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Place Goes Wrong in Treating Mind-brain Relationship

Clarifying why identity theory is neither reasonable nor a mere scientific problem in disguise*

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Abstract

U. T. Place claims that philosophical problems concerning the true nature of mind-brain relationship disappears or is settled adhering to materialism, especially type identity theory of mind. He takes above claim as a reasonable scientific hypothesis. I shall argue why it is not as he claims. At first, to pave the way for refutation, I will briefly clarify Place's approach to the subject in hand; although the rest of the paper will also contain more details about his position. Then, I will reduce his position into four theses and try to prove that the main claim of type identity theory is neither reasonable nor a mere scientific problem in disguise. I think that we ought to regard type identity theory, at most, just as a hypothesis which approximately displays the function of mind-brain relationship but tells us nothing justifiably about its true nature.

Keywords: *mind, brain, identity, analytic and synthetic, a posteriori necessity, internalism, externalism.*

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I. Place's approach in outline

It seems that identity is an issue in which usually the metaphysicians or the logicians are interested. However, the person who is the true pioneer of what became known as the identity theory of mind, whose papers paved the way for turning contemporary philosophers to materialism is not a metaphysician or logician; rather he is a psychophysicologist whose name is U. T. Place. Although he introduces himself as the one who is sympathetic to behavioristic approach attributed to Ryle and Wittgenstein (Place, 2004a, p. 45), in general, he is a part of an influential philosophical tradition elaborated in *the bundle theory of mind*, whose gist can be reported as

The mind is a kind of theatre, where several perceptions successively make their appearance; pass, repass, glide away, and mingle in an infinite variety of postures and situations. There is properly no simplicity in it at one time, nor identity in different, whatever natural propension¹ we may have to imagine that simplicity and identity. The comparison of the theatre must not mislead us. They are the successive perceptions only, that constitute the mind; nor have we the most distant notion of the place where these scenes are represented, or of the materials of which it is composed (Hume, I, IV, §VI).

Such viewpoint caused Place to firmly adopt a reductive approach to the mind so that, regardless of some adjustments, it has remained unchanged from about 1950s until his death in 2000. According to his adopted view, conscious experiences are not events which have occurred in a mysterious place so-called *the mind*, nor are events managed by such entity which has been brought into being from a completely different material compared to what our body has been made of. He holds that conscious experience (or what is usually recognized as a mental event), “is an integral and vital part of the causal mechanism in the brain that transforms input into output, stimulus into response, thereby controlling the interaction between the organism and its environment” (Place, 2004j, p. 28).² Although, this functional definition is not necessarily inconsistent with a dualistic

approach; he expressly emphasizes on a reductive one and believes that all states of consciousness are processes in the brain (Place, 2004a, pp. 46-7 & 2004j, p. 15), that it is a *reasonable scientific hypothesis* (Place, 2004a, p. 46). (See also: Ayer, 1971, p. 23.) But when one asserts that “all A's are B's”, there will be always an ambiguity of how it must be interpreted; “all A's have the same intension as B's have” or “all A's have the same extension as B's have”. What Place intends, as I think, is the latter (Place, 2004f, p. 87).¹ So to say that “all states of consciousness are processes in the brain” is not to say that “these two are synonyms”. It is to say that there are two types of things, mental events and *a certain as yet unspecified type of cerebrospinal activity*, “which do not just happen to satisfy two descriptions but are such that the features that lead us to apply the one description also leads us to apply the other, and where the absence of the same features would in all cases lead us to withdraw both” (Ibid, p. 82). This perfect correlation between two types of events, in such a way that causes them to be equivalent, finally convinces him to acknowledge their identicalness (Ibid, p. 89). He casts his hypothesis in *Leibniz's principle of the identity of indiscernibles*² as below

$$(1) \quad \forall x \forall y [(A_x \equiv A_y) \supset (x = y)]$$

Leibniz's principle has been previously refuted by Kant (A264 / B320 & A272 / B328 & A281-2 / B337-8). To find an outlet keeps Place away from being confronted by Kant's critiques, if there is any, I propose another formulation for his hypothesis. Place speaks about a common property which can be attributed to a brain process same as a mental event (Place, 2004g, p. 102); instead, I suggest to speak about two different but equivalent types of describing an event. It can be formulated as

$$(2) \quad (\forall x)(M_x \equiv B_x)$$

That is to say, scientific research will ultimately show that for any event x there is an equivalence between analyzing it as a mental and as a brain event. Our suggested formula contains the very equivalence which Place looks for. Applying one of these two descriptions leads us to apply the other; if not, in all cases leads us to withdraw both. So,

the only problem confronting the psychophysicist is the problem of showing how a mental event could be equivalently described as a brain process or vice versa. This formula cannot be ruled out of court by a priori philosophical argument³ because it is basically proposed to explain the abundance of experimental observations and will be lastly verified by them, so its truth is a posteriori. This is parallel to the fourth Newtonian rule emphasized in *Principia*: “propositions gathered from phenomena by induction should be considered either exactly or very nearly true notwithstanding any contrary hypotheses, until yet other phenomena make such propositions either more exact or liable to exceptions” (Smith, 2004, p. 159).⁴ In brief, Place's reductive approach to the true nature of mind-brain relationship is entirely same as Schlick's approach to the fate of all philosophical problems, wherein he says: “some of them will disappear by being shown to be mistakes and misunderstandings of our language⁵ and the others will be found to be ordinary scientific questions in disguise” (Schlick, 2002, p. 19).

II. Refuting Place's approach

Place develops his hypothesis in such a way that one may think it will lastly make its rival positions become no longer in use. Moreover, there may be some connections between his approach and artificial intelligence, which has recently attracted remarkable attentions towards itself. Due to this supposed connections, disapproving his approach is not easy. But I think his hypothesis is not reasonable as he claims. Since I challenge the justifiability of his position, especially of reducing mental events to brain events and philosophical problems to scientific ones, it will be necessary for me to discuss and try to raise a number of problems concerning which one of his hypotheses is untenable. I am going to do so via discussion about four theses supporting his position. I think whatever makes these theses valid (or invalid), will also be able to strengthen (or weaken) his position. The reader will give me the greatest aid in the task of trying to make these matters clear if he kindly assumes that nothing is clear in advance.

Thesis (1): whatever can be disregarded in a physical explanation, can be ontologically disregarded too.

According to statement (1), Place's hypothesis is some sort of intertheoretic reduction adopted for explaining the relationship between events but, at the end, he utilizes it to give a materialistic conclusion about the essential nature of what we called mental. As a general rule, if we develop a new and very powerful theory which entails a set of propositions and principles that can almost perfectly mirror the propositions and principles of some older theory or conceptual framework, and if the older one parallels a portion of the newer one when they are meticulously analyzed, then we may properly conclude that we have apprehended the very same reality that is incompletely described by the old framework, but with a new and more penetrating one (Place, 2004f, p. 89; Churchland, 1999, pp. 26-7). So a materialist may argue as below:

Premise (1): what is now apprehended by a physical conceptual framework is the very same reality that has been already apprehended by a psychological one.

Premise (2): the physical framework just needs to presuppose only one type of matter for a proper explanation and prediction.

Conclusion: if a chain of causes is required to explain an event then, based on identity theory, those links of the causal chain where a dualist fills by events occurred in (or managed by) a mysterious entity so-called the mind can be filled by the cerebrospinal events. Therefore, quite the opposite of a dualistic claim, there is no justified reason for presupposing a type of matter rather than what the physical framework presupposes.

It is an ontological restriction deduced from a physically efficient explanation. But “there is no conceivable experiment which could decide between materialism and epiphenomenalism”, Smart asserts (Smart, 1959, p. 155). Because what epiphenomenalist supposes rather than materialist has no causal effect and hence does not appear in the causal chain required to explain an event, so it can be omitted in an explanatory reasoning. But, despite this, we are not justified to omit it

ontologically. Therefore Place cannot justifiably settle disputations in favour of a materialistic position.

Smart's disputation holds an internalistic approach to the justification, so Place, in reply to his objection, appeals to an externalistic response. He abandons his rival objection by reliance on a commonsense belief, holding that any hypothesis of mind ought to be consistent with our commonsense and to explain it as a matter of fact, as much as possible.⁶ As a commonsense belief, we all believe that '*how and what we think and feel affects what we say and do*'. It seems that identity theory is more compatible with the above belief than epiphenomenalism or even psychological parallelism (Place, 2004c, p. 79). Perhaps, we initially think that Place can avoid Smart's objection by using an externalistic approach, but it will finally make his program end up methodologically in an incompatibility. Although this incompatibility is a short cut to rebut Place's hypothesis but I leave it to be discussed in thesis (4).

Let us turn to materialist argument especially where he claims: those links of the causal chain filled by mental events can be equivalently filled by the cerebrospinal events. It is what I cast in statement (2). If so, we have

$$(3) \quad (\forall x)(M_x \supset B_x)$$

That is to say, for any event x if regarded as a mental event then scientific researchers will ultimately show that what occurred is a brain event; however, Place's assertion is partly stronger. He claims what occurred is a certain, yet unspecified type of brain event (Place, 2004f, p. 82 & 2004c, p. 76). But is it a universal proposition applying to all states of mental events whatsoever, as Place claims?⁷ Is pain a certain type of brain event, for example, C-fibers firing? If so, then there might be a madman (or even a Martian) who sometimes feels pain, just as we do, but whose pain differs greatly from ours in its causes and effects;⁸ in this case, could we justifiably claim that he feels whatever, if he feels one, but his feeling is not pain?⁹ How should he behave or react so that we are convinced that he is in pain? Although the case of madman (or Martian) is sufficient to show that Place's assertion is not applicable to all states of mental events

whatsoever, but of course, objections are not restricted to these unusual cases. Neuroscientists recently hold that the functional properties of neurons and the functional architecture of the cerebral cortex are dynamic, some modifications in neural network have been seen which are effective in recovery of function after neural lesions, and thus a part of neural network might undertake the role of other ones (Gilbert, 1999, p. 598). So while Place insists on the one-to-one match between a given type of mental event and an unspecified type of brain event, neuroscientific discoveries show that mental events might be realizable to a great extent. Place's interpretation of statement (3) unjustifiably ignores these discoveries. After all, his other assertion might still be justified: *these objections have been put forward by scientific researches and can be settled by the same researches as well*. So the disputation about the true nature of mind-brain relationship is still a scientific issue. However, analyzing Place's response to token identity can refute this assertion as well.

Physical multiple realizations of mental events, beside other reasons, lastly convinced some such as Davidson to introduce a version of token identity which I formulate as:

$$(4) \quad (\exists x)(M_x \wedge B_x)^{10}$$

That is to say, there is at least an event, such as *a*, regarded as a mental event causally related to a physical event, such as *b*. Since, to Davidson, there is no strict psychophysical law relating a mental event to a physical one,¹¹ so if two events instantiate a strict law then both are physical; that is, *a* itself also must be a physical event (Davidson, 2001a, especially p. 224). For two reasons, Place rejects token identity. I formulate his first reason, based on what logical empiricists named *verification principle*, as these:

Premise (1): When we utter a statement, it is factually significant, if and only if, we can specify any observations relevant to the determination of its truth or falsehood. But if it is of such a character that the assumption of its truth, or falsehood, is consistent with any assumption whatsoever concerning the nature of our future experience, then it is, if not a tautology, a mere pseudo-proposition.¹²

Premise (2): Unlike type identity physicalism, token identity physicalism rests not on the outcome of future psychophysiological research but on an a priori argument; that is, it is not committed to any prediction as to what future empirical research will reveal (Place, 2004f, p. 88 & 2004c, p. 73).

Conclusion: So any putative psychophysical token identity statement is not factually significant.

Assessing truth-value of our suggested formulas, (2) and (4), help us to understand Place's another reason. "There is no conceivable prospect of the truth of any psychophysical token identity statement being established in the future that does not depend on the prior establishment of the truth of a psychophysical type identity statement", he writes (Place, 2004f, p. 88). I can add, moreover, if statement (2) is false then statement (4) will be consequently false too; in other words, if we are to abandon the former we have to abandon both. These two replies of Place to token identity offend the other part of his hypothesis; because he, contrary to his previous claim, settles the debate on type and token identity by a priori argument rather than scientific research.

Type identity, based on statement (2), implies another consequent statement as below; in a way that statement (2) is a conjunction of statement (3) and (5).

$$(5) \quad (\forall x)(B_x \supset M_x)$$

That is to say, for any event x if regarded as a brain event then scientific researchers will ultimately show that what occurred is a mental event; of course, according to Place's type-type identity, it is a certain type of mental event. But what is claimed to be revealed, is not of those possible results straightforwardly verified or disproved by experiment, rather it is of those which is manifested through one's own introspective reports and we have no choice but to postulate it as a fact of what occurred within individuals. Due to this, Place adopts a behavioristic approach (Place, 2004a, p. 45)¹³ or somewhere employs *the adverbial theory of sensation* (Place, 2004a, pp. 50-51 & 2004j, pp. 15-6). Although these solutions are partly effective, there are still

some problems which are yet open to debate. (a) We do not know for certain that the adverbial theory is applicable to all mental events (Lowe, 2004, pp. 118-9). (b) Place holds, for most cognitive concepts, there can be an analysis in terms of dispositions to behave. There is, however, no limit to the ways in which individuals might manifest a given mental event; so in giving a definition for it, we will have an open-ended list of behaviors. But no term can be well-defined whose definition is open-ended and unspecific (Ibid, pp. 42-4; Churchland, 1999, p. 24). Moreover, as I think, “an open-ended list” is not to say that if we can anyhow add more behaviors to the list then we will correspondingly come nearer to understand the given mental event. There is no guarantee for this achievement. (c) Based on *invert spectrum argument*, it seems perfectly conceivable that two individuals' color experiences might be systematically inverted with respect to each other. If it was the case, both of them would nonetheless have exactly the same powers of color-discrimination and, other physical circumstances being equal, both of them would apply color terms to objects in exactly the same way (Lowe, 2004, pp. 53-5). That is to say, two perfectly different mental events might have been felt even in exactly the same physical and behavioral circumstances. (d) There is also a more fundamental problem. Behavioristic approach is based on an assumption that language and behavior always function in the same way, always serve the same purpose: to manifest what occurs within (Wittgenstein, §304).¹⁴ What does convince us not to doubt this presupposition?¹⁵

All these demonstrate that our suggested formula, statement (2), although is useful to clarify what Place exactly claims but is inadequate to explain the true nature of mind-brain relationship. Recently, some physicalists prefer to substitute type identity with strong and weak supervenience. According to proposed definitions for them (McLaughlin, 1996, p. 558), I formulate strong supervenience as

$$(6) \quad \Box[\forall B(B_x) \supset \exists M(M_x)] \wedge \Box(M_x \supset B_x)$$

And weak supervenience as

$$(7) \quad \Box[\forall B(B_x) \supset \exists M(M_x)] \wedge (M_x \supset B_x)$$

Although, on the one hand, the former may acknowledge a reductive approach¹⁶, as I think, it is not appropriate for depicting Place's standpoint about how linguistic conventions necessarily determine the referent of a given name. It will be discussed with more specifics in thesis (3). On the other hand, the latter does not seem to be so that lastly obliges us to subscribe to reductionism (Davidson, 2001a, p. 214); furthermore, it does not satisfy Place's position on the true nature of mind-brain relationship. Because his position is a materialistic one, and any robust materialistic position needs to guarantee that what is material determines all that there is in the world, whereas it cannot give such guarantee (Kim, 1993, p. 63).

Briefly, there are, of course, numerous events physically related to each other but if we try to insert these related events in a determinate one-to-one correspondance imposing an ontological restriction on them, then things will not turn out as we assumed.

Thesis (2): there are psychophysical causal laws appropriate to mature our understanding of mind-brain relationship.

Type identity needs some sort of psychophysical causal laws whereby can relate and reduce one type of events to another. Since Place holds that “any dispositional statement is itself a universally quantified causal law in the sense that is required” (Place, 2004c, p. 74 & 2004g, p. 103 & 2004h, p. 108), thus it is obvious that he will refute any disapproval of regarding dispositional statement as, for example, token identity elaborated by Davidson.

According to token identity, Davidson asserts that there is no psychophysical law that causally relates and reduces one type of events to another. He holds that “any effort at increasing the accuracy and power of a theory of behavior forces us to bring more and more of the whole system of the agent's beliefs and motives directly into account”. Furthermore we traditionally regard human as a rational agent so, in inferring this theory from the evidence, all the requisites of being a rational agent must be fulfilled. These requisites result in more or less acceptable theories in such a way that there is no objective ground for any choices (Davidson, 2001a, pp. 221-2). It is because we may give necessary conditions for acting on a reason;

however, we cannot give sufficient ones. What prevents us from giving both necessary and sufficient conditions for acting on a reason also prevents us from giving serious laws connecting reasons and actions (Davidson, 2001b, pp. 231-3 & 2001a, pp. 223-4). “There may be true general statements relating the mental and the physical, statements that have the logical form of a law; but they are not law-like”, Davidson adds. Even if, anyhow, “we were to stumble on a non-stochastic true psychophysical generalization we would have no reason to believe it more than roughly true” (Davidson, 2001a, p. 216). In other words, there is a difference between *being causally related* and *being in such a way that can instantiate a law*. There may be some dispositions, as Place claims, which make a given man have some behaviors but it is not to say that, based on these dispositions, there must also be a law relating situations and behaviors in such a way that *whenever that given man had been faced with such-and-such situations, and if such-and-such further circumstances had been satisfied, he would have behaved in such-and-such a way*.¹⁷ We cannot say so. Because, on the one hand, human is a rational agent; he ceaselessly considers various factors surrounding him, thus he may suddenly give up an action and busy himself with an unpredictable one. Therefore, his action cannot be described in a *closed system*¹⁸ and hence there cannot be psychophysical laws, those which his situation and behavior instantiate as cause and effect.¹⁹ On the other hand, such psychophysical laws are to reduce human behavior into world of physics while the rational aspects of human behavior have no place in the world of physics. Imagine how odd it is to say that Newtonian laws will properly answer if the material particles are truthful representations of their mass or of the magnitude of exerted forces. In general, Davidson claims that a universal true statement is law-like if, and only if, can be capable of sustaining a true counterfactual conditional while a dispositional statement is not so. Unlike him, Goodman puts forward considerable reflections which can affect both Davidson's and Place's position.

First, Goodman asserts that counterfactual conditionals and laws capable of sustaining them have their own difficulties and are troublesome (Goodman, 1983, pp. 3-27 & especially pp. 34-8). So he offers focusing on dispositions instead of dealing with counterfactual

conditionals and their sustaining laws (Ibid, pp. 38-9 & pp. 86-7). He, of course, emphasizes that it is not certain this changing in strategy solves anything by itself (Ibid, p. 40), whereas, Place thinks it can be so. In any case, since dispositional statement says something exclusively about the internal state of a thing (or an event) while counterfactual says in addition something about the surrounding circumstances (Ibid, pp. 39-40), therefore turning from the later to the former is also in accord with Place's internalistic approach which I will clarify in thesis (4).

Second, when we distinguish law-like from non-law-like, we do nothing except seeking to know which one is justifiably capable of receiving confirmation from our observations. Suppose that a scientist, here a neuroscientist, by means of electroencephalogram observes that “whenever a mental process occurs, there occurs a corresponding brain process that has the same degree of complexity as the mental process reported by the subject, has all the causal properties required to generate the behavior that the mental process is supposed to generate, and whose occurrence is a causally necessary condition for the occurrence of that behavior” (Place, 2004c, p. 76). Based on his observation, he makes hypothesis H_1

H_1 : All mental processes are brain processes.

He may seem justified to believe in H_1 because a number of evidences confirm it. But some further examples will show that his accepted theory of conformation not only includes a few unwanted cases, but is so completely ineffectual that it virtually excludes nothing. Suppose that, for example, all instances of crudes extracted before a certain time t are black. At the time t , it depends on our observations recorded up to time t , all evidence statements assert that crude a is black, that crude b is black, and so on; and each confirms the general hypothesis H_2

H_2 : All crudes are black.

Now suppose that, after time t , environmental conditions change in such a way that we can observe an instance of gray crude, for the first time. Let us introduce another hypothesis H_3 as this

H_3 : All crudes are blay.

That is to say, any instances of crude are blay, if observed up to time t and in that observation it is black, otherwise, it is gray if observed after time t for the first time. If so, then at time t we have, for each evidence statement that given crude is black, a parallel evidence statement asserting that that crude is blay. And the statement that crude a is blay, that crude b is blay, and so on, will each confirm the general hypothesis H_3 that all crudes are blay.

Now, while the neuroscientist seems to be justified to believe in H_1 , nevertheless, based on his accepted theory of confirmation, we have a serious problem of H_2 and H_3 . They make incompatible predictions about the result of observation after time t . According to the former, what we will observe is an instance of black crude; whereas according to the latter, we will observe an instance of gray one. We are not justified to hold one and reject the other because they both are confirmed equally by evidence statements describing the same observations.²⁰ If so, then we may introduce one (or more) alternative(s) for H_1 which are based on evidence statements describing the same observations, but make incompatible prediction. These cases, “though seldom encountered in practice, nevertheless display to the best advantage the symptoms of a widespread and destructive malady” (Goodman, 1983, p. 80).

It shows that hypotheses, and indeed laws, are not merely summaries of the observations (Ibid, pp. 84-5), otherwise, laws could be justifiably confirmed only by them. There may be no certain relationship between evidence cases and laws. But if there is no such relationship then what determines the genuine nature of laws? Unfortunately, there is not still a complete agreement on how this question ought to be answered. “Empiricists are inclined to interpret laws as summaries of observation. Realists are inclined to interpret laws as tendency statements grounded in a hierarchy of assumptions about the natures of the physical systems which possess them.”²¹ Yet other philosophers are inclined to interpret at least some Laws of Nature as grammatical rules, specifying the way in which certain concepts are to be used” (Harré, 2000, p. 221). Now, which account ought to be preferred? It seems that there is no one common feature

which marks out all and only laws, that is to say, there may be a family resemblance between the various cases in which we would use the term “law” (Ibid, p. 221; Wittgenstein, §67). While the laws are so then it is quite misleading to claim that, by means of laws, you are to know the true nature of mind-brain relationship. However, it seems that Place claims to do so.

Thesis 3: over the times, scientific discoveries develop/readjust the meaning of words employed to describe our mental life.

Nowadays, it is too difficult to neglect the success of scientific approach in making a great deal of alterations around us. Thus, materialists are used to speaking about these successes in such a exaggerated manner that one may assume our perception of mental events (e.g. pains, itches, mental images, and so on), as other issues, is also exposed to a gradual development/readjustment in meaning so that the meaning of our words will eventually not be as it has been before. It is this standpoint that Place employs to deal with a problem that threatens the validity of his approach. When we claim that there is a perfect correlation between two events in such a way that implies their identicalness, there exists a necessity here (Place, 2004f, p. 82). But to Place, it is just analytical propositions which are referring to such perfect and hence necessary correlations. If so, since the truth value of these propositions is determined completely and exclusively by linguistic conventions, then these propositions basically do not refer to factual states of affairs expected to be revealed through a scientific discovery.²² As a permanent tradition in philosophy, those propositions referring to factual states of affairs have been regarded as synthetic not analytic, as ones referring to contingent states of affairs and not to necessary ones. So in arguing for type identity theory of mind, Place needs to argue for the existence of a kind of proposition that is necessarily true and its truth value determines anyhow by referring to factual states of affairs not exclusively by some linguistic conventions. By criticizing Quinean skepticisms on the sentences such as “Whatever is green is extended”, where, according to Quine, *it is not clear whether it is true analytically or synthetically* (Quine, 1951, pp. 31-4), Place found what he was looking for. He writes:

There is a linguistic convention whereby the predicate “green” ... is restricted in its application to extended substances and their surfaces; and if we apply the principle that a statement that is true solely by virtue of linguistic convention is analytic, that makes the statement “Whatever is green is extended” an analytic proposition. ... However, to claim that there is evidence for the existence of a linguistic convention that forbids the ascription of color predicates to non-extended objects is not to deny that underlying that linguistic convention there is a contingent fact about the physics of light, namely, that, as far as we know, photons can only reach the eye of an observer if they are emitted from and/or reflected by some kind of extended object, and that, consequently, it is only such objects that can be distinguished by their color (Place, 2004d, p. 153).²³

This could be the very Archimedean support needed to dislocate the rigid boundary seemed to be drawn between analytic and synthetic statements forever. The thing needed to be solved was introducing a process through which a synthetic proposition could transform to an analytic one. If he could anyhow do so then the problem would be solved completely. For Place, of course, we are acquainted with such process; or at least, scientists must be so (Place, 2004e, p. 179). He holds that, as a result of cumulative empirical discoveries that render the old manners of talking inconveniently and inappropriately,²⁴ some of the sentences that previously expressed an analytic truth cease to do so and sentences that were previously synthetic become analytic (Place, 2004d, p. 154).²⁵ In his 2004f paper, Place more clearly explains how aforesaid transformation occurs:

[We all know that] the observations on the basis of which we describe a sample as a case of water and the observations on the basis of which we describe it as H₂O are widely separated. Nevertheless, the fact that the predicates have the same extension ... is so well established and so widely known that “Water is H₂O”

has become an analytic statement and, by the criterion of what it is self-contradictory to deny, a necessary truth. That this conceptual connection has developed is shown by the observation that in cases of doubt a chemical test showing that a sample has the chemical composition H_2O takes precedence over all other criteria in showing that it is in fact water. A similar outcome is to be expected in the case of consciousness and the particular pattern of brain activity, yet to be identified, in which presumably it consists. As things stand, the existence of such a pattern of brain activity is... a hypothesis that will be confirmed or disconfirmed by future neuropsychological research. If, as seems increasingly probable, such research establishes both the existence and the nature of the pattern of brain activity in which consciousness consists, and these results become widely known, the development of a similar analytic and necessary connection between the two is to be expected (Place, 2004f, p. 84).²⁶

In brief, he holds that the attribution of a property which has been experimentally discovered about an object becomes sometimes so well known that can be expressed in an analytical proposition.²⁷ Place's standpoint herein, as I construe, is based on the following three theses:

Thesis 3.1: For any name or designating expression X , there exist specified descriptions²⁸ (or maybe an unspecified cluster of descriptions²⁹) P which the members of a linguistic community believe that ' P_X ' and summarize the meaning of X .³⁰

Thesis 3.2: These very descriptions are sufficient to pick out an individual α uniquely, which is the referent of X .³¹

Thesis 3.3: It is just by an analytical proposition that can necessarily attribute the entire descriptions P (or most of them) to ' X '.

Place necessitates the above-mentioned triplet because he firmly believes that it is what occurs when we are referring to something or ascribing a property to them.³² He believes that we employ the denotation of a noun or designate expression as a criterion for deciding whether or not a given instance belongs to the extensions of a singular (or even a general) name;³³ and it is just due to the fact that the meaning of a name summarizes all properties attributing to its referent. But is it exactly so?

Let us take the case of “*Chehel-Sotoun*”, a very famous mansion in Isfahan.³⁴ Supposing that the meaning of “*Chehel-Sotoun*” summarizes all properties which a competent Iranian historian can express about this mansion, if someday these properties (or even some of them) are not attributable to the present referent of “*Chehel-Sotoun*” then do we say that the meaning of aforesaid name has changed or it has no referent now? Do we get into trouble in identifying the referent of “*Chehel-Sotoun*”? Certainly, it is not what occurs for most of us (or at least for Iranian people). Moreover, we do not even try to determine which or how many of these properties must remain fixed so that we can be sure that the aforesaid name does not lose its referability. Here, someone, such as Searle, claims that in spite of this fact that we do not necessarily need specified properties to be sure that the aforesaid name does not lose its referability, it is an undeniable fact that “*Chehel-Sotoun*” has a sufficient but so far unspecified number of these properties commonly attributed to it so that any possible extension lacking at least some of these properties could not be the referent of it (Searle, 1958, p. 172). Although Searle admits that most of these properties just assign contingent facts to our referent but it cannot convince him to claim that a given proper name in itself has no sense, because he did not know “how, unless the name has a sense, is it to be correlated with the object?” (Ibid, p. 168) So if it can be conceivable to explain the correlation between a proper name and its referent without supposing any sense then both theses (3.1) & (3.2) will be completely abandoned. We know, at least now, it has been possible by the *causal theory of reference* presented by Kripke.

Kripke asserts that ‘names are rigid designators’; that is to say, each of them, regardless of which properties attributing to its referent,

in every possible world designates the same object (Kripke, 1980, p. 48). According to him, properties have no determinant role in identifying the referent of a name. Most of people know nothing of why a mansion must be named “*Chehel-Sotoun*” while it has only 20 columns, some of them even wrongly think it has a porch with 40 columns; nevertheless, they have no problem in identifying the referent of “*Chehel-Sotoun*”. In explaining why it is so, Kripke writes:

It is in general not the case that the reference of a name is determined by some uniquely identifying marks, some unique properties satisfied by the referent and known or believed to be true of that referent by the speaker. First, the properties believed by the speaker need not be uniquely specifying. Second, even in the case where they are, they may not be uniquely true of the actual referent of the speaker's use but of something else or of nothing. This is the case where the speaker has erroneous beliefs about some person. He does not have correct beliefs about another person, but erroneous beliefs about a certain person. In these cases the reference actually seems to be determined by the fact that the speaker is a member of a community of speakers who use the name. The name has been passed to him by tradition from link to link (Ibid, p. 106).

He then adds, as an implicit conclusion, the general term employed in assigning a type of objects functions in the same manner too; it has “a greater kinship with proper names than is generally realized”, he says (Ibid, p. 134). Possession of most of those properties, by which we originally identified the instances of a kind, “need not be a necessary condition for membership in the kind nor need it be a sufficient condition” (Ibid, pp. 119-21). The terms such as pain, impression, imagination and the like are also so (Ibid, p. 148). In these all cases “the reference actually seems to be determined by the fact that the speaker is a member of a community of speakers who use the

name”. It appears that *causal theory of reference* presents a better picture than that given by descriptive theses (3.1) & (3.2).

But what can we do about thesis (3.3)? Is it just an analytic proposition which can attribute a necessary truth to ‘X’? Do we have a necessary truth of ‘X’ attributed by a synthetic proposition? In other words, do we have a *posteriori necessary truth* of ‘X’? To Kripke, some of the problems which bother people in these situations come from a confusion, between what we can know *a priori* in advance and what is *necessary* (Ibid, p. 109). He holds that objects (or a type of them) “may be named by ostension, or the reference of the name may be fixed by a description” (Ibid, p. 96).³⁵ *By this initial naming, we refer to their essence with no regard to their actual existence or even any possible status of existence that they may have.*³⁶ Due to this, the given name can rigidly designate its own referent in every possible world.

Now, suppose that a physicist stochastically comes across some evidence for a new kind of matter. He uses, for example, Φ as a name rigidly designating the matter he has come across. By further researche, it is discovered that ‘ Φ ’ is a new element with atomic number n . It is certainly something he did not know in advance. It can be imagined that this might be an unfamiliar state of an element one of those discovered previously or even an unknown composition. But once he knows that this is a truth of the very nature of the substance of which it is made of,³⁷ it cannot then be imagined that this thing might have failed to be an element with atomic number n . Let us introduce E as “being an element with atomic number n ” then we can formulate above situation as

$$(8) \quad \Box(\forall x)(\Phi_x \supset E_x)$$

According to statement (8), necessarily for any matter x , if it is an instance of ‘ Φ ’ then it has n proton. But to Place, who believes in a descriptive theory of reference, a proposition such as “‘ Φ ’ has n protons” is a synthetic proposition expressing a contingent truth of ‘ Φ ’ (Place, 2004f, p. 82) which if becomes so well established and so widely known, it may transform to an analytical proposition

expressing a necessary truth of ' Φ '. As he construes, the situation must be casted as

$$(9) \quad (\forall x)(\Phi_x \supset \Box E_x)$$

According to statement (9), for any matter x , if it is an instance of ' Φ ' then this is a priori known via meaning which necessarily has n protons. But it is clearly wrong that a scientist, who is to know the true nature of something, thinks the necessity, revealed by his scientific research is a necessity coming from meaning. If the necessity is so then he can significantly claim nothing about the true nature. Instead, he ought to think that that a necessity comes from the essence of what science deals with, which is verified by experiments. That is what statement (8) expresses; *a posteriori necessary truth of ' Φ '*. So, if Place is to speak about the true nature of mind-brain relationship then he ought to abandon thesis (3.3).

Thesis 4: *what is called a mental event is entirely what occurs in one's inside, especially in his cerebrospinal system.*

Although Place's approach is fundamentally based on an internalistic approach to the mind-brain relationship, he frequently oscillates between internalism and externalism. But what does it distinctly mean, having an internalistic (or externalistic) approach to the subject in hand?

Suppose that there is a set of factors F to possess a given property P in such a way that a subject S possesses property P if and only if F is satisfied. According to internalism, none of F s presupposes the existence of anything other than the given S to whom that property is ascribed; but to externalism, there may be at least one member of F which is not so (Goldman, 2009, p. 2). Therefore, when we discuss a given mental event, if we assume that none of the factors necessary to possess it presupposes the existence of any individual other than the subject to whom that event is ascribed then we have an internalistic (or individualistic) approach to the issue. And if we do not employ such assumption then we have an externalistic approach to the issue. Here, what is so important is that the former can be differently stated; no mental event presupposes the existence of the subject's body: it is

logically possible that a disembodied mind exists to which that event can be ascribed (Putnam, 1975, p. 220). This statement, which is traditionally attributed to Descartes, adopts a view to the intrinsic nature of mental event. Place intends to show that even if, anyhow, we can abstractly observe a mental event,³⁸ we will not be inevitably obligated to reach to the Cartesian conclusion. It is not an event over and above the physical and physiological processes in one's inside. He writes:

I shall assume that ... statements about pains and twinges, about how things look, sound, and feel, about things dreamed of or pictured in the mind's eye are statements referring to events and processes that are in some sense private or internal to the individual of whom they are predicated. The question I wish to raise is whether in making this assumption we are inevitably committed to a dualist position in which sensations and mental images form a separate category of processes over and above the physical and physiological processes with which they are known to be correlated. I shall argue that an acceptance of inner processes does not entail dualism (Place, 2004a, pp. 45-6).³⁹

Therefore, due to the fact that Place has focused all his attention on the discussion of the true nature of mind-brain relationship, it makes no sense that he is not seriously asserting anything of the true nature of mental events when he says: "the properties attributing to mental events can be the properties of a brain process, as Leibniz's Law requires". Consequently, he should believe that what determines the intrinsic nature of mental events must occur in one's own body, especially in his own cerebrospinal system, not in a mysterious place so-called the mind. Thus, according to him, when we discuss the intrinsic nature of a given mental event, we have no need to presuppose the existence of anything other than the body of whom that event is ascribed to.⁴⁰ This is an internalistic (or individualistic) approach to the subject. But if he is going to be an internalist so he has to retain the approach through his program and never puts an assertion

offending this approach. He is not methodologically justified to temporarily change his entire approach to the subject whenever he reaches an impasse. Anyway, it is indeed an undeniable fact that he occasionally did so.⁴¹

Conclusion

Let us summarize what we have accomplished up to now, if we have done any. As we have seen, Place, sympathetic to Schlick, holds that philosophical problems about the true nature of mind-brain relationship disappears and is settle adhering to materialism and then we will find ourselves faced with a purely scientific issue, namely, whether there is in fact a physiological process that is identical with a given mental event. He holds that this empirical problem will also be settled by further psychophysiological researches (Place, 2004b, p. 54 & 2004c, p. 74). *First*, I hope to have proved that there are still various stubborn philosophical problems which are yet unsettled. Therefore, discussing the true nature of mind-brain relationship is not, at least so far, a mere scientific problem in disguise. *Second*, even if the philosophical objections will be settled in favor of a materialistic view, I hope to have proved that the identity theory is not as tenable that Place claims. To be sure, it is not to say that we ought to abandon Place's position entirely. In denying the justifiability of his position, we must be careful not to throw the baby out with the bathwater. It is a remarkable fact that physical methods work well in so many domains. For *what need explaining in those domains are structures and functions*. If these are all that must be explained about mind-brain relationship then, although we do not have anything close to a complete explanation of them yet, we will have a clear idea of how we may explain them by means of physical accounts. These are *the easy problems of consciousness*, in D. Chalmers' words, because they concern the explanation of cognitive abilities and functions (Chalmers, 2007, p. 226 & 233). To explain a cognitive function, we need to only specify a mechanism that can perform the function. The methods of cognitive science are well-suited for this sort of explanations, and so are well-suited to such problems. Nevertheless, the key issue is that there are some other problems concerning the subject in hand which are not so. These are *the hard problems of*

consciousness because they persist even when the performance of all the relevant functions is explained (Ibid, p. 225 & p. 227). It is widely agreed that conscious experiences arise from physical bases, but we have no good explanation of why and how they arise. Why should physical processing give rise to a rich inner life at all? It seems objectively unreasonable that it should, yet it does (Ibid, p. 226 & p. 228 & 233). So, Place's reductive approach may solve some of the easy problems, but it justifiably tells us nothing about the hard ones, something about the true nature of mind-brain relationship and its components. It is why I believe that discussing the true nature of mind-brain relationship is not a mere scientific issue in disguise.

Notes

1. Smart also presented an explanation the same as what Place asserted in his 2004a paper (Smart, 1959, p.145-7). But, thereafter, Place aimed at completing it.
2. See: Place, 2004c, p. 80 & 2004g, p.102.
3. It is what Place introduces as the main characteristic of his hypothesis (Place, 2004c, pp. 72-3).
4. To observe a more explicit diction where Place has used this criterion, see: (Place, 2004b, pp. 54-5 & 2004c, pp. 79-80).
5. One of these linguistic analyses will be discussed later, in thesis (3).
6. Commonsense belief is justifiably applied as much as a fact served to verify the result of our researche. A commonsense belief, as I construe, satisfies all conditions proposed by Goldman to be weakly justified at the primary level (Goldman, 1988, p. 59). Place speaks about commonsense beliefs, and about our ordinary psychological language indeed, as if there is no reasonable doubt about the justifiability of our primary reliance on them (Place, 2004j, p. 28). We should reinterpret them in a new and more penetrating framework, not try to eliminate them. This is a sort of Reliabilism counted as an externalistic theory of justification (Goldman, 1988, p. 65).
7. See: Place, 2004a, p. 47.
8. See: Lewis, 1983, pp. 122-3.
9. D. Lewis presents a solution for this problem (Lewis, 1983, p. 126).

10. Kim proposes statement (7) instead of statement (4) in order to formulate Davidson's position (Kim, 1993, pp. 57-64; Davidson, 2001a, p. 214). This suggestion seems to be more accurate but, about the subject in hand, it is not so. For if I follow Kim, in contrast to Davidson's position, I have to cast Place's statement (6). But the latter statement, as I think, does not correspond to Place's standpoint about linguistic conventions and how the referent of a given name is necessarily determined by them. For more details you can see the following discussion of thesis (3).

11. It will be more discussed in thesis (2).

12. See: Ayer, 1971, p. 16 & p. 20.

13. Moreover, his 2004i paper is a perfect instance of this approach.

14. To read a more fundamental one, see: Wittgenstein, § 294.

15. If that is not so 'there is no way ... whereby we can use the introspective reports of other people as evidence of the nature of their mental processes or have any reason for believing in the existence of such processes in the case of others' (Place, 2004c, p. 79). It is an implicit reliance on an externalistic approach to subject in hand which is not finally to Place's advantage. I will speak more about it in thesis (4).

16. McLaughlin, unlike Kim, does not agree with this idea (McLaughlin, 1996, p. 559; Kim, 1993, p. 57).

17. See: Kant, A 91-92 / B 124.

18. In this system 'whatever can affect the system must be included in it' (Davidson, 1999, p. 30); see also: Davidson, 2001a, pp. 219-220.

19. We [cannot] expect ever to be able to explain and predict human behavior with the kind of precision that is possible in principle for physical phenomena. This does not mean there are any events that are in themselves undetermined or unpredictable; it is only events as described in the vocabulary of thought and action that resist incorporation into a closed deterministic system (Davidson, 2001b, p. 230).

20. I have modified Goodman's counterexample; anyway, see: Goodman, 1983, pp. 73-4.

21. See: Place, 2004g, pp. 100-101.

22. Place introduces analytic and synthetic as this: "a statement is analytic, necessary, and true a priori if and only if, without being a statement about the meaning of words and expressions contained in it, its truth is

determined completely and exhaustively by the linguistic conventions governing the construction and use of the sentence that is used to make it. By the same token, a statement is synthetic, contingent, and true a posteriori if and only if its truth is determined partly by the linguistic conventions governing the construction and use of the sentence used to make it and partly by virtue of a correspondence between the meaning of the sentence when uttered in a relevant context, as determined by those conventions, on the one hand and the way things actually are, were, might have been, or possibly will be in the aspect of the world to which the sentence relates on the other” (Place, 2004d, p. 150); see also: (Place, 2004e, p. 172).

23. Place discusses two other cases of this very class. See: Place, 2004e, p. 172.

24. Although the proponent of eliminative materialism insists on this very idea too (Churchland, 1999, pp. 44-5), contrary to Place, has no suggestion to clearly show how it can be possible.

25. Moreover, an analytic truth may become an analytic falsehood. “Take for example the principle that whales are fishes. If we adopt the medieval definition of a fish as a creature that lives in the sea and propels itself through the water by means of fins and a characteristically paddle-shaped tail, the statement ‘Whales are fishes’ is an analytic truth, since, on that usage, the criteria for assigning an object to the class ‘whales’ include those for assigning an object to the class ‘fishes’. But once we adopt the modern convention according to which a fish has to be cold-blooded and reproduce itself by means of eggs fertilized outside the body and which precludes anything that is a mammal from also being a fish, the sentence ‘Whales are fishes’ becomes an analytic falsehood. However, because of the changed conventions, the proposition that ‘Whales are fishes’ used to express, given the previous conventions, is not the same proposition as that which the same sentence now expresses” (Place, 2004d, p. 149).

26. Elsewhere, he repeats this very assertion. See: Place, 2004f, p. 87.

27. See also: Ayer, 1971, p. 95.

28. It is based on *descriptive theory* of proper name which is specifically attributed to Frege and Russell. For example, see: Frege, 1948, p. 210, especially footnote 2.

29. It is based on *cluster theory* of proper name which is specifically attributed to P. F. Strawson and J. R. Searle. For example, see: (Searle, 1958, p. 171).

30. “While particulars exist independently of human and animal conception ..., they are formed into classes only by virtue of the intensions or concepts imposed on them by the mind” (Place, 2004d, p. 152).

31. “The very existence of the classes that constitute the extension of a general term and the very possibility of making an identifying reference to the object picked out by a singular term depend on the intension of the general term and the sense of the singular term” (Place, 2004d, p. 152).

32. Although, on the one hand, the theses (3.1) and (3.2) are basically of those which have an internalistic approach to how the referent of a given name is determined, on the other hand, Place's focusing on convention and “what we do according to them in referring to something” (Place, 2004d, p. 146) is such that it may be right to think that his explanation must have an externalistic approach to the present problem. Because being justified due to a factor which is not immediately in one's own epistemic access is the characteristic of externalistic approach to the subject. This is one of the cases that will be discussed when I get to thesis (4).

33. It seems that he is impressed by Frege when he asserts: “The referent of a proper name is the object itself which we designate by its means” (Frege, 1948, p. 213).

34. The name, meaning “Forty Columns” in Persian, was inspired by the twenty slender wooden columns supporting the entrance pavilion, which, when reflected in the waters of the fountain, are said to appear to be forty.

35. To prevent some misunderstandings, he comments his assertion as this: “two things should be emphasized concerning the case of introducing a name via a description in an initial baptism. First, the description used is not synonymous with the name it introduces but rather fixes its reference. Here we differ from the usual description theorists. Second, most cases of initial baptism are far from those which originally inspired the description theory. Usually a baptizer is acquainted in some sense with the object he names and is able to name it ostensively. Now the inspiration of the description theory lay in the fact that we can often use names of famous figures of the past who are long dead and with whom no living person is acquainted; and it is precisely these cases which, on our view, cannot be correctly explained by a description theory” (Kripke, 1980, footnote 42).

36. Although Kripke does not clearly assert this but it can be implicitly inferred from his statements especially when he explains how we use the term “tiger” to designate a species (Kripke, 1980, pp. 119-121), or when he explains what is the original concept of cat (Ibid, p. 122). To read a clearer

account of this, see: Larijani, S. (1996/1997), *Referring and Necessity*, first edition, Mersad Press, Ghom, pp. 118-126.

37. A truth of the nature is a truth of what the object could not have failed to have, what it could not have lacked while still existing (See: Kripke, 1980, footnote 57).

38. He never refutes the existence of such private experiences; see: (Place, 2004j, pp. 27-8).

39. There is nothing that the introspecting subject says about his conscious experiences which is inconsistent with anything the physiologist might want to say about the brain processes which cause him to describe the environment and his consciousness of that environment in the way he does (Place, 2004a, pp. 51-2).

40. Although I regard him as an internalist, it is not to say that he believes what is referred by our introspective reports and usually expressed via the words are some sort of mental entities which epistemic access to them is of one's own privilege. He holds that the thoughts, as Frege put this term, are not some sort of entities inside the heads of those who subscribe it, or entertain them; but they are purely linguistic entities closely related to the sentences used to express them. They clothe themselves in the material garment of sentences and thereby become comprehensible for us. Anyway, it cannot be a perfect intentional turning in his internalistic approach to an externalistic one in 2004d; because his 2004f and 2004g papers seem to be as internalistic as his 2004a paper. So I regard it as one of his few odd claims same as what he claims about ontological status of dispositions (Place, 2004g, pp. 100-101) or as an inconsistency brought into being due to his inattention to have a unified approach to the subject in hand.

41. See, for example, his answer to rival objections in thesis (1) and his statements in thesis (3) of linguistic conventions and how the referent of a given name is determined by them. Moreover, his statements of how we employ our commonsense practical beliefs in resolving cognitive dissonances that we may confront, is also another reason subscribing his occasionally appealing to those factors which are not immediately in one's epistemic access (See: Place, 2004e, pp. 175-7). All of these are based on an externalistic approach.

References

- Ayer, A. J. (1971), *Language, Truth and Logic*, Penguin Books.
- Chalmers, D. (2007): "The Hard Problem of Consciousness", in *Blackwell Companion to Consciousness*, edited by M. Velmans and S. Schneider, Blackwell Publishing.
- Churchland, P. M. (1999), *Matter and Consciousness: A Contemporary Introduction to the Philosophy of Mind*, MIT Press.
- Davidson, D. (1999): "Anomalous Monism", in *The MIT Encyclopedia of Cognitive Sciences*, edited by R. A. Wilson and F. C. Keil, MIT Press.
- Davidson, D. (2001a): "Mental Events", in *Essays on Actions and Events*, the first volume of Davidson's papers, second edition, Clarendon Press, Oxford.
- Davidson, D. (2001b): "Psychology as Philosophy", in *Essays on Actions and Events*, the first volume of Davidson's papers, second edition, Clarendon Press, Oxford.
- Frege, G. (1948): "Sense and Reference", in *the Philosophical Review*, Vol. 57, No. 3, Duke University Press.
- Gilbert, Ch. (1999): "Neural Plasticity", in *The MIT Encyclopedia of Cognitive Sciences*, edited by R. A. Wilson and F. C. Keil, MIT Press.
- Goldman, A. I. (1988): "Strong and Weak Justification", in *Philosophical Perspectives*, Vol. 2: Epistemology, Ridgeview Publishing Company.
- Goldman, A. I. (2009): "Internalism, Externalism, and the Architecture of Justification", in *The Journal of Philosophy*.
- Goodman, N. (1983), *Fact, Fiction, and Forecast*, fourth edition, Harvard University Press.
- Harré, R. (2000): "Laws of Nature", in *A Companion to Philosophy of Science*, edited by W. H. Newton-Smith, Blackwell Publishers.
- Hume, D. (1825), *the Philosophical Works of David Hume*, Vol. 1, Edinburgh, London.

- Kant, I. (1929), *Critique of Pure Reason*, translated by N. K. Smith, Macmillan and Co., London.
- Kim, J. (1993): "Concepts of Supervenience", in *Supervenience and Mind: Selected Philosophical Essays*, edited by J. Kim, Cambridge University Press.
- Kripke, S. A. (1980), *Naming and Necessity*, Basil Blackwell.
- Lewis, D. (1966): "An Argument for the Identity Theory", in *Journal of Philosophy*, Vol. 63, No. 1.
- Lewis, D. (1983): "Mad Pain and Martian Pain", in *Philosophical Papers*, Vol. I, Oxford University Press.
- Lowe, E. J. (2004): *An Introduction to the Philosophy of Mind*, Cambridge University Press.
- McLaughlin, B. P. (1996): "Supervenience", in *The Encyclopedia of Philosophy: Supplement*, edited by D. M. Borchert, Simon & Schuster Macmillan, New York.
- Place, U. T. (2004a): "Is Consciousness a Brain Process?", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Place, U. T. (2004b): "Materialism as a Scientific Hypothesis", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Place, U. T. (2004c): "Thirty Years on - Is Consciousness still a Brain Process?", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Place, U. T. (2004d): "On Social Relativity of Truth and the Analytic/Synthetic Distinction", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Place, U. T. (2004e): "Linguistic behaviorism as a philosophy of empirical science", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.

- Place, U. T. (2004f): "Token- versus Type-Identity Physicalism", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Place, U. T. (2004g): "The Two-Factor Theory of the Mind-Brain Relation", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Place, U. T. (2004h): "The Causal Potency of Qualia: Its Nature and Its Source", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Place, U. T. (2004i): "Consciousness and the 'Zombie-Within': A Functional Analysis of the Blind sight Evidence", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Place, U. T. (2004j): "A Pilgrim's Process? From Mystical Experience to Biological Consciousness", in *Identifying the Mind: selected papers of U. T. Place*, edited by G. Graham and E. R. Valentine, Oxford university press.
- Putnam, H. (1975): "The Meaning of 'Meaning'", in *Philosophical Papers: Mind, Language and Reality*, Vol. 2, Cambridge University Press.
- Quine, W. V. (1951): "Two Dogmas of Empiricism", in *Philosophical Review*, Vol. 60, No. 1.
- Schlick, M. (2002): "The Future of Philosophy", in *Philosophy of Science: Contemporary Readings*, edited by Y. Balashov and A. Rosenberg, Routledge, London and New York.
- Searle, J. R. (1958): "Proper Names", in *Mind*, New Series, Vol. 67, No. 266.
- Smart, J. J. C. (1959): "Sensations and Brain Processes", in *Philosophical Review*, Vol. 68, No. 2, Duke University Press.
- Smith, G. E. (2004): "The Methodology of the Principia", in *the Cambridge Companion to Newton*, edited by I. B. Cohen & G. E. Smith, Cambridge University Press.