

THE IDENTITY OF SENSATIONS AND PHYSIOLOGICAL OCCURRENCES

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A Thesis

Submitted to the Faculty of Graduate Studies  
in Partial Fulfillment of the Requirements  
for the Degree  
Master of Arts

McMaster University

November, 1969

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AND  
PHYSIOLOGICAL OCCURRENCES



MASTER OF ARTS (1969)  
(Philosophy)

McMASTER UNIVERSITY  
Hamilton, Ontario.

TITLE:               The Identity of Sensations and Physiological Occurrences

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NUMBER OF PAGES: 59

SCOPE AND CONTENT: Perhaps the most puzzling of the mind-body issues is the problem about the nature of the felt qualities or "raw-feels" of experience. Most philosophic positions on the mind-body problem - materialism, mind-body interactionism, evolutionary emergent theories, epiphenomenalism, neutral monism - are positions taken in answer to this problem. The scope and content of this thesis is limited to examining one such position - the current identity theory that raw-feels are identical with physiological occurrences.

## A C K N O W L E D G E M E N T S

I would like to thank Dr. Michael Radner for his invaluable assistance in the development of this thesis, and for his consenting to be first reader. I wish to thank Professor J.E. Simpson for his critical reading of the thesis and for consenting to be second reader, and I would also like to thank Dr. Constantine Georgiadis for consenting to be third reader at such short notice.

In addition, a word of thanks to Dr. John Thomas who helped in innumerable personal ways while I was writing the thesis.

## I N T R O D U C T I O N

I propose to critically examine one strand of the mind-body problem - the current identity thesis, that sensations are identical with physiological occurrences.<sup>1</sup> My sights are lower than a full-scale physicalist treatment. I will examine the more limited thesis that sensations are identical with physiological occurrences and not the more general thesis that all mental occurrences, i.e. thoughts, perception, the will, introspection, etc., are identical with physiological occurrences. My reasons for considering only a limited thesis are threefold:

a) 'prima facie' the limited thesis seems more plausible than a full-scale physicalism in that the limited thesis is more amenable to testing than the general thesis. We can give an accurate temporal correspondence between "correlated" sensations and physiological occurrences which cannot be given for the "higher" mental events.

b) A close explanatory affiliation is found between sensations and physiological occurrences which is hardly ever the case with "higher" mental events.<sup>2</sup>

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<sup>1</sup>'Physiological occurrences' is used in preference to brain process because 'brain process' over-restricts the sorts of physiological occurrences relevant to the identity issue. 'Physiological occurrence' refers then, not only to neural occurrences, but also to damaged tissues, endocrine and muscular systems, and any other physiological occurrences found to be relevant to sensations.

<sup>2</sup>For further information on the close explanatory affiliation between sensations and physiological occurrences see Valerie and McCrae, "On the Contingent Identity between Sensations and Physiological Occurrences", American Philosophical Quarterly, 1966. They separate out the different types of explanations.

c) If the limited thesis runs into difficulties then these difficulties will run riot in any full-scale programme. Thus, the limited thesis is in a sense a test case and prolegomenon to a more general thesis.

The plan for dealing with the topic is as follows:

i) I will comment briefly on the sorts of sensations the theory is interested in.

ii) Examine some of the reasons and motives for assenting to the theory.

iii) Critically examine the identity thesis as espoused by J.J.C. Smart and H. Feigl.

iv) Question whether or not it is appropriate to speak of the "identification" of sensations and physiological occurrences.

v) Follow through the awkward epistemological positions of the theory with respect to incorrigibility and privacy ("logically privileged access").

CHAPTER I - SENSATIONS

The sorts of sensations the identity theory is interested in are physically localizable sensations, for example: bodily pains of all sorts, itches, thirst, orgasm, dazzle, numbness and after-image.<sup>3</sup> These are sensations proper and are distinguished from "feelings" such as feeling tired, feeling fresh, etc. Now, although bodily sensations proper and bodily feelings have close resemblances there does seem to be a distinction between the two sorts of phenomena. Bodily feelings may involve sensations but they do not seem to be sensations. I think we can roughly distinguish bodily sensations from bodily feelings by saying that the former, but not the latter, are introspectively located in precise parts of the body (I say 'roughly distinguish' because we do speak of feeling tired in the legs or arms or in the joints, but there is no question of our locating tiredness in the precise way that bodily sensations can be located). This is just a rough working distinction between bodily sensations and bodily feelings, and nothing of crucial importance for the identity theory turns on it.

One also notes the following features about sensations which help to mark them off from the "higher" mental occurrences and from bodily feelings:

i) 'Sensation' is not a success word in Ryle's sense. No achievement or skill is involved in having a sensation. This marks off the concept of a sensation from "performative" or "success" concepts like perception.

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<sup>3</sup>The examples listed are considered 'neat' sensations. We do not ordinarily employ a 'neat' sensation vocabulary but rather describe sensations by referring to how common objects ordinarily look and feel to a normal person. Therefore, for our purposes, sensation is used in a technical sense. It is also used throughout as synonymous with 'raw-feel'.



ii) We cannot simply 'will' ourselves to have a particular sensation as we can 'will' ourselves to do most "higher" mental operations. We can decide to have a certain sensation by setting up the appropriate physical conditions for their occurrence but we cannot have a sensation by an 'act of will' independent of setting up these conditions.

iii) Sensations are processes: It is the having of them as occurrences which is important and not being in a special relation with any sense-data-like "entity". (I will expand on this later on).

iv) Sensation "reports" are said to be incorrigible and this marks them off from other mental operations such as sense-perception. (Whether sensation reports are as a matter of principle incorrigible or whether sensation reports are only generally, and as a matter of fact, true is a leading question for the identity. Therefore I will postpone treatment of this crucial topic).

v) It is worth noting that one is extremely limited in one's characterization of sensations if no physiological - physical type descriptions are used. In other words, our natural or phenomenal language for describing sensations has to be greatly supplemented with physiological-physical type language in order to give an adequate account of sensations.

Now although these features serve to mark sensations off from other mentalistic concepts nevertheless they are neutral to the identity issue in the sense that a "dualist" could agree with all the features mentioned without affecting his position. However on the other hand they do indicate that sensations are more affiliated to the physical side of traditional "dualism" than was given credit. Neither do these factors beg a large part of the identity issue as traditional characterizations of sensations as private,

non-locatable, qualitative as opposed to quantitative, seemed to do. For this reason I have omitted the traditional distinguishing features of sensations and stuck to a relatively neutral characterization.

CHAPTER II - MOTIVES FOR ASSENTING TO THE IDENTITY THESIS

Assent to some sort of identity between sensations and physiological occurrences has come from a variety of quarters, but what most have in common is their refusal to admit "items" or "properties" ontologically distinct from the empirically discoverable constituents of the physical world. (That, in principle, sensations can be exhaustively explained and described in a physical language which need not be supplemented with terms referring to non-physical "items" or "properties"). Thus they are making 'metaphysical' assertions about the nature of reality. I will now examine some of the motives for such assertions.

(A) J.J.C. Smart<sup>4</sup> considers it the business of philosophy to do two things:

(i) eliminate nonsense and conceptual confusion through conceptual analysis.

(ii) decide between competing synoptic views of the universe on the grounds of scientific plausibility.

(I will omit discussion of (i) since it does not interest us directly).

Philosophers are entitled to speculate about competing world hypotheses in cases where no empirical tests are available to decide between them. Two such hypotheses for Smart are:

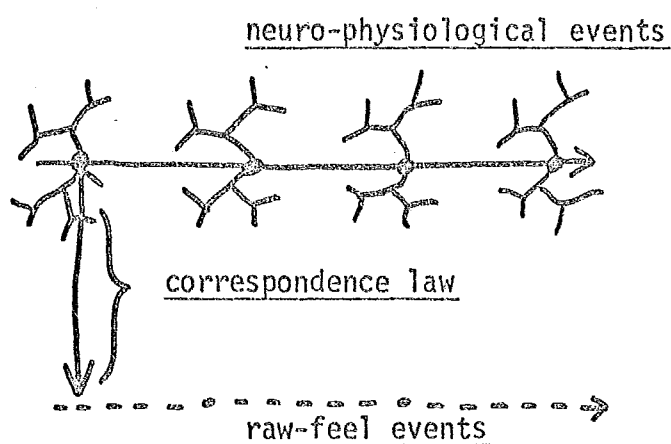
(a) that sensations are identical to brain processes,  
and the opposed view

(b) that sensations are not identical but only correlated with brain

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<sup>4</sup>Philosophy and Scientific Realism, Chapter I, (Routledge & Kegan Paul, 1966).

processes. Now Smart believes that philosophic arguments will persuade us to adopt the identity hypothesis in favour of the correlation hypothesis. His main reason for accepting the identity hypothesis in preference to the other hypothesis rests on considerations arising from Occam's principle of parsimony - "Do not multiply entities beyond necessity". Since, Smart argues, no empirical test can decide between the competing hypotheses one should opt for the theory involving the least number of entities, this would be the identity hypothesis since it eliminates the existence of "entities" distinct from physical entities and processes without forfeiting its ability as a theory to give an account of human behaviour, which includes both the "mental" and the physical. Opting for the identity thesis would also have the further advantage of getting with the remainder of scientific theory because unlike the correlation hypothesis it would not involve special laws to account for the relation between the ontologically distinct psychical properties of sensations and neuro-physiological events. To illustrate the point, consider the diagram below:



On the top line we have a neuro-physiological event which is explained by a "net" of concepts in neuro-physiological theory, and on the bottom dotted line the raw-feel event or what Smart refers to as qualia. Now to conceive

of a correspondence law or connecting law purporting to connect the neuro-physiological event with the raw-feel event would seem to be nothing more than an ad hoc device to explain the relation between the two distinct events. Smart's point is that the correspondence law would be ultimate, possessing little explanatory force because it could not be further explicable within neuro-physiological theory or any other scientific theory. We would have to accept as just a fact that when a certain complex neuro-physiological event occurs there also occurs a certain psychical event - e.g. having a green after-image. The correspondence law would not be related to the remaining "net" of neuro-physiological concepts explaining the neuro-logical occurrence and would simply "dangle" from the main body of neuro-physiological theory. (For this reason both Feigl and Smart refer to it as a "nomological dangler"). Furthermore, because it would be an ultimate law it would not be susceptible to higher order laws and this is contrary to the way science has developed in recent times. Nevertheless this argument is not logically compelling since a diehard dualist might well argue that it is precisely because of the special nature of qualia that makes it absurd to try to fit them into the scientific image of the world. The argument derives its appeal from scientific considerations but unfortunately this appeal is usually confined to the already converted.

Smart's main reason for denying that there are two correlated processes going on when one experiences a sensation are considerations arising out of Occam's parsimony principle, but I will argue that the use of the principle is not appropriate to the problem. Smart brandishes the principle about as if it meant the Waterloo for any dualist position. However he never faces up to the following difficulties concerning the principle and its application to solving the issue at hand.

(i) a criterion has to be supplied for what is to count as an "entity". For instance, are aspects, appearances (sense-data) and properties to count as "entities"? The principle is ineffectual unless this point is clarified since what if one were to argue that sensations imply emergent properties and not "entities" at all? Are these properties eliminable by Occam's principle?

(ii) the principle suggests a pragmatic criterion for necessity which is objectionable since the existence of "entities" is not a question of usefulness or practical necessity.

(iii) perhaps in science, especially in theoretical physics if a theory  $T_1$  postulating  $N$  number of theoretical entities explains an event as well as a theory  $T_2$  postulating  $N + 1$  theoretical entities then Occam's principle demands that we abandon  $T_2$  in favour of  $T_1$ . Now even if emergent properties were conceived of as "entities" could the question of their existence be decided in this way? The "dualist" could argue that emergent properties are not theoretical within a physical theory but are "real" properties which everyone is familiar with by acquaintance. (What I have to say later on will show that I disagree with this viewpoint, but to be fair to the dualist, arguments independent of Occam's principle are necessary to show why it is not so).

(B) I will now consider a reason for accepting the identity theory in favour of the correlation thesis independent of Occam's principle. What the issue amounts to can be stated this way: What benefits does asserting

(i) sensations are identical with neurophysiological occurrences have over

(ii) the one-to-one correlation thesis?

I think a case can be made for accepting something like (i) in favour of (ii) on the grounds that (ii) is explanatorily inadequate whereas thesis (i) is not. It seems that with (ii) we can always raise the question about the nature of the correlation involved. We can ask: Why and how does the correlation or one-to-one correspondence between mental events and physical events occur? Are we to say that it is an ultimate, inexplicable correspondence? I think it is because we can raise such questions concerning (ii) but not (i) that (ii) is explanatorily inadequate and is therefore less acceptable than (i). To illustrate the point consider the case of someone who has had a severe blow to his arm and is in pain; the doctor administers a pain-killer and also gives the patient a rudimentary neuro-physiological explanation of how the pain-killer goes into his blood stream and affects his brain and so on. But supposing after this the patient says "I understand all this but still I want to know how it stops the pain I am experiencing." Or consider another example of someone who has a pathological fear of after-images: He is told not to stare at certain objects for any length of time because this has an affect on his retina, optic nerve and cortex. But after all this explanation by the doctor the patient says, "I understand all this but I am still worried about those queer visions I experience before my eyes."<sup>5</sup> If the doctor is a supporter of (ii) and still refers to a mental occurrence in addition to the neuro-physiological explanation then the patient's question seems a legitimate one for by implication he (the patient) is asking what the relation is between the corresponding neuro-physiological and mental occurrence; and it seems that the only reply the doctor can make is that it is an ultimate

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<sup>5</sup>I am indebted to Routley and Macrae for these examples. See "On the Contingent Identity of Sensations and Physiological Occurrences", American Philosophical Quarterly, 1966.

and inexplicable one. If the feeling of pain and the corresponding neuro-physiological occurrence are ontologically distinct then what else can he answer? However, if (i) is accepted instead of (ii) then the difficulty is avoided because in this case the neuro-physiological explanation is coupled with an identity relation - the pain as experienced is a neuro-physiological process. Therefore if the pain-killer stops the pain process it follows by the identity thesis that it also stops pain as experienced. Moreover, the doctor's reply will amount to his imparting new knowledge to the patient to the effect that his (the patient's) feeling of pain is identical with a neuro-physiological occurrence. Furthermore if the patient is clever and willing to learn, he will add a new concept of pain to his understanding, a concept explanatorily richer than his ordinary phenomenal language concept of pain, denoting not only the relevant brain state but the relevant physiological events leading up to that brain state also.

One objection to this sort of account is that the coupling of a neuro-physiological explanation with an identity relation is inconsistent. That what the neurophysiological account amounts to is a description of the causes of the patient's after-image and pain experiences, and since if A causes B then A cannot be identical with B, then how can I say that sensations are identical with the neurophysiological process? However, this is not a very compelling objection if we compare the statement 'Pain  $\psi$  is neurophysiological process  $\phi$ ' with other scientific identifications such as

Lightning is an electrical discharge from ionized clouds of water vapour.

Now scientifically there is nothing inconsistent in asserting both

- a) Lightning is caused by an electrical discharge from ionized clouds of water vapour



and

- b) Lightning is (identical)<sup>6</sup> with electrical discharges  
 . . . water vapour.

Similarly, if at a future date science provided sufficient evidence for saying that "Pain  $\psi$  is the neurophysiological occurrence  $\phi$ " just as it produced sufficient evidence to say "Lightning is an electrical discharge from ionized . . . water vapour", then I see nothing inconsistent in asserting both

- 1) Pain  $\psi$  is caused by neurophysiological process  $\phi$

and

- 2) Pain  $\psi$  is neurophysiological process  $\phi$ .

(C) A motive for asserting an identity theory could well come from psychology. To elaborate on the motive consider how behavioural psychology deals with sensations. What a psychologist does essentially is subject a person, x, to a stimulus likely to affect his sense organs, he then discovers from x's response and discriminations what x is feeling. But in describing how x reacts to different sorts of stimulus the psychologist does not seem to be really dealing with x's felt sensations at all but with his overt behaviour and disposition to behave. Thus the discoveries behavioural psychology claims to have made about sensations have not been about sensations at all but about the sensitivity of x's organs to physical stimulus. It seems that psychology does not deal with what most people consider the most important aspect of sensations, i.e. the sensation quality or qualia. Behavioural

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<sup>6</sup>I will show in a later chapter that speaking of "identity" is inappropriate. What usually happens in scientific "identifications" like the lightning case is that concepts in scientific theory about lightning such as 'electrical discharge', 'ionized vapour clouds', etc. replace or supplant our ordinary phenomenal notions of lightning.

psychology is in an embarrassing position: Either it can deny that we experience any 'qualia', which seems patently false to any psychologist who has ever experience a sensation; or it can ignore the qualia aspect as unimportant to their discoveries. Now if sensations were identical with neuropsychological occurrences, then by supplementing the stimulus-response theory with neurophysiological theory, the psychologist could in principle tell the whole story about sensations. He could give an account which not only referred to peripheral behaviour symptoms but also to the central causes of that behaviour.

(D) Some philosophers have been troubled by the possible 'ontological' consequences of the epistemological asymmetry between knowledge of sensations and mental experience in general, and knowledge of bodily and physical facts. It is argued that our knowledge of our own mental states is logically, if not causally, independent of our bodies and other physical facts. In a roundabout way Descartes<sup>7</sup> was referring to this when he said that he could legitimately deny the existence of his body and all other physical facts but could not deny that he was a 'feeling', 'doubting', 'willing', 'intending' something. The epistemological asymmetry alluded to by Descartes makes it consistent to assert that our mental experiences, including our sensation experiences, could survive independent of our bodies. If our mental states are logically independent, as the asymmetry suggests, there is nothing logically inconsistent in asserting the existence of my mental states while at the same time denying their dependence on my bodily states - thus the logical intelligibility of Descartes' disembodied soul'. One way of avoiding these awkward ontological consequences (this is not to say that it is the only way or the best way)

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<sup>7</sup>Meditations, II.

would be to support a physicalist position. In the sensation case this would mean that if future scientific developments justified us in asserting "Sensations are physiological occurrences" then in virtue of the identity relation between sensations and physiological occurrences the possibility of a disembodied soul would be denied.<sup>8</sup>

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<sup>8</sup>For what I think the epistemological asymmetry between knowledge of my sensation states and my knowledge of other peoples' sensation states - the puzzle about "Other Minds" - amounts to in a physicalist analysis then see Chapter V, p. 49.

CHAPTER III - SMART AND FEIGL

Now to the identity theory as espoused by J.J.C. Smart and H. Feigl  
- I will deal with Smart first.

To understand what Smart's position is can best be seen in the  
context of some points made by R. Chisholm in 'The Theory of Knowledge'.<sup>9</sup>

Chisholm points to two tendencies in natural language:

- a) the tendency of language to suggest that what is phenomenally given in experience are special sorts of "entities". This tendency is enshrined in the sense-data theory.
- b) the tendency to characterize our experience as processes rather than sense-data entities - this tendency is enshrined in the identity theory .

Now both Chisholm and Smart reject the sense-data theory outright; they reject any theory which implies that having an experience, either a sensation or perceptual experience, consists in acquaintance with special non-physical entities. Smart's reasons for rejecting sense-data are:

(i) conceived of as special entities sense-data are unintelligible from a scientific point of view (they are unintelligible from a purely philosophic standpoint too, but Smart's main point hinges on scientific considerations).

Conceived of as special irreducible entities they are "nomological danglers". And as I have already mentioned they would have to be related to neurological occurrences and by the nature of the case the relation would be an ultimate one expressed in a law not susceptible to higher order laws.

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<sup>9</sup>The Theory of Knowledge, Ch. 6, (Prentice-Hall, 1966).

Furthermore, we would appear to have ultimate laws of nature which relate something simple, or apparently simple, such as experience, to a very complex and special neurophysiological process involving billions of neurons. Smart argues that scientific laws are not of this sort and feels justified in rejecting sense-datum entities as scientifically unintelligible. This is a poor argument since I think the sense-data theory is essentially a philosophic theory and not a scientific one. He is using dubious scientific considerations to steam-roller the theory whereas it can be steamrolled much better from logical considerations alone.

(ii) If Smart identified sense-data entities with brain processes he would be open to the sorts of objections brought against Thomas Case,<sup>10</sup> an identity theorist of the last century. Case argued that the sentence 'Jones experiences a sensation x' states an intimate relation between Jones and another entity, the sensation x. The sentence is no different from the sentence 'Jones eats an apple', and just as it states a relation between Jones and the apple, so the sentence 'Jones experiences a sensation x' states a relation between Jones and the entity sensation x. The entity Jones is in relation to in the sentence 'Jones experiences a sensation x' is literally part of the brain; that is, bits of grey matter. Case is arguing that Jones is in relation to a sensation entity which is itself identical with bits of grey matter. He says that sensations are identical with "physical parts of the nervous system, tactile, optic, auditory, etc., sensibly affected in various manners". Again, he says, "The hot felt is the tactile nerves heated, the white seen is the optic nerves so coloured". Thus Case thinks that when I see a white patch on the wall that I am really seeing my optic nerves

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<sup>10</sup>Physical Realism, (London: Longmans, Green and Company Limited, 1888), pp.24, 25 and 33.

coloured white. F.A. Bradley aptly remarked that according to Case's theory when he was offended by an unpleasant smell he was really aware of "the stinking state of his own nervous system". Case's mistake is in thinking that a sensation is a special sort of entity which we are related to and then going on to identifying this with part of the brain.

His mistake becomes clearer by setting out the essentials of his argument as follows: First he asks us to consider the sentence 'Jones experiences a sensation (or "appearance"),' he then identifies the sensation with parts of the brain and this yields 'Jones experiences a part of his brain'. Thus, although he has given a physicalist account of appearances and sensation he has not given a physicalist account of that process which is Jones' experiencing of the sensation. It is easy to see how Bradley was able to parody the theory for what Case is doing is taking a substantive view of sensations, identifying them with bits of grey matter so that if my sensation is of heat and since it is identical with parts of my brain then the relevant part of my brain must be hot too. We have the absurdity of saying that when I feel pain from touching a hot poker then really I am feeling pain from being in relation to hot parts of my brain. What Case should have said was that the process of Jones' experiencing a sensation is identical with a brain process, that the total experience - the having-of-a-sensation is identical with a brain process, and not Jones' experiences a sensation entity which is identical with part of the brain.

Smart's theory avoids the absurdities of Case's theory because he is concerned with the process of appearing or experiencing and not with substantive appearances. His theory is not a theory about the identity of classes of entities - the "appearance entity" with parts of the brain, but

a theory about the identity of classes of processes - the process of having-a-sensation is identical with a brain process. Now insofar as Smart speaks of processes he presupposes what Chisholm<sup>11</sup> refers to as the adverbial theory of appearances rather than the substantive theory of appearances. Briefly, Chisholm's adverbial theory runs as follows: Our perceptual appearances (Chisholm uses "appearances" to cover both raw-feels, and the phenomenally given aspects of sense-perception) are not facts about a special class of sense-data entities but facts about the sorts of process a person undergoes when he experiences something. He argues that the fault of the sense-data theory consists in construing "appearance" in the sentences 'the appearance of a thing is white' or 'Jones experiences a white appearance' substantively. Construing these sentences this way is ontologically misleading since appearance suggests a sense-data entity to which Jones is related. To avoid this tendency, Chisholm suggests that we ought to construe

(i) Jones experiences a white appearance

as

(ii) Jones is appeared to white. Or, Jones senses whitely.

Now the advantage of construction (ii) is that we are not committed to saying that there is an entity - an appearance - of which 'white' designates a property: We are not committed to the existence of a white sense-data. Rather we are saying that there is a process of being appeared to, or sensing or experiencing, where the adverb 'whitely' describes the way in which the process occurs. 'Whitely' tells us something about the way in which an object (a white patch on the wall) appears when we look at it, just as 'slowly' and

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<sup>11</sup> Ibid.

'quickly' tells us about the way something moves. Now, the relevance of this to Smart is that his position presupposes the adverbial theory in that 'Jones senses whitely' or 'Jones is appeared white to' suggests a single process. This makes available a type of locution which suits Smart's purpose and which I hope will also help to show the linguistic logic of his position.

Even if we could avoid Case's mistakes by construing 'Jones experiences a white appearance' into 'Jones experiences a white appearing' where 'white appearing' suggested a process and not a substantive appearance this does not go far enough for Smart because 'Jones experiences a white appearing' might suggest two processes - one suggested by experiences and the other suggested by appearing. One might think that two causally connected processes were involved, (a) a brain process suggested by 'Jones experiences' and (b) an emergent, psychical process suggested by 'a white appearing'. Thus in order to avoid multiplying entities (processes) beyond necessity, we ought to say 'Jones is appeared to white' or 'Jones senses (experiences) whitely' where only one process is involved - the single process suggested by 'Jones sensing whitely' or in the case of sensation 'Jones sensing painfully'. Finally, having argued for a single process, Smart identifies this process with a brain process. In other words, 'Jones senses whitely' or 'Jones senses painfully' is equivalent to something like 'Jones' brain  $\psi$  's at time  $\tau_1$ '. Or put what I think is a better way: that the single process expressed in our perceptual and phenomenal language of experience by 'Jones senses painfully (whitely)' is identical with a brain process expressed in a future neurophysiological theory by 'Jones' brain  $\psi$  's at time  $\tau_1$ '.



To see the fuller implications of Smart's position consider how he deals with what is considered a powerful line of argument against the identity thesis. The argument amounts to this: since Smart asserts that 'Sensations are brain processes' is a contingent identity statement then it follows that it must be possible to give logically independent explanations of the terms 'sensation' and 'brain process', and that these independent explanations imply different sets of properties or features which count against the identity thesis. To illustrate the point consider an analogous identity statement - e.g. 'The Morning Star is the Evening Star'. Now we can explain the meaning of the expression 'The Morning Star' by speaking of the star seen on certain mornings of the year, and we explain the meaning of the expression 'The Evening Star' by speaking of the star seen on certain evenings of the year. The argument tries to show that in virtue of 'Sensations are brain processes' being a contingent identity statement we can give logically independent explanations or definitions of the meanings of the two expressions on each side of the identity. And because we can do this we are supposed to be entitled to say that the 'sensation' and 'brain process' expressions, in virtue of having independent explanations or definitions imply different properties. Smart puts the objection to himself in this way:

"Now it may be said (Max Black) that if we identify an experience 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. To return to our analogy of the contingent identification of the author of Waverly with the author of Ivanhoe - If the property of being the author of Waverly is the analogue of the neurological properties of a brain process, what is the analogue of the property of being the author of Ivanhoe? There is an inclination to say 'an irreducible emergent introspectible property'.<sup>12</sup>

The expression 'brain process' gives no trouble since we can explain its meaning just as we can explain the meanings of other expressions in contingent identity without departing from an account or explanations that involve only physical properties and relations. But the difficulty the objection relies upon is whether we can give an account of sensations without referring to non-physical, emergent properties. If we answer in the negative then even if Smart can avoid speaking of two processes, nevertheless he is forced to admit the existence of different emergent properties of the one underlying process. Thus it is alleged he has removed the duality of processes at the cost of being forced to admit a duality of properties of the same process - on the one hand physical properties and on the other hand emergent, psychical properties.

Smart's reply to this objection is as follows: Consider a report of an after-image experience. [He selects the after-image example because of its "neat" experience value and because it is therefore more susceptible to interpretation as implying emergent properties than other raw-feels. (Experience of an after-image really seems to be an acquaintance with some psychical entity)]. He argues that the report of an after-image experience can in principle be expressed as follows:

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<sup>12</sup>Philosophy and Scientific Realism, p. 94.

"What is going on in me is like what is going on in me when my eyes are open, the lighting is normal, etc., and there really is a yellow-orange patch on the wall."<sup>13</sup>

The part underlined is the "equivalence" of my after-image experience, and it characterizes my experience by saying what sort of experience it is like but says nothing of the nature of the after-image itself. The equivalence is topic-neutral to the intrinsic nature of the after-image itself; that is, neutral to whether the experience is a non-physical process or a physical process identifiable with events in the brain. A dualist will think that what is going on in him is a non-physical process, an ancient Greek may think that it is a process in his heart, while Smart thinks that it is a process in his brain. The report itself is neutral to all the possibilities. (Smart is not saying that we can always characterize our sensations in this way, or that in fact people ever do characterize them in this way. As a matter of fact, people can only describe their experiences directly). Now Smart's point against the emergent properties objection is that since the report is topic-neutral there is no suggestion in the characterization which entitles one to attribute emergent properties to one's after-image experience. Admittedly, sentences like 'I am experiencing an after-image' say that something is going on in me but they say nothing about the intrinsic nature of the event itself but at best only what other event it is like - i.e. the event occurring "when my eyes are open, the lighting is normal, etc. . . .". D.M. Armstrong in A Materialist Theory of Mind<sup>14</sup> makes a similar point about the topic-neutrality of sensation reports and also about sentences referring

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<sup>13</sup> Philosophy and Scientific Realism, Ch. V, p. 94.

<sup>14</sup> D.M. Armstrong, A Materialist Theory of Mind, Rautledge & Kegan Paul, 1968.

to the "higher" mental events such as thinking, willing, etc. He refers to Descartes' mistake in concluding that because statements of the form 'I am thinking' do not contain reference to spatial location then this meant that some non-physical substrate was involved in which mental events occurred. Armstrong argues that Descartes had no right to infer a non-physical substrate because the statement 'I am thinking' only reports that one is thinking and not what the nature of thinking is itself.

Having established the topic-neutrality of after-image reports Smart's next move is to argue that the experience of having an after-image is like the experience of a yellow-orange patch under normal conditions, and this likeness is for him (out of reasons concerning scientific plausibility referred to earlier) a similarity of neurological patterns. Thus if the seeing of an orange patch under normal conditions is identical to brain process P then the after-image experience is identical to a brain process similar in pattern to brain process P. As it stands Smart's argument is anything but persuasive since the dualist could argue that the likeness consists in similarity between emergent psychical perceptual properties of seeing an orange patch in normal conditions, and the emergent psychical properties of the after-image experience. It seems that although Smart has eliminated emergent properties at one level (the after-image experience) they reappear at another higher level (perceptual level). Thus, for his argument to go through, he would have to assume the identity of perceptual experience with a neuro-physiological process. However, I don't think this is too worrisome for Smart for he could say that for the same reasons I identify sensations and brain processes, I also identify the raw-feel aspect of perceptual experience with a brain process. The trouble is, though, that Smart's reasons for identifying sensations and brain process are

extremely weak - Occam's principle for instance needs to be thoroughly revised and as I have already said his other reason - the "nomological dangler" argument - appeals mainly to the already converted. Perhaps a more basic question is appropriate here: Is Smart on the right track in speaking of an identity relation? Since this question concerns any identity theorist, I will postpone answering it until after treatment of Feigl.

Now to Feigl's position. The question Feigl is interested in is this: What is the relation between raw-feels and neuro-physiological states? Or, stated in a more technical way, what are the logical relations of raw-feel talk to the terms and statements in neuro-physiological language? His answer to the questions he poses is succinctly summed up in the following extract from his main work on the subject - The 'Mental' and the 'Physical'.<sup>15</sup>

"The raw-feels of direct experience as we 'have' them, are empirically identifiable with the referents of certain specifiable concepts of molar behaviour theory, and these, in turn, are empirically identifiable with the referents of some neuro-physiological concepts."

There are two moves to Feigl's argument:

a) that raw-feels are empirically identifiable with the referents of behaviourist concepts

and

b) that the behaviourist concepts are in turn empirically identifiable with the referents of neuro-physiological concepts.

Certainly a) as it stands needs explaining. But what Feigl means is this: As its name implies, behaviourism does not refer to events going on "inside" a person but only to overt and publicly observable behaviour of a person.

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<sup>15</sup>The 'Mental' and the 'Physical', University of Minnesota Press, 1967, p. 78.

Behaviourism theorizes about the nature of man from the "outside" so to speak, in that what it has to say is based on observation of overt behaviour in accordance with stimulus-response conditions. And in so far as it is an "outside" view of man, behaviour theory is neutral to the question of whether what goes on inside a person is a psychological process concomitant with a parallel neuro-physiological one, or whether there is only a single neuro-physiological process. Thus, behavioural theory as it stands leaves out of account raw-feels as experienced from the "inside" and known to exist directly by the person undergoing the experience. Raw-feels as experienced are not part of the behaviourist picture since behaviourism is only concerned with overt, intersubjectively confirmable behavioural indicators and not raw-feels which are by definition not intersubjectively confirmable. However, Feigl wants to say that if we construe what the behaviourist is doing in a certain way then the first stage (a) of his identification programme will go through. He says this:

"Why should we then not conclude that the behaviouristic psychologist can "triangulate" the direct experiences of others? I think that indeed he does just that if he relinquishes the narrow peripheralist position, i.e. if he allows himself the introduction of theoretical concepts which are logically connected with, but never explicitly definable in terms of, concepts pertaining to overt molar behaviour. These acquaintance-wise possibly unknown states which the behaviourist must introduce for the sake of a theoretical explanation of overt behaviour, and to which he refers as the central causes of the peripheral behaviour symptoms and manifestations, may well be identical with the referents of the phenomenal terms used by his subject in introspective descriptions of his (the subjects) direct experience."<sup>16</sup>

Thus if we construe the concept of a mental state at the behaviourist level as "theoretically explanatory" of overt behaviour then these states (at present unknown) may be identical with the referents of the raw-feel terms

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<sup>16</sup> Ibid., p. 69.

one uses in introspective reports of direct experience. This would mean, for instance, that "to ascribe to a person the experience of, for example, an after-image, amounts, within the intersubjective frame of reference, to the ascription of a hypothetical construct (theoretical concept), anchored in observable stimulus-response variables".<sup>17</sup> Feigl's first move to establish his identity thesis is then to try and show that the unknown states which the behaviourist must introduce may be identical with referents of phenomenal terms. His next move (b) is to show that these "states" may be identical to neuro-physiological occurrences and it is the philosopher's job to show that there are no insuperable philosophic difficulties which would bring down the hypothesis. But what sorts of arguments would persuade us of the hypothesis that raw-feels are identical to neuro-physiological occurrences? Feigl believes that progress in neuro-physiology will show an increasingly close correlation between raw-feels and brain processes and it is his "risky guess" that concepts in Utopian neurology will be shown to be extensionally equivalent to concepts in behaviourist theory denoting the same referents as phenomenal terms in introspective descriptions of direct experience. When this state of affairs arises in the future we will be in a position to say that raw-feels are contingently identical with neuro-physiological occurrences.

"The empirical character of the identification rests upon the extensional equivalences, or extensional implications, which hold between statements about the behavioural and neuro-physiological evidence. In our example this means that all persons to whom we ascribe an after-image, as evidenced by certain stimulus and response conditions, also have cerebral processes of a certain kind, and vice-versa."<sup>18</sup>

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<sup>17</sup> Ibid., p. 80.

<sup>18</sup> Ibid., p. 81.

So, just as other concepts of behaviour theory such as habit strength, expectancy, drive, instinct, memory trace, repression and super-ego may be identical in future neuro-physiological theory with neuron processes or patterns, so the concept of raw-feels (construed as a hypothetical construct anchored in observable stimulus-response conditions) too will similarly be identified with specific neuron patterns as processes. Of course, at our present state of neuro-physiological knowledge the referents of these concepts are unspecified as regards their neuro-physiological basis. This is comparable though with the early stages of Mendel's theory of heredity when there were all sorts of speculations as to the nature and composition of the gene (later to be discovered to be composed of large D.N.A. molecules).

An outline of Feigl's argument amounts to this: He offers the hypothesis<sup>19</sup> that certain neuro-physiological concepts will succeed certain behavioural concepts such that some of these concepts, which denote events referred to in phenomenal terms as the raw-feels of experience will be extensionally equivalent with some neuro-physiological concepts. In such an event we would be in a position to say that the events denoted by neuro-physiological concepts and those events referred to in our introspective awareness of raw-feels are one and the same event, namely a neuro-physiological occurrence. His main task after offering this hypothesis is to show that no current philosophical or logical objections are valid against the identity. Now I have no burning criticisms of the way he deals with the usual philosophical objections to the identity hypothesis but I feel uneasy about his claim that raw-feels are identical with neuron processes or patterns. What does he mean here by identical? Even granting a vast number of detailed

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<sup>19</sup> He offers only an hypothesis since as yet it cannot be asserted that 'Sensations are neurophysiological processes until science provides sufficient evidence'.



correlations between specific brain processes and specific raw-feels would only be part of the answer since even a perfect correlation between two items does not establish that they are identical. A criterion of event identity must be established which justifies us in saying that two correlated items are one and the same event. Feigl has very little to say about this and yet it would seem to be essential to his enterprise. Thus I do not think that Feigl can be justified in asserting an identity until he has clarified precisely what he means by identity. Perhaps it would be better for both Feigl and Smart if they were to speak of the "replacement" of part of one account or theory (our introspective phenomenal language account of raw-feels) by a more sophisticated neuro-physiological theory. My task in the next chapter will be to expand on this point.

CHAPTER IV - EXPLICANDUM OR IDENTITY?

From now on I will speak of "identification" with caution since I think the central issue is not whether sensations are identical with neurophysiological processes but whether there are any serious philosophical obstacles preventing us from giving a physicalist analysis of sensations. This reformulation of the problem is not only fairer to the information available about the relation between physiological occurrences and mental states (an Utopian theory is not a theory) but it also does not have the disadvantage of bogging us down over questions about the sort of identity involved. (This too will be determined by what the neuro-physiological theory will turn out to be). Smart, for instance, runs into difficulties by specifying that the identity statement is a contingent and not a necessary or analytic identity. He uses the distinction between "analytic" and "contingent" identity to avoid objections making use of intentional contexts: For instance, the objection against a strict analytic identity relation would run as follows: "Jones knows that he is experiencing a red raw-feel" when conjoined with the identity theory's equivalence "Experiencing a raw-feel is having a certain state in one's visual cortex" entails "Jones knows that he is having a certain state in his visual cortex", an inference which is clearly invalid. This is all very well but if he is arguing, as he seems to be, that the identity between sensations and brain states may one day (given Utopian neurophysiology) be a law of nature then we could argue that the very contingent - analytic distinction he makes use of to forestall intentional

objections is not a sharp one at all especially when it comes to purported laws of nature. Smart is weakening his thesis by labelling the identity a contingent one. He is not looking ahead far enough (dare I say it!) because if we worked out and theoretically elaborated a system of definite correlations between sensation  $\psi$  and brain state  $\phi$  then the identity statement 'Sensation  $\psi$  is brain state  $\phi$ ' would not be a contingent or synthetic statement but more like an analytic one. In virtue of the theoretically elaborated system we might want to say things like "It is impossible in principle to be in some sensation  $\psi$  without brain state  $\phi$  occurring" for just as in Euclidean geometry we say "It is impossible in principle to deny that the shortest distance between two points is a straight line" so in future neurophysiological theory it may be inconceivable to think of someone having a sensation  $\psi$  without being in brain state  $\phi$ . Statements in the neurophysiological theory would be like statements in Euclidean geometry, that is to say much more "analytic" in character than "synthetic". Of more importance is the argument used by Feyerabend who, although allowing that "identification" is appropriate in its basic intent, maintains that the problem should be seen rather as the replacement or supplantation of concepts of earlier stages of scientific theories by concepts of a later, more accurate, and more comprehensive theory. Replacement or supplantation is more appropriate because Feyerabend points out that if there are no mental events in the usual sense (that is if physicalism is true) then the "identification" hypotheses espoused by Feigl and others is either false or nonsensical. He says,

"Is the possibility to be denied that we may discover that there are no 'minds' in the sense in which this word occurs in the familiar mentalistic ideology, and that there is therefore no mind-body relation to be analysed." <sup>20</sup>

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<sup>20</sup> P.K. Feyerabend, "Problems of Empiricism" in Beyond the Edge of Certainty, ed. R.G. Colodny, P-H.65.

Feyerabend goes on to say that in this case the attempt to analyse the mind-body relation would be analogous to trying to find the molecular constituents of phlogiston when there was the possibility (and now the fact) that phlogiston does not exist. (I think Feyerabend is overstating his case in saying that there may be no mind-body relation to be analysed but nevertheless his point about replacement or supplantation rather than "identification" still stands and I will expand on it later on).

Now to the main argument of this section. The most powerful objection to the physicalist analysis of sensations is that one can say things about a sensation which cannot be said about a physiological occurrence, and vice-versa there are things that can be said about physiological occurrences which cannot be said about sensations. For instance we can say of a physiological occurrence that it contains elements that move over a curved path while it would be nonsense to say that the sensation of red as experienced contains elements that move on a curved path; we can say that a sensation is confused or clear while a physiological occurrence is neither confused or clear; or that a sensation as experienced is non-locatable while a physiological occurrence is locatable.<sup>21</sup> There are a host of things which can be predicated of one event but not the other. Now it is argued that because there are things that can be said of mental occurrences which cannot be said about physical processes then mental processes cannot be analysed in physicalist terms because it would result in either false or meaningless assertions. The argument then hinges on showing that a physicalist analysis results in either false or

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<sup>21</sup> It is often argued that 'is coloured' is predicable of 'physiological event', but not of 'sensation'; but I don't think an event has colour either. Objects within an event may be coloured but it is nonsense to speak of the event itself as coloured. One traffic light is red, the other green, but the event of the changing of the traffic lights is not coloured.

nonsensical statements so let us examine these charges. Consider the charge of nonsense first. The proponent of the objection is saying that if we countenance a physicalist type analysis of sensations then we will come up with sentences like 'The sensation of pain contains a part that is moving in a curved path' or 'The sensation of pain is located in this or that part of the brain' - sentences which don't make sense in ordinary sensation language. Allegedly these sentences do not make sense because we do not mean by 'my experience of red' that 'it contains a part that is moving in a curved path', and even if we did accept the sentence as meaningful then all we would be doing is giving the expression 'contains a part that is moving in a curved path' a new meaning, namely 'experiences a red sensation'. Thus the contention is that as long as the words composing the expression keep their present meanings then the sentence is nonsensical. (A variation on this "linguistic argument" was used by J. Shaffer<sup>22</sup> against Smart. Shaffer argued that ordinary language implies that experiences are not in physical space and therefore it is contrary to ordinary language to say that experiences are brain processes. He argued that to some extent ordinary language embodies a dualistic metaphysics and this must prima facie go against the identity thesis). However, I don't think that this sort of objection is at all telling for as Feyerabend says

"Trying to eliminate materialism by reference to the common idiom, or some other favoured language, therefore means putting the cart before the horse."<sup>23</sup>

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<sup>22</sup>Jerome Shaffer, "Mental States and Brain Process", Journal of Philosophy, 1961.

<sup>23</sup>P.K. Feyerabend, "Problems of Empiricism", Beyond the Edge of Certainty, ed. R. Colodny, P-H. 1965, p. 188.

Whether or not the sentence is nonsensical depends very much upon context, and with the development of new scientific theories it is constantly occurring that sentences that were nonsensical or did not have a use acquired a use because of a change in the conceptual context. Neither do these changes occur necessarily because the words acquired new meanings but because the old meanings determine a new use given the new context created by scientific development. H. Putnam<sup>24</sup> points out that it was precisely because Einstein did not change the meanings of words used in Euclidean geometry that some of his ideas were so incomprehensible when first expounded. To be told for instance that one could come back to the same place by moving in one direction on a straight line was incomprehensible at the time because the meaning of the words were not used differently. It is much closer to the truth in these situations to say that we adopt a new set of concepts which leaves ordinary language untouched except in special contexts (i.e. when terms of ordinary language are used in scientific contexts). We must distinguish between

a) a sentence which acquires a use because of what the words ordinarily mean

and

b) the cases in which words are literally given a use (inventing new words for instance where meanings are stipulated for certain expressions).

The sentences or words of interest to us are of (a) cases and not (b) cases.

A further illustration will help to see the point in the mind-body case.

Our sorts of allegedly nonsensical sentences are comparable with the use of the sentence 'He is halfway through his dream', a sentence which did not have a use until we had means of telling on the basis of physical indicators

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<sup>24</sup>H. Putnam, "Minds and Machines", in Dimensions of Mind, ed. S. Hook, Collier-Macmillan, 1960.

(electroencephalograms, blood pressure, eye movements, etc.) when dreams started and stopped. Both 'My experience of red contains a part that is moving in a curved path' and 'He is halfway through his dream' are sentences which seem to go against our ordinary use of the words involved, but this is no objection to a physicalist analysis just as it was no objection against Einstein's General Theory of Relativity that sentences like 'You will come back to the same place by moving in one direction on a straight line' were deemed incomprehensible at the time that Einstein's theory was first propounded. This sentence only seemed incomprehensible at the time because we were used to thinking in Euclidean concepts of "space", "direction" and "straight line" and so on, but once one understands non-Euclidean concepts then there is nothing incomprehensible about it.

The second, and more serious charge is that a physicalist analysis would result in false statements because as a matter of fact there are "observational" differences between sensations as experienced and the corresponding neurophysiological process. For instance, introspective "observation" of myself in pain indicates that my state of consciousness when experiencing the sensation is not locatable (we speak of the pain as in my leg or in my arm, but the argument runs that it is not the case that my state of being-aware-of-a-pain-in-my-leg, or the state of consciousness is also in my leg),<sup>25</sup> while observation will show that the "correlated" physiological occurrence is located in a specific part of the brain; or again that my experience is not observed as having parts whereas the physiological occurrence does have parts. Now do these alleged observational differences constitute proof against a physicalist analysis? I think not.

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<sup>25</sup>See J. Shaffer, "Mental States and Brain Process", The Journal of Philosophy, 1961, p. 815.

The way out of these difficulties is to argue that while it is true that sensations as experienced do not have the features attributable to physiological occurrences it is true only within the "account" or theory we give of sensations at a phenomenal or experiential level: Only within our phenomenal language do they lack these features but that in a neuro-physiological theory or account of sensation we may be justified on empirical grounds in also attributing these other features to them. In other words, given that at some later date we will have sufficient scientific grounds for identifying sensations with neurophysiological processes the concepts in neurophysiological theory like 'location', 'having parts', 'contains elements which move in a curved path', etc. will be applicable to our phenomenal language notion of sensations and will supplement and replace the concepts whereby we understand sensations at the phenomenal level. In such an event (that is if future scientific development will justify an "identification") the features of sensations in the higher level neurophysiological theory would not necessarily falsify the features of sensations at the lower phenomenal level but rather these new neurophysiological concepts supplant, replace, and add to our low level phenomenal concepts. Thus to the argument that there is something inconsistent with a physicalist analysis because such an analysis commits one to speak for instance of the location of sensations and this does not make sense or is just simply false (as is borne out by the absence of rules in ordinary language for either asserting or denying that sensations have location), my reply is that it is only at the phenomenal account or theory of sensations that these neurophysiological concepts have no use. But now if at a future date there were sufficient scientific grounds to say "Sensations are neurophysiological processes" then neither



would it be nonsensical nor false to apply a criterion of location and other concepts which the neurophysiological theory would carry with it. Furthermore these new features of sensations such as location, having parts, contains elements which move in a curved path, etc., would add and enrich our understanding of the nature of sensations. Thus it is not a question of these new neurophysiological concepts falsifying the features of sensations we are aware of at a phenomenal level but of these new concepts enriching our general understanding of sensations.

The position I have taken to rebutt the objections to an "identification" could be called a "double-theory" view. What I have tried to show is that the objections mentioned earlier are not substantial ones if one views this strand of the mind-body problem as an issue about the possibility of a future theory about sensations (a superior scientific theory) replacing or supplanting parts but not all of our lower level phenomenal theory about sensations. (The replacement of parts of one theory for more explanatorily adequate parts of another theory). However before going any further I want to show that the "double-theory" view which I have relied on is a tenable view. I will try to illustrate this by comparing the double-theory view with other cases where the same sort of replacement and supplantation of certain concepts of one theory for concepts in another lower order theory occurs. I wish to show that if future scientific developments provide sufficient grounds to say "Sensations are neurophysiological processes after all" then this statement is comparable to other well-established scientific "identifications" of the following sorts,

1. Lightning is an electrical discharge from ionized clouds of water vapour.
2. Material objects are certain structural collections

of atomic particles.

3. Water is a collection of  $H_2O$  molecules.

(It is important to note from the outset that these examples are not used to prove the point but only to help by analogy to explain the point. There are obvious differences between the sensation case and the above examples especially with regards to the epistemological features (direct knowledge) of the sensation case which must be given special treatment. However I hope to show that the sensation case is comparable with the other examples in a relevant way).

The R.H.S. of the listed identifications are theoretical expressions within an elaborated and well-established scientific theory while the L.H.S. are expressions within an account at a lower theoretical level (phenomenal level). Similarly I think that if future science established that 'Sensation  $\psi$  is the neurophysiological process  $\phi$ ' then this identification would be of the same sort as the examples listed. In this event the expression 'neurophysiological process  $\phi$ ' would be an expression in an elaborated scientific theory and would carry with it concepts such as 'location', 'contains elements which move in a curved path', etc., and the expression 'sensation  $\psi$ ' is an expression in an account at a phenomenal level and would carry with it all the attendant features of sensations at that level. Let us follow this through by comparing the sensation case with the second of our examples - 'Material objects are certain structural collections of atomic particles'. From our experience of seeing and feeling a material object, say a chair, we postulate it as an object in the "outer" world and speak of the object in a physical object language (the physical object language can be thought of as a theory or account about our experience of a chair). On further investigation we

develop a more sophisticated theory to replace or supplant concepts in the physical object language theory: For instance in science the phenomenal concept of 'chair' is replaced by the concept of "a certain structural collection of atomic particles". Now why should we not treat 'Sensation  $\psi$  is physiological occurrence  $\phi$ ' in the same way? Let us follow this through. I experience pain or some other sensation just as I see lightning or feel the hardness of a material object, so then why should we not in this case postulate not something outside of myself but something inside of myself - viz: a brain process? I was justified in postulating an object outside of myself (a material object) and then theorizing and investigating the nature of that object so now why am I not justified in doing the same thing with sensations? In the identifications listed earlier I am entitled to say that despite the difference in features between (a) my experience of lightning, of water, of a material object, and (b) the features peculiar to their respective theories on the R.H.S., nevertheless they are perfectly legitimate "identifications" or explications of the events on the L.H.S.

Now my argument is why are we not justified in doing the same sort of thing in the sensation case? But one objection to this sort of account is to point out the difference between the sensation case and the material object case over the question of our direct knowledge of the character of sensations. The sensation case is unique and different from the other identifications because we have direct knowledge of the content or character of sensations which unlike the L.H.S. of the other identifications cannot be redescribed with any improvement by any higher level scientific theory such as an Utopian neurophysiological theory. In the case of 'material object', 'water' and 'lightning', these are redescribed in well-established scienti-

fic theories which describe the phenomena more accurately and with improvement but in the sensation case, because we have direct knowledge of the character of sensation this is not the case and consequently the comparison is supposed to break down. Because we have direct knowledge of sensations which cannot be redescribed more accurately by neurophysiological theory then 'Sensation  $\psi$  is neurophysiological process  $\phi$ ' cannot be treated as comparable with the other examples. My reply to this objection though is to argue against the alleged knowledge content of sensations as experienced. Or put another way, I will question what the "given" aspect of experience really amounts to.

First let us see what we are supposed to do to be persuaded of the alleged givenness. If I am in pain then I utter the sentence. "I am in pain" and this has a meaning for me and for others. I know the meaning of pain, I know that having a pain is different from feeling pleasure; that pain can be eliminated by anaesthetic; that they are not contagious; that tables and chairs do not experience them, and so on. I also know that my utterance is understood by other people because they sympathize with me and they give me attention. Let what I have said so far be called the learning context whereby I can be said to know the meaning of pain. Now someone who wants me to understand the "given" aspect of my experience is asking me to forget about the learning context which guarantees the meaningfulness of the utterance and to reinterpret the utterance independently of the context so that it now concerns only what is known directly by acquaintance. But what am I supposed to know independently of the context? I don't think that we know anything. (Kant argues for this position in the first Critique; our "sensations" are not yet "perceptions" but that in order to give rise to a perception a

sensation must be "interpreted" within the framework of space and time. And our perceptions are still not experiences until they are subjected to the conceptual framework of experience. In other words sensations do not qualify as objects of knowledge (perceptions) until they have been "interpreted" within the framework of space and time - the a priori forms of perception - and the conceptual framework of experience - the categories). Now I think the proponent of the phenomenally given argument is asking me to do something conceptually impossible: He is asking me to free the meaning of the utterance 'I am in pain' from its housing in the conceptual framework and to think of a new statement expressed in the same sentence about the phenomenally given. But freed from its "conceptual housing" the sentence is empty of meaning and content, it is only a full and meaningful sentence when one thinks about the experience and this brings us back to the central point that how the experience is characterized will be a function of the way one thinks about it in a particular language or theory. Nor does anything that has been said deny the fact of knowledge of the given by direct acquaintance but rather it says something about what the nature of that fact amounts to; in one theory (the phenomenal language theory) sensation  $\psi$  is a fact characterized as non-locatable, etc., while in another theory or another conceptual framework (the neuro-physiological theory) sensation  $\psi$  is a fact characterized as locatable, etc. Feyerabend sums up the point I have been trying to put across this way:

"The argument that we attacked was as follows: there is the fact of knowledge by acquaintance. This fact refutes materialism, according to which there would be no such fact. The attack consisted in pointing out that although knowledge by acquaintance may be a fact, this fact is the result of certain peculiarities of the language spoken and therefore alterable. Materialism [and, for that matter,

also an objective spiritualism like Hegel's] recognizes the fact and suggests that it be altered by including our knowledge of human beings (physical knowledge and physiological knowledge alike) in the mental notions."<sup>26</sup>

What Feyerabend is saying here and elsewhere in the article is this: My claims to know a sensation, my claims to understand what the nature of a sensation is, are "mediated" by the lower-level phenomenal language, just as the features I know about chairs are "mediated" by material-object language. (Of course, the material-object language was generated from a learning context just like utterances in the phenomenal language. I understood the sentence 'There is a table before me' because I have learned certain things about material objects; for instance I can predict the sort of tactile sensations that are going to occur; that chairs and tables fall to the ground when not supported; their behaviour in relation to other objects; that they do not feel pain, and a host of other things). Now if after scientific discovery and theorizing a higher level neurophysiological theory replaces, expands on or adds to the lower phenomenal level language theory then the succeeding theory will carry with it features of sensations which were not in the other theory. For just as atomic particle theory supplanted our material object language theory and introduced features into our understanding which were absent from our understanding at a material object level so will neurophysiological theory carry with it features which were absent from the phenomenal language account. To repeat once more the central point: How the experience is characterized will be a function of the theory we are speaking about and the fact of experience by acquaintance will be characterized by the features of that theory. This is important because it shows what we are doing when we speak of our experience in neurophysiological theory - we are giving a theoretical or intellectual

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<sup>26</sup>Ibid., p. 193.

account of events inside ourselves - viz: brain processes. (The phenomenal language theory is an account, too, but it is at a much lower level). Thus when some concepts in neurophysiology replace some of the concepts in the lower theory then we are not exchanging experience with all its warm familiar phenomenal features for a mere theory. The fact of direct experience qua experience does not disappear but what the knowledge content of the sensation will amount to, that is how the sensation experience is characterized will be a function of the theory we employ to understand the experience. Thus in this account if we were to ask "What is the nature of a sensation?" then the answer is largely determined by the sort of theory or language in which the question is asked. If we ask the question in our ordinary phenomenal language then the answer will be something like "A raw-feel (pain for example) is a mental occurrence felt by most human beings at some time or other which is very difficult to describe to a person who has not experienced it. One also feels hurt and distressed while experiencing it." The reply to the question in a more sophisticated neurophysiological theory would be very different and would run something like "A raw-feel is a neural occurrence, travels along nerve fibres, and is readily detectable and describable upon examining one's central nervous system." These are two different answers to the same question and we can see that the content of the answer is restricted by the form of theory of which raw-feel is part. This shows that there are not two different sorts of reality but rather two theoretical frameworks or positions to view and describe it. Now if we take a hint from parallel scientific cases where one theory quite often replaces and expands on some concepts in a lower order theory about the same phenomena then I see few objections to a "double-theory" position.

CHAPTER V - PRIVACY AND INCORRIGIBILITY

The viewpoint I was canvassing for in the previous chapter is far from home and dry because one serious philosophic or to be more precise epistemological obstacle is the argument that we are directly acquainted with some phenomenally given aspect of experience and this is borne out by the unique epistemological features of first person sensation statements with respect to incorrigibility and privacy ("logically privileged access"). Our first person sensation statements are incorrigible and private while neurophysiological statements are not so, and the argument runs that because we can predicate 'private' and 'incorrigible' of one side of the "identity" statement but not the other then this shows that an analysis along the lines of the last chapter is inconsistent or incompatible. Furthermore the question of the phenomenally given reappears once more since allegedly it is on the basis of our direct acquaintance with the phenomenally given that the predicates 'incorrigible' and 'private' are asserted of sensation statements and not of neurophysiological statements. The issue then is whether the alleged incorrigibility and privacy of sensation reports in the low-level phenomenal language implies that we are acquainted with a phenomenally given aspect of experience and whether this is sufficient to refute the physicalist-type analysis proposed. The obvious manoeuvre in this situation is to cast suspicion on the notion of incorrigibility and show that sincerely asserted sensation statements are only generally and empirically true and not indubitably or logically true; (one could also cast doubt on the notion of privacy, construed to mean "logically privileged access" in the same way). For if incorrigibility



and privacy are not incorrigible nor private in the sense desired then they cannot legitimately be used to generate arguments to show that there is a phenomenally given aspect to experience in virtue of which we can speak of indubitably true statements, and "logically privileged access". It cannot be argued that it is because there is a content to the phenomenally given that the concepts of incorrigibility and privacy are meaningful. My tactics then is to undermine the usual conception of incorrigibility and privacy and thereby undermine the arguments against physicalism which are generated from these conceptions. I hope this will serve two tasks - (a) serve as a straightforward argument against the current epistemological objections to the "identity" thesis over incorrigibility and privacy; (b) indirectly serve as a deep level attack on the phenomenally given argument insofar as it relies upon and draws strength from the traditional notions of incorrigibility and privacy attached to sensation statements. I have already dealt with the phenomenally given arguments so the heart of this final chapter will be the attempt to try and show that sensation statements are neither logically true nor imply a logically privileged access, but are only contingently true and imply only a contingent privileged access.

Let us look at the usual arguments against "identity" theories and against a physicalist analysis which are generated from the notions of indubitability and privacy ("logically privileged access"). The 'argument from privacy' and the 'argument from incorrigibility', as I shall baptize them are really more serious variations on the sorts of objections encountered earlier, namely that we can say things of sensations which cannot be said of neurophysiological occurrences: Because we can say of sincerely asserted sensation statements, but not of neurophysiological

statements that they are incorrigible and private then an "identification" or analysis of sensations in physicalist terms is incompatible or inconsistent. Let us examine the arguments separately, taking the argument from privacy first.

#### The Argument From Privacy:

The argument centres on the notion of 'private' construed to mean "logically privileged access" and claims that since 'private' can be predicated of 'sensations' but not of 'neuro-physiological occurrence', and 'public' can be predicated of 'neuro-physiological occurrence' but not of 'sensations' then the "identification" of sensations with neuro-physiological occurrences is incompatible. Let us examine the sorts of propositions and implications the argument makes use of. The following is a reconstruction of the essentials of K.M. Baeir<sup>27</sup> argument against Smart's identity theory:

- (i) If 'p' is a first person sensation report - e.g. "I see an after-image", "I feel pain", etc., then this implies that 'p' is an introspective report.
- (ii) Since 'p' is an introspective report then this implies that 'p' is about something private. ('Private' in the sense that I am the only one aware of my subjective states).
- (iii) Therefore, if 'p' is a first person sensation report then 'p' is about something private.

Thus the first stage of the argument establishes the privacy of first person sensation reports from the fact that a sensation is the object of awareness of that person and no other. The next stage is to bring this truth to bear on the "identity" thesis.

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<sup>27</sup>K.M. Baeir, "Smart on Sensations", Australian Journal of Philosophy, Vol. 40, 1962.

- (i) If 'p' is about something private then 'p' cannot be about something public.
- (ii) If 'p' is a physiological description, then it is about something public.
- (iii) Therefore, 'p', which is about something private, is inconsistent with 'p' as about something public. It follows from this that since sensation reports are about something private and physiological descriptions about something public that the identity is inconsistent or incompatible.

The questionable part of this argument is the use made of the public-private dichotomy and I will centre my attention on this part. At premise (i) the argument assumes that there is only one sense to private and one sense to public and that they are mutually exclusive. I will concern myself with the meaning of 'private' and see whether the dichotomy is as black-and-white as the argument supposes.

If one were to speak of sensations as "private", then one would say that the following minimum requirements were satisfied.

- (a) The sensation is owned by somebody

and

- (b) The sensation is exclusive to that person because two persons cannot have one sensation.

Now, while we usually speak of conditions (a) and (b) as true of sensations there is nothing incompatible between these conditions and physiological events. Whether sensations are identical with physiological events or not the event is still owned, or had by someone, it is also exclusive to that person (or thing) in that one event cannot be had by two persons (or two things). Conditions (a) and (b) only specify token-occurrence conditions; that is, the conditions only specify a criterion of numerically distinct sensation occurrences. But this applies to physiological occurrences too,

therefore the conditions are neutral to the "identity" thesis since they are conditions applicable to any numerically distinct event or occurrence. Thus, this sense of private is not exclusive to sensations alone and no "privacy" argument can be generated from it..

But to be fair to the proponent of the 'argument of privacy' I think he is aware of these issues but wishes to point to a further, philosophically extended sense of private. Philosophically we speak of "absolute privacy" or "absolute subjectivity" where we mean that our subjective states are in principle inaccessible to intersubjective confirmation. The existence of "absolutely private states" can only in principle be confirmed by the person having the experience. These concepts are conceived of as the bare phenomenally given or raw-feel aspects of experience in one's stream of consciousness. This sense of private has a cluster of further epistemological concepts attached to it: For instance, this sense of privacy implies an epistemological asymmetry between knowledge of my own mental states and knowledge of other persons mental states. This asymmetry is usually characterized by the predicates "inferential-non-inferential", "immediate-mediate". Furthermore, because sensations are private and inaccessible to all others but oneself one has final epistemological authority over them (on this basis sensation statements are supposed to be incorrigible or indubitably true). Now putting aside discussion of this cluster of epistemological concepts attached to privacy and coming straight to the point the question relevant to the privacy argument is whether raw-feels can in principle be shared. Do we have a logically privileged access to sensations? No doubt we have "privileged access" to our mental states but is this a logical or an empirical privileged access? Or put another way, are sensations

private in any sense other than a logically trivial sense specified in conditions a) and b)? To give a suitable answer to this question the following distinction is relevant:

a) an epistemological sense of private

and

b) a physiological sense of private.<sup>28</sup>

The epistemological sense of private demands that if I make a knowledge claim about a sensation experience then that experience belongs to my experiential history and not to anyone else's experiential history. Now while admitting that a) is crucial for the role of the individual in making knowledge claims, nevertheless I think it is neutral to the question whether in principle our experiences could be shared. The status of sense a) amounts to no more than this: Without a) we could not make sense of first person psychological statements, we would not know what it meant to say 'I am in pain' as a genuine assertion about oneself unless the sensation was part of the experiential history of the person sincerely asserting it. But from this epistemological truism it does not follow that a sensation could not in principle be shared. It only means that before I can sincerely make a first person sensation statement then there must be an item I believe is part of my experiential history to which the statement refers to and which makes the statement true. In a sense this is a requirement for the "intelligibility" of first-person sensation statements in much the same way as the concept of "a reason" makes an action "intelligible". Now while not denying the

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<sup>28</sup>The inspiration for this distinction came from P. Meehl's article. "The Complete Autocerebroscopist: A Thought-Experiment on Professor Feigl's Mind-Body Identity Thesis" in Mind, Matter and Method, ed. Feyerabend and Maxwell, University of Minnesota Press, 1966.

"intelligibility" conditions which a) specifies I think the question of whether an experience can be shared is left untouched by this because it is a physiological question and not an epistemological one. I think the privacy of my sensations amounts to no more than the fact that "I" am causally related to "my" sensations in a causally direct way. What I mean by this is that I develop a set of verbal habits or reporting mechanism through learning a language such that I am able to make first-person sensation statements whenever I experience a sensation and feel inclined to verbalize it. This "tokening mechanism" is causally related to the relevant cortical state "correlated" with the sensation. Now privacy in sense b) is no more than the physiological fact that my tokening mechanism is causally related to my cortical state. On this account there is nothing special about the epistemological fact that I know that I feel pain under circumstances in which you do not know that I feel pain and vice-versa. The epistemological asymmetry can be simply explained by saying that my tokening mechanism is linked to my cerebral state and not to yours. What all this tends to show is that the apparent epistemological absurdity of speaking of shared experience is only absurd because of our contingent physiological make-up but there is no logical obstacle in speaking of shared experience.

From what has been said there seems to be no philosophical reason that given Utopian neuro-physiology we could not "wire" (connect) the tokening mechanism of Jones to the relevant part of Smith's cortex in such a way that Jones would token the same event as Smith and experience the same event as Smith even though the event was occurring in Smith's cortex. In this case the sensation, in a very meaningful sense is no longer private to Smith in the absolute sense originally implied. We could speak of two

organisms sharing the same cortex and consequently of both experiencing the same sensation. Thus whether an experience is "shareable" or not depends essentially on causal possibilities and should not be confused with the "intelligibility" stipulation of privacy in a). While at present it only makes sense to speak of one person having an experience it is in principle possible, that is, there are no philosophic obstacles preventing us from speaking of two persons having the same sensation. Neither does this beg the question of the identity at issue. All that has been shown is that privacy and the identity thesis are not incompatible. The argument also suggests that Jones' tokening could be regarded as more dependable than Smith's even though the cortex belonged to Smith because it may be that the connection between Jones' tokening mechanism and Smith's cortex is more dependable than Smith's connection. Now if the expression 'more dependable than' is construed epistemologically is it not possible that we might want to accept Jones' "knowledge claim" in preference to Smith's? This brings us to the other epistemological predicate 'in corrigibility' and the argument against the identity theory over the alleged incorrigibility of sensation statements.

#### The In corrigibility Argument:

This argument I baptize the "argument from the incorrigibility of sensations". It amounts to this: Our knowledge claims about sensations are incorrigible, that is, our sensation statements if sincerely asserted could not in principle be opposed by evidence sufficient to abandon them. Now if sensations are "identical" to physiological occurrences it ought to follow from the identity relation that physiological statements too could not be opposed by evidence sufficient to abandon or modify them, but this

obviously is not true since the truth of these statements could change with the development of science. The argument concludes that since 'incorrigible' can be attributed to one side of the identity but not to the other then this is inconsistent or incompatible with an identity relation. Before dealing with a defence of the theory's position I wish to say something about the meaning of incorrigible used in this context.

A first-person sensation statement is incorrigible or indubitable if they are not only generally true when sincerely asserted but are always true when sincerely asserted. It is the mark of an incorrigible statement that its being honestly asserted is a logically sufficient condition of its being true. And if anything can be said to justify a person in saying that he is in pain it is simply his being in pain, not his having evidence that justifies him. This latter claim that evidence is irrelevant is central to the usual conception of incorrigibility especially in the mind-body controversy, but the bulk of my forthcoming argument is to show that evidence could be (though hardly ever is) counted as relevant. My present interest though is in trying to salvage some philosophic respectability out of the notion in the light of attempts usually made to hedge around incorrigibility when confronted with unfavourable counter-examples. There seems to be no end to the list of "qualifications" to incorrigible in order to secure a sense of absolute certainty about sensations. What is harmful though is not so much making a list of qualifications, for instance - 'An English-speaking person, not lying, not hypnotized, etc., cannot be mistaken about the utterance "I am in pain"' - the harm is in the 'etc.' which does duty for what might be genuine cases of mistakes. Even the hedging expression 'uses the wrong word (misdescription)' conceals the fact that misdescription may result



from lack of knowledge or mistaken beliefs about the sorts of sensations felt. It may not merely be a person's words - his inability to speak the English language and label the sensation correctly - but his belief which is mistaken. His understanding of the nature of the sensation may be mistaken and this is not a linguistic matter if he knows the meanings of the terms involved. It is precisely because he knows the meanings of the words involved that we say he is mistaken. The qualifying expression does not distinguish between "misdescription" and "mistaken belief" for if a person's belief is mistaken then in a very meaningful sense we can say that his experience is mistaken too. For instance, if I were knocked on the head and asked to say how many "stars" I saw isn't it possible that I could be mistaken in my belief as to how many there were? I could be mistaken about these "stars" as about the number of stars I saw in the heavens. It is difficult to give examples of mistakes about one's sensation experiences, this is not only because as a matter of fact sensation statements are generally true but there is the further reason that at present there are no other ways of finding out whether sensation statements sincerely asserted are in fact true. (It is a fact about our communication with others that we accept the truth of their sensation reports on trust. Since there is no way at present of finding out independently of sincere assertions then what else can we do?). However, this is not to say that in principle we could never find a method independent of sincere first-person assertions. What follows will be an elaboration on this central point.

The issue between incorrigibility and the "identity" theory can be highlighted in the following question: Is a person the final epistemological authority on his sensation reports? It is obviously generally true that he

is but is it true in principle? Traditionally at least the question was always answered in the affirmative, it was argued that no evidence would make us abandon our claim. The real question at issue then is whether evidence is relevant to the truth of these statements. To dramatize the issue I will consider P. Meehl's "thought-experiment" with an "autocerebroscope".<sup>29</sup> The point of the experiment will be to try and show that physiological (or scientific) considerations could be regarded as evidence for or against first-person sensation reports. If this can be shown then the argument from incorrigibility is not as serious an objection against the identity theory as was thought.

An "autocerebroscope" is an imaginary device which as its name suggests enables a person to receive information about his brain state while he is experiencing a raw-feel. The device consists of instruments leading off the relevant part of my brain which convert the patterns of the brain state into symbolic patterns which are projected onto a television screen in front of me. For simplicity's sake, let us limit my experience to two colour qualities, red (R) and green (G). Thus, only symbolic pattern (R) and (G) will appear on the screen. The apparatus is so devised that symbol (R) and symbol (G) appear alternately on the screen whenever the cortical state known to be produced by

- (a) inputs of red and green light waves in persons with normal colour vision

and

- (b) those states which ordinarily produce a tokening of the word 'green' or 'red' by a person who knows the meaning of these respective colour words.

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<sup>29</sup>P. Meehl, "The Complete Autocerebroscopist - A Thought-Experiment on Professor Feigl's Mind-Body Identity Thesis". in Mind, Matter and Method, ed. Feyerabend and Maxwell.

It is important to note that only the brain state "correlated" with my seeing green or red is connected to the apparatus's symbolic representation on the screen. This means that my tokening mechanism when I token either 'I see green' or 'I see red' is independent of the connection between brain activity and symbolic representation. My tokening mechanism is connected to the brain state but this connection is independent of the connection between brain state and symbols on the screen.

If all goes well I find myself tokening 'red' as descriptive of my experience whenever (R) is on the screen and tokening 'green' when (G) appears on the screen. But supposing one day I find myself experiencing green when the symbol on the screen is (R), I token 'I see green' when (R) is on the screen. I try again but continue to feel certain that the predicate 'green' is the correct description of my experience. I know how to speak the English language properly, I am not hypnotized and I sincerely believe that 'green' is the appropriate word. 'Green' seems to be the only word to describe my experience. The obvious procedure in this situation is to thoroughly check and test the autocerebroscrope, but suppose that exhaustive tests fail to reveal any defect in the device. If I were a good scientist the only alternative would be to conclude that there was something wrong with my brain; I would have to say that my brain was not a normal brain. Having confidence in the causal laws of science I would try to explain the oddity of the situation by saying that something had gone wrong with the connection between the raw-feel event correlated with my cortical state and the tokening mechanism part of my brain. I would have to investigate (or someone else would) my tokening mechanism, my cortical activity and the connecting mechanism between them. Supposing that after research I discover

something unusual about the connection such that scientifically it explains my aberrated tokening and the belief that I was experiencing green which went along with it. I also discover that this occurs around 10% of the times that I receive a red light-wave input, and furthermore this complaint is not peculiar to my brain alone but also to 0.2% of the population. It was also discovered by collaboration between psychologists, neurologists and "autocerebroscopists" that this physiological complaint was usually explained as a Freudian slip or some other "hedging" qualification mentioned earlier so that what we normally thought to be a hedging qualification now turns out to be a genuine mistake and not a mere slip of the tongue. Scientifically all is well again but the consequence is that we can now legitimately say that raw-feels seem to me to be green when they are in fact red and we are willing to accept the results of the autocerebroscope in preference to a sincere first-person sensation report. Now this shows that what I thought to be a logically true statement about my current experience turns out to be false. It further shows that if any of my sensation statements are true then they are only as a matter of fact true. Thus given this Utopian situation of the autocerebroscope and a sufficiently sophisticated neurophysiological theory then my sensation statements are not logically indubitable but only as a matter of fact generally true.

There are two possible objections to what has been said so far.

(i) Someone could say that what you have argued for so far is this: The autocerebroscopist is able to say from his knowledge of the correlation between states of your brain and mental states that when you report 'I am seeing green' when the autocerebroscope indicates a red visual experience then

- a) you are not lying
- b) your brain is in the state appropriate for some other visual experience (a red visual experience)
- c) that there are disturbances in your brain which would account for your mistake.

And from this we ought to conclude that your report is mistaken. Now, one possible objection is this: Why should we side with the autocerebroscopist? Should we not conclude that there is something wrong with brain theory? This is a possible rejoinder but since the objection is really about whether the brain theory is well founded or not then surely this is a question to be decided by a conference of qualified autocerebroscopists and neuro-physiologists. Of course it is true that the autocerebroscopist would have to establish his theory first by accepting people's introspective reports and then correlating them with brain states, but once the theory is well established and well systematized it could be used to cast doubt on any particular introspective report and in this case first person psychological reports would only be contingently and generally true.

ii) It could be argued that although the autocerebroscopist shows that the statement 'I am in pain' or 'I see red' are not incorrigible, but nevertheless he must admit that the statement 'It seems to me that I am in pain' or 'I believe that I see red' is incorrigible. However, I see little force in this argument because in what way is the statement 'It seems to me that I am seeing red' supposed to be indubitable? The statement is true but it is not indubitably true though. If I assert 'I am in pain' sincerely and then the autocerebroscope says otherwise, then of course my assertion presupposes that I believe that I am in pain but if I accept the readings of the autocerebroscope then I say "Of course, I believed I was in pain", or "Of course it

seemed to me that I was in pain but now thanks to the autocerebroscope I realize that I was mistaken". Because one has accepted the authority and evidence of the brain theory and the autocerebroscope one rejects one's own account of what one thought or what seemed to be going on inside of oneself. Again, as I tried to show in an earlier section, this account does not deny the fact of one's experience but rather one accepts the evidence of a neuro-physiological theory in preference to one's understanding of that fact at a lower theoretical level (i.e. the phenomenal language level).

What the thought-experiment shows is that neuro-physiological and "autocerebroscopic" considerations might override sincere first person sensation reports. This means that there may be situations of importance to use physiological evidence or criteria to decide whether first person sensation reports are true or not independent of the person's convictions. For instance, we may under some circumstance refuse to say that a person sincerely reporting an after-image of a certain shape, size and colour was reporting correctly if his report conflicted with the autocerebroscope and the predictions of a certain theory underpinning the conclusions of the autocerebroscope. (Presumably this would cause an enormous epistemological shift in the traditional status of sensation reports). Admittedly caution is needed in making such claims for if occurrences of conflict with the predictions of a theory were frequent enough then we would have to modify or even abandon the theory and replace it with another one, nevertheless the important point against incorrigibility still stands - that some physiological-type evidence may be relevant. This point seriously undermines the traditional conception of incorrigibility and takes the sting out of the alleged incompatibility or inconsistency which a physicalist analysis is supposed to lead to.

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