-neutral. In particular, to say that our non-propositional knowledge of our sensations is topic-neutral is to say that our direct awareness of our sensations is not an awareness of the properties of sensations, except for a few topic-neutral properties. If our
non-propositional knowledge of our sensations does not include any knowledge of phenomenal properties of sensations, then, of course, we cannot be presented with a problem, for there would not be any basis to the claim that sensations possess these properties. The problem of properties is solved, or more correctly dissolved, or so it seems.

Unfortunately, we also rejected this putative solution. My reasons for rejecting this proposed solution were simply that Smart does not successfully support his contention that we can be topic-neutrally aware of our sensations and, more importantly, it just seems false that our knowledge of our sensations is of this nature. We are directly aware of the phenomenal properties of sensations.

Although one further possible solution to the problem of properties was considered and rejected, I concluded that Smart's defense of the topic-neutral translation thesis does not allow him to avoid the problem which the phenomenal properties of sensations presents.

Although Smart has failed to defend materialism by solving the problem of properties, there remains Cornman's attempt to solve it by means of defending what he calls adverbial materialism. Cornman argues
that it is reasonable to inductively conclude that if sensations are interpreted as objects, then such entities do not exist; hence because we are clearly aware of something when we say e.g., we are in pain, he interprets our sensations as objectless events that are modified adverbially. In order to distinguish between these two kinds of sensation entities, he calls the former 'sensa' and the latter 'sensings'. By accepting Chisholm's adverbial sensing terminology, Cornman argues further that the troublesome non-materialistic properties, like being red or intense, which form the core of the problem of properties, are actually properties of sensa, while adverbial predicate expressions like 'redly' or 'intensely' function only to specify or describe our sensing events more precisely. Thus if non-existent sensa possess these troublesome properties and we do not predicate any similar properties to existing sensing events, then sensings are not prohibited by these properties from being reduced to processes in the brain, given that we have already granted the identity claim.

I concluded, however, that we must also reject this proposed solution. For the only plausible interpretation of Cornman's claim that adverbial predicate expressions 'redly' or 'intensely' function
only to specify or describe sensing events more precisely, is that we are predicating the property of being red or intense to our sensing events. Since these properties are neither physical nor topic-neutral properties, and because we are predicating these properties to sensings, then materialism is refuted. Consequently, we have again failed to avoid the problem which the phenomenal properties of sensations present.

We have, consequently, found reasons to conclude that neither Smart's topic-neutral translation thesis nor Cornman's adverbial materialism can successfully avoid being committed to sensations possessing non-materialistic phenomenal properties. In short, the problem of properties remains a formidable challenge to the metaphysics of materialism. Because I know of no other more plausible putative solutions to this problem, I think we can, at this time, conclude that this problem refutes materialism.

Some may take this conclusion as good grounds for returning to an eliminative version of materialism, that entails that there are no sensations. If we eliminate sensations then we eliminate the entities which possess these refutatious phenomenal properties, and in this way we can avoid the problem these properties pose for materialism. However, because I know of no
version of this thesis which does not have very serious problems, for example, it is implausible to regard all our beliefs about sensations as universally false or to claim that sensation sentences are never true, consequently, I do not think that this is a very reasonable way of getting round the problem of properties. Moreover, if the identity theory is true, then eliminative materialism is untenable. Thus, although we apparently cannot avoid admitting that there are existing entities which do not possess properties only if they are either physical or topic-neutral properties, we must not conclude that this justifies traditional dualism. Indeed, materialism might be revived, although perhaps in something less than its classical role; I say this because there is still no reason to deny the claim that sensations are identical with brain processes. Thus, although there may not be two radically different kinds of entities in the universe, we are nonetheless apparently committed to a dualism of properties and a commitment like this would perhaps be a commitment that a revisionist materialist could accept.
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