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Experience and Structure

Philosophical History and the Problem of Consciousness

Abstract: *Investigation and analysis of the history of the concepts employed in contemporary philosophy of mind could significantly change the contemporary debate about the explainability of consciousness. Philosophical investigation of the history of the concept of qualia and the concept of scientific explanation most often presupposed in contemporary discussions of consciousness reveals the origin of both concepts in some of the most interesting philosophical debates of the twentieth century. In particular, a historical investigation of the inheritance of concepts of the elements of experience and the nature of scientific explanation from C. I. Lewis and Rudolf Carnap to contemporary theorists like David Chalmers shows the profound continuity of these concepts throughout the analytic tradition, despite important changes in the dimensions of philosophical relevance and significance that have characterized the emerging debate.*

I argue that, despite the significant methodological shift from the foundationalist epistemology of the 1920s to today's functionalist explanations of the mind, the problem of explaining consciousness has remained the problem of analysing or describing the logical and relational structure of immediate, given experience. Appreciation of this historical continuity of form recommends a more explicit discussion of the philosophical reasons for the underlying distinction between structure and content, reasons that trace to Lewis and Carnap's influential but seldom-discussed understanding of the relationship between subjectivity, conceived as the realm of private, ineffable contents, and objectivity, understood as public, linguistic expressibility. With this historical background in mind, the contemporary debate about the explanation of consciousness can be re-interpreted as a debate about the relationship between ineffable experience and structurally conceived meaning.

The history of analytic philosophy, if viewed as more than a repository for superseded theory, could provide the basis for a transformation in the problem of consciousness with which philosophers of mind are currently grappling.

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Philosophers of mind seldom discuss or investigate, more than cursorily, the history of the interrelated concepts of mind, consciousness, experience, and the physical world that they rely upon in their theorizing. But these concepts in fact emerge from some of the most interesting and decisive philosophical struggles of the analytic tradition in the twentieth century. Historically, these struggles and their results set up the philosophical space in which contemporary discussion of consciousness moves, defining and delimiting the range of theoretical alternatives accessible to participants in the discussion of the relationship of consciousness to the physical world.

Most contemporary philosophical discussions of consciousness address the question of its explainability in terms of objective, scientific description, or the question of its ontological reducibility to objective, scientifically describable phenomena. These questions are, furthermore, often raised against the backdrop of a conception according to which consciousness has certain properties or features that may make it especially resistant to scientific explanation and description. Paramount among the features of consciousness usually cited as problems for its explanation or reduction are its *privacy*, *subjectivity*, *ineffability*, *phenomenality* and *irreducibly qualitative character*.¹ The debate about the reality and reducibility of these features, having developed over the 1980s and 1990s, shows no sign of being resolved, and indeed it is unclear what sort of consideration, empirical or philosophical, might decisively settle it (see, e.g., Price, 1996). But the debate can be re-invigorated, and brought to a greater richness and philosophical depth, if it is realized that each of the determinate notions used in these various types of arguments to characterize (or contest the characterization of) the specific properties of consciousness in fact originate in the context of particular bygone philosophical theories and concerns, often seemingly quite distant from those of philosophers who apply those notions today.

[1] Older discussions of consciousness often used Nagel's memorable phrase 'what it's like' to gesture at the problematic properties of consciousness; in particular, Nagel argued that knowing all objective facts about a bat would not help to establish 'what it's like' to be a bat (Nagel, 1974). Except in the specialized context of Jackson's 'Knowledge Argument' — where what is at issue is the cognitive or epistemological status of learning 'what it's like' to see red (Jackson, 1982) — this language has largely ceded to talk of the 'qualitative' character of conscious states. Still, explanation of the meaning of 'qualitative' usually just repeats Nagel's phrase (e.g. Chalmers, 1996, pp. 4–5). The idea that consciousness is 'subjective' expresses a different idea; perhaps the clearest formulation in the contemporary literature — Searle's (1992, p. 95) — defines the subjectivity of a conscious state as its property of existing *only* for a single person or from a single point of view. (This language, though clearer than most contemporary descriptions of 'subjectivity', of course demands additional clarification of the phrase 'point of view'.) The notions of states of consciousness as 'ineffable' and 'private' are, perhaps, more popular with those who affirm the explainability of conscious states than those who deny it; for instance, Dennett (1988, p. 639) characterizes the concept of qualia as the concept of the 'ineffable, intrinsic, private, directly apprehensible properties of experience' in order to show that there are no such properties. A third set of associations clusters around descriptions of conscious states in terms of their alleged *epistemic* properties, for instance their epistemic immediacy. For these descriptions, conscious states (or, more often, the qualitative component or aspect of them) are immediately recognizable or capable of being grasped in advance of other, more highly structured items of knowledge. For more illuminating discussion of some of these alleged properties of qualia and the arguments they issue in, see Lormand (1994) and Lycan (1990a).

Broadly speaking, several of the main features of our contemporary philosophical concept of consciousness — in particular its alleged privacy, ineffability, and subjectivity — first arise historically from tensions present in the analytic attempt to describe the relationship of language and meaning to experience, in such a way as to make the structure of logic and language relevant to defining the structure of experience and characterizing its relationship to objective knowledge about the physical world. From around the turn of the twentieth century, a variety of prominent explanatory projects sought to elucidate the epistemology and ontology of our knowledge of the objective world on the basis of a description of our immediate, lived experience. One of the inaugural innovations of analytic philosophy was to tie this kind of explanatory project to a programme of linguistic and logical analysis, whereby the relationship between immediate experience and other items of knowledge or objectivity is specified by means of a clarification of the logical relationships between propositions describing immediate experience and other, more highly conceptual and less directly experiential, propositions. This configuration — in which consciousness is constantly understood as immediate content, and scientific explanation as structural or functional — has continued, despite changes in detail and focus, to characterize the problem of consciousness to the present. In this essay, I argue that the history of philosophy provides a genuine *explanation* for the resistance of consciousness to physicalist and functionalist accounts, and that this explanation, if properly understood, could help to bring the contemporary debate to a greater level of methodological richness and sophistication. In particular, with the historical account in mind, we can begin to reconceive the contemporary problem of explaining consciousness as one about the relationship of subjective experience, understood as private and ineffable, to structurally articulated objective meaning.

I should be very clear at the outset about exactly what kind of explanation for the current problem it is that, I believe, the history of our concepts offers. Historical analysis of concepts is a species of conceptual analysis, and conceptual analysis explains in that it reveals the underlying conceptual determinants of patterns of use and description. This is especially so, in philosophical discussions, when current patterns of use and description arise and descend from older ones with somewhat different philosophical surroundings from those shown on the surface of the contemporary debate. By unearthing and evaluating the original arguments made for positions which have played a determinative role in structuring our contemporary concepts, historical investigation can remind contemporary philosophers of some of the original reasons for using various concepts of mind and explanation in the ways that we do today. Because of theoretical innovation or the intervening recognition of conceptual dead ends, some of these reasons may no longer be relevant to the contemporary discussion; but others may still bear a concealed richness of suggestion and implication for the contemporary debate. In particular, if it emerges that contemporary problems are in fact conceptual descendents of older problems and tensions still unresolved, then the historical investigation offers an enlightening explanation for the contemporary problems by identifying the reasons for the continuing insolubility of their

philosophical ancestors. This points the way to a richer and more fruitful discussion, by recommending an explicit reconsideration of these often forgotten reasons.

When contemporary patterns of discussion are visibly determined by older and largely-forgotten philosophical arguments and positions, the effect of exposing these older arguments and positions is not to show that the contemporary concepts are inappropriate for their explanatory tasks, but rather that they arise from, and can usefully be discussed within the context of, a broader and richer set of philosophical concerns. Thus conceived, the historical explanation for the intractability of consciousness to physicalist description does not stand in any particular tension with other, more usual explanations for the problem, for instance that consciousness fails to supervene on the physical or that there is an explanatory gap between our concepts of the physical and our concepts of consciousness. Instead, it contributes to the clarification of these and other descriptions of the problem, by clarifying the concepts of consciousness and explanation that they involve.

I do not argue, therefore, that the historical explanation for the intractability of consciousness to physicalist description is the only or even the most comprehensive possible explanation. Nor does the historical explanation for the problem offer, at least immediately, any obvious solution to it. At best, it offers to reveal some concealed determinants of the use of the concepts in terms of which the problem arises, and thereby to make the problem's underlying philosophical contours clearer. Though this work does not itself offer solutions, it points the way to an expanded set of concepts and concerns in terms of which new kinds of solutions become possible.²

I

To begin to cast the light of historical interpretation on the contemporary discussion of consciousness, it is reasonable to investigate the origin and descent of the interrelated network of concepts we use to characterize consciousness and the philosophical issues surrounding it. An illuminating beginning can be made by investigating the concept of *qualia*. It is in the form of the question of qualia that many investigators today address the question of the explainability of consciousness; qualia are thought variously to be incapable of physicalist or functionalist explanation, resistant to (but capable of) physicalist or functionalist explanation, or nonexistent owing to the unclarity or theoretical uselessness of their concept.³ Argument about the explainability of consciousness, indeed, in many cases

[2] This explanatory situation bears analogies to other examples of historical explanation. For instance, a Marxist or historical materialist explanation of a problematic historical situation does not itself resolve the tensions inherent in the situation; but it may point the way to an enhanced awareness of the forces that led to it, and in this way provide the first step toward a solution.

[3] Commentators who have drawn (at least cautiously) the conclusion that qualia are incapable of functionalist explanation include Kim (1998), Chalmers (1996), Levine (1993) and McGinn (1991); commentators who hold that qualia are real but reducible include Shoemaker (1982), Churchland and Churchland (1982), and Tye (1995). Deniers of the theoretical utility of the concept of qualia include Dennett (1988) and, at least implicitly, Rorty (1979).

amounts simply to argument about the meaning of this concept. Significantly, though, the concept itself has a lengthy and seldom-explored lineage in the discourse of analytic philosophy; investigation of this lineage provides insight into the philosophical source of the main features and uses of its contemporary version. The full story of the descent of the concept of ‘qualia’ in the twentieth century would require a long and detailed study of its own. But the outlines of an explanation for some of the most significant contemporary uses of the term can already be drawn from an examination of some of the earliest uses of the term in the philosophical discourse.

The philosophical uses of the term ‘qualia’ (and the singular ‘quale’) in English trace at least to the writings of C.S. Peirce, who used the term as early as 1867 to describe the immediate or given elements of experience. For Peirce, qualia (often used as cognate to ‘qualities’) were already the most basic constituents of the totality of sensory experience, the ground of Firstness or immediacy.⁴ Probably drawing on Peirce, William James used the term beginning in the 1870s to denote the ‘irreducible data’ of perception, for instance the whiteness that is one and the same when I perceive it in today’s snow and yesterday’s white cloud (James, 1879, p. 333–7). These items, James argues, are the same no matter where in experience they occur; and they comprise an irreducible set of posits that must, perhaps along with the atoms of physics, be ultimate philosophical data. James’ qualia, accordingly, set an utmost limit to the philosopher’s project of analysis or rational inquiry, a limit beyond which only speculation can pass.

A more direct line of influence on the contemporary debate, though, runs from the epistemology of the phenomenalist pragmatist C.I. Lewis. In the context of his attempt to distinguish the ‘given element in experience’ from the interpretive element placed upon it by conceptual reasoning, Lewis was among the first to use the term ‘qualia’ in substantially the same way as it is used by theorists today:

Qualia are subjective; they have no names in ordinary discourse but are indicated by some circumlocution such as ‘looks like’; they are ineffable, since they might be different in two minds with no possibility of discovering that fact and no necessary inconvenience to our knowledge of objects or their properties. All that can be done to designate a quale is, so to speak, to locate it in experience, that is, to designate the conditions of its recurrence or other relations of it. Such location does not touch the quale itself; if one such could be lifted out of the network of its relations, in the total experience of the individual, and replaced by another, no social interest or interest of action would be affected by such substitution. What is essential for understanding and communication is not the quale as such but that pattern of its stable relations in experience which is what is implicitly predicated when it is taken as the sign of an objective property (Lewis, 1929, pp. 124–5).

Writing in 1929, Lewis already gives qualia the essential properties of immediacy, subjectivity, and ineffability that often characterize them today. In the context of his reasoning about the properties of qualia, contemporary arguments

[4] Peirce sometimes also suggests that, because the experiential given is complex, qualia are nonrelational *abstractions* from a sensory manifold (e.g., Peirce (1867, p. 4)), or even that they are mere logical possibilities. This appears to sit in some tension with the claim that qualia are the basis of sensory experience; for more on this tension see Goudge (1935).

for their existence and properties (the inverted spectrum, the argument from the possibility of zombies) would be quite at home. As they were for James and Peirce, qualia are, for Lewis, the raw material or underlying substance of our rich and conceptually articulated experience of the world. But for Lewis as for the contemporary theorist, qualia are also explicitly *private* items. The ineffability of a particular quale outside its behavioral and relational context means that it is, outside this context, in a certain sense particular to its owner. No one else can possess or even understand my quale itself, for there is no way I can communicate a description of it to another. All I can communicate is its place in the global pattern of relations that stands as its only objective sign.

There is also, though, an important contextual difference between the way Lewis uses the term 'qualia' and its use in most of today's discussions. For instead of basing his conception of qualia on general intuitions or demonstrative thought-experiments, Lewis articulates his conception of qualia from within the constraints of his global project of reconstructive analytic epistemology. For Lewis, qualia are the endpoints of epistemologically illuminating analysis; with their exhibition, we complete our analysis of any complex experience by distinguishing clearly between its interpretive, conceptual elements and that part of the experience which is genuinely 'given,' immediate, noninterpretive, and unconstrained by conceptual categorization. Aside from their role in this epistemological project, qualia have little significance; indeed, Lewis says, they are abstractions, for our given experiences always come to us structured and formed, and their elements can only be determined by a process of analysis.

The setting of Lewis's concept of qualia within the larger theoretical project of reconstructive epistemology has historically important consequences for his use, and subsequent uses, of the concept. One consequence is that Lewis's notion of qualia has explicit semantic implications that contemporary uses of the concept usually lack. For Lewis ties conceptual interpretation to meaningful expression; it is only by conceptually interpreting a 'given' element of experience that we gain the ability to communicate *about* that experience (p. 119). Consequently, Lewis's qualia are strictly indescribable. Strictly speaking, there is no possibility of describing an isolated quale, and no language for expressing the properties of individual qualia out of the context of their relationships with other qualia and conceptual interpretation. It is these patterns of relationship that we do in fact communicate about when we discuss qualia; about the qualia themselves we can say nothing, even though we may continually exhibit them to ourselves.⁵

Nor can we, according to Lewis, even *conceive* of an isolated quale. It is ultimately to a *relational* description, a description of their place in relation to a total network of other qualia, external causes, and behavioral effects, that all thought about qualia must relate (Lewis, 1929, pp. 127–8). For Lewis, then, qualia are real but indescribable, except insofar as we can describe their relational

[5] Lewis's theoretically motivated description of qualia as ineffable should be compared to Ned Block's more recent 'definition' of qualia: 'You ask: What is it that philosophers have called qualitative states? I answer, only half in jest: As Louis Armstrong said when asked what jazz is, "If you got to ask, you ain't never gonna get to know."' (Block, 1978, p. 278).

structure. It is only in virtue of the quale's having a place in a total pattern of relations that it has a describable identity at all. Thus, Lewis makes qualia identifiable only through a complex relational structure, whose relata we are in no position to characterize independently of that structure.

II

Lewis' conception of qualia as describable only in virtue of the network of their relations may at first seem quite uncongenial to contemporary uses of the notion. But even if this implication of indescribability is not present in contemporary uses of the concept of qualia, the notion of qualia as primary contents set off against a total field of structural relations bears direct relevance to the contemporary discussion of the problem of consciousness in another way. The image of Lewis' distinction between content and structure, for instance, appears in David Chalmers' 1996 description of the root of the problem of explaining consciousness physically:

Physical explanation is well suited to the explanation of structure and of function. Structural properties and functional properties can be straightforwardly entailed by a low-level physical story, and so are clearly apt for reductive explanation. And almost all the high-level phenomena that we need to explain ultimately come down to structure or function: think of the explanation of waterfalls, planets, digestion, reproduction, language. But the explanation of consciousness is not just a matter of explaining structure and function. Once we have explained all the physical structure in the vicinity of the brain, and we have explained how all the various brain functions are performed, there is a further sort of explanandum: consciousness itself. Why should all this structure and function give rise to experiences? The story about the physical processes does not say (p. 107).

Chalmers' complaint articulates a picture of the underlying difficulty with the explanation of qualia that will be recognizable even to those who disagree with it. Accordingly, it is reasonable to begin with this consensus in seeking a historically-minded account of the problem. Most importantly for the historical analysis, Chalmers' description of the problem turns on a central distinction between physical description, conceived as exclusively structural and functional, and experiences or qualia, conceived as resistant to this sort of description. There is, Chalmers suggests, something direct and immediate about consciousness, something that makes it resist description in terms of the abstract structural relationships of concepts, to which physicalist explanation ultimately traces. It is in these terms, and according to these intuitions, that Chalmers goes on to describe the problem of consciousness as the 'hard problem' of explaining the arising of *experience*, distinguishing this problem from the various 'easy problems' of psychological explanation, all of which amount to problems of structural or functional explanation. Consciousness is resistant to physical explanation precisely because it is something different, something whose immediacy and directness will not be explained even when *all* the causal and functional structures in the world are accounted for.

Chalmers' intuition of the simplicity, directness, and immediacy of qualia characterizes both contemporary and older uses of the term. But along with this conception of qualia, Chalmers also gestures toward a conception of scientific explanation that is, in broad terms, shared by materialists and anti-materialists in the philosophy of mind. In particular, Chalmers conceives of the realm of physicalist (and, in general, scientific) explanation as a realm of structural and functional explanation, and protests that such explanation does not suffice to explain the arising of consciousness. In so doing, he exploits a general conception of the metaphysical structure of the world congenial to physicalism and held in common by a variety of contemporary theories and theorists. According to this picture — what Jaegwon Kim has called the 'layered model' of the world — reality consists ultimately in elementary particles, or whatever basic units of matter our best physics tells us everything else is composed from, in causal relationships to one another.⁶ Accordingly, higher-level entities like molecules and cells are arrangements of the underlying units, and their properties can be deduced (at least in an idealized sense) from the properties of the underlying units. This makes for a unified *logical* structure of explanation in which all of the causally relevant properties of entities described by specialized sciences, including psychology, can, in principle, be explained in terms of, or reduced to, properties of the underlying units. This logical structure of explanation makes physicalist description structural or functional, for the explanation of a phenomenon adverts either to its compositional structure or to its causal relationships with other phenomena. Ultimately, a characterization of the structural and the causal, or functional, properties of a phenomenon are all that the physicalist description has to offer; reference to non-structural and non-functional intrinsic properties plays no role.

In the underlying motivations of this picture of explanation can be sought the underlying motivations of the contemporary discussion of consciousness as a problem for scientific description. The broadly physicalist picture, though, itself has a detailed and important philosophical history; and significantly, this history

[6] Kim describes the widespread influence of the layered model: 'For much of this century, a layered picture of the world like this has formed a constant — tacitly assumed if not explicitly stated — backdrop for debates on a variety of issues in metaphysics and philosophy of science — for example, reduction and reductionism, the mind–body problem, emergence, the status of the special sciences, and the possibility of a unified science. In fact this picture has had a strong and pervasive influence on the way we formulate problems and their possible solutions in many areas. Sometimes the layered model is couched in terms of concepts and languages rather than entities and their properties. Talks of levels of organization, descriptions or languages, of analysis, of explanation, and the like is encountered everywhere — it has thoroughly permeated primary scientific literature in many fields, in particular, various areas of psychology and cognitive science, systems theory, and computer science — as well as philosophical writings about science.' (Kim, 1998, p. 16). Moreover, it is the same picture to which J.J.C. Smart already appealed in defending his early articulation of the Identity Theory. Smart wrote in 1959: 'It seems to me that science is increasingly giving us a viewpoint whereby organisms are able to be seen as physicochemical mechanisms: it seems that even the behavior of man himself will one day be explicable in mechanistic terms. There does seem to be, so far as science is concerned, nothing in the world but increasingly complex arrangements of physical constituents.' (Smart, 1959, p. 142). The picture had been influentially articulated and defended in Oppenheim and Putnam (1958).

is not completely distinct from the history of the concept of consciousness to which Chalmers appeals. The philosophical history of the underlying distinction between basic elements of experience and structural or functional description can, in fact, be traced to one of the founding texts of analytic philosophy, Carnap's *Der Logische Aufbau der Welt* (1928):

Now, the fundamental thesis of construction theory (cf. s 4), which we will attempt to demonstrate in the following investigation, asserts that fundamentally there is only one object domain and that each scientific statement is about the objects in this domain. Thus, it becomes unnecessary to indicate for each statement the object domain, and the result is that *each scientific statement can in principle be so transformed that it is nothing but a structure statement*. But the transformation is not only possible, it is imperative. For science wants to speak about what is objective, and whatever does not belong to the structure but to the material (i.e., anything that can be pointed out in a concrete ostensive definition) is, in the final analysis, subjective. One can easily see that physics is almost altogether desubjectivized, since almost all physical concepts have been transformed into purely structural concepts. . . . From the point of view of construction theory, this state of affairs is to be described in the following way. The series of experiences is different for each subject. If we want to achieve, in spite of this, agreement in the names for the entities which are constructed on the basis of these experiences, then this cannot be done by reference to the completely divergent content, but only through the formal description of the structure of these entities (Section 16; original emphasis).

According to Carnap in 1928, the objectivity of any proposition whatsoever — its possibility of referring to the objective domain of scientific explanation — depends on its being a *structural* proposition. Such propositions make no direct use of names. Instead they comprise only definite descriptions and logical relationships among them. In this way, the total web of science can be described as a logical network of explanation, wherein all evidentiary and theoretical claims are deductively interrelated. Unity of science depends on this structuralization, for it is only in virtue of the structural nature of scientific propositions that they avoid referring to distinct, disjoint object domains. Physics already comprises almost exclusively structural propositions; and other regions of science, as they advance conceptually and empirically, become more fully structural and thus more fully assimilated to a unified explanatory order.

Carnap's claim for the structuralization of scientific propositions already defines the outlines of today's conception of scientific explanation as structural and functional. Scientific explanation, for Carnap, results in a unified totality of propositions that refer only to the structural and relational properties of the entities they describe. Structuralization, moreover, makes the explanatory unity of science a *logical* unity; as on Chalmers' picture, the explanatory relationships between structural descriptions are deductive and definitional ones. And as for Chalmers, physics has a privileged role as the science in which the structural and functional definitions of all sciences have their root. Carnap would soon make 'physicalism' — defined as the thesis that all meaningful scientific propositions are expressible in a single language, the language of physics — the basis of his conception of the unity of scientific explanation. By 1932, Carnap conceived of

even reports of basic experience as physicalist sentences, reports on the physical state of the observer (Carnap, 1932a). This semantic physicalism formed the basis for Carnap's claim for the unity of scientific explanation; the unity of science across all its specialized domains — biology, psychology, and even sociology — could be ensured by the uniform possibility of rewriting the propositions of any of these special sciences in the purely structural language of physics.

In this way, Carnap's picture inaugurates contemporary physicalism's comprehensive claim of explanatory unity. But Carnap's picture also has features that are quite alien to most of today's explanatory projects, and they are important to an understanding of the history of twentieth-century philosophy of mind. Most significantly, the relations of Carnap's system of logical relations in the *Aufbau's* epistemological project are not physical entities or events, but basic or elementary experiences. The aim of construction theory is the description of the logical relationships of these experiences so as to produce epistemological illumination of the actual or idealized order of inference from basic experiences to detailed scientific knowledge. But even though elementary experience provides the starting point of scientific knowledge, the development of conceptual analysis aims to replace direct descriptions of elementary experiences with structural descriptions of their logical interrelationships. For Carnap, scientific explanation *must* be structural, in part, so that it avoids referring to *particular* experiences, which may diverge in their properties from individual to individual and are accordingly ultimately subjective.⁷ The outcome of the project is a reconstructed epistemology, a complete logical structure matching (at some degree of idealization) the actual process of acquisition of knowledge in science.

Like Lewis, then, Carnap makes the description of immediate experiences dependent on their location in a total pattern of relations. And like Lewis, he describes this pattern of relations as a condition for the possibility of meaningful expression; immediate experiences can *only* be described in virtue of their position within it. But Carnap also goes beyond Lewis' picture by treating the 'total pattern of relations' as a pattern of *logical* relationships that mirror the logical relationships of linguistic terms. This innovation, in fact, represents a decisive moment in the inauguration of the analytic project of conceptual analysis. For it allows the articulation of a programme according to which the analysis of definitional and logical relationships among concepts yields epistemological insight. Because scientific propositions amount to structural descriptions of relationships among elementary experiences, analysis of a proposition allows the analyst to differentiate between the contribution of logical structure and the contribution of empirical content to its meaning. The concepts of science are exhibited as logical

[7] Carnap (1928), section 16. Carnap's project aims at the *completely structuralized* description of immediate experiences; that is why he seeks to base all objective descriptions of them, relevant to epistemology, on a single extensional relation, understood intuitively as the recollection of similarity between two immediate experiences. Accordingly, Carnap might be construed as expounding the view that immediate experiences are completely describable relationally. However, his arguments early in the *Aufbau* for the *necessity* of a relational description of immediate experiences visibly depend on their supposed properties of privacy and ineffability, at least when considered intrinsically. See, especially, the arguments in sections 2, 15, and 16.

constructions from elementary experiences, revealing the epistemological order of inference from elementary experiences to the attribution of these concepts. But because these elementary experiences cannot be named in isolation, but can ultimately only be exhibited, the epistemological reconstruction will be purely structural: it will refer only to properties of the formal relationships of elementary experiences, and never to these experiences themselves.

Conceiving of elementary experiences as primary, ineffable contents, and setting them off against structural explanation, Carnap's view already provides the outlines of the theoretical configuration within which subsequent stages of the philosophical discussion of consciousness have often been constrained to move. This theoretical configuration, indeed, determines plausible explanatory suggestions even today. This can be seen particularly clearly in one recent reaction to the problem of qualia, which offers as a new solution Lewis's original view of qualia as identifiable or explainable only in virtue of their structural interrelationships. Recently, several philosophers have suggested that the problem of the relationship of qualia to physical facts can be solved *relationally*: the solution of the problem will depend the discovery of specific correlations between the overall structure of experience and the structure of neurophysiological, computational, or functional states.⁸ Our sense of the mysteriousness of qualia, these philosophers suggest, will dissipate once we describe them in structural terms, in terms of their logical and formal interrelations. Chalmers himself suggests a 'principle of structural coherence' whereby 'the structure of consciousness is mirrored by the structure of awareness, and the structure of awareness is mirrored by the structure of consciousness' (1996, p. 225).

Even more suggestively in view of the philosophical history here detailed, several recent writers have sketched arguments for a return to the Russellian view sometimes called 'intrinsic monism', a view which bears important similarities of motivation and content to Carnap's picture.⁹ According to intrinsic monism, physical descriptions of the world are themselves purely relational; they characterize only relations among otherwise undefined entities and properties. Considered intrinsically, however, these entities and properties are themselves phenomenal or proto-experiential. Thus, as on Carnap's view, the relationality of objective, physical description sits alongside the nonrelationality of the phenomenal properties of immediate experience, apparently offering (though perhaps at the price of a kind of panpsychism) a solution to the problem of the integration of the intrinsic properties of subjective entities with the relational properties of objective ones.

[8] See, for instance, Hardin (1987; 1988) and van Gulick (1993). These authors differ from Lewis in that they do not explicitly develop a conception of the intrinsic properties of qualia in order to oppose such a conception to their relational description; instead they hold that qualia can be *fully* explained structurally and relationally. However, the motivation for this is the same as the motivation for Lewis' argument for the solely structural identifiability of qualia.

[9] The view traces to Russell (1927). For recent expressions of it, see, e.g., Chalmers (1996), pp. 153–5, Lockwood (1989), and Maxwell (1978). Something like this view is also discussed in Feigl's influential 'The "mental" and the "physical"' (Feigl, 1958).

These suggestions may seem to bring a new level of attention to phenomenological detail and complexity to the contemporary discussion, but in the light of philosophical history they are simply repetitions of positions already investigated and discussed at an earlier moment, albeit in a somewhat different philosophical climate. The second suggestion, in particular, essentially rewrites Carnap's solution to the problem of the relationship of subjectivity and objectivity outside the scope of the primarily epistemological concerns of Carnap's project. The recognition of the deep similarities between this suggestion and older views recommends an explicit discussion of the original reasons for those views and their continuing ability to motivate philosophical argument. In particular, the recognition of the historical parallel recommends an explicit discussion of the underlying reasons for Carnap and Lewis' distinction between the ineffable, private contents of subjectivity and the objective description of the world, where objectivity is understood as public, linguistic expressibility and hence as logical structure.

III

Carnap's epistemological programme of constructional analysis might well be thought both idiosyncratic and irrelevant to contemporary concerns; after all, the Vienna Circle's brand of logical analysis has since been repudiated as foundationalist, and few philosophers today are concerned with an epistemological reconstruction of knowledge as based upon immediate, given experience. But the kinship between Carnap's and Chalmers' understandings of the nature of scientific explanation as structural in fact results from a revealing historical continuity. For Carnap's epistemological project articulates a central opposition — between the immediacy of given experience and the mediacy of logical form or structure — that consistently recurs in the history of analytic philosophy. Historical investigation reveals the central role of this opposition in driving subsequent theoretical moves and changes in the configuration of discussion in philosophy of mind, culminating in today's setting of the problem of the explanation of consciousness.

By 1934, Carnap and others in the Vienna Circle had retreated from the epistemological project of the *Aufbau*. The change responded to the pressure put on that project by the demand for a coherent account of the form of protocol sentences, or basic observational reports of immediate experience; but it can be explained directly in terms of tensions surrounding the underlying opposition between subjective content and objective form on Carnap's picture. To guarantee the empirical basis of scientific knowledge, protocols must genuinely be reports of experience; what Carnap lacked was a coherent account of the relationship between such a report and its object. For the structural picture of explanation, on Carnap's picture, means that the objectivity of such reports traces to their logical structure rather than to their empirical content, ineffable by the lights of Carnap's theory. But it is ultimately just this empirical content that qualifies them for a foundational role in knowledge. Under the pressure of the alternative 'physicalist' picture of Neurath, according to which no sentence is

foundational and protocol sentences are essentially the same as any other sentences in the system, Carnap replaced the *Aufbau*'s project of epistemological reconstruction with an alternative, 'syntactic' picture on which protocol sentences have no special relationship to experience (see Carnap, 1932a,b; 1934).

At this moment, therefore, the conception of experience as ineffable and subjective that had provided the original motivation for Carnap's structuralist picture of meaning and objectivity dropped out of the theoretical picture of epistemology and vanished from the concerns of most analytic philosophers. Seldom again would ineffable experience be conceived as having an epistemologically foundational role; instead, Carnap's structuralist picture of explanation would inaugurate subsequent, and more sophisticated, versions of physicalistic explanation (including naturalized and reliabilist epistemology, logical behaviorism, and functionalism), most of which would omit any privileged epistemological role for immediate experience. The underlying tension between ineffable experience and structural meaning, however, was arguably never resolved; instead of moving toward a more explicit discussion of the source of this tension in concerns about the relationship of subjectivity to objectivity, the subsequent discussion tended simply to leave out of consideration one side of the distinction leading to this tension, while developing the other side as the doctrine of physicalism and physicalist explanation.

Physicalism itself, begun as the semantic doctrine that all meaningful sentences can be expressed in a single, unified language, which is also the language of physics, soon became an overarching ontological view about the nature of entities and their relations of reduction. This ontological view developed into a sophisticated and self-admittedly metaphysical picture of causation, function, and reductive explanation. Throughout this development, philosophers defended physicalism and its offspring partly for its explanatory advantages in the philosophy of science; but more often, it was the problems of mind, intentionality, and consciousness that provided the context in which physicalism was articulated and defended and employed as an explanatory resource.

A turning point in the development of physicalism away from Carnap's semantic doctrine and towards the ontological view of Kim's 'layered picture' of reality was the development in the 1950s of the Identity Theory of mind, according to which qualitative states of experience are simply neurological states of the brain. Though the theory would soon be criticized for its inability to account for conscious experience, its original motivation was, ironically, an attempt to replace an earlier physicalist theory's inadequate account of experience. For when J.J.C. Smart and U.T. Place first formulated the Identity Theory, they framed their suggestion as a reaction to Ryle's 'logical behaviourist' explanations of mental concepts (Place, 1956; Smart, 1959; for the background, see Ryle, 1949). Smart and Place found it implausible that sensations could be behavioural dispositions because they thought it evident that our language about them genuinely *reports* on something, rather than just replacing some more primitive behaviour or expressing a behavioural disposition. Though this objection clearly does not depend on any conception of sensations as essentially

private or epistemological foundational entities, the thought that some legitimate uses of sensation-language are genuinely *reporting* uses gestures toward the immediacy of primitive items of experience, their possibility of issuing in, and justifying, immediately descriptive language about them that does not depend on inference from any further or more basic premises. It had been just this feature of immediacy that Ryle's programme, committed to analysing mental concepts in terms of the 'logical geography' of their grammatical interrelationships as exhibited in ordinary use, was unable to capture. For the commitment of Ryle's analyses of public language to yield clarifications never referring to any essentially private objects left these analyses unable to countenance even language referring to items that are private in the epistemologically and ontologically unproblematic sense of Place and Smart's theory. As had happened before, and would happen again, the immediacy of experience made impossible any complete analytical description of it in terms of the logical, formal, structural, or grammatical interrelations between concepts. The result was a partial change in subject and a shift in methodology away from the primarily linguistically-oriented analyses of Ryle and the analytic heritage, and toward a more empirically-minded style of explanation.

The Identity Theory of Place and Smart itself articulated a compelling picture of the mind as part of a unified, physically describable and empirically discoverable world. Philosophers of mind found the picture congenial both because it promised to integrate the mind into the unified order of scientific explanation and because it did so without the implausibilities of Ryle's seemingly behaviourist treatment of consciousness. But though the Identity Theory sought to place the mind and the referents of mental entities within the physical world, it failed by itself to articulate, even in sketchy terms, what a physicalist description of mental states might actually look like. The 'functional state identity theory' or 'functionalism' of Putnam, Fodor, and David Lewis provided the needed articulation in several ways (see Putnam, 1967; Lewis, 1966; Fodor, 1965). First, by defending a conception of mental states as identical with computational or formal states, it allowed the possibility that the *formal description* of a mental state — the logical structure of its interrelationships with exterior events and other mental states — would be relevant to the explanation of its existence. In this way, the old analytical project of clarifying the logical structure of mental states gained a new life, freed from its exclusive dependence on Fregean truth-functional logic and essentially linguistic analysis. Second, by making this identity of mental states with computational states a matter of their *causal* properties, the new style of analysis could justifiably claim to issue a fully empirical description of them, completely amenable to a physicalist ontology, and capable of solving the various problems of physical/mental causation. By combining these two strands of theory — formal description of the logic of mental states, rewritten as computational description, and a physicalist description of their ontology — functionalism brought the apparent metaphysical innocence of the Identity Theory together with the more sophisticated analytical prospects offered by formal or computational description.

Still, though, the itinerary of the functionalist explanation of a particular mental concept contains only descriptions of neurophysiological structures and their causal and computational relationships. Whatever help this sort of explanation might offer for the explanation of intentionality, it was clear from almost the beginning of functionalism's career that it had a special problem with the characterization of consciousness, and particularly with qualitative states or (using the old term, which soon began to reappear) qualia. Old puzzles, like the puzzle of the inverted spectrum, made a prominent reappearance in the form of a challenge to functionalism to explain qualia, and evocative new thought experiments capitalizing on the generality and abstract character of functional state descriptions further embarrassed the functionalist claim to explain the qualitative.¹⁰ Most of all, qualia seemed obviously different from other, functionally explainable mental states because of their independence from functional descriptions. This independence was soon captured in a compelling allegory: that of the zombie, or the physical and functional duplicate of a conscious being which nevertheless completely lacks qualia or consciousness. As the metaphysical concepts of possible worlds and supervenience developed over the 1980s and 1990s, these concepts offered a compelling picture of scientific explanation and a natural description of the zombie case that, given its apparent conceivability, makes consciousness and qualia seem stubbornly and strangely resistant to physicalist and functionalist accounts.

IV

By elucidating the origin of our contemporary concept of physicalist explanation in the context of the structuralist description of experience, and the origin of our contemporary concept of consciousness in the immediacy of experience, historical investigation offers a genuine *explanation* for the recalcitrance of consciousness to physicalist explanation. It does so by reminding us of features of our concepts of consciousness and of physicalist explanation that we often forget even as we deploy these concepts. Usually, our contemporaneous definitions and articulations of philosophical concepts provide plenty of material for argumentation and clarification; but where, as with the contemporary debate about consciousness, much-cited concepts become vague and ill-defined, and debate collapses into the illustration of pre-existing positions or 'intuitions', historically minded clarification of concepts and debates becomes particularly relevant and

[10] Shoemaker (1982) made the inverted spectrum case newly relevant to the question of qualia by suggesting that a modified form of functionalism can provide for the possibility of inverted spectra after all. Ned Block's (1978) fairly early 'Troubles with Functionalism' developed the famous case of the *Chinese Nation*, the hypothetical scenario in which the citizens of China are wired into a functional web mirroring the functional organization of a brain. Other variations on this are Searle's 'Chinese Room' (under some interpretations), Bogen (1979), and Searle's (1992) thought-experiment involving the replacement of brain parts with functional duplicates. The *absent qualia* or *zombie* thought-experiment, central to Chalmers' argumentation, seems to have appeared as early as Kirk and Squires (1974). Finally, Jackson's so-called 'knowledge argument' first appears in Jackson (1982), with responses by Lewis (1990), Nemirow (1990), Churchland (1989), and Loar (1990), among others. Other recently influential thought-experiments have focused on the relationship between qualitative content and intentional content; for two representative examples, see Block (1990) and Tye (1995).

helpful. For it reconnects the contemporary ‘intuitions’ to the larger philosophical space of their origin and, in so doing, allows their partisans to better articulate (rather than simply rely upon) their underlying reasons for holding them. At the same time, its recollection of the distinct and often forgotten sets of philosophical issues and concerns that attended the origin and lineage of our contemporary concepts suggests a broadening of the contemporary debate to a wider space of discussion including at least some of these forgotten concerns.

In particular, the historical investigation so far suggests the origin of our contemporary concepts of consciousness and explanation in a central and underlying opposition between content and form or structure. From Carnap on, physicalist explanation has been *structural* explanation, whether logical, linguistic, or functional in nature. And the elements of consciousness have consistently been understood as contents, perhaps organized into structural interrelationships of similarity and difference, but themselves having an intrinsic, non-structural character which is the ultimate *explanandum* of theories of consciousness. The central and underlying opposition between consciousness as content and explanation as structural inaugurated by theorists like Lewis and Carnap not only underlies modern objections to physicalist explanation like Chalmers’, but also has been responsible for some of the most important theoretical innovations in the history of philosophy of mind. For instance, the historically important move from Carnap’s epistemic foundationalism to the non-foundationalist physicalism of Neurath occurred when the protocol sentence debate showed the difficulties involved in any account of the basis of structural, linguistic meaning in experiential content; and I have argued above that the Identity Theory originated in a corrective to Ryle’s account, issued when the latter’s methodology of grammatical analysis failed to account for the immediacy of sensation.

Philosophers of mind are not, I hasten to admit, generally completely unaware of the history of concepts here related. Many have felt there to be a tension between descriptions of qualia as ‘intrinsic’ and behaviourist, physicalist, functionalist and other forms of ‘relational’ explanations of them (see, e.g., Goldman, 1993; Harman, 1990; Levine, 1995). And philosophers who appeal to qualia are generally not unaware of the similarities between their view and the views of adherents to ‘sense-data’ and epistemologically foundationalist views like those of Lewis and Carnap. Indeed, the history here related suggests that the recognition of tensions between the explanation of qualia as immediate, nonrelational content and the relational explanatory tools of analysis has repeatedly driven methodological and thematic innovation in philosophy of mind. However, the repeated influence of the problem has not generally ensured the explicit recognition of its underlying conceptual determinants. Though the tension between the explanation of qualia as nonrelational and the formal, relational tools of explanation has repeatedly driven theoretical innovations and indeed has sometimes been recognized in *propria persona*, little has been said about exactly why this tension might arise, or what deeper problem it represents. It is here that the historical investigation proves particularly useful.

In particular, explicit reflection on the reasons for which theorists like Lewis and Carnap deployed a content/structure opposition can help to situate the current discussion within the context of a different and more inclusive set of philosophical concerns. One of the original reasons for which these philosophers set experience, as content, off against linguistic explanation, as structure, was epistemological in nature, tracing to the thought that the first-person content of another's experience must be unknowable to me. But more broadly and suggestively, these philosophers drew the distinction between content and structure because they saw it as the best way to bring reflection about language to bear on the old problem of the relationship of subjective experience to objective truth and meaning, given the intersubjective effability of public discourse. For these philosophers, the objectivity of a public-language statement depended on its having a certain structure of meaning, perspicuous to logical or linguistic analysis; and it seemed natural that, at least for some such statements, the elements of experience should themselves be the contents structured. This allowed that first-person, subjective content is indeed private, while nevertheless permitting it to have a role in the meaning of public propositions capable of describing objectivity.

If the enduring content/structure distinction that continues to provide the backdrop for the problem of explaining consciousness itself first arose in the context of Lewis and Carnap's consideration of the relationship between subjectivity and objective, public meaning, then the endurance of unresolved questions about that relationship plausibly provides at least a partial explanation for the intractability of the contemporary version of the problem. With this explanation in mind, many of the difficulties encountered by particular theories in the history of twentieth-century philosophy of mind might illuminatingly be discussed as problems of the relationship of the privacy of subjective content to the publicity of linguistic meaning, where the former is related to the latter as content to structure. And the contemporary problem might be much clarified by an explicit discussion of the underlying semantic or logical reasons for thinking a content/structure distinction useful for characterizing the relationship of subjectivity to objectivity.

Although the endurance of the content/structure distinction that theorists like Lewis and Carnap inaugurated suggests that it still may be the best way of discussing the relationship of subjectivity to objectivity, the contemporary discussion of consciousness does not often recognize the underlying distinction on the philosophical level of the arguments originally made for and against it. If innovations in philosophy of mind have indeed been driven by this distinction, then discussions of the special properties of consciousness as an empirically described phenomenon among others may be less helpful than a more explicit discussion of the *logical* and *semantic* implications of its subjectivity and first-person character. And if the recurrent paradigm of 'explanation' in philosophy of mind has largely been determined by a particular view of the formal nature of objective meaning, then an explicit discussion of this view might prove more helpful than its mere presupposition.

Historical analysis of the concepts of ‘consciousness’, ‘explanation’, and the physical therefore recommends both an expansion of the current debate about the explainability of consciousness to include the explicit, semantically informed discussion of the subject/object distinction and a rereading of the history of the debate in terms of the problems of this distinction. Many of the underlying conceptual sources for the intuition that consciousness resists physicalist explanation, the historical analysis suggests, can be made perspicuous as problems concerning the relationship of subjective, immediate experience to objective meaning. These problems, because they have repeatedly determined the form of the philosophical discussion of consciousness, have seldom been able to appear *within* that discussion as explicit objects of theoretical concern. But their explicit rediscovery could confer upon the current debate a new richness of scope and depth of relevance, allowing its guiding intuitions and conceptual innovations to emerge as contributors to our ongoing self-reflexive investigation of the place of consciousness and subjectivity in the objective world revealed by our best theoretical descriptions of nature.

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