**From Private Experience to Public Language**

 Common sense tells us that we live in a common world of ordinary objects, all of which are publically accessible to multiple perceivers at the same time. We take it for granted that the objects that we talk about are not only public, but common to many perceivers at once, so that it is possible for us to refer to the same objects as other people, discuss them, and either correct or reinforce each other’s claims about them. We also suppose that the space and time in which these common objects exist is a single space and time that exists external to our minds and in which we live, move, and have our being. It is due to our (or at any rate, our body’s) location in space and time that we have access to some, rather than all, the objects that exist at a particular time (as opposed to all objects existing at any and all places and times) and a particular perspective on the objects that exist at the same time as ourselves in each place to which we are perceptually present. We also suppose that this space and time are continuous in such a way that all parts of space and time are related in a single whole, so that every place in that space is available to me in principle as a result of travel through that common, continuous space to that place, although this may not be possible in fact due to physical limitations of distance and available time. (I can’t travel to Alpha Centauri because it is too far away for me to reach in a normal lifetime if I travel at sub-light speed.) In the same way, we suppose that every moment of time is related to every other moment of time by relations of precedence and succession, so that time forms a continuous, ordered whole in which in principle every moment can be reached from every other moment in a finite series of steps. Although we can’t physically go back in time, we can do so imaginatively all the way back to the first moment of the universe without encountering any discontinuities or unbridgeable gaps between time-sequences.

 This common sense picture of things is, of course, the spontaneous “natural standpoint” of the ordinary man or woman that each of us is in our non-philosophical and non-scientific moments. This point of view is also the foundation of what Sellars[[1]](#footnote-1) calls the “manifest image” of reality that, as Hume teaches,[[2]](#footnote-2) we all ineluctably embrace regardless, indeed in spite of, our theoretical beliefs and convictions. We may look down our noses at common sense and scorn it as a mere “folk-theory” that modern science supersedes, but it is no more within our power to live as though it were false than it is for us to believe that we are philosophical zombies. Unless the common sense picture of reality is true, it is impossible for us to suppose that common experience, common language, and a common world of experience are even possible for us, let alone actually the case as a matter of fact. As such, on the supposition that this claim is false and the manifest image of common sense a mere illusion, we can keep up the pretense of a common language (etc.) only by a curious double-mindedness. On the one hand, we proceed as though common sense claims about reality were true – we cannot do otherwise – but then take it back when we are doing philosophy and science, arriving at claims that are not merely contrary to but in fact incompatible with that view of the world. For the most part, we evade having to choose between these two pictures, promiscuously bouncing back and forth between them as suits our immediate needs, perhaps even convincing ourselves that we have seen through the comfortable fictions of the manifest image even as every moment and every action betrays the vanity of this pretension. However, in our lucid, reflective moments we cannot but recognize the tension here, and the need to choose between these two conceptions of reality if in fact they are incompatible. For most of us, these moments pass quickly and we are once again plunged into the stream of our current research, insulated from the nagging questions we have begged in order to be so. But what if we were to face those questions, and squarely? What then?

The answer that most current philosophers would likely give is that the manifest picture must be rejected and the scientific picture embraced, regardless of the consequences for common sense. As such, if we must choose, the obvious choice must be the scientific picture and the manifest picture rejected as merely pre-scientific illusion. However, as I have argued at length elsewhere, science itself, considered as a form of theoretical inquiry aimed at the acquisition of objective truth, belongs to the manifest picture and is unintelligible apart from it, and thus presupposes the truth of the common sense point of view so far forth. We may think that we can naturalize everything, but if we naturalize science, showing how it is the product of some process that has no tendency to produce reliable cognitive faculties and that, even if they did, would have at best an accidental relation to the goal of truth-tracking, then its results will no longer have any claim on our credence. Indeed, on this scenario, rationality itself becomes merely another illusion, a “folk rationality” to be exposed as a myth we tell ourselves but is really to be accounted for on the basis of principles completely consistent with the substantive falsity of both that “theory” and the beliefs we thereby arrive at on its basis. In that case, of course, not even that alternate, naturalistic explanation can be the product of rational, theoretical inquiry, and our only consolation would be that we couldn’t, given the circumstances, have any reason even in principle to accept that account, even if it were true. That is cold comfort indeed.

At the same time, while it would be a great mistake to travel down the road of self-refuting scientism, it would be equally wrong to embrace the deflationary views of science promoted by instrumentalists, sociologists of knowledge, anti-realists, postmodernists, and so on. According to these views, our best scientific theories are at best social constructs and at worst ideologies, merely the myths of our tribe with no more claim to objective truth than those of any other tribe, ancient or modern. According to such views, claims to objective truth, including scientific truth, are merely designed to realize the will to power of scientists or serve the interests of the ruling class. However, science has proven to be too pragmatically successful for such any such view to be credible. At the same time, such views inevitably prove self-refuting in their own right, since they end up being applicable to themselves and therefore in their turn merely someone’s self-serving myth or ideology, a fate such views can avoid only by committing the fallacy of special pleading.

Once we are apprised of the hopeless character of these schemes, the indicated alternative seems to be to seek some sort of rapprochement between the manifest, commonsense image of the world and the scientific image, one that would permit each to exercise, in Stephen Gould’s phrase, “non-overlapping *magisteria*.” The scientific picture must be made to accommodate the manifest picture without which science cannot be conceived of as the product of rational activity. At the same time, the manifest image needs to be understood in such a way as to accommodate an appropriately chastened but still robust scientific realism. I cannot undertake accomplish this project in a single short paper. However, I can at least begin to sketch the outline of such an account by reference to a philosophical problem that has exercised me for over forty years, and about which I have only recently been able to see my way clear: the problem of perception.

 I

Let me begin with a quick outline of the familiar problem. The commonsense picture of the world contends that there exists an external world, consisting of objects existing external to the mind and constituted independently of it. This external world and the objects that compose it include our bodies and in virtue of the interactions between our bodies and other external things, located in a common space and time, we are able to apprehend and thus to know them. In the same way, since it possible for more than one embodied person to interact with the same publically observable object, it is straightforwardly possible for us to have public discourse about any such object, since the referents of the terms we use to describe it will be numerically the same in each case. On such a picture, then, we inhabit a common world of easily accessible external objects, present to us in sense-perception in such a way as to allow public discourse about them. External objects exist as common for all perceivers, are known as such through sense-perception, and so are spoken about as such. When what we say about those objects is true in the correspondence sense, then our public discourse about them, whether spoken or written, embodies the truth about those objects. When those truths are adequately justified by good reasons and adequate evidence, those truths constitute knowledge about that common external world.

The difficulty with this simple picture is that it conflicts with what we seem to know from philosophy and science about sense-perception. Since ancient times, skeptics and rationalists have argued that the senses are far less reliable and trustworthy as guides to the nature of the external world than common sense is willing to countenance and their arguments are no less substantial than their consequences are untoward.[[3]](#footnote-3) However, by far the most significant challenge to the common-sense picture of perceptual knowledge is that implied by modern science. This challenge does not reside simply in the powerful philosophical and scientific case to be made for *representationalism*, the thesis that the immediate objects of sense-perception are not external objects but instead subjective mental contents that are, at best, the product of a causal process that originates in such objects. After all, Aristotle was arguably a representationalist, but not having any strong reason to suppose that the external world was in any important way different than it appears to us in sense-perception, he felt no qualms in relying on sense-perception as a source of knowledge about that world. Nor was he beset by any skeptical worries about either the existence of such a world or its character as an object of knowledge. The epistemological crisis precipitated by the New Science, and from which Aristotelianism was exempt, resided primarily in its contention that the external world was, in fact, *nothing at all* like it appeared to us in sense-perception, this making Aristotelian perceptual realism impossible for the scientifically sophisticated. This contention, in turn, was a consequence of the fundamental ontological thesis of the New Science, first formulated by Galileo in the dedicatory letter attached to his treatise on comets, *The Assayer*.[[4]](#footnote-4) This thesis, which I dub *Galilean physicalism* (GP), is the claim that nothing exists outside the mind except what has to be posited in order for mechanistic physics to be true of the external world. Thus, according to this position, the only thing that exists external to the mind is *matter in motion*. GP is thus physicalism about the external world.

Galileo and Locke attempted to stave off the worst by proposing the primary/secondary quality distinction, and thus preserve some vestige of literal resemblance between external objects and the mental images that represent them to us in perception.[[5]](#footnote-5) However, Descartes and Berkeley grasped the implications of the New Science in its fullness and denied any resemblance at all between the subjective mental contents that represent external objects to us and those objects themselves, using the same arguments that Galileo and Locke had used to draw the distinction in the first place.[[6]](#footnote-6) In so doing, for different reasons and with different aims, they formulated what would become the central epistemological problem of the modern period: *the problem of the external world*.

The disastrous implications of the New Science’s commitment to GP for the commonsense point of view are obvious, palpable, and have attracted much philosophical attention. Even if my body exists in the external world, neither it nor any other external object (all of which, after all, are themselves nothing more than matter in motion) can be apprehended by us. Instead, we are trapped in the charmed circle of our own ideas constituting Ralph Barton Perry’s “egocentric predicament.”[[7]](#footnote-7) Not only does this result in a crushing skeptical burden, calling into question even such basic knowledge claims as that an external world exists, it also seems to undermine the very possibility of the common world of public objects that seems required in order for public discourse about things to be possible. If each person is trapped in his or her own private world, and capable of apprehending only a series of private objects existing in his or her individual consciousness, how is language as a medium of communication possible at all? In lieu of an answer to that question, there looms the challenge of avoiding solipsism and the specter of the “private language” language argument, which threatens even solipsism with incoherence.

More serious still, though rarely noted, are the implications of GP for scientific realism and thus for the New Science itself considered as a theory about the nature of extramental objects. What we claim to know about the external world through scientific investigation is ultimately dependent on the input from the senses – we have no direct access to the noumenal realm of matter in motion posited by the New Science. At the same time, those very same ontological commitments insure that the senses provide no basis for any inferential knowledge about the external world regarding either its existence or its nature. In that case, we have no reason for affirming that any such world exists, or that our theories about it are true. The epistemic gap created by the marriage of representationalism and GP therefore undermines scientific realism concerning the New Physics and, in so doing, the New Physics itself as a substantive theory about the constitution of mind-independent objects. Thus, it seems that if the New Physics is true, no one could have any reason for believing that this is case, even in principle, so long as the sole evidence for it is to be provided by evidence derived from sense-perception.

The marriage of representationalism with Galilean physicalism, the central ontological innovation of the New Science, threatens both the manifest and scientific images that jointly constitute our modern worldview with imminent epistemic collapse and incoherence. In response to this difficulty, which was felt but never as clearly formulated or addressed as I have presented it here, the most important early modern philosophers responded either by embracing some sort of skepticism about knowledge of things as they exist in themselves, as we find in Locke, Hume, and Kant, or some version of instrumentalism about science, as we find in Malebranche and Berkeley. Reid and the Scottish School attempt to solve the problem by denying the “doctrine of ideas” and thus mainstream representationalism, though what they intended to replace this with is not altogether clear, with all of their mainstream proposals threatening to lapse back into the very representationalism they were trying to avoid.[[8]](#footnote-8) The one view that was not taken seriously by any of the philosophers I have mentioned is one that would unite the manifest and scientific images, representationalism, and scientific realism by denying Galilean physicalism and proposing an alternate ontology capable of preventing epistemic meltdown. That is what I propose to sketch in the rest of this paper. I will then explain how there can be a public language despite the fact that all experience is ineluctably private.

 II

I have dismissed GP as a gratuitous thesis that leads to insuperable epistemological problems for both philosophy and natural science. With what do I propose to replace it? My answer is: an Aristotelian ontology of *material things*, i.e. substantial individual particulars corresponding to the standard, medium-sized objects of everyday sense-experience. A *thing* or *entity* is whatever counts as real or actual in its own right outside of its causes, whether or not it exists in relation to a mind. The concept of thing is thus the broadest ontological category. As such, material things will be one kind of thing among others; what kind, I will be at pains to discuss later. Any thing or entity that, in addition, exists in relation to a mind is also and by that very fact an *object*. According to the “four objects” doctrine I have articulated elsewhere, any thing can be an object in relation to a finite mind in any or all of four ways.[[9]](#footnote-9) First, a thing can be a *phenomenal* object *in* a mind as a collection of sense-data. Second, a thing can be present *to* a mind as the *intentional* object of a perceptual act, represented but not exhausted in its being by the phenomenal object, thus existing as a thing-in-itself. Third, a thing can be an object of thought or *ens rationis*, in which case it becomes a *transcendental* object, that thing rationally reconstructed as a self-existent, unified whole on the basis of our partial perceptual apprehensions of it as an intentional object. Finally, a thing can be related to the mind as something that, in its inner constitution or nature, transcends the limits of all possible sense-experience, in which case it is a *noumenal* object. While the transcendental object is merely an *ens rationis*, hence nothing in itself, it nevertheless attempts to model in thought the intentional object, only partially apprehended in consciousness by means of a series of phenomenal presentations, as a completed totality, a permanent possibility of perception posited as a thing-in-itself. This naturally suggests to us the notion of the noumenal object as an independently existing thing whose inner nature is hidden from us as the principle of these various presentations and the ontological foundation for their unity – the noumenal self as substance.

Aristotle, Locke, Hume, and Kant all agreed that, to the extent that this hidden noumenal world transcends all possible sense-experience, it lies beyond our ken, even in principle, so that nothing substantive can be known about it. Accepting that the limits of sense-experience are the limits of what we can know, Aristotle opted for a descriptive, qualitative, and largely non-mathematical physics in which hidden powers and capacities were attributed to material things and left without further explanation. In book IV of the *Essay* Locke, although continuing to endorse realism, expresses severe doubts about the extent to which natural philosophy will be able to penetrate the hidden essences of things.[[10]](#footnote-10) Hume and Kant, in different ways, also adopted strict agnosticism about the “hidden essences” of “noumena” and tried to restrict the range of scientific inquiry solely to phenomena as objects of “possible experience.” This pessimism is hard to credit, given the evident success of natural science in the days of these latter figures, but is, after all, not so inexplicable after all. All of them lived before there was any occurrent understanding of explanatory inference, of which the scientific method utilizes one variety.[[11]](#footnote-11) This latter, while using both deductive and inductive reasoning, is nevertheless a unique, irreducible form of intellectual inquiry. Because of this, all of them, in one way or another, suppose that (as Lonergan puts it) knowing is a matter of “taking a look,” i.e. a matter of *apprehension*, which for all these figures ultimately involves sense-perception.[[12]](#footnote-12)

This can be illustrated by a brief discussion of Hume’s critique of the notion of cause. According to Hume, causes are not perceptible, and causal inferences can be justified neither by deductive nor inductive reasoning. Supposing that Hume is right about this, it still doesn’t follow that causal explanation is impossible.[[13]](#footnote-13) For causal connections, mechanisms, and processes are explanatory *posits*, intended to account for the facts that Hume, in his own, psychological account of the origin of the notion of cause takes for granted and is unable to explain but must treat as “original existences” or brute facts. For example, that there are regularities in sense-experience that support the formation of habits through the gratification of the expectations we form on the basis of repeated observations is one such fact. In order to explain the apparently law-governed regularities that we actually encounter in sense-experience, we posit actual, mind-independent processes occurring in the external world consisting of mechanisms by means of which the effect arises or obtains as a consequence of the operation of the cause. At a superficial, descriptive level we can talk of the capacities and powers of material things, such as weight, hardness, density, and so on. At the next level, we can talk about the materials out of which these things are made, such as wood, metal, plastic, with reference to the qualities they possess that in some sense ground the capacities and powers of those material things. This is perhaps as far as Aristotelian science can go. To get beyond this, we need to posit unobservable, theoretical entities in accordance with hypotheses that are the products of the analogical imagination and are, at least in principle, testable by reference to observable consequences. In that case, we will explain the properties of materials by reference to the properties of, say, matter conceived of as a primary stuff out of which the various matters constituting distinct materials (and their properties) arise. This, in turn, may suggest that we decompose this generalized stuff into a set of homogeneous particles with a set of inherent properties interacting with each other in accordance with a set of simple, mechanical laws, and so on, until the *mikra*, the *infima species* of material particles, properties, and laws are reached. Only at this point will we reach the most fundamental level of analysis of things possible in this line.[[14]](#footnote-14)

This process of hypothesis formation and testing, in which we advance from the level of ordinary sense-perception and its objects through a series acts of theoretical positing to a finer-grained analysis of material things – one that need not involve either ontological or methodological reduction – is characteristic of the pattern of explanatory reasoning. The hypotheses, models, and well-confirmed theories that result from this sort of intellectual inquiry constitute our best guess with regard to the structure of the noumenal world, i.e. the mind-independent external world insofar as it transcends the bounds of sense. Yet does this seemingly impressive body of well-confirmed scientific theory really constitute knowledge of that transcendent reality?

One might think that it does not, but this will depend on what one willing to accept as a successful outcome in the search for truth. Since, as Farrer puts it, when it comes to the noumenal object we are reduced to throwing up conceptual schemes and hoping that they will successfully model the phenomena in a way that will make them intelligible to us, only explanatory reasoning, and in this context the scientific method, gives us any hope of gaining a purchase on them.[[15]](#footnote-15) Despite the fact that the results of scientific inquiry are merely theoretical and at best analogical, we have no reason not to suppose that our best scientific theories describe reality, as least as far as they go, and our apparent success in extending our knowledge of the world as it is in itself through its application gives us cause to think that we are asymptotically approaching a truer model of it as our inquiry continues.[[16]](#footnote-16) Thus, even though the noumenal world described by mathematical physics transcends all possible experience, a realistic interpretation of those theories is still possible. This is as much scientific realism as we can demand or expect, given our epistemic limitations, and there is no reason to suppose that it is not enough to justify our confidence that our theories are at least largely true.[[17]](#footnote-17)

 II

The rejection of GP, then, is not a rejection of the New Science as the theoretical investigation of noumena. However, it is a rejection of the claim that the sort of knowledge acquired in this way is the sole, complete source of substantive knowledge about the external world. Even exhaustive knowledge of the matter of material things leaves important facts about material things out of the picture. For material things are not reducible to or replaceable by the matter out of which they are made. According to the ontology of material things, material things are a composite of matter and *form* and each kind of material thing has a substantial form, the principle of all of the inherent, dispositional, and relational properties it possesses *qua* thing. Substantial form is inherent structure, the principle of unity and intelligibility of things, a global supervenient property that belongs, not the individual elements of the microstructure of the thing, but to the thing as a whole, thus constituting that thing as an individual substantial particular. Viewed in and of themselves, the *mikra* belonging to/constituting to the material thing *qua* noumenal physical object are only externally related to each other by law-governed, efficient causal relations. Viewed from this perspective, a material thing is not a thing at all, but simply a loosely connected aggregate of mikra without any apparent structure or intelligibility. No amount of investigation of the mikra or of their properties and relations will reveal to us either the existence or nature of the material things that we encounter in sense-experience. Nor is there any way to demonstrate *a priori* that any collection of mikra, however related, constitute an ordered whole or possess any global or regional properties constituting that set of mikra as a structured whole. Reductionism, it seems, works only in reverse. No one even attempts a *physiche aufbau der welt* and could not succeed even if they tried. While substantial form may be (as the later Scholastics put it) *educed* from matter and thus ontologically supervenient in some sense on that thing’s physical microstructure, it nevertheless remains that any correlations we may discover between aspects of the physical microstructure of material things and the regional qualities of material things revealed to us in sense-perception are completely contingent and otherwise inexplicable. That the absorptive/reflective properties of the surface-atoms of a fire-hydrant considered *qua* noumenal physical object should be perceived as the (mostly uniform) color property we call red cannot be discovered by means of any form of scientific analysis. That hardness of the sort associated with the surface of a table should be constituted by fields of force arising from the internal structure of the atoms composing the table could never be known, no matter how exhaustive our physical analysis of the mikra occupying that region of space-time. If this were not so, then scientific discovery of significant empirical facts would be neither necessary nor possible. Form, then, is a non-physical component of material things. As such, without independent access to those forms not mediated by science no such correlations, or explanations, would be possible. In that case, neither would science.

We can reduce the inevitable mystery here to a single issue by positing substantial form as the principle of all of the regional, supervenient properties of material things. In that case, it is the substantial form, the global structural principle of a material thing, that accounts for that thing’s inherent, dispositional, and relational regional properties as a consequence of its supervenience on the that thing’s physical microstructure. Each of these is ontologically grounded in that overall structure as one of its component parts or aspects. The material thing, *qua* substance, is a composite of form and matter; considered solely in its noumenal aspect insofar as it is composed of interrelated mikra it is a physical object.

Substantial form may seem ontologically superfluous. It is not, but even if it were, it would still be epistemically indispensable for the very possibility of theoretical inquiry, including natural science, because mikra cannot be apprehended by the senses, and collections of sense-data cannot possess intentionality solely in virtue of their qualitative content. The seemingly unbridgeable gap between appearance and reality created by the physicalist ontology of the New Science *can* be closed, but only if substantial form is allowed to play its traditional role in the knowledge acquisition process.

Although Aristotelians hold firmly to the principle that there is nothing in the intellect that is not first in the senses, they do not suppose that all knowledge has to be derived from sense-data. Rather, the processes involved sense-perception are merely the medium by means of which substantial forms, existing in things as the principle of nature and change in them considered as substances, come to exist in the intellect of the perceiver.[[18]](#footnote-18) Among the properties possessed by material things in virtue of substantial forms are Lockean secondary qualities, dispositional properties or powers to affect our sense-organs in such a way as to inform us about the sensible qualities of things by literally in*form*ing us with them. These qualities as they exist in things are called *sensible* forms, and when transferred from the things to some medium capable of receiving them without taking on their nature become *intentional* species. In the first instance, an intentional species takes the form of a *species in medio*. These species in medio are conveyed *via* afferent radiation (light and sound waves, molecular motion, diffusion through the atmosphere, resistance to pressure, etc.) from the object to the senses, where they become a state of the sense-organ itself and thus become a *sensible species*. These sensible species, being aspects of substantial form, are processed by the brain acting as the *sensus communis* and unified in a brain-state as aspects of a single whole. At this point, temporarily abandoning Aristotle for Descartes, the immaterial mind or intellect takes over. The substantial form of the external material thing, so far as it is capable of being received by the mind of the perceiver, is now present in the brain as a *material species*, the immaterial structural aspect of a brain-state capable of being received by the immaterial intellect as a content of consciousness. The job of extracting this information from a brain-state to the conscious mind falls to the *agent intellect*, which being a potentiality for all forms takes the form into itself and, using something like Kant’s schematized categories, produces a mental image. The sensible forms of material things are represented by sense-data corresponding to the appropriate secondary qualities in the things themselves. The substantial form is present in consciousness, not as a sense-datum, but rather as the principle of structural unity in the image itself, constituting it as what Locke, Berkeley, and Hume would have called a *complex idea* and the medievals a *phantasm*.

The agent intellect, however, is not finished with the task of providing materials for cognition. By a pre-conscious, non-introspectible act called *abstraction* the structural principle of the phantasm is extracted from the mental image, “dematerialized,” and becomes an *intelligible species* or *concept*. This concept, it turn, is stored in the *passive intellect*, something like the Aristotelian version of St. Augustine’s “Great Storehouse of Memory.” The intellect then classifies or categorizes the phantasm (as Kant would say) under the appropriate concept as an example or instance of the natural kind corresponding to it, thus as *an x*. By the imposition of the concept on the phantasm, it now becomes a *representation* of a particular, individual material thing and thereby stands for that thing in consciousness. In this way, the representation possesses *intentionality*, the power to direct our attention to something that exists outside of and independently of consciousness, *just as such*. This is because the representation is the external object itself present in and to consciousness *formally* and *intentionally* rather than materially, as it exists external to and independently of consciousness.

The key to this is the doctrine that the substantial form of the object, present formally (as the structural principle of unity of the phantasm) in consciousness, is numerically identical to the substantial form as it exists in the external material object as the principle of all of its regional supervenient properties, which in turn are aspects of this single, global supervenient property of that thing, educed from the matter of that thing in virtue of its physical microstructure. The representation, then, is the presence of that thing to consciousness in those aspects of its being capable of being apprehended by the finite intellect, mind, or soul. It thus exists simultaneously in two realms (i.e., both intramentally and extramentally) but in different ways. Intramentally, it exists as an immaterial representation of that thing insofar as it is apprehensible by the senses, thus as both an intentional and a transcendental object, present in and to consciousness while yet transcending in being and substance any phenomenal presentation through which it is apprehended by a finite mind. Extramentally, it exists as a material thing, or substance, a composite of substantial form and matter. In turn, as noumenal object comprehended by means of theoretical inquiry, the non-formal, imperceptibly hidden aspects of the intentional object are modeled in terms of its (posited) physical microstructure, a collection of theoretical entities. This is indirect and analogical knowledge of that thing, but nevertheless our best, empirically-guided account of the hidden natures of extramental things, never literally true but accurate as far as they go, as is proved by the pragmatic success of applying these models in predicting and controlling nature.[[19]](#footnote-19)

So much, then, for the theory of cognition and the justification of our common-sense claim to apprehend and thereby know external material things; now let us apply this to the problem of public language.

 III

Earlier, I described concepts as stored in the passive intellect, something like Augustine’s “Great storehouse of memory.” However, in this context, perhaps a more apt model would be Kant’s notion of the understanding combined with a Platonic anamnesis doctrine. Concepts are present in the understanding but, being wholly divorced from sense-content, are incapable of being introspected as such. As such, they are thus understood only implicitly and inchoately, rather than explicitly. So understood, they and the words we use to express them are governed by intuitively apprehended criteria of proper use (a la Wittgenstein) governing syntax and ostensive reference but not accompanied by occurrent understanding of the substantive content or meaning of the term. For this reason, conceptual analysis is an essential task of philosophical inquiry. However, conceptual analysis, so understood, is neither a matter of investigating our linguistic conventions nor of establishing the limits of the human “conceptual scheme”; even less is it participating in a form of life or social construct. It is instead the Platonic project of attempting to bring what is implicitly or inchoately known about the external world by means of the understanding to explicit, occurrent awareness in a linguistically expressible form. For this reason, even ordinary language analysis is in aid of the process of acquiring objective theoretical knowledge about the world, the epitome of which is theoretical definition, in which what is defined is not the meaning of a word, but instead the thing to which the term is properly applied. In that case, the statement of the necessary and sufficient conditions for the proper application of the word is at the same time the characterization of the nature or essence of the referent of the term as well.

For many of our concepts, which are both abstract and non-empirical, philosophy by itself is sufficient for the purposes of theoretical investigation. However, in the case of material things insofar as they are objects of perception, conceptual analysis can yield only what Locke called the *nominal* essence of the thing, a set of perceptible properties characteristically instantiated by the things properly called by the term. This sort of definition, then, becomes the basis for the standard forms categorical propositions that provide the basis for Aristotelian logic understood as a material, as opposed to a formal, logic. The doctrine of inferences (both immediate and mediate) along with enumerative induction, are sufficient, then, to generate the descriptive, qualitative natural science associated with the Aristotelian tradition. To get farther than this, however, on the way to a genuinely explanatory natural science requires the modern scientific method. However, the Old Physics is not to be despised as far as it goes and, once the New Physics is shorn of its commitment to Galilean physicalism, the task achieving a rapprochement between the two traditions should be much easier to accomplish, with the former providing the observational data for which the latter provides the explanatory account.

To conclude, however, let me return to the question that was originally raised for discussion. Suppose that we accept the powerful philosophical and scientific case for representationalism. How is it, then, given that all of our all of our experiences are subjective and confined to individual streams of consciousness, that it is possible for there to be experience of a common world and for us to engage in public discourse about that world, as both the manifest and the scientific images demand as a condition of their own possibility? I think we can now see our way clear to an answer.

Due to the operation of the perceptual mechanism I described in the second part of this paper, it is possible for one and the same material thing to be a perceptual object for many individual minds at the same time. One and the same substantial form, numerically one in the material thing-in-itself that is the perceiver’s intentional object, can nevertheless be the principle of many intentional species, so that that substantial form, and thus the object itself, comes to exist formally and intentionally at the same time in many different minds. Although all of these individual representations are numerically identical with that substantial form as it exists in the thing, each of them is perspectivally distinct from the others, so that each is merely an aspect of the thing as a whole and just one aspect among others at that. As such, the manner in which they are identical with the substantial form in the object is not such as to make them identical with each other. At the same time each as an aspect of the whole is complementary to each of the others, the same thing apprehended or *seen as*[[20]](#footnote-20) from a unique point of view in such a way as to correlate with all other points of view or perspectives from which that thing can be apprehended. In this way, despite these perspectival differences, when we talk about ordinary material things as revealed to us through ordinary sense-perception, using ordinary language and assuming the natural standpoint of the common-sense point of view, we are all referring to, hence talking about, the same things.

What we say about those things is thus accurate as far as it goes and thus sufficient for descriptive consensus among ordinary language users. It is also, therefore, true as far as it goes though only true of those things insofar as they are capable of being apprehended by us through sense-perception. While this is enough for the purposes of Humean common life, and lies beyond correction or supersession by theoretical inquiry so far forth, it neither limits our knowledge to the realm of “possible experience” nor places any *a priori* limit on our knowledge of things-in-themselves, even conceived of as noumenal objects. To the contrary, the only limits to what we can know, whether through philosophy or science, are those presupposed by the very possibility of theoretical inquiry itself and thus without which it is not possible. These, as it turns out, are both significant and substantive, ruling out many views popular among contemporary philosophers. That, however, is a topic for another time.

1. Wilfrid Sellars, “Philosophy and the Scientific Image of Man,” in *Science, Perception, and Reality*, London, Routledge and Kegan Paul, 1963, 6-18. [↑](#footnote-ref-1)
2. David Hume, *A Treatise of Human Nature*, L. A. Selby-Bigge, ed., Oxford, Clarendon Press, 1888, I, IV, I, 182-187. [↑](#footnote-ref-2)
3. For the most thorough and powerful statement of this case I know, see Arthur Lovejoy, *The Revolt Against Dualism,* Chicago, Ill., The Open Court Publishing Company, 1930. [↑](#footnote-ref-3)
4. Galileo Galilei, Introductory Letter to *The Assayer*, in Richard Popkin, ed., *The Philosophy of the 16th and 17th Centuries*, New York, The Free Press, 1966, 64-68. [↑](#footnote-ref-4)
5. Galileo, *op. cit*., 65-66. See also John Locke, *An Essay on the Human Understanding*, Alexander Campbell Fraser, ed., Oxford, Clarendon Press, 1891, II, VIII, 7-25,169-181. (Reprinted by Dover Books, 1959.) [↑](#footnote-ref-5)
6. Descartes argues this by implication, rather than by stating this outright, in embracing the view that the essence of body is to be extended (which is not a sensible property) and reducing all properties of external bodies to modes of extension. For Berkeley, see his *Principles of Human Knowledge*, sections 8-25 and the first of the *Three Dialogues between Hylas and Philonous*, in M. J. Ayers, ed., *Berkeley’s Philosophical Writings*, Totowa, NJ, Rowman and Littlefield, 1975, 79-84 and 148-153. [↑](#footnote-ref-6)
7. Ralph Barton Perry,” The Ego-Centric Predicament,” *Journal of Philosophy*, Vol. 7, 1910, 5-14. [↑](#footnote-ref-7)
8. The inability of direct or “naïve” realists to explain how we can perceive external object as such, as well as to account of hallucinations as perceptual experiences, have been a constant stumbling block for such theorists. Reid and Beattie feign agnosticism (skepticism?) about the nature of perception, while sometimes admitting that, while there exist no ideas, “sensations” mediate our awareness of things. Of all the Scottish thinkers, Oswald is probably closest to the view expressed here. [↑](#footnote-ref-8)
9. See my essay, “Mind, Body, Space, and Time,” also on this website. [↑](#footnote-ref-9)
10. Locke, op cit., IV, XII, 9-13 – in the Campbell Fraser edition, 347-54. [↑](#footnote-ref-10)
11. The earliest attempts to formulate anything like a procedural program for inquiry in natural philosophy just as such were undertaken by Herschel and Whewell in the 1830’s and furthered by Mill in his *Logic* (1841). Peirce, the Positivists, and Popper also helped the good work along. [↑](#footnote-ref-11)
12. Bernard Lonergan*, Insight*, New York, Darton, Longman and Todd, 1957, 411-416. [↑](#footnote-ref-12)
13. Actually, I don’t agree with Hume about this. See my paper “What do we actually see?”, in preparation. [↑](#footnote-ref-13)
14. The term *mikra* was introduced, I believe, by F. R. Tennant; see his *Philosophical Theology*, Cambridge, Cambridge University Press, 1930, Vol. II, 43. On the sort of analysis suggested here, see Rom Harre and E. H. Madden, *Causal Powers*, London, Basil Blackwell, 1975, especially chapters 5 and 6. [↑](#footnote-ref-14)
15. See Austin Farrer, *Finite and Infinite*, London, Dacre Press, 1943, 294. [↑](#footnote-ref-15)
16. We could compare this sort of analogical knowledge with that acquired concerning God in traditional theology; see G. H. Joyce, *Principles of Natural Theology*, London, Longmans, 2nd ed., 1934, 244-59. [↑](#footnote-ref-16)
17. We will have much stronger reason to believe this if Cartesian theism is true, and we thus have a divine guarantee that we possess reliable cognitive faculties. [↑](#footnote-ref-17)
18. For a quick and lucid introduction to the theory of perception adumbrated here, see E. L. Mascall, “Sensation and Perception,” *Proceedings of the Aristotelian Society*, Vol. 64, 1964, 259-272. For a more elaborate account of this theory, see Joseph Owens, *Cognition*, Houston, Center for Thomistic Studies, 1992, especially chapters 2-6. Those familiar with Robert Pasnau, *Theories of Cognition in the Later Middle Ages*, Cambridge, Cambridge University Press, 1997, will be aware that I have made certain arbitrary decisions about the use of terminology and the commensurability of certain medieval and modern terms that I do not here pause to discuss of justify. [↑](#footnote-ref-18)
19. It should be noted that, as time goes on, theoretical entities in physics, initially conceived of as though they were miniature material things, e.g. very small elastic billiard balls, and embedded in models thought to resemble what they describe, become progressively mathematized and thus no longer in any sense literally descriptive of anything imaginable by us. The meanings of the terms change as well, so that their referents no longer correspond to any imaginative content, and designate simply whatever replaces a recurring parameter in a set of equations. [↑](#footnote-ref-19)
20. On this notion, see Virgil Aldrich, *Philosophy of Art*, Englewood Cliffs, NJ, Prentice-Hall, 1963, 19-24. Elsewhere, Aldrich calls this “categorical aspection” and contrasts it with seeing *in*, in which one thing, such as the content of a painting, is seen in another without being physically contained there; see his “Pictures, Mirrors, Words, and Perceptions,” *Philosophy*, Vol. 55, no. 211, 39-56. [↑](#footnote-ref-20)