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The Need for Metaphysics

On the Categories of Explanation in *Process and Reality*

James Williams

Abstract

This article explains the importance of the categories of explanation in *Process and Reality* and sets it in context, in particular in relation to Whitehead's account of misplaced concreteness and his description of the role of metaphysics in terms of common sense. The article then responds to a series of broad criticisms of Whitehead's position, notably in the claim that it is self-contradictory, inconsistent about common sense and mistaken about the nature of explanation in contemporary science. This response comes from a close interpretation of the categories as described in *Process and Reality*. The article concludes with a critical discussion of an application of the categories of explanation, taken from *Process and Reality*.

Key words

■ abstraction ■ common sense ■ explanation

Misplaced Concreteness

Further, by an unfortunate application of the excellent maxim, that our conjectural explanation should always proceed by the utilization of a *vera causa*, whenever science or philosophy has ventured to extrapolate beyond the limits of the immediate delivery of direct perception, a satisfactory explanation has always complied with the condition that substances with undifferentiated endurance of essential attributes be produced, and that activity be explained as the occasional modification of their accidental qualities and relations. (*Process and Reality* [PR]: 77–8)

IN OTHER words: our desire for explanations entering into harmony with known causes, rather than for magical or mystical interventions, can have unfortunate effects. The initial maxim directs us to search through

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our stock of current (usually causal) explanations and to build in concord with them, rather than leap into new accounts at odds with what we know. According to Whitehead, this can go wrong when the known is not taken as a series of explanations but as a form for any explanation – that they should always be causal, or based on absolute certainties, for example. So, instead of seeking a consistent and minimal set of explanations, we end up with the insistence that all explanations should take the same form, or that they should all tend towards a certain ideal. In this case, the ideal is the solidity and certainty of ‘the undifferentiated endurance of essential attributes’ – attributes that remain the same over time and that capture the essence of the thing.

This error in explanation is therefore connected to Whitehead’s important remarks about ‘misplaced concreteness’. When searching for explanations beyond what we perceive, we take solidity and concreteness (undifferentiated endurance) as the causes we must harmonize with. In such accounts, philosophy and science posit substances that do not change through time. Yet there *is* change! So, in explanations of perceived variations, these changing aspects are viewed as secondary accidents of primary and unchanging substance. The laudable search for a *vera causa* (Darwin’s search for natural causes as opposed to creationism, for instance) becomes the buttress for the error of ‘misplaced concreteness’: an illusory solidity in substances that we do not perceive, allied to the relegation of perceived change to an effect of real, but ideal, endurance.

In order to argue for the value of a reversal in favour of process over endurance, this article aims to present misplaced concreteness in the context of Whitehead’s account of explanation. It will distinguish explanation as developed within philosophies of process and explanation as developed in contemporary philosophy of science. It will be argued that there is a link between common sense and fallacies of concreteness, and that this link can be studied in terms of the role of abstraction in thought and philosophy. Finally, in response to possible criticisms of his philosophy, notably in terms of dogmatism, there will be a defence of the claim that Whitehead’s work on explanation offers a deeper and more productive account than those that seek to replicate an abstract form of scientific explanation. Whitehead teaches us that no account can be free of metaphysics. It is better to retain this lesson and to avoid a return of mistaken metaphysical presuppositions in common-sense forms and deeply held fallacies.

The fallacy of misplaced concreteness, described by Whitehead in *Science and the Modern World* (SMW), can be demonstrated in Descartes’ argument from perceived change to unchanging essences in the *Meditations*. In searching for certainty to ward off sceptical doubt, Descartes situates doubt and error in the variation of the things we perceive and in the hold that flawed perception has on our ideas. For example, according to Descartes’ arguments, we fall into error when we take any given perception of a block of wax as a final truth, since the block can lose and gain shape, odour and consistency. The smell of honey from beeswax cannot be

essential since it can come to pass. The sense associated with that odour cannot be the primary source of certainty, since, with the idea of an essential odour, it has participated in error. Certainty must therefore lie in something that we deduce: the necessary extension of the wax, irrespective of all its other variations.

This is a certainty of the mind, rather than of the senses; sensation may well provide the initial data, but reflection alone can provide true knowledge of extension as the essence of the wax. For Descartes, concreteness is therefore in the conception of extension, in the essence of extended substance as grasped in the mind. That this essence is better known through the mind is shown by the knowledge afforded of extension by mathematical knowledge; physical observation proves to be a poor source of certainty, when compared to mathematical deductions. This second shift, from extension to knowledge of its invariant properties, reinforces the fallacy. Abstract substance, deduced by abstracting from sensations, is not only that which is taken to be genuinely concrete, but this concreteness is given invariant properties that our imprecise sensations fall away from. There is nothing concrete in that candle as your fingerprints mark its surface – its concreteness lies in the equation for its cylindrical shape and its place in our mathematical knowledge of extension.

For Whitehead, this concreteness is misplaced because the process of abstraction leads us away from real processes to ones that are ever further removed from true concreteness, that is, from observable processes:

My point will be that we are presenting ourselves with simplified editions of immediate matters of fact. When we examine the primary elements of these simplified editions, we shall find that they are in truth only to be justified as being elaborate logical constructions of a high degree of abstraction. Of course, as a point of individual psychology, we get at the ideas by the rough and ready method of suppressing what appear to be irrelevant details. But when we attempt to justify this suppression of irrelevance, we find that, though there are entities left corresponding to the entities we talk about, yet these entities are of a high degree of abstraction. (SMW: 68)

This process of abstraction is therefore not one that arrives at greater truth, if we understand truth, with Whitehead, to be some kind of adequacy and relevance to reality. First, this is because the details we need to suppress are important parts of the ‘entities we talk about’ and, second, it is because the entities and distinctions we arrive at are mistaken accounts of what there is.

It is important to note Whitehead’s avoidance of the subject/object distinction here. The distinction is too steeped in the results of the abstractive and divisive processes that he wants to criticize. Instead, his point is that experience is *of* processes and *a* process. Irrelevant details are the signs of those processes of change; they are our way into relevance and they are ‘details’ only in the deep sense of markers of underlying organic processes. We should not seek out the essence of wax but the relations between wax

and heat, our ideas of wax and heat, our sensations of them, the infinite processes beyond these – up to and including the processes that allow all of them to appear. The first bead of sweat on the wax, or its honeyed scent, is not a detail when we search for the significance of the relations of the wax to heat and to bees as ongoing processes of mutual transformation.

It is commonplace to criticize Whitehead's style and its difficulty, but that is to miss that it is often elegant, with moments of great insight and poetry. It is also to miss his critique of the powerful association between sets of words whose metaphysical implications have become so powerfully ingrained in our habits of thought that we can claim forms of neutrality and commonality for them. In fact, they are theory-laden straitjackets. Whitehead knew that only a linguistically creative metaphysics could break the hold of ancient habits disguised as a happy fit between everyday language and objectivity:

But all men enjoy flashes of insight beyond meanings already stabilised in etymology and grammar. Hence the role of literature, of the special sciences, and the role of philosophy – in their various ways engaged in finding linguistic expression for meanings as yet unexpressed. (*Adventures of Ideas* [AI]: 263)

It is also important to note that Whitehead is not criticizing abstraction per se, but its results when applied in a particular kind of abstractive process. Indeed, abstraction plays a crucial role in Whitehead's philosophy, notably in terms of eternal objects, for example, in Chapter X of *Science and the Modern World*. He is critical of lop-sided and irreversible processes of abstraction. First, in such cases there is an abstraction towards an inviolable enduring entity (it is in this sense that the course is irreversible). Second, the term of the process is a higher truth from which others descend and against which they are in some way lacking (the result is therefore lop-sided). Thus, in *Science and the Modern World* (p. 70) and in *Process and Reality* (pp. 63–4), he criticizes the distinction, traceable to Descartes and to Locke, between primary substances (such as extended substance) and secondary qualities (such as odours and colours). Notwithstanding possible errors and inaccuracies in Whitehead's interpretations of their texts, his point is that there is a case of the fallacy of misplaced concreteness when truth and certainty are located in the abstract primary substance.

Metaphysics and Common Sense

Forms of monism and dualism produced by misplaced concreteness are the end-target for Whitehead's argument in *Science and the Modern World*. His concern is to show how both forms impose fixity on the world. This happens either through the dualist independence of mind and matter – allowing mind to avoid the variations of matter – or it is done through the monist privileging of mind or matter, as inclusive of the other, where the privileged term is invariant in some crucial aspect (in ideas and forms or in atoms and laws, for example):

Thereby, modern philosophy has been ruined. It has oscillated in a complex manner between three extremes. There are dualists, who accept matter and mind as on equal basis, and the two varieties of monists, those who put mind inside matter, and those who put matter inside mind. But this juggling with abstractions can never overcome the inherent confusion introduced by the ascription of misplaced concreteness to the scientific scheme of the seventeenth century. (SMW: 72)

Whitehead's work can be seen as an attempt to rid philosophy of mistaken metaphysical assumptions that have become deeply ingrained due to the unquestioned and apparently uncontroversial assumption that truth lies in some form of invariance. The demand for this endurance in the face of a world of ever-shifting processes has led to a 'ruination' brought about by dualism and forms of monism that privilege any given enduring substance and its invariant properties (whether of mind or body).

In *Process and Reality*, Whitehead's critical and constructive turn to metaphysics is introduced as a struggle between two opposed kinds of common sense: common sense as a tendency to reproduce, in simplified form and as obvious and natural, deeply engrained metaphysical presuppositions, and common sense as differently shared sensations of the processes that make and unmake us, for example, in the 'witness' of our bodies. Metaphysics should work with the latter and against the former.

The distinction allows for an explanation of an apparent contradiction between two famous passages of *Process and Reality*. The first occurs as part of the discussion of misplaced concreteness. Dependent on how we read 'of' in the following passage, it can be interpreted, either, as critical of common sense, or, as a demand to release it: 'The primary advantage thus gained is that experience is not interrogated with the benumbing repression of common sense' (p. 9). In this first remark about common sense, my view is that it should be viewed in negative terms as repressive, since common sense, understood as a common reflective capacity, carries limiting metaphysical presuppositions.

Whitehead's point is that metaphysics should involve precise categorical schemes that are tested in relation to observation, where observation is not strictly scientific but aesthetic and humane (in the Whiteheadian sense of a humane and civilized 'witness of the body' and creative language). Such schemes are not scientific theories; they are logically consistent schemes of metaphysical categories – what we think the world to be, how it evolves, how we should think about it, and what our values should be towards it – informed by past schemes, scientific theories and observation. This sense of creation and adventure is opposed to common sense as a reflection on a supposedly stable set of basic and neutral commonly held propositions.

In criticizing the hold of the fallacy of misplaced concreteness, Whitehead is criticizing a certain kind of metaphysical scheme. In developing his metaphysics of process, he is putting forward another that he thinks more

resistant to failure in relation to observation. Thus, in the famous passage on common sense, the repression of true observation *by* a shared ‘common sense’ is made possible by metaphysical schema passed into unconscious dogma – a false common sense. Whitehead’s metaphysics is then not fixed for all time. It is speculative: a systematic and coherent schema tested through observation against current science, against the lessons of history, against other schema, against senses of life and of the witness of the body, against artistic and moral values. It is therefore wrong to think that his metaphysics can be dismissed as dogmatic because it is not falsifiable. On the contrary, one of his fundamental insights is that the notion of the error must be extended to the overt or hidden categorical schema underpinning any philosophy: ‘It is part of the special sciences to modify common sense. Philosophy is the welding of imagination and common sense into restraint upon specialists, and also into an enlargement of their imagination’ (PR: 17).

For Whitehead, common sense is not to fall back onto apparently shared and straightforward concepts or values (‘It is common sense that X is true, or a fact, or valuable’). Instead, it should be linked to observation, and to ‘immediate experience’ – as an experience that does not present a common set of facts, but a common way of experiencing. It should also be linked to imagination – as a creative experimental process. Common sense then takes on a different meaning in an association with novelty and creativity; it is no longer a common set of identifiable concepts but a common sensual form of experience that invites new and shifting ideas. The form of experience is shared, as imagination and observation, but its content can be, and often is, extremely varied.

Observation is therefore not so much an observation ‘of’ given facts, but an observation ‘with’ changing processes. This shift in associations for common sense is crucial for understanding the progressive and hopeful aspect of Whitehead’s philosophy. It is not that he is advocating an esoteric and elitist metaphysics. Quite the contrary: he is advocating the common power of an alliance of imagination, sense and creativity, balanced by a wise and historically well-informed and inclusive metaphysics.

Shut your eyes over that coffee and inhale: odours are not solid blocks but complex variations where different modulations (sweet, sour), different ideas (good, bad), different judgements (useful, threatening), different bodily effects (tightening throat, swelling gut) and different ideas (Columbian, roast, sweet, good, useful, exploitative, ill-gotten) enter into unstable relations of mutual intensification or release. There is no concreteness in any of the components: they vary together. Concreteness is in these varying relations and how they are brought into a relatively stable focus. Solidity is only a production of a secondary process: the ascription of stable connections, in an actual situation against a doubly infinite background of ideas and infinite causal relations. Variation is not only in the experience as such, but in the relation between given generalizations and observation. This speculative and critical aspect of Whitehead’s philosophy is very important because it does not wed him to any given scientific theory or general metaphysics but

rather to a scheme with the greatest potential for inclusion, restraint and enlargement.

I will highlight two strains of criticism of this return to speculative metaphysics (as opposed to metaphysics defined as an analytical and logical reflection on the identity of particular entities). The first can be gathered around what can be called the redundancy question: Why should we construct a speculative metaphysics when the sciences provide us with the superior, perhaps the only, relatively secure knowledge of the world and of ourselves? A corollary to this argument is that it is, at best, a waste of time or, at worst, a deeply damaging fantasy to indulge in metaphysical speculation. The second criticism – call it the dogmatism attack – collects around the remark that a speculative philosophy must fix its terms in such a way as to depend upon and strengthen a fixed image of the world. A corollary to this point allied to the prior one is that metaphysics, in its distance from science, must fix either an over-simplified view of the world or one that maintains arcane entities supposed to be resistant to scientific scrutiny.

The following investigation of these criticisms will be in a precise context: Whitehead's account of explanation. This is because, first, if we remain at a level of general commentary, it can easily be shown that Whitehead was acutely aware of these criticisms, indeed, that in fact he used them against his critics, for example, in *Adventures of Ideas*:

The history of European thought even to the present day has been tainted by a fatal misunderstanding. It may be termed The Dogmatic Fallacy. The error consists in the persuasion that we are capable of producing notions which are adequately defined in respect to the complexity of relationship required for their illustration in the real world. (AI: 170)

In other words, we always require an imaginative extension of our scientific concepts and theories in order to connect them back to the complexity of immediate experience. Therefore, speculative metaphysics are necessary aspects of this extension – if we accept that there is no natural and neutral extension we can turn to (for example, in so-called ordinary language).

Second, the precise context allows for a better-informed discussion of the relation between Whitehead's metaphysics and positivist philosophy of science. His work can be seen as a reflection on the role of philosophy in a scientific and technical age. It is very distant from many ways of thinking about that role in contemporary philosophy of science, since the latter tend to situate philosophy as learning from and refining the concepts of science, whereas Whitehead – as scientist, mathematician and logician – tends to focus on the limits and wider positive and negative implications of scientific approaches. In this, he is closer to the distinctions drawn by Heidegger, in *Being and Time*, and by Deleuze, in *Difference and Repetition*, between reality drawn up by particular scientific inheritances and legacies and wider forms of existence and reality.

The Categories of Explanation

In *Adventures of Ideas*, Whitehead makes an important distinction between forms of explanation, in the context of a critical but also appreciative account of positivism. His widest point is that there must be something more than positivist description and the inclusion of descriptions under general laws that can only be based on fact and open to falsification through experiment. The more precise distinction is between description and explanation: ‘Newton himself insisted upon the very point. He was not speculating; he was not explaining’ (AI: 139).

According to Whitehead, explanation and speculation are necessary because mere description cannot escape metaphysical presuppositions and because those presuppositions limit thought, in particular, in its relation to values:

Modern [i.e. positivist] scholars and science canalize thought and observation within predetermined limits, based upon inadequate metaphysical assumptions dogmatically assumed. . . . They exclude from rationalistic thought more of the final values of existence. The intimate timidity of professionalised scholarship circumscribes reason by reducing its topics to triviality, for example, to bare *sensa* and to tautologies. It then frees itself from criticism by dogmatically handing over the remainder of experience to an animal faith or a religious mysticism, incapable of rationalization. (AI: 141)

These critical comments stand in contrast to the enthusiastic positivist reception of Whitehead’s collaboration with Russell in *Principia Mathematica*. They are also a reaction to the rise of positivism, with the Vienna Circle, and perhaps to its influence on Whitehead’s students and colleagues at Harvard (notably Quine, who was greatly influenced by his visit to members of the Vienna Circle, when touring Europe in 1932, a year before the publication of *Adventures of Ideas*). This reaction is interesting since, in addition to shared mathematical and logical roots, Whitehead and the Vienna Circle also share a profound influence by modern physics, and Einstein on relativity, in particular.

Yet even Whitehead’s earlier work on Einstein, in *The Concept of Nature* (CN), shows the beginning of his ideas on misplaced concreteness and moves towards a philosophy of process; for example, in the shift from substance to events:

Accordingly ‘substance,’ which is a correlative term to ‘predication,’ shares in the ambiguity [of whether predication is about things or events]. If we are to look for substance anywhere, I should find it in events which are in some sense the ultimate substance of nature. (CN: 19)

This move to events is important and carries through to *Process and Reality*. It distances Whitehead’s reception of modern physics from a positivist one because the event is always much more extended than the result of an experiment.

In *The Concept of Nature*, ‘discerned’ events are distinguished from structured sets of events. Discerned events are spatially and temporally bound selections within infinite structures. According to Whitehead, the discerned event (the result of an experiment, for example) must be related to the wider structure in a way that only a speculative and creative metaphysics can account for. This is because the wider structure is not a direct result of experiment or observation:

The disclosure in sense awareness of the structure of events classifies events into those which are discerned in respect to some further individual character and those which are not otherwise disclosed except as elements of the structure. These signified events must include events in the remote past as well as events in the future. (CN: 52)

An event is a cut within a wider set of potentialities (a term that appears later, in *Science and the Modern World* and *Process and Reality*). This means that events must both be thought of as processes, because any event is a relation of transformation, and be thought of as one of many potential chains of such processes. If it is taken alone or simply alongside other similar experiments, an experiment is cut off from three wider series of processes that have an effect on its significance and on how it can work in later series. First, it is cut off from the context of how it was selected and conceived. Second, it is abstracted from the many environmental factors that surround it (date, place, deliberate and unconscious exclusions and inclusions). Third, it is considered independent of its potential applications and consequences as factors in its conception and in judgements about its meaning and importance (its strategic, financial and political contexts, for instance). Whitehead questions the legitimacy of these abstractions because, as an event, the experiment is caught in many short- and long-term processes that are crucial to understanding its value and meaning.

When Whitehead turns to precise categories of explanation in *Process and Reality*, the distinction between discerned events and wider structures is reflected in the following category of explanation:

(vi) That each entity in the universe of a given concrescence *can*, so far as its own nature is concerned, be implicated in that concrescence in one or other of many modes; but, *in fact* it is implicated only in *one* mode: that the particular mode of implication is only rendered fully determinate by that concrescence, though it is conditioned by the correlate universe. This indetermination, rendered determinate in the real concrescence, is the meaning of ‘potentiality.’ It is a *conditioned* indetermination, and is therefore called a *real* potentiality. (PR: 23)

Any entity must be explained in terms of how it comes to take its place within a wider set of processes (concrescence) that must itself be set by the explanation (determined in one mode). However, explanation must also take

account of the wider set that also conditions it (the correlate universe) and that is itself conditioned.

It is very important to see what this category and its twin (category vii, on the potentiality of ideas or, more properly, ‘eternal objects’) commit Whitehead to:

- Explanation is primarily in terms of processes that entities take their place in.
- Any explanation is a selection or ‘relative’.
- Explanation must take account of the wider set of events and processes that it selects from or cuts into.
- An explanation must be aware of the determinations that it imposes on the wider set.

Explanation is about process, about a critical sense of the implications of a given angle or viewpoint and about a search for inclusiveness in terms of infinite potential extension of explanation.

However, it is equally important to note what this does not commit Whitehead to:

- Explanation is not committed to particular types of process or entity. Different scientific accounts can be accommodated, but their process-like side must be emphasized, in terms of description and the emergence of the science.
- There is no final objective view or account, but neither are there independent subjective ones.
- There are no universal raw factual processes.

This account is therefore not in competition with science – except where science either claims that there are brute facts, or that explanation should be limited solely to objective description, or that the nature of the universe is primarily about identifiable enduring substances.

It could be objected here that science should be the sole arbiter of processes and their spatio-temporal extension. In other words, we can perform positive experiments on the past (carbon dating, for example) and on the future (testing probabilistic forecasting models, for example). But this would miss Whitehead’s point. He is not concerned about distance in space and time, as a technical problem for scientific experiment and explanation, but in the necessary selection involved in discerning specific events against a backdrop of the structure of all events. This latter is a metaphysical problem about value, coherence and the definition and limits of experience. Why are some events to be considered irrelevant and others not? Why should an explanation abstract from history of ideas, hopes for the future, the creation of new concepts and forms of experience?

These questions should not be understood as demands for knowledge of distant and abstract entities. Rather, Whitehead is defending the view

that there is more to thought than positivist knowledge. One argument for this extension lies in the necessary metaphysical presuppositions of positivism itself. In *Adventures of Ideas*, he makes this point by showing how trust in measuring apparatuses and their connection to a speculative model is essential to positivist description, for example, of the presence of a distant planet:

The speculative extension of laws, baseless on the Positivist theory, are the obvious issue of speculative metaphysical trust in the material permanences, such as telescopes, observatories, mountains, planets, which are behaving towards each other according to the necessities of the Universe, including theories of their own natures. (AI: 152)

Another way of reflecting this important supplementary aspect is through the speculative proposal of different kinds of explanation:

The point is that speculative extension beyond direct observation spells some trust in metaphysics, however vaguely these metaphysical notions might be entertained in explicit thought. Our metaphysical knowledge is slight, superficial, incomplete. Thus errors creep in. But, such as it is, metaphysical understanding guides imagination and purpose. Apart from metaphysical presupposition there can be no civilization. (AI: 152–3)

Our imagination and aims are part of any explanatory structure and only a metaphysical or speculative approach can show this.

So the distinction between explanation and description draws Whitehead's account away from contemporary (late 20th and early 21st century) analyses of scientific explanation, since these fit his definition of description and are explicitly opposed to speculation as a form of explanation. The contemporary theories are dominated by the desire to account for and analyse scientific explanation on either a causal or a probabilistic model – allied to the desire to limit definitions of correct explanation to the scientific model (for example, in Hempel's seminal logical positivist approach to explanation in *Aspects of Scientific Explanation*, 1970).

Instead, some of the most important metaphysical categories in *Process and Reality* are devoted to a metaphysical definition of explanation. This description shares the spirit of the positivist desire for falsifiability, but on a much wider scale and in a looser manner than positivism. The test is not to be a clearly defined experimental one, but an application to a series of forms of experience (scientific, aesthetic, moral). Instead of a search for anomalies, Whitehead searches for the best fit between the categories and observation in as wide a set of contexts as possible. The aim is not to restrict the contexts and practices within them, but to open them up. Where falsifiability is concerned with the truth of a given theory, Whitehead's speculative metaphysics is concerned with avoiding limitation in metaphysics whilst extending its relevance as far as possible.

However, in contrast to scientific accounts of explanation, the direction of Whitehead's account does not go from law or probability to observed fact, where the former are tested and survive or fall on the latter. Instead, accounts of actual entities in process (well-placed concreteness) are expanded towards known abstractions in order to explain them. So the account of concreteness must be capable of explaining why we have had given abstractions, how they arose, change and take on different roles. In that sense, his definition of explanation can be summed up as the relation of experience as observation to cultural and scientific history:

The explanatory purpose of philosophy is often misunderstood. Its business is to explain the emergence of the more abstract things from the more concrete things. It is a complete mistake to ask how concrete particular fact can be built up out of universals. The answer is 'In no way.' The true philosophic question is, How can concrete fact exhibit entities abstract from itself and yet participated in by its own nature? (PR: 20)

Whitehead's account of explanation must therefore evade limitations in terms of existence and identity; they cannot be held down to specific abstract entities, methods or forms, since this would exclude others. The point is to be able to explain all of them and to be able to relate them in terms of value and their differing roles in process. This means that it would be completely wrong to think that Whitehead is putting forward a theory in competition with science or one that is not falsifiable. On the contrary, he wants to define explanation so that it can include scientific abstraction and observation. Its criteria for failure are lack of inclusiveness and lack of coherence. Its core questions are not: Does this law and relation to fact explain this outcome? Or: Does this probabilistic distribution allied to these facts explain this outcome? The Whiteheadian question is: Does this explanation of actual occurrences fit this open set of abstractions coherently and without exclusions?

Answers to the two critical questions from the previous section can now be given. First, Whitehead's metaphysical account of explanation is not redundant because it calls for explanations that cannot be given by science. Instead, there is a necessarily speculative frame and re-interpretation required, even for scientific explanations. This frame provides wider individualized explanations, as well as directions in terms of values. Examples of this kind of context would be the situating of a scientific explanation within the history of that science, within historical accounts of the differing values at play in the processes that the science taps into and within contemporary political movements in relation to hopes for a better world in the future. The opening sections of *Adventures of Ideas* give examples of this kind of extension through a history of the struggle to eliminate slavery, where the dialectic between economic, political and social pressures is given a direction through emergent ideas of human freedom.

Second, Whitehead's metaphysical explanation is not dogmatic. On the contrary, it is an attempt to demand of any explanation that it be overt about

its dogmatic tendencies in explicitly describing its particular angle on a series of processes, in relation to the potential of others – in principle (but not in practice) all others. Furthermore, it is an attempt to insist that any explanation seeks to avoid setting fixed entities at the heart of its implied metaphysics. This is not set up as a meta-level dogmatism, in the sense of illegitimately privileging process over identity and endurance; rather, it is to set the necessity of dealing with identity and endurance within process, not understood as a final description of the state of the world, but as a condition for ongoing forms of thought that do not fall back onto an image of the world as made up of this or that enduring substance. Dogmatism is a property of implied metaphysics – as much as it is a property of unscientific claims about nature.

Conclusion: Nothing Can Be Omitted

The phrase ‘nothing can be omitted’ occurs in *Adventures of Ideas* where Whitehead insists that, if we are to classify occasions of experience, nothing can be left out. In order to be able to appeal to every variety, we cannot work with a definition of explanation that commits us to a narrow set, or to a particular approach (his target in the discussion is the priority given to introspection). Whitehead’s metaphysics rises to the challenge of omitting nothing whilst accepting that some omission is necessary both because where we start can never be universal and because how we then proceed involves necessary relations of greater and lesser determinacy. Moreover, in omitting nothing, we cannot afford to omit decisions about the values that direct the explanation, the values that it explains and its relevance to what we observe and what we experience (in all their varieties).

His critique of fallacious metaphysical presuppositions, that is, ones that settle on a particular point and see it as inviolable, is an important side to the demand to omit nothing. This is because any such settled point, such as misplaced concreteness, or a belief in a particular kind of positive fact or data, or a particular way to knowledge, necessarily closes off an endless creative interaction with processes. But this does not mean that such processes need to be vague and ill-determined. Quite the contrary, in order to omit nothing we must have very precise tools – fashioned with a deep historical sense and an imagination that searches to introduce novelty rather than mere repetition.

Those tools must remain speculative, in the sense where they are put up for testing against observation – historically and through experience. This is the case for Whitehead’s categories of explanation, where the categories are not necessary and independent of experience but temporary and as open as possible. This philosophy of process deserves greater prominence in modern theories of explanation. It provides a counter to limited concepts of explanation, in terms of their scientific focus, in terms of what constitutes an explanation, and in terms of the form of explanation. This would allow for a return to what Whitehead calls a civilized approach, that is, a philosophical approach setting events and experiences in wider

contexts that they interact with. The great merit of this setting is that history, and a humane drive towards a better future, are given greater prominence, but without having to depend on ideal or material entities independent of process:

The process is itself the actuality, and requires no antecedent static cabinet. Also the processes of the past, in their perishing, are themselves energizing as the complex origin of each novel occasion. The past is the reality at the base of each new actuality. The process is its absorption into a new unity with ideals and with anticipation, by the operation of the creative Eros. (AI: 318)

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