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FREEDOM. AN IMPOSSIBLE REALITY

RAYMOND TALLIS

It seems appropriate to summarize the key arguments of *Freedom. An Impossible Reality* before responding to the thoughtful and varied comments on the book. This will enable individual responses to be placed in the context of the overall trajectory of the volume.

The apparent paradox in the title of the book is intended to capture a contradiction. There are theoretical grounds for denying the very possibility of free will. Nevertheless, truly voluntary actions appear real in practice. The fundamental difference between things we do and things that merely happen to or around us seems undeniable.[1] Defending our practical belief in freedom against theoretical objections is one of the most important challenges of philosophy, given that if there were no such difference, our lives would lose much of their meaning. Understanding how free will is possible involves reminding ourselves of our unique place in the order of things, critically examining the concepts of causation and the laws that are revealed by science and highlighting what prompts and guides actions and how they are put together.

The standard case against free will is easily stated. Actions, it is said, are material events in a material world governed by the so-called laws of nature. Moreover, all events have a causal ancestry that extends beyond anything over which agents can have control. Worse still, agents seem to *rely* on exceptionless laws of nature and causal connectivity for their actions to have predictable consequences and indeed, for them to be possible. The traditional case for determinism has recently been supplemented by 'neurodeterminism', a consequence of persons being identified with their brains, which are material objects subject to natural law. The metaphysical claims made for the experiments described by Libet and by John-Dylan Haynes's groups are rejected (see Section 1.3 'Neurodeterminism) on the basis of the methodological weaknesses of the experiments and (more importantly) their profound misunderstanding of the nature of ordinary, meaningful actions in everyday life.

At the root of the defence of the reality of free will offered in *Freedom* is an appreciation of the unique nature of human consciousness – its 'aboutness' or *intentionality* – and of

[1] The 'impossibility' in the title therefore refers not to the fact but the 'how' of freedom. I owe this clarification to David Scott's response discussed below.

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human beings as embodied subjects. Intentionality, I argue, cannot be explained as the product of the material world interacting with the human body or, more specifically, the brain. Vision of an object 'out there', for example, is not identical with neural activity triggered by light energy, though the latter is its necessary condition. The intentionality of consciousness, in virtue of which the conscious subject is in contact with what is around her but at an explicit distance from it, opens a (non-physical) space between the realm of nature and conscious agents. That space is vastly extended by the sharing or joining of intentionality to create a public, human world, a community of minds, facing nature. Courtesy of this human world, agents can act upon the natural world from a virtual outside.

It is ironic that the most striking expression of the human ability to stand outside of overwhelmingly inanimate nature and to act upon it from a virtual outside is to be found in the practice of the very disciplines – the natural sciences – whose findings are supposed to reinforce the belief in our subordination to the forces of nature. There could, however, be no more compelling expression of the human distance from the law-governed universe revealed by science than science itself, and our ability to conduct experiments designed to uncover seemingly unbreakable regularities in nature as the laws of science, and to identify general causes of events. It is this distance from which we discover 'how things work' – evident both inside and outside the laboratory – that reveals the privileged position occupied by human agents in the order of things. Even more compelling is our spectacular capacity to exploit discovered laws, directly or via technology, to deliver desired outcomes. The revelation of the habits of nature as the laws of science helps us to exploit those habits when (to use the words of John Stuart Mill) "we can use one to law to counteract another" (Mill, 1874, p. 152). Central to this argument is the distinction between the habits of nature and what is revealed of them as 'the laws of science'. The latter are not to be conflated with supposed 'laws of nature'.

My assault on the claim that determinism is guaranteed by nature's laws is supplemented by a deconstruction of the very idea of causes. Unsurprisingly this argument begins with David Hume and his claim that causation, understood as a necessary connection between events – material or *de re* necessity – is a projection of our minds, of the expectations that are implanted in us by the constant conjunction of types of events. I go further than Hume and argue that the apparent need for such a connection is to repair the disconnections resulting from the conscious subject teasing apart the continuum of unfolding nature into discrete and separate events. This connects with an argument that what are identified as causes are interest-dependent: they cannot be understood outside of the context of human agency, whereby events are requisitioned as means of shaping the flow of events to realize chosen goals.

The chapters on laws and causes are intended together to demonstrate that, far from being obstacles to freedom, a law-governed, causally connected, natural world is its necessary enabling condition. This becomes clearer when we look at the operation of freedom in practice and scrutinize everyday actions.

The most cursory inspection reveals them as being utterly unlike the sequences of events that are seen in the natural world. They are put together differently. This is a consequence of their being requisitioned and shaped by so-called 'propositional attitudes', such as intentions, reasons, hopes, beliefs, knowledge. Propositional attitudes have a complex intentionality

that, like the intentionality of all conscious states, cannot be understood either as the mere law-governed effects of material causes nor as being themselves causes comparable to those supposedly operating in the natural world. They are that in virtue of which events become causes-as-handles and the habits of nature are exploited to deliver envisaged ends.

There are several strands to the argument in favour of this claim. 'Becausation' of action draws on *possibilities*, which grow out of the individual and shared intentionality of human consciousness. Crucially, possibilities exist only insofar as they are entertained. They have certain characteristics which make them fundamentally different from the actualities to which nature is confined: what they entertain is general or incompletely specified; and unlike material objects, states, or events, they transcend the present, drawing on the past, and pointing to an imagined future. Tensed time – the not-yet and the no-longer – has no place in the material world as seen through the eyes of science; nor does the sedimented tensed time of the diary and the calendar. Actions differ from other happenings not only in the way they are put together, and in their relationship to time, but also in the holistic interconnectedness of the intentions, beliefs, thoughts etc. that prompt, inform, and shape them and the possibilities they are intended to actualize.

Agents exploit actualities to realize envisaged possibilities generated by their intentional consciousness. It is from the standpoint of possibilities that the law-governed habits of nature can be exploited, and individual law-governed events transformed into handles to bring about desired states of affairs. It is only when we appreciate the significance of the space of possibilities opened by intentionality that we can understood how free will proves, after all, to be possible in theory as well as in practice, to be real rather than illusory.

While our powers are vastly amplified by the technologies we have collectively created – and by other manifestations of our capacity to enhance each other's agency through ways of working together within institutions that exploit our cumulative knowledge and skills – there are limitations to our freedom. The most profound limitation is that we do not choose our own existence and, in the early days of our lives, have little control over our capabilities. That we do not cause ourselves or choose many aspects of our lives is, however, the other side of the fact that agents have to have something to be free from, about, and for. Without unchosen givenness, our agency would lack specific, meaningful content. Much of our lives consists of acquiring the skills, and creating the individual and shared situations, that provide platforms for the exercise of our freedom and extending our agency.

The responses to *Freedom* in this issue of *Human Affairs* focus on very different aspects of the above argument. What they do have in common is a willingness to engage seriously with the book and for this I am grateful. As Simone Weil said "attention is the purest gift"; and the attention of the high-quality papers in this issue of *Human Affairs* is a particularly precious gift.

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David Scott

David Scott ('Disarming Causation in the Service of Agency: Tallis on Hume') focusses on my Humean and post-Humean deconstruction of the idea of causation as material necessity and as a barrier to freedom. As he expresses it: "When considered in relation to agency or the power of the will, causation seems indispensable; yet when considered as a will-independent force governing the universe and everything therein, it seems irreconcilable with agency or will power" (Scott, 2022, p. 374). Scott examines my attempt not only to defang causation as an opponent of agency but indeed, as he puts it, to win over causation to the side of agency.

In the first part of his paper, he questions my interpretation of Hume. Hume rejects the idea of causation as a necessary connection between one event (the cause) and another (the effect). The apparent necessity is a *projection* of our expectation that, when A's seem invariably to be followed by B's, the B's *must* follow A's, other things being equal: the former oblige the latter to take place. For Hume, this idea of causation as oomph in events bringing about their successors is an example of the tendency of the mind "to spread itself on external objects". I argue that the idea of causation as cement or glue between "discrete and separate" events is equally dubious and cite Hume to suggest that there are no discrete and separate events; that, where there seems to be a gap between events such that one is a cause (for example smoking cigarettes) and the other is its effect (for example lung cancer), it is crossed by intermediate events. As Hume expresses it:

> Though distant objects may sometimes seem productive of each other, they are commonly found upon examination to be linked by a chain of causes which are contiguous among themselves, and to distant objects; and when in particular we cannot discover this connection we still presume it to exist. We may therefore consider the relation of *contiguity* as essential as that of causation. (Hume, 1739, p. 69)

This is where Scott and I part company. He questions my conflation of Humean *contiguity* with *continuity.* This enables me to dispense with the necessity of a causal glue or cement to conjoin closely connected (lightning, thunder) or widely separated (smoking, lung cancer) events. For Hume the events remain discrete rather than being inseparable parts of a single, continuous process.

I accept this distinction between contiguous but separate events and continuants of a single process and the charge that I have here misrepresented Hume. This is not solely a matter of scholarship – important though that is – but touches on something central to my argument for bringing causation on the side of agency which Scott questions. My conflation of contiguity and continuity relates to a more fundamental claim about the nature of the material world. In *Freedom* I out-Hume Hume and argue that not only is connecting 'discrete and separate events' by means of links of causal necessity a projection of the mind but that the initial separation of the universe into such events is also the work of the mind. Going further than Hume, I speculate that the causal bond of material necessity is constructed "to re-unite *that which the mind had separated* – picked out, divided, pulled apart – in virtue of its directed and scaled attention. Causation is posited in order to restore the continuity of an intrinsically continuous universe" (Tallis, 2022, pp. 65–66). The universe is a continuum picked apart by the irruption of the subject.

The case for this pretty radical claim can be made in several ways. We can appeal to the fact that items to which we pay separate attention do not have definite borders separating them in reality. For example, the lightning and the thunder are part of a single unfolding process. We think of what are in reality inseparable elements of a continuum as distinct because they have a different significance for us – no-one was ever struck by thunder – compounded by the fact that they are registered by different senses. What is more, the lightning-thunder sequence is itself part of a wider continuum: there is no gap between the events leading up to the lightning flash and the flash nor between the thunder and its many consequences. And we can do this without, for example, appealing to fundamental physics and the suggestion that the entire universe is a single wave function. (This last is always a rather desperate move, especially for those of us whose understanding of quantum mechanics is to say the least limited, and whose grasp of the role of the subject in revealing or constructing the world according to fundamental physics is even more limited.)

The claim that the universe would not need to be sewn together by causal connection were it not fragmented into discrete elements by the irruption of conscious subjects with their needs in turn dictating grains and directions of attention may seem a rather expensive way of dealing with causation as a barrier to genuinely free action initiated by an agent. Just how expensive is made clear by Scott. The scaled and directed attention that I regard as responsible for the fragmentation of a pre-conscious continuum into discrete elements, leaves unexplained the rationale shaping the form the fragmentation takes. As Scott expresses it:

> The mind's attention requires that there already *be* objects towards which it can scale its attention; the direction and scaling of the mind's attention do not themselves *produce* object-separation, they *presuppose* it. (Scott, 2022, p. 380)

I cannot disagree with this. If the world were not fragmented and differentiated prior to the irruption of the conscious subject there would be no basis for the directing and scaling of attention and no rationale for the way it is instantiated in particular acts of attention. To claim that, prior to the irruption of the conscious subject 'smithereening' the universe into parishes of discrete events, Being was a continuum would, for example, overlook the fact that conscious subjects are embodied; they are localized objects in a world of other localized and differentiated entities. These subjects, what is more, have needs: as Scott points out, a baby is *all* needs. Those needs connect the specific, unchosen characteristics of the body of the conscious subject with given features of the material world. The division of the lived world into discrete elements does not therefore lie entirely at the discretion of the conscious subject.

What Scott makes clear is that in radicalizing Hume in the way that I have – such that the projective activity of the mind which inserts causal links into the discreta of the world is also responsible for the fragmentation of what-is into those discreta – is insufficiently justified by what we could know and, what is more, is impossible to make sense of. An important adjustment to the argument is called for.

The most obvious move is to replace the claim that the universe is intrinsically a continuum with something much less radical; namely to draw attention to the undeniable fact that the way we divide up what we experience – and, on the basis of experience, what we think we know – what is around us, is profoundly influenced by the scale and direction

of our attention, itself determined by our self-interested and other concerns, which are themselves profoundly connected with our agency. It is our interests, for example, that influence how we interact with what is around us – a landscape, a sheep in the landscape, or a bowl of flowers on the sill of the window through which we look at the landscape. What is 'out there' is to a great, and important, degree shaped by our actual or potential agency – a fact reflected in the idea of objects as 'affordances' (to be discussed later) – items that offer opportunities for meaningful interaction, that have a potential use. This margin of discretion would be sufficient to undermine the notion that seemingly voluntary actions are causally, and hence helplessly, wired into a given world we have had no role in structuring.

This may seem an adequate response to Scott's clearly well-founded rejection of my unnecessarily radical ascription to conscious subjects of the capacity to transform a world that is continuous into a realm of discrete and separate events. Scott's critique does, however, raise questions about the wisdom of treating causation and laws separately and regarding them as separate barriers to the possibility of free action.

First, there are reasons for giving up on the very idea of causation. As I discuss in the chapter devoted to the topic, it is a fundamentally confused and confusing notion. It is difficult not to sympathize with Peter van Inwagen's cry of frustration at this slippery term: "Causation is a morass in which I, for one, refuse to set foot. Or not unless I am pushed" (quoted in Tallis, 2022, p. 79). There is, what is more, a belief prevalent among many philosophers, in particular philosophers of science, that causation is not only a confused concept but also an outdated one.[2]

Whether or not that is the case, there is a compelling reason for thinking that in addressing causes separately from laws I have created unnecessary problems for my defence of freedom. Whatever one thinks of causation, the relationship between causes and effects is law governed. Indeed, it is not unreasonable to think of what I call the 'double whammy' against free will – laws *and* causes – as a single whammy. That single whammy is entirely delivered by the laws; causation – irrespective of how it is construed – is simply their application at a particular place, as observed equally by passive spectators and active agents.

An obvious place where causation may be subsumed under the laws, is discussed in Section 2.2 'The Unnatural Nature of the Science of Nature'. There I reflect on something that lies at the heart of scientific inquiry: the separation of what is happening into distinct variables that are not of course separate in nature. I chose as an example Boyle's investigation of the relationship between the pressure and volume of a gas that resulted in his eponymous law. What Boyle got up to in his laboratory was rather extraordinary. In a typical experiment, he increased the pressure on a body of gas and observed what happened to its volume. In this case, the pressure is an independent variable and the volume the dependent variable. One can assume that the temperature and other relevant 'background' variables were controlled. Alternately, the volume available to the gas is increased (independent variable) and the change in pressure (dependent variable) noted. There are other combinations involving adopting temperature as the independent variable.

[2] For an excellent, balanced discussion of the place of causal ideas in both fundamental and special sciences see Ladyman and Ross (2007), especially Chapter 5, 'Causation in a Structural World'.

What is extraordinary, but overlooked, is that Boyle could *choose* the change that would act as a cause and that which would be an effect. When he altered the pressure this counted as the cause and the alteration in volume would be the effect. Conversely when the volume was altered, this would count as the cause and the alteration in pressure the effect. In both cases, the succession of events is law-governed, and this is more fundamental than the allocation of roles of cause and effect to one event or to another.

The point made here is not merely that allocating roles may sometimes be determined by the actual or possible point of application of agency. Irrespective of whether change in pressure is the initial event – and hence counts as the cause of the change in volume – or the change in volume is the initial event – and hence counts as the cause of the change in pressure – what happens is still expressed in the same law:

$$P/V = K$$

Pressure / Volume is a constant.

It is our interest, of course, that will determine which is the independent and which the dependent variable. And our goals that will determine which is the input and which the outcome.

Since causation does not bring any additional constraints on what happens, there is no need to address causation as if it were a separate barrier to free action or, indeed, a separate source of *de re* necessity. It is our interventions that define a succession of law-governed events as respectively (initial) causes and (subsequent) effects. The situation is analogous to that of the seesaw going up and down. Whether a particular movement of one side of the seesaw is a cause or an effect depends on which side is pushed.

The lesson that I derive from Scott's paper is that, while it is important to acknowledge the role of conscious interests, the concerns, intentions, and aims of agents, in dividing the world up into elements participating in causal relations, it is equally important not to exaggerate this. After all, agents have an agenda only through being given to themselves as localized entities in a parish lit up in a universe with pre-existing properties. The capacity to impose a structure on the world is limited and it certainly doesn't extend to transforming an undifferentiated continuum into a realm of discrete and separate elements. Such a claim would, as Scott correctly points out, give the conscious subject powers that extend to the very conditions which make themselves possible. While it is important to underline the extent to which the events we pick out are individuated by us, it is equally important not to exaggerate our powers to shape the universe in which we are late arrivals and of which, after all, we are a small and insignificant part.

Scott's critique is a reminder to this author that those who engage with causation rarely survive the experience unscathed. It may be wise, after all, to hearken to Peter van Inwagen's example and to refuse to set foot in 'the morass' of causation unless one is pushed. Since bringing on side the so-called laws of nature – the habits of nature seen as the laws of science – is sufficient to disarm the seeming threat to our free will, it is probably wise, having deconstructed causation as an additional source of *de re* necessity, to leave it at that. To suggest, further, that that which causal connectedness is invoked to put together was in

the first instance pulled apart by the conscious mind is not only an unsustainable position but also an unnecessary hostage to fortune. As Scott puts it, it is necessary only to claim that the world is amenable to our smithereening but not that it is the product of our smithereening of what is in itself a continuum.

Elena Popa

Elena Popa ('Causation without the Causal Theory of Action') also focusses on my endeavour to remove causal necessity – material, *de re* necessity – as a barrier to free action. She agrees with my view that the identification of causes is inseparable from actual or possible agency, citing Menzies and Price for whom "the notion of causation thus arises not, as Hume has it, from our experience of mere *succession,* but rather from our experience of *success*" (Menzies and Price, 1993). So far, so good.

There are, however, problems with this position which is why I choose the more radical path of "Saying farewell to causes" – or at least to agents as causes. To see this problem, it is worth reflecting on Collingwood's position as Popa sets it out in her paper. Collingwood distinguishes between three senses of causal explanation:

Sense I:	between a motivation or intention and an action
Sense II:	between an action and an event in nature
Sense III:	between events in nature

He argues that Sense I is logically prior to Senses II and III. This looks to be friendly to free will and voluntary action and is not far from my own view of the nature of causation. Central to my argument is the view – and that of other philosophers whom Popa cites and indeed Popa herself – that manipulation lies at the heart of the process by which we uncover both causes and laws, prior to exploiting what we may see as causal connections within the habits of the material world. Inside – and, less formally, outside – the lab we poke and prod to see what happens. It is close to my position that "agents are cause-makers, transformers of events into causes, or requisitioners of events to be causes, rather than themselves being causes" (Tallis, 2022, p. 150). This would correspond roughly to Collingwood's Sense II. There is, however, a distance between my own view and that of Collingwood: I reject his Sense I – the idea of motivations or intentions as causes of actions.

Many philosophers have problems with manipulative views of causation, the most obvious being that it is anthropocentric. By limiting causation to the realm of human activity, it clearly removes it from the history of the universe prior to the emergence of agents and from anything outside of their sphere of activity. For me, this is not a problem; indeed, it is a virtue, being consistent with the notion that there is no *de re* causal necessity.

What I find problematic is the retention of causal connectedness between motivation or intention and visible action – Collingwood's Sense I. Identifying the agent, or some event in the agent (e.g., the occurrence of a token of a propositional attitude) as the *cause* of the action, threatens to reinsert actions and agents in a causal sequence that is part of the wiring of the natural world. If an intention is a cause, it must also be an effect. We are then faced with the difficulty of explaining how a run of *de re* necessity should begin with the agent;

or, to put it slightly differently, the causal ancestry of an action should stop at the agent. Hence my desire to say 'Farewell to Causes' in any analysis or understanding of agency. If we retain causation as a child of manipulation, then we clearly cannot see manipulation – or the propositional attitudes that explain how and why we manipulate things – as itself being causally wired into the world in the traditional sense.

If we discard causation altogether, it may be argued that we cannot then explain the predictable consequences of our actions, both within and beyond the scope of our manipulation. As I argued in response to David Scott's paper, we do not, however, require distinctive causal powers to deliver the ends of our actions. All that is required are the habits of nature – most accurately reflected in the laws of science – to ensure that our actions bring us closer to our goals rather than having merely random results. Nothing more is necessary to justify our confidence that bringing about Event X results in Event Y. We can dissolve causes into the local application of laws.

Popa, however, is concerned that if we dispose of causal talk when we analyze actions philosophically, to the point of rejecting the very notion of agent causation, or agents as originators of causes, we might leave unexplained the role of action in causal inference and in the origin of causal concepts. On the contrary, it strengthens the connection between the two. The point is not to deny the link between action and causation but to reverse the dependency relations. Causation is a manifestation of agency, rather than agency being the product of causal processes.

John Shand

For John Shand ('Free Will: Dr. Johnson Was Right'), my attempt to defend the reality of human freedom against the apparent implications of a deterministic physical universe, is near to pointless:

> Personally, this sort of theoretical threat to free will has never bothered me because I ask myself what difference holding it to be true could possibly make to my life. I do not think it would or could make me live my life any differently or have that life mean anything different from what it does. (Shand, 2022, p. 396)

What is more, my approach to demonstrating free will is doomed because it starts in the traditional, that is the wrong, place by treating the question of free will as a metaphysical issue. As Shand says, "If I was going to try and solve the problem of freedom I wouldn't start from here" (Shand, 2022, p. 395).

I guess we shall just have to disagree over whether it matters if freedom is real or illusory. I along with many others, such as Joanna Kavenna (below) think it does. If we were not to some extent free agents, it would not make sense to judge actions as worthy of praise or as deserving of condemnation. And Shand seems to accept that this would have consequences:

> If we could get in a frame of mind where we were perfectly willing to accept that strict causal determinism applies to everything that happens and that that extinguished the possibility of freedom, then there would be no problem of freedom. But that would be a very strange mindset indeed, one people find impossible in practice no matter what they may believe in theory, and it may also involve drastically abandoning all the things that make human life history […]

> meaningful and valuable. The totality of talk about what it is to be human, what it is to be a person, the things that we think and do, and why and what for, would simply fall out of use as false and even nonsensical. We would have to view ourselves as essentially no different from a rock. A hard trick to pull off, to put it mildly, despite it being, as the history of thought on the subject has shown, intractably difficult to show it is not true. (Shand, 2022, p. 396)

Of course, the discovery that everything one does is determined might not lead to one's behaving differently – choosing or deciding to behave differently – unless that discovery were itself pre-determined as a manifestation of the operation of nature on the individual as a natural entity. It and its consequences would be part of the deterministic course of events. Much of my book is devoted to arguing and, I hope, demonstrating, that the discovery of wall-to-wall determinism, like the discoveries made in science, is not a manifestation of nature but a marker of our distance from that realm.

Rather than dwell on these arguments I will focus on Shand's second point, which accepts that my aim is to show how freedom is possible in a deterministic natural or physical world, given that, in the absence of reliable habits of nature, actions would not be possible nor their consequences predictable.

The intentionality of consciousness lies at the heart of my argument for genuine agency, as Shand acknowledges. However, it is important to develop an account of intentionality that goes beyond its being merely 'the mark of the mental' and certainly beyond the sensory experiences of an individual subject aware of an object. This ground-floor intentionality develops in many directions relevant to freedom. Full-blown intentionality of perception – that sees the object of awareness as existing in itself, being other than the subject, and having properties not presently revealed to perception – is reinforced by the sharing or joining or collecting of intentionality with other conscious subjects, such that the object exists for you, and anyone, as well as for me. Another dimension of intentionality is seen in propositional attitudes, to a greater or lesser degree made explicit, or articulated, and which are holistically connected, draw on and contribute to the fabric of the shared, distinctively human, world. That world is underwritten and reinforced by knowledge and the products of knowledge such as artefacts, institutions, and the explicit temporal structures in which we live our shared lives. As Shand notes, I highlight the science, that for some seems to stitch us up as entities helplessly wired into the material world, as perhaps the most striking expression of our human distance from that world, a distance that permits genuinely voluntary action. *Pace* Shand this is not quite making "the world viewed scientifically as an affirmation not an antagonist of freedom" (Shand, 2022, p. 399). Rather it is the scientific process, the conduct of its inquiries, and the application of its discoveries that affirms our freedom, though the world picture revealed by it is deterministic.

Shand is concerned, however, that my separation of the laws of science from the habits of nature would seem to make those laws relative to our mode of awareness. This is not straightforwardly the case. While separating variables to be investigated, and distinguishing signal from noise, are relative to our interests, those interests do not, indeed cannot, dictate the relationship between those variables or what must be done to exclude enough noise to make them visible. That P/V is a constant remains true of the material world in the absence of sophisticated, conscious human beings, eliciting, isolating, and relating these variables.

Shand is also concerned that, by highlighting something that is not captured by the laws of science, which is among other things necessary for the habits of nature to be translated into those laws which are then available for exploitation, we are left with a mystery. And that is true. Indeed, I flag this up in the final chapter when I quote H. D. Lewis' observation that "If I could lift the spoon at the far end of the table by just willing to do so, instead of walking round and picking it up in the usual way, this would be no more remarkable in the last resort than the control I usually exercise over my own body" (in Tallis, 2022, p. 169). My aim in the book is not to explain how freedom is possible but to highlight the indubitable difference between free actions and determined events and refute the arguments that the former are impossible (because, for example, of what science has told us) and that there is no difference between actions and mere happenings. I can no more explain free will than I can explain the intentional consciousness which makes it possible. Its inexplicability does not demonstrate that it is unreal any more than the inexplicability of intentional consciousness exposes it as unreal. Any claim that intentional consciousness is unreal would, of course, be self-contradictory. (I shall return to this point when I respond to James Tartaglia's observation that my position is Mysterian.)

I agree with Shand that it is not at all surprising that natural science – which is confined to what he calls the "objectivity stance" – cannot find or understand or accommodate our freedom and our status as conscious subjects. Indeed, it is entirely to be expected:

> As many philosophers have pointed out, natural science has progressed by removing from its interpretation of the world precisely the subjective consciousness and its intentionality that makes agency possible. (Tallis, 2022, p. 166)

Shand and I, therefore, are at one in thinking that science is not, nor will it be, the last word on everything. It is, however, important to acknowledge that the very fact that there is science – and indeed that we manipulate nature to investigate it – supports this view. Science cannot explain itself; nor can the habits of nature account for their transformation into usable laws of science. We need to look more deeply into what science is. It is for this reason that *contra* Shand, the mystery of freedom remains a metaphysical rather than merely an epistemic one – though, as I will discuss in response to James Tartaglia, the metaphysical challenge remains to be addressed.

Tom Clark

According to Tom Clark, ('Jail Break: Tallis and the Prison of Nature') the argument in *Freedom* is predicated on the belief that "determinism in the natural world is [. . .] the arch enemy of free will" (Clark, 2022, p. 403). This is not quite true, since I acknowledge that we *rely* on a law-governed, or at least habit-shaped, natural world for our actions to be possible and for them to have predictable and desirable consequences. If action and reaction were not equal and opposite, we would not be able to walk along the road. He is right, however, in characterizing the use I have made of intentionality to account for our ability to occupy a virtual outside from which we can discover and exploit the habits of nature to serve our chosen ends.

But he objects to the idea that we operate at a distance from the natural world since, he claims, "All our imaginings and deliberations take place in actual, neurally embodied situations, one neural event flowing seamlessly into the next" (Clark, 2022, p. 404). He takes this neurodeterminist stance further when he asserts that "we do not causally transcend what the brain and body do, situated as they are in a material and social environment" (Clark, 2022, p. 404). He even argues that this is true when we are engaged in abstract reasoning. If it is assumed that the social environment and abstract reasoning correspond to material events in a material world unfolding as they do throughout nature, then, of course, there will be no place for individual or collective freedom.

If what Clark says were true, it is difficult to account for the fact that he can stand outside of his brain sufficiently to discover – or at least to postulate – that his experiences, thoughts, social interactions etc. are identical with the activity of the brain. Moreover, the absence of any naturalistic account – or the idea of an account – of intentional consciousness (perceptual, propositional, individual, intersubjective, collective) is a reasonable basis for assuming that it is *not* part of the natural world as described by natural science. If my thoughts were reducible to electrochemical discharges, fundamentally similar to electrochemical discharges seen elsewhere in nature, it would be difficult to know how I might have discovered this fact; how, if thoughts were neural discharges, they might embrace the idea that they are neural discharges.

Clark attempts to deal with this problem by distinguishing "between being causally constrained by the neurally instantiated processes that subserve our reasoning capacities, which we obviously are, versus seeking reductive causal *explanations,* at the neural level of goal-directed behaviour and intentionality" (Clark, 2022, p. 405). This distinction – between what is the case and our theories about what is the case – does not enable him to escape the problems associated with the materialism of mind-brain identity theorists when they are confronted with all the distinctive (non-natural) characteristics of mental phenomena such as reasons (which are modal, general, and deal with possibilities which may or may not be actualized).

Perhaps because he is aware of this, Clark flirts with Dennett's idea of 'the intentional stance' which endeavours to reduce awkward aspects of mentality by seeing them as the progeny of a particular way of construing behaviour. The intentional stance is that in virtue of which we ascribe to others (and indeed ourselves) beliefs, desires, and intentions, as a handy way of gathering up, perhaps even making sense of what they do. This higher-level explanatory space, however, seems itself even more difficult to account for in terms of neural activity wired into the extracranial material world than the entities it is trying to naturalize. The intentional stance, in short, is even more resistant to neural reduction than intentionality and the other things it is invoked to explain away or even to eliminate.

Notwithstanding Clark's determination to "tether the intentional level to its physical underpinnings" he concedes that "intentionality is not *explicable* at the neural level alone" (Clark, 2022, p. 406). One of the reasons he gives for this concession is that intentionality "involves complex past and present interactions between the person and the world" (Clark, 2022, p. 406). Just so; and the invocation of tensed time – the presence of the past – and personhood with all its synchronic and diachronic unities takes us beyond anything that is explicable in neural terms (for example, a brain at time t_1 is confined to time t_1) or indeed

seen elsewhere in nature. The appeal to 'supervenience' does not close the gap between neural activity and the person and her world built out of individual and joined intentionality. Clark offers a promissory note that serves only to highlight the explanatory gap. The assertion that the "sequential regularities" involved in arguing with oneself about issues such as the feasibility of adopting universal basic income "cannot contravene the scientifically described laws – physical, chemical, or biological – that govern the neural vehicles carrying such content" provokes the response: "You bet! It has *nothing* to do with those laws. They have long been left behind". Debates about economic policies are not conducted in the intra-cranial darkness and played out in neural discharges which are, after all, neither social, abstract, normative, nor historically informed.

There is a particularly revealing conjunction in Clark's chapter when he challenges my claim that neural activity does not account for intentionality. He refers to "the science of representation, of mental content, as carried by neural and artificial systems" (Clark, 2022, p. 408). It is not irrelevant to point out that there are no artificial systems that are conscious and that a science of representation that applies to the latter would have little to say about the subjective consciousness necessary for the exercise, or indeed the meaningfulness, of free will. While representational theories of consciousness may seem to be compatible with the idea of consciousness as "a natural phenomenon", this seems plausible only so long as a) representation is an encoding of the causal impact of environment on the brain and b) it is possible to have representation without presentation. Neither of these assumptions is true. As I have pointed out on many occasions (including in *Freedom,* e.g. pp. 209–210), causal interaction between two material objects, one of which is the brain, governed by the laws described by natural science, does not make one object present to the other, even less create the mental infrastructure for the extraordinarily complex, and complexly justified, agency that we exercise in everyday life. (I shall return to this in the discussion of Adam Rostowski's paper.)

Clark points that "the mere *epistemic* openness of the future" will not suffice for agency (Clark, 2022, p. 408). Too right. Not knowing for certain what is going to happen next could hardly be the foundation of our being able to influence it. What is relevant, however, is our ability to envisage possible futures that we would wish to happen. It is in virtue of my envisaging a particular future – either implicitly or explicitly in contrast with another, less desirable, future – that I can work *to bring about* the former rather than the latter; more specifically, that I can exploit the habits of nature, as revealed in everyday experience or by scientific investigation, to increase the likelihood of one future rather than another.

Clark also points up a seeming regression in the search for a locus of genuine free will. While I may hope that my actions would be an expression of my motives, character, and deliberations, these must themselves be determined by prior causes. Leaving aside the problems with the concept of causal necessity as *de re* material necessity, already discussed, the ancestry of an action is nothing like the linear causality that is supposed to be seen in nature. Let me again use the example of my trip to London to attend a meeting at which I argue the case for a future in which national stroke services are improved. The trip expresses a long-standing concern connected with my career as a doctor responsible for patients with stroke and who is impatient with the quality of such services at present. My impatience is rooted in knowledge of what is ideally possible and perhaps his personal

experience of a beloved relative who was poorly managed after a stroke . . . and so it goes backwards. But as it does, it spreads into more of a self whose unfolding – e.g., acquiring expertise about stroke – is often self-driven. The engagement of an increasingly self-shaping self is, even if that shaping was (as in his infancy) initially driven from without, a marker of literal integrity – the connectedness of his self over time and across realms of experience. It is this self – drawing on a broad front not matched elsewhere in nature – that reaches into a future whose envisaged shape is also unlike that seen elsewhere in nature.

That is why to speak of 'determinants' of choices as Clark does is to obscure the fundamental difference between decisions (in which we affirm aspects of ourselves, many of which will have been the product of previous affirmations) and anything like a cause. In his endless journeys to London (with all their complexity in planning and execution) Raymond Tallis is embracing the self that he is part given and has in part chosen, with the balance between the two evolving in favour of the latter as he progresses from infancy to adult life. This is perhaps acknowledged by Clark when he contrasts 'pragmatic determinism' with 'universal determinism', though for reasons that will be obvious from *Freedom* the former does not, *contra* Clark, situate freedom entirely *within* nature on any construal of this term, unless one that is so hospitable as to include culture and technology.

As for the implications of embracing the idea that we are the point of origin of at least some, perhaps most, of our actions, I am not obliged to make humans 100% responsible for everything they do. While I reject the idea that "my brain, my body, or their past states" made me do it whatever 'it' was, I do accept the reality of extenuating circumstances. To deny that some lives and some actions are freer than others would be cruel and moreover fly in the face of facts.[3]

This applies most obviously to addiction where lives may be changed by dependency on drugs, even those initially prescribed for seemingly appropriate indications.[4] And, as a doctor and neuroscientist, I am aware of how our agency, notwithstanding that it cannot be explained by brain function as a sufficient condition, is nevertheless vulnerable to brain damage: a degree of intactness of the brain is a necessary condition of conscious, responsible agency. It is for this reason that, in the final chapter of *Freedom,* I distance myself from the position of the early Sartre for whom our freedom was limited only by our inability to deny that we are free. The scope of our freedom is, indeed, a matter for empirical investigation but the actuality of our freedom and that which makes it possible cannot be denied. Indeed, the very fact that freedom is limited highlights that, within limits, it is real.

Stephen Leach

Stephen Leach ('Free Will: An Impossible Reality or an Incoherent Concept?') suspects that I may have incorrectly framed the problem I address. He questions whether science as it is usually construed is in fact deterministic and hence, as some philosophers believe,

[3] The claim that 'my brain made me do it' has to be tested against criteria that take us beyond brain science and requires the deployment of traditional considerations determining culpability. For a critique of 'Neuro-law' see 'Getting the Brain off the Stand' in Tallis, 2016, pp. 306–317.

[4] Just how vulnerable we all are to addiction to drugs is set out in Keefe, 2021.

incompatible with free will. In my endeavour to defend free will against the scientific notion of a deterministic nature I am rather like the fictional uncle of the comedian Victor Borge who discovered a cure for which there was no disease.

While the epidemiology of philosophical views is not an exact science, there are sufficient philosophers who do believe that science is deterministic, and that its account of the universe leaves no space for genuinely free choice, to justify this view as one worth challenging.

At the heart of natural science is the belief that the unfolding of the universe conforms to exceptionless, unbreakable laws – laws which it uncovers with increasing accuracy. This principle applies to all physical events and, since actions are at the very least physical events, it must apply to actions. The connection between science and the determinist case against free will has, for many philosophers dazzled by the authority of science, even in relation to metaphysical questions, been greatly strengthened by neuroscience, as already noted in response to Tom Clark's piece. We are our brains and neuroscience has, so we are told, demonstrated that our brains, like all material objects, are subject to the laws of science. More specifically, the experiments of Libet and John-Dylan Haynes (discussed in Section 1.2 of *Freedom*) have, so we are told, shown how conscious decisions are preceded by neural activity indicating that the brain has already decided for us. There is therefore nothing privileged about human agents. Their sense of being the origin of their actions and having the capacity to deflect the course of events is an illusion.

The belief that natural science supports determinism and undermines free will, is therefore worth challenging because it is accepted by a significant number of philosophers. And that is why it is worth arguing that the seeming incompatibility of genuine agency with what natural science has shown us is not that free will is impossible but that science is incomplete; most importantly that objective quantitative science cannot capture the intentional consciousness which is the ultimate origin of our capacity for free actions. Indeed, as I argue (and Leach acknowledges), the activities that reveal the habits of nature as the laws of science are collectively one of the most striking, indeed spectacular, expressions of our distance from nature; and our application of scientific discoveries in the technologies that we utilise every minute of our lives are the most compelling expression of our freedom.

Leach cites Stephen Hawking as an example of a scientist whose instrumentalist vision of science is "not imbued with a metaphysical commitment to the nature of reality" (Leach, 2022, p. 414). On such a view, science would have nothing to say about the existence or non-existence of free will. Such metaphysical modesty is not, however, universal. As Leach himself points out, in later work "Hawking makes the mistake of veering naively into metaphysics by terming his position model-dependent realism" (Leach, 2022, p. 414). The dispute between instrumentalist (or operationalist) and realist views of science is long and complex. I address it in Appendix A of *Freedom* 'From the Habits of Nature to the Laws of Science' (Tallis, 2022, pp. 173–188). But it deserves a more extensive treatment that takes account of the rich and argumentative literature. The point, however, is that some philosophers and philosophically inclined scientists embrace a realist account of science and believe that it has metaphysical implications, among them that free will is impossible.

When Leach asserts that I "couch the debate in such terms that either science undermines free will or else free will underpins scientific theories" (Leach, 2022, p. 414) he misrepresents the summary of my position on p.167 of *Freedom*:

> I have described freedom as an 'impossible reality'. Its origin is not to be found in the realm of those laws and causes whose most complete and accurate portrait is natural science. There are two possible conclusions to be drawn from this: either that our belief in freedom is an illusion; or that natural science, and the simplified metaphysics we take from it, are incomplete accounts of the world and, importantly, of human life. This volume has been devoted to arguing for the second conclusion, not the least because I do not think we should deny the reality of something just because we cannot understand how it is possible when we look at the world through the lens of natural science.
> That the scientific gaze cannot accommodate free will is to be expected. Science seeks fundamental, underlying, unchanging patterns beneath all change and must therefore look straight past or through the realm where freedom is exercised. It cannot accommodate the perspective on nature that a subject has, even less account for the transformation of what-is into a *situation* which requires action, or into initial conditions that are the platform for such action. There is equally little place for the sense that the present moment, far from being an involuntary inheritance we are stuck with, is a starting point, a point of departure to a chosen future, not predetermined by the habits of nature. (Tallis, 2022, p. 167).

It is important to appreciate that (contrary to Leach's claim) I do not see the exercise of free will as a Humean violation of the laws of nature. Rather it is a utilization of certain habits of nature, extracted as the laws of science, from outside of nature, in pursuit of certain ends. This is made clear by this passage from John Stuart Mill already cited but which is worth repeating:

> Though we cannot emancipate ourselves from the laws of nature as a whole, we can escape from any particular law of nature if we are able to withdraw ourselves from the circumstances in which it acts. Though we can do nothing except through laws of nature, we can use one law to counteract another. (in Tallis 2022, pp. 22–23)

Or manipulate one variable to shape another, as when we consciously increase the pressure of a gas to bring about a predicted and desired change in its volume. The laws of science reveal the constraints arising from the habits of nature in such a way that they can become enabling. When we see 'how things work' we can better manipulate them: we see how they might work for us. The most compelling examples of 'enabling constraints' are, of course, to be found in language, when subordination to rules enables the communication of voluntarily selected meaning.

Thus, *contra* Leach, free actions as I see them are not like miracles as described by Hume. While there is little or no evidence for miracles – and one would reasonably demand a high level of evidence for something as egregious as a breach of the habits of nature – every moment of the day furnishes evidence for free actions. In most cases, there is little difficulty in seeing the difference between involuntary events affecting one's body (falling down the stairs after having lost consciousness) versus walking down the stairs as the first phase of a journey (to London to make the case for better stroke services).

Leach recommends switching the focus "from free will in relation to the hypothetical threat of determinism" to "liberty in relation to constraint" (Leach, 2022, p. 415). It is not clear that these two approaches can be separated. After all, determinism may be seen as universalization of constraint. My vision of the conscious agent as the embodied subject – rather than as the source of disembodied pulses of willing – would seem to embrace, by transcending, both approaches. Leach's discussion of Hobbes, Locke, and Hume, while rich and interesting in itself, does not support the switch in focus that Leach recommends. Locke's appeal to the "power of the mind" is less than persuasive for reasons that have been rehearsed most frequently in relation to the critique of Cartesianism. The embodied subject seems more promising as the locus of agency than the will understood as an exercise of the faculty of a mind offset from the body. Leach's assertion that "the ultimate focus of freedom is not the will, and the question of whether or not the will is free; but rather that *the agent* is free" (Leach, 2022, p. 415) seems unnecessary. In my emphasis on the embodied subject as the agent, I do not separate the willing from the agent.

Leach seems to misunderstand my position in other places. He correctly argues that "A will dependent upon chance is no more free than a will dependent upon deterministic laws" (Leach, 2022, p. 415). Quite so. I do not, however, choose chance as the alternative to determinism. A universe of random events would be no more hospitable to freedom than one with the habits whose approximate representation are the laws of science. Exploiting the habits of nature does not liberate us from subordination to those habits by re-locating us in a realm where anything is possible, and chaos rules.

Leach's final point about the rich variety of actions, and the different degrees of freedom of action, actually echoes something that is present throughout the book, which is devoted to teasing out the elements that lie behind our individual actions and how they are rooted in complex modes of self-assertion and self-understanding. And his reminder that elements of our voluntary behaviour in the "absorbed coping" of daily life may be automatic, though that automaticity is often hard-earned, is something with which I concur. I spell it out in some detail in the final chapter and in Appendix D ('Agency, Enactivism, and Bodily Cognition'). The metaphysical arguments do not, however, tell us which actions are free and which are not – this has to be judged on a case-by-case basis – only that free actions are possible. It is good to end on a note of agreement even though Leach may not recognize this and he may still maintain that the only choices available to a philosopher taking a metaphysical approach to freedom are determinism, chance, and miracles.

Helen Steward

Helen Steward ('Libertarianism in Disguise') accepts the conclusion of *Freedom* that free will is real and many of the arguments I deploy to support this belief. However (in common with James Tartaglia – see below) she questions my characterization of my position as compatibilist. In the light of her persuasive paper, I am almost inclined to agree with her. It is worth reflecting on my reason for not in the end wanting to admit to being a libertarian in the light of her arguments.

Steward's argues that the picture I paint "of a humanity whose intentional thought-suffused and co-operative modes of activity and interactivity transcend and lie apart from

nature" seems "in fact to be a variety of libertarianism" (Steward, 2022, p. 421). In short, "it is a view which ultimately defends free will *inconsistent* with the view that our world (which of course *includes* we humans) is wholly deterministic" (Steward, 2022, p. 421). Steward then argues that the world is not *wholly* deterministic. Yes, there are unbreakable or exceptionless laws – or habits of nature presented as the laws of science – but those laws do not determine every event that happens. They are not sufficient in and of themselves "to dictate a single future from any given actual point in time" (Steward, 2022, p. 421). Irrespective of however many laws of nature there are, they will not individually, or collectively, determine the direction along which everything unfolds.

Steward supports this argument with a thought experiment that proposes a world in which there is just a single law – for example, that anything that is red at any moment in time must turn green 10 seconds later and back to red 10 seconds after that. Everything else is sheer chaos. In this world the one law is unbreakable but much that happens in it is not dictated by that law. By analogy, we may acknowledge that the laws in the actual world mandate aspects of certain patterns of unfolding but do not determine what actually happens.

This argument is consistent with my own view that laws do not specify – in sense of reaching down to – all aspects of singular events and we may reasonably assert that all actual events are singular, possessed of a numerical identity. As such they will have features that are not captured by the general properties specified in general laws. While the proliferation of laws might bring legal specification closer to actual events taking place in particular places at particular times, they will not touch down on actuality. This limitation might, however, be overcome if all events are thought to involve entities that have fundamentally identical constituents – most typically atoms. Microphysical laws that apply to all elementary particles would appear to be both absolutely general and at the same time to reach to every singular event. There would then seem to be nothing outside of the reach of the laws in the natural, physical, material world. This is, after all, the regulative idea of fundamental science seeking a Theory of Everything.

Even if the laws did not encompass all the singular events of the universe, this would not be helpful to the case for freedom, giving agents wriggle room. After all, as Steward herself says in her example, the realm aside from the laws would be "sheer chaos" – hardly a very biddable substrate for our agency to act upon. As I point out in *Freedom,* we *rely* on a natural world with highly predictable habits, unpicked as a tight nexus of the laws of science, for our agency to unfold as we would wish and for our actions to have their anticipated and desired consequences. Without the unchallengeable operation of the laws of motion, we could not get out of bed and walk to the shops, without the law-governed biochemical processes that operate in our bodies, we could not lift food to our mouths and expect that it will be transformed into fuel for propelling and maintaining our bodies, and so on. Our flesh, the primary agent of our agency, is and must be, operating in accordance with the habits of nature.

It is for this reason that I want to embrace both determinism in the natural, physical, or material world while upholding the reality of free will realized in our capacity to stand outside of nature, individually and collectively acting upon the natural world from a virtual outside. Whether this is compatibilism (as I believe) or libertarianism (as Stewart thinks) may be a matter of definition. It is compatibilist insofar as it accepts the universality of the

habits of nature, as partly revealed in the laws of science. It is libertarian inasmuch as it allows the possibility of events – actions – whose initiation and directed unfolding are not in passive conformity to the way the natural world unfolds, as revealed most authoritatively in science. If I have avoided classifying my own views as libertarian, it may be because I don't want to seem to invoke a magic force such as 'the will' as the source of actions. The only magic I allow myself is the undeniable magic of intentional consciousness that permits the creation of a space from which the natural world can be acted upon. To anticipate the charge in James Tartaglia's paper (see below), intentional consciousness is not a kind of stuff, so that I am not at risk of drifting towards a dualism that, for reasons well-rehearsed over the last several centuries, would make free will less, not more, comprehensible. My view, perhaps, could be thought of as a compatibilism which operates with a slightly weakened determinism or a weakened libertarianism which allows that the world in which we live and breathe is overwhelmingly deterministic. The difference between the two may not be as sharp as standard descriptions suggest.

To say this is, perhaps, to address a concern expressed by Steward about an element of anti-naturalism in *Freedom.* She highlights places where I say things "with a mystical cast that make me uneasy – such as that actions 'have their roots in something outside of the natural world'" (Steward, 2022, p. 425). She correctly interprets this to mean that "actions depend upon the capacity to imagine various possible outcomes and hence on a capacity to engage not merely with the actual world, but also with a range of *possibilia*" (Steward, 2022, p. 425). This looks less extra-natural than I propose, Steward argues, if we switch our attention from possibilities (which are of course not part of nature, which is composed solely of actualities) to our capacity to imagine them, something that we might reasonably see as natural properties of complex organisms. Against this I would argue that widening the scope of what count as possibilities from those that human agents entertain – and which motivate and justify their actions – to encompass a basic capacity to anticipate what might happen – as in the case of a predator stalking a prey – is to miss what is unique about the place of possibility (and not-yet-existent events and entities) in the exercise of human freedom. It is worth elaborating on this marker of human uniqueness.

The possibilities we humans entertain are explicit – and explicitly entertained *as* possibilities, as future contingencies to be brought about or headed off. They are located in an explicit and often shared future and are frequently co-curated with, discussed with, our fellow humans, most obviously in the case of joint projects directed towards shared ends. They are articulated in complex plans that are discussed and revised and they are often located in the sedimented tensed time of the clock the calendar, and the diary. This unique nature of the the kind of possibilities entertained by humans is of relevance when we consider the difference between human and animal agency.

Steward addresses this head-on in her discussion of the freedom of animals. It is the subject of my Appendix C 'Beastly Freedom? Animals as Agents' which is to a great extent a response to the chapter devoted to animal agency in Steward's *A Metaphysics for Freedom* (2012). As she argues in that book, anyone who claims that human beings are true agents can deny agency in other living creatures only "on pain of postulating an absurd and inexplicable discontinuity in the natural order" (Steward, 2012, p. 21).

This is a large and important topic and any discussion of it should take engage with a vast corpus of empirical observation.[5] There is clearly not the space here to do the issue justice. However, it seems appropriate to examine a fascinating example of animal behaviour that Steward invokes to support the idea of "lowly physical freedoms in animal nature" upon which our sophisticated freedom is based. It is the focus of Nichola Clayton's studies of corvids whose behaviour in relation to obtaining (and indeed caching) food "seems to demand the very kind of envisaging of future possibilities (albeit short-term and local ones) which are crucial to Tallis's conception of the essence of agency" (Steward, 2022, p. 426).

I have discussed this behaviour in various places, most recently in *Seeing Ourselves* (Tallis 2020, pp. 130-33), where I highlight what I believe to be a fundamental difference between the future planning of humans and the apparent future planning of corvids. It seems to me anthropomorphizing to think of beasts 'envisaging future possibilities' and as having the capacity for mental time travel, as Clayton claims, in the absence of clear further development of any sense of tensed time either individually or collectively. As Wittgenstein pointed out, "We say a dog is afraid his master may beat him; but not he is afraid his master may beat him tomorrow" (Wittgenstein, 1953, §650, p. 116e). The future in which possibilities are located by animals is not explicit. Even less does it take the sedimented, structured form so central to human action. Past and future – especially in their time-tabled, calendrical forms – are extra-natural realms in which the intentional objects of possibilities are located and towards which individual, joint, and collective agency point. The fact that the corvids' so-called mental time travel is tethered to a particular function – feeding – is an important indicator of its difference from that of human beings.

This does not, however, settle the question as to whether any non-human animals have genuine agency; whether, as Steward puts it, "the universe is loose at those places in it where animals act – that they are free, within limits, at those junctures, to make it unfold as they will" (Steward, 2012, p. 21). In the light of her challenge, it might be wiser on my part to accede that some animals may have a margin of freedom, though it falls so far short of that which is available to humans as to be different not merely in degree but in kind, while admitting that the difference between matters of degree and matters of kind is not easy to specify.

Adam Rostowski

Adam Rostowski ('Freedom. An Enactive Possibility') is in broad agreement with the thesis of *Freedom* and the arguments mobilized to support it. His focus is on the concerns I express in Appendix D: 'Agency, Enactivism, and Bodily Cognition'. There I address a threat that I see posed by the enactivism – or certain more radical strands of enactivism – to the idea of free action. I welcome this focus because Rostowski has, over the last few years, been my guide through the enactivist literature. What is more we have discussed various features of enactivism on many occasions and have ironed out many of our differences. It is the ones that remain that are the subject of his paper.

[5] I have done so in Tallis, 2014 and, more recently, in Tallis, 2020. Suddendorf, 2013 is essential reading.

We are agreed that enactivism is a much-needed corrective to representational, computational perspectives which have been embraced by some philosophers in the analytical philosophy of mind and action. As Rostowski expresses it, enactivism "aims to replace so-called cognitivist theories postulating brain-bound algorithmic processes over internal representations, with the study of the complex dynamics shaping the 'lived (phenomenological) and living (biological) existence'" (Rostowski, 2022, p. 427). My own long-standing quarrel with these theories of mind and action is that they identify consciousness with representation. The representation in question is not usually thought of as a literal mirror image but as being neurally encoded. There are many problems with this view; not the least is the means or processes by which the encoded images are decoded as images, and how the latter count as the presence of the objects. Replication in the form of a coded or decoded image does not count as presence. The reflection of a cloud in a pool is not the presence of the former in or to the latter.

Enactivism rejects representational theories of mind for a different reason. Populating the mind with representations mediating between the agent and the environment, it is argued, is untrue to the way we engage with the world, most typically manifested in 'absorbed coping'. My criticism of enactivism, particularly in its most radical forms, is that, by removing or marginalizing or downplaying, mediating elements, mental contents, it threatens to make agency mindless. In so doing, it seems to undermine the endeavour in *Freedom* to be "a corrective to those who see us as natural objects wired into nature" (Tallis, 2022, p. 203). We are not, of course, cut off from nature. Nor do we exercise our agency entirely at a spectatorial distance from the material world; nevertheless, the possibility of such a distance is necessary for us to act upon nature from a virtual outside. Yes, much of our day-to-day life takes the form of 'absorbed coping' but the enactivist corrective, at least in its most extreme versions, threatens to collapse the virtual distance between human agents and their worlds to the point where they are re-wired into nature and lose their ability to act independently.

Rostowski argues that this concern of mine is unfounded and that enactive theory is entirely compatible with my account of freedom. I am not sure that this is the case. For leading figures such as Di Paolo, "the eponymous concept of *enaction* frames cognition [. . .]as a whole organism process of 'bringing forth a world of meaning'- that is, bringing into existence (i.e., 'enacting') the significance that environments have for agents, in accordance with the form of life they embody" (Rostowski, 2022, p. 430). This is a consequence of the thesis of the continuity of mind and life. Understanding mind as "the lived dimension of the living organism" might at first sight seem to be attractive to someone such as myself for whom our mode of being in the world as agents is that of an embodied subject. Nevertheless, enthusiasm for the continuity between mind and (organic) life, between mind and living processes, must be tempered by acknowledging that only a small proportion of the life of the human organism is accessible to consciousness or plays any part in determining its agenda. Pretty well everything that goes on in our bodies is mindless and is remote from the thoughts and other propositional attitudes that account for the voluntary activities that fill our days.

This would not need to be spelled out, were it not for the fact that, at least for some radical enactivists, the key concept linking mind and life is *autonomy,* or self-individuation, which establishes the identity of beings as living organisms and what counts as their

environment, transforming a physical milieu into a place of significance, salience and meaning. Granted, this is the ground floor of what is necessary to be a conscious subject and even an agent; but it is a long way from what characterises distinctively human agency. After all, these capacities are, according to some mainstream enactivist thinkers, present in single-cell organisms and they consequently seem to offer nothing that would underpin the kind of freedom uniquely developed and enjoyed by human agents. The claim by Di Paolo et al, cited by Rostowski, that "the explanatory principles that help us to study the organisation of life are continuous with those that help us to study the mind, without reducing the latter to the former" (in Rostowski, 2022, p. 431) does not seem to hold up, if only because most life seems to be mindless and the vast majority (perhaps all) of non-human sentient creatures do not have anything comparable to the one mind of which we have certain knowledge – the human mind.

The reduction, in some enactivist thought, of *meaningful* engagements with the environment to that which is necessary for the organism's viability may lead to ascribing the experience of meaning even to organisms that lack sentience. In most cases, any meaning that can be ascribed to the interactions between most organisms and their environments, exists only insofar as it is ascribed to the organism by an informed external observer such as a biologist. To suggest otherwise is to fall victim to the fallacy of misplaced explicitness.

This fallacy lies at the top of a slippery slope leading down to absurdity. Consider, for example, the claim made by certain radical enactivists that intentionality, the fundamental mark of the mental, can be ascribed to single-cell organisms. While neither Rostowski nor those enactivists he defendsembraces this radical enactivist view, he does attempt to find some commonality between the relation of primitive organisms to their environment and that between the human mind and its intentional objects.

In pursuit of this end, Rostowski discusses my highlighting of the asymmetry in the relationship between conscious subjects and their environment: the latter is present to the former while the former is not present to the latter. The cup I look at it is present to me, but I am not present to the cup. Rostowski points to the asymmetry of the relationship between (say) the aerobic bacterium and the oxygen it requires to survive. I am not, however, persuaded that this asymmetry is even a distant cousin of the asymmetry that characterises my relationship to the cup. For this reason, the implicit suggestion that the object-consciousness and self-consciousness of human beings are latecomers in the evolution of mentality and intentionality, thereby preserving both intentionality's status as the mark of the mental and its grounding in the basic organisation of life is not persuasive. Nor am I sure that Rostowski himself is entirely persuaded, given his acknowledgement concerning the radical enactivist claim that the distinction between bacterial and human intentionality is merely a matter of scale, "is less than felicitous" (Rostowski, 2022, p. 434). He does, however, defend the less radical claim that the difference is a matter of "the dimensions of embodiment". I am not sure that size explains anything. After all, the largest organism in the world – about 2.6 square miles – is the Honey fungus, which few enactivists would credit with mentality.

Determining the nature of any putative transition from the supposed intentionality of bacteria to that of the human mind is clearly problematic. Rostowski attempts to do so by contrasting the first dimension instantiated in the regulatory processes that "define and sustain a living organism as a unity" with the second dimension involving cycles of

sensorimotor coupling between the organism and the environment, and a third dimension which involves "cycles of intersubjectivity in which they engage" (Rostowski, 2022, p. 435). This does not, however, seem either to reduce the gap between the supposed intentionality implicit in the relationship of the bacterium to its world and the relationship of humans to their world or to suggest a means by which it might be crossed. The reference to a "view onto the world" generated by sensorimotor coupling seems to assume that causal interactions will of themselves generate an organism-world relationship. In fact, as Di Paolo himself says, "The experiential structures of moment-to-moment participation with other bodies cannot be derived from organic sensorimotor experience" (in Rostowski, 2022, p. 435). And it would most certainly fail to deliver the mental capacities – the ability to entertain explicit shared possibility, a directedness towards locations in tensed and post-tensed time, and the profound elaboration of joined, shared, and collective intentionality – and other capacities that underpin our distinctive human agency. In sum, the relationship between lower organisms and their environments does not seem anything like that which is made explicit in the way higher organisms face their world, even less the way human agents enact their lives in a world collectively constructed.

This said, there are many features of enactivist thought congenial to the author of *Freedom*. Rostowski accurately specifies some of these features. Among them is Di Paolo's sympathy for Heidegger's notion of the primordiality of human being as *Dasein* and as being-in-the-world and his account of agency in which "neither actions nor intentions should be seen as discrete, causally-linked events, but time-extended aspects of bodily being-in-the-world". I am not, however, persuaded that we shall arrive at any understanding of that by beginning with primitive, even less single-cell, organisms.

Jan Halák

Jan Halák ('On the importance of a human-scale breadth of view. Reading Tallis' *Freedom*') approaches the arguments in *Freedom* from the standpoint of a philosopher steeped in the phenomenological tradition of Husserl, Heidegger, and Merleau-Ponty. For example, he connects my argument that the laws of science are extra-natural and that the 'natural science' that generates those laws is unnatural, with a challenging observation by Maurice Merleau-Ponty. Commenting on Husserl, Merleau-Ponty argues (in Halák's words) that "to acknowledge naturalism is an extreme form of idealism, for naturalism posits as primary a reality that is in fact constituted on the basis of human theoretical construction" (Halák, 2022, p.). This highlights how "the reality uncovered by science is in fact a correlate of a very complex and historically developed system of intervention in the world and hence the effect of an *elaboration* of the world rather than a pre-existing reality" (Halák, 2022, p. 435). And Halák argues, correctly I believe, that my focus on the details of actual human behaviour (including that which is evident in the pursuit of science) is phenomenological in spirit. This said, in what follows, I will not discuss what I agree with in Halák's article (the majority of what he says); rather I will focus on areas of our (apparent) disagreement.

Halák's key point of dissent from the arguments in *Freedom* relates to something discussed by Rostowski: my understanding of intentionality as an asymmetrical relation between conscious subjects and the objects they are conscious of: the former are conscious

of the latter while the latter are not conscious of the former. Halák argues that presenting the relationship between subject and object in this way suggests that we live in a world where an item such as a cup appears as a 'pure' object, as a valueless 'it' to which a value is then attached by the subject. On the contrary, he says, we are born into, and live our lives in, a life-world or *Lebenswelt* and objects appear as "agenda-dependent, value-laden, intermingled with my own and other people's intentions" (Halák, 2022, p. 442).

To some extent I do share this view, as when I discuss the nature of objects as 'affordances' (see Tallis, 2022, pp.190–191), the term introduced by J.J. Gibson to emphasize how perception is not merely a spectator sport, separated from action, but is interwoven with action and in part regulated by the possibility of action. Nevertheless, I also emphasize – and this is something that is central to the argument of *Freedom* – the importance of our being detached from objects which we perceive or otherwise become cognizant of, so that they do not all demand action of us, nor are they defined solely in relation to the possibility of action. This is clearly manifest in the visual field. Most of its contents are present to us without being calls to some kind of motor or other response. This is even more obviously true of objects that are presented to us the first time as objects of knowledge. I can be told something about Paris without my engagement with it being connected with action. What action may be prompted may have little to do with the concrete city; for example, I may feel obliged to simulate interest in what my interlocutor tells me.

I emphasize the importance of not exaggerating the extent to which objects are presented as affordances because to do so threatens to reduce actions to *re*actions. It underestimates the width of the margin of discretion available to an agent whose physical location is defined by an array of material things. Even when objects *are* construed as affordances, they may present themselves in different ways, depending on current concerns, which will include long term goals evident only as nexuses of possibilities that may or may not be realized. While a tree may be presented as a 'climbable', it may also be 'a hiding place' or a 'shelter' or 'fuel'. More to the point, it may be irrelevant to any present concerns. The tree I see out of the window of the train I am taking to London is not a climbable, a shelter, or fuel. It is simply part of a visual field that I may or may not experience aesthetically or disinterestedly as a beautiful landscape or as mere background to the head of a person talking to me. As already noted, this detachment from the call to action is even more obvious where the object is the referent of a thought or idea. I can think of a tree without feeling obliged to act in relation to it and tell someone about an object I observed yesterday without expecting that they will perform any visible action with respect to the object of which I am speaking.

It may seem perverse, even ungrateful, for me to dissent from Merleau-Ponty's view of the relation between the conscious subject and the objects it encounters, as presented by Halák, given that it is in sympathy with a central argument of *Freedom* – namely that our encounter with the natural world is shaped by the possibility of agency, something that is expressed in my seeing the very idea of a cause as being connected with manipulation. To this extent, the world we encounter is not an aggregation of pure objects, mere 'its', but at least in part structured by the possibility of our action, and in part assembled by the agency of our predecessors and contemporaries.

Nevertheless, it is important to find a middle ground between the view that the world in which we act is a natural given, whose essential characteristics are determined independently

of any conscious agent, and the opposite view that that world is entirely shaped by the agenda of agents, which not only seems like magic thinking (as was discussed in the response to David Scott) but also paradoxically re-wires the agent into his or her world. If every object is present only in the mode of being an affordance, then presence dictates action. The asymmetry between the object and subject, such that the former is present to the latter (but is not defined by its presence) and the latter is not present to the latter, emphasizes the fundamental gap between embodied subjects and the worlds in which they operate necessary to underpin the freedom of the subject.

This asymmetry is subject to many elaborations, as is evident from the different kinds of gaps between subjects and objects. Consider the example of my wallet. I may see the wallet in front of me, a definite distance away, but near enough to be within reach of my hand. Or I may remember that the wallet is in the kitchen downstairs and consequently not accessible to my senses. While the wallet is literally 30' away from the desk at which I am sitting – as is confirmed when I descend the stairs to fetch it – it is not, as an intentional object of thought, separated from me in the way it was when it was within my reach. Indeed, its blurred location 'somewhere in the kitchen' makes this clear. When I remember that I left my wallet in the hotel where I stayed in London, there is a definite spatial interval between myself as embodied subject and the wallet (assuming it has not been destroyed), but the interval in question is fundamentally different from that between the memory and its intentional object. This difference is flagged up by that between the actual ('exact') location of the wallet and its remembered ('rough') location as specified by my memory. If my belief about the wallet being in the hotel is true, then it must have an existence independent of any subject. To this extent it is 'pure'. Insofar as the wallet is an intentional object, however, it is not present to me in its pure state: this is equally true whether it is grasped by my hand or grasped in thought, revealed by experience or as the referent of an assertion. It does not, as it were, begin as a pure object existing prior to interested subjects. The apparent purity of the object, evident when it is apprised as an object of thought whose existence is independent of my thought, is downstream of, rather than prior to, perceptual experience.

The journey from the object's being in the vicinity of an experienced object to being the object of a thought is one of deindexicalizsation, a concept Halák invokes to characterize "affordances that are not fully under my control, in particular to the perspectives and material and immaterial cultural artefacts produced by other people" (Halák, 2022, p. 445). This is an important acknowledgement of the step from experience to knowledge. Halák sees this as essential to the shared reality in which we exercise our agency, greatly enhanced by joined and collective intentionality. And so do I. The sedimentation or deindexicalizsation of tensed time from a personal future or personal past to the post-tensed time of the clock and calendar vastly extends our capacity to collectivize our power as agents.

The asymmetry "intended-intending" – to use Halák's term – is thus open to various transformations as we pass from sense-perception to memory and thought and thence to modes of shared cognition. Halák is concerned, however, that we should not envisage our experience of what is around us taking off from a ground-floor situation in which the intentional object is identified with a material entity, a pure object, located in the spatial vicinity of the body of a subject. We are, after all, not the first conscious human beings to arrive on the spot and recognize that its contents and our encounter is mediated by others.

And at any given time in our life we shall have been preceded by others, as well as our previous selves, with their interpretated experiences of what is before us. A familiar setting or type of setting has the shaping presence of our own as well as others' experiences.

The idea of a pure object facing or faced by a subject is therefore highly suspect. Indeed, I have elsewhere argued that the very idea of a material object having intrinsic properties that transcend or exceed those that are revealed to the conscious subject is a projection from our experience of our own bodies.[6] A more radical claim is made by Halák:

> The way in which our body is organized and geared to the environment *opens up* some possibilities in the first place, including one's sense of objects having spatial volume and a specific structure even in areas that are not factually sensed. The action-orientation of our perception is not originally correlative to our capacity to interact with the perceived objects based on long-term explicit planning, but to the passively instituted existence of a bodily field in which some possibilities for action and interaction are first deployed as possibilities. (Halák, 2022, p. 446)

It is this that justifies Halák's view that "Human agency [. . .] grows from the world rather than entering it from outside" (Halák, 2022, p. 448). That is certainly true; the point, however, is that our agency grows, as we develop, into something that operates upon nature increasingly from without. And our individual development takes place in a human world woven out of shared and collective intentionality, vastly expanding that 'without'.

While it is important to challenge the idea of pure objects populating the world of conscious subjects, as Halák does, it is equally important not to dissolve the encountered world into a nexus of affordances defined by the interests of subjects. The caveat applies even to those entities that have been manufactured as affordances – namely, artefacts. They have a residual capacity to act similarly to other material objects whose behaviour may have nothing to do with human agency, as we are reminded when we are knocked out by a tile falling from a roof.

The discussion here circles round difficult and fundamental questions regarding the place of human agents, and indeed conscious subjects, in the order of things. There must be a limit to the extent to which we are able individually or collectively to shape the world in which we act out our lives. Looking critically at the very idea of pure objects still leaves unresolved the question of what there is in the absence of conscious subjects that are a minor presence in the universe – late arrivals occupying a minute space. This is something to which I will return when I discuss James Tartaglia's and Joanna Kavenna's articles.

It will be evident from the passage just quoted from his paper that Halák worries that my view of agency may be too intellectualist. The focus on propositional attitudes and envisaged possibilities – while he accepts it in outline – seems to him to be overstated. Like Rostowski (see above) he would prefer me to make a greater acknowledgment of the less intellectualist or self-conscious 'absorbed coping' that occupies our lives. I do accept that much of our active life is taken up with relatively unreflective behaviour. It is, after all, the necessary infrastructure of our deliberate and conscious actions. Nevertheless, it is the latter that are the most persuasive markers of our freedom. And while most of the basic

[6] See Tallis, 2020, Addendum to Chapter 3, 'Ambodiment: the I and the It'.

movements that constitute my journey to London to make the case for better services for stroke patients are semi-automatic, many of these are derivatively intentional (to use Markus Schlosser's phrase). They have been acquired deliberately, as the result of much hard work. They constitute a ground floor of sedimented volition on which our agency dances.

Halák's worry that I might overstate the explicitness, even over-intellectualize, the nature of agency is connected with his concern – shared with Helen Steward (see above) – that I underestimate the capacity of non-human animals to exercise free will. If I acknowledge that animals are sentient (which cannot be denied) and look at them as a whole rather than as a collection of molecular and other microphysical events (which would be consistent with my resisting privileging the microphysical level), I might, he argues, be more inclined to grant them a margin of freedom made possible by their being offset from nature, where the latter is understood in purely materialistic terms. As such, it seems reasonable to accept what everyday observation seems to tell us: that animals actively live their lives rather than merely suffer them.

I am persuaded of this. Nevertheless, I still maintain that there is a fundamental difference in kind between human freedom and any voluntary activity in non-human animals, for reasons given throughout the book. Perhaps, in response to Steward, Rostowski, and Halák I will allow some animals a margin of freedom, but this is limited by the much-contested fact that, as Heidegger asserted, they are 'world-poor'.[7] They lack, that is, the vast extra-natural space from which we humans exercise our freedom. And while I agree with Halák that agency is not situated outside of *the world*, understood in the sense of the realm where we have our being, live our daily lives, it is exercised by embodied subjects who are both inside and outside of nature, acting upon nature as the substrate for their agency from a virtual outside.

I am not yet quite ready to give up on the material world and even 'pure objects' as the ultimate ground on which human freedom stands; after all, there was something there, something given – even if it was not explicitly there, not actually given – before humans appeared on the scene. While the objects with which we are presented and with which we engage are not pure – they have become impure long before we appeared on the scene – they are objects, nonetheless.

Joanna Kavenna

In her generous, wide-ranging response to *Freedom*, Joanna Kavenna ('The Seemingly Ordinary Complexity of Daily Life') locates the book in my lifelong project of making visible the rich, profound, mysterious nature of our humanity. She is largely in agreement with my conclusion and the arguments I mobilize in its defence, but she also covers territory not touched upon by other respondents to the book.

Kavenna considers the significance of the question of whether humans have genuine free will and in so doing offers a response to John Shand's view cited earlier:

7 See Heidegger, 1929-30, Part 2, Chapters 3–6.

> Personally, this sort of theoretical threat to free will has never bothered me because I ask myself what difference holding it to be true could possibly make to my life. I do not think it would or could make me live my life any differently or have that life mean anything different from what it does. (Shand, 2022, p. 396)

She reminds us of the significance of accepting determinism: "We end up in a strange, passive, amoral universe in which our choices are meaningless" (Kavenna, 2022, p. 455) – a prospect which prompts some determinists to suggest that "we must keep this dire revelation from the 'general public' lest they perceive they cannot be held accountable for their actions if they lack agency, and therefore run amok in a moral-free world" (Kavenna, 2022, p. 455). Kavenna cites a striking experiment which seemed to suggest that people who believe less in free will are more likely to behave immorally (citing Cave, 2016). While some may argue that it is risky to extrapolate from the highly artificial circumstances of the laboratory to what might happen in everyday life, these findings at least provide grounds for not dismissing the importance of the question of whether or not we have genuine agency. My defence of free will is not therefore a cure for which there is no disease. Anyone who has paid attention to what is happening in courts of law will be aware of the appeal to neuroscience to support the claim that "my brain made me do it".[8]

Kavenna's reference to Owen Barfield is of particular relevance to the arguments in Chapter 3 of *Freedom* where my deconstruction of causation went beyond the Humean reduction of causal connection to expectations implanted in our minds by "constant conjunction". My radicalization of Hume suggested that the appeal to causal connectedness was required to re-connect elements of a continuum splintered into discrete and separate entities by the irruption of the subject. David Scott's paper has persuaded me that this radical suggestion gives subjects implausible power to shape their world and does not take account of the constraints within which we operate, constraints that are anyway necessary to give our lives a definite shape and agency its agenda: its starting places and meaningful, specific goals.

The critique in Halák of pure objects existing in the absence of subjects is also relevant to Owen Barfield's exploration (in *Saving the Appearances*) of the very idea of the universe prior to human, or indeed any, consciousness and the unanswered questions as to the extent to which consciousness shapes the world in which agents operate. We might expect that the universe in the absence of sentience would lack phenomena such as sounds, colours, facial expressions. What, however, would there be in the absence of phenomenal consciousness? The usual answer is: matter, energy, forces and fields, whose character is best understood via the hypotheses of atomic physics. This, however, would be to privilege the microphysical scale in a universe which I argue, echoing Mariam Thalos, is intrinsically scale-free (see Tallis, 2022, Appendix A).

I pick up on Kavenna's reference to Barfield not only because of the intrinsic interest of his ideas. They are an important contribution to the conversation about the nature of the universe which lies just over the horizon of the discussion in *Freedom.* Here is not the place to discuss the spread of views ranging from conventional idealism, according to which the

8 See 'Getting the Brain off the Stand' in Tallis, 2016, pp. 306–317.

universe is a construct of the mind or minds, to a materialism which embraces the standard scientific story in which sentient beings are late entrants into the universe, and are therefore shaped by its general properties, to more recent positions such as that associated with Quentin Meillassoux, which accepts that, courtesy of science, we can access truths about "events anterior to the advent of life as well as consciousness" (see Meillassoux 2008). In short, it highlights the important unfinished business of this book and is a reminder that the question of the nature and possibility of agency touches on many other philosophical issues.

The interplay of opposites – the universe being a product of mind versus the mind being a late entrant into a small part of the universe – may, however, be fruitful, as Kavenna points out. It can generate radically new ideas as when Quine addresses this issue by suggesting a relationship of "reciprocal containment" between the Order of Being and the Order of Knowing. I have elsewhere compared this to the ourobouros that swallows itself (Tallis, 2020, p. 326–35). At the very least it corresponds to an unresolved question about the relationship between human consciousness and a universe in which it appears to have arisen as a pre-existing totality.

James Tartaglia

It is clear from several of the responses – David Scott, Joanna Kavenna, and Jan Halák – that it is necessary to situate any discussion of free will in a wider metaphysical inquiry into the place of humanity in the order of things. James Tartaglia's 'The Ontology of Freedom' makes this even more explicit.

Among the various concerns Tartaglia raises about *Freedom,* two are of particular significance. The first is one I have already noted in Steward's contribution: a doubt as to whether my position on free will really is, as I claim, 'compatibilist'. Rather, Tartaglia argues in agreement with Steward, it is libertarian. This is not merely a matter of definition; on the contrary, it has profound, indeed ontological implications, which relates to Tartaglia's second, and major, concern. As he expresses it, my "terminological innovations redraw the lines of debate" (Tartaglia, 2022, p. 463). I shall return to this presently.

First, however, let me re-visit the question why I chose to classify my position as 'compatibilist'. The incompatibility hinted at in the subtitle of my book is not between freedom and determinism; rather, it is between theoretical reasons for doubting the reality of freedom and its undoubted reality in practice. Freedom is not unique in this respect. For example, we may be unable to defend the idea of something originating from nothing, from which we might conclude that the universe could not come into being at any particular time. There is no sufficient reason in nothing for it to give birth to something. Nor could it have been around an infinite period of time. We cannot, however, deny that it exists. There are similar tensions between our inability to understand how consciousness could emerge in an overwhelmingly insentient cosmos, the stuff of which does not seem the kind of material to give birth to consciousness, and the indubitable reality of conscious experience.

Clearly, if every material event occurred in accordance with the implacable habits of nature, and, in addition, every action could be adequately understood simply as a succession of material events, themselves necessarily caused by prior material events, then free will would not be possible. Determinism thus understood would be incompatible with free

will. The key to my, admittedly non-traditional, compatibilism is a rejection of the second assumption. Yes, actions are physical events; but they are different from other physical events: they happen because they are *performed* – by agents who have, or appear to have, the undoubted ability to *requisition* the events that make them up in order to actualize possibilities that exist only insofar as they are envisaged. As such, actions are extra-natural, most obviously insofar as they are directed towards a not-yet-existent future defined by generalities that await realization as particular events. The opposite is true of happenings in the extra-human natural world, where events await humanity to pick them out as particulars and characterize them as instances of general types. This distinctive character of actions underlies my idea of the compatibility of a deterministic nature with a free agent.

There is a possible problem with this way of conceiving compatibilism, however. Are not the material events constituting actions causally over-determined in virtue of being both determined by the habits of nature and motivated by the intentions of agents? I head off this concern, first, by arguing that nature, left to itself, would not have generated the unnatural, egregious, successions of movements such as those that I make when (to use my well-worn example) I am fulfilling an intention to make a case for better stroke services by travelling to London, walking to a particular venue in that city, and behaving in a certain fashion (trying to persuade others of my point of view, raising my hand to vote) when I attend the meeting at the venue. The unaided habits of nature would not have sewn together the elements of this story including the more recondite ones – pretending not to have seen a colleague on the train journey so that I might mentally rehearse my speech, turning over the papers as I speak at the meeting, and closing the window half way through my presentation so that I can be heard despite the noise of the traffic outside. Secondly, I deal more radically with the issue of causal overdetermination by deconstructing the very idea of causes.

While the processes that get me to my destination are indeed subject to the habits of nature, those habits are teased out of the unfolding continuum of the natural world as particular laws that I and others exploit. I may do this indirectly, as in the case of the train journey, where applied mechanical science allows me to narrow the distance between myself and the venue where I envisage pursuing my goal of making the case for better stroke services, and directly as when, courtesy of action and reaction being equal and opposite, I am able to propel myself along the London pavements to the venue of my meeting.

Compatibilism understood this way is, of course, profoundly different from that of (for example) Hobbes – cited by Tartaglia – for whom the unobstructed flow of a river can be just as free as human action. To the contrary, the river is unfree and equally so when its path is unobstructed as when it is obstructed. Any apparent freedom a river may have is borrowed from that of human agents who may exploit its flow to propel them to their chosen destinations. It is agency that defines a material object such as a dam as an 'obstruction'. And indeed, it is the conscious subject that distinguishes a river that does not encounter a dam as 'freely flowing' and one that does encounter a dam and continues around and over it as not freely flowing.

According to Tartaglia, my vision of compatibilism is "a neat argument for a libertarian dualist to make" (Tartaglia, 2022, p. 461). While what I have just said may address the charge of libertarianism, does it address the more serious (to me at any rate) charge of dualism? If my account of freedom committed me to a traditional dualism in which 'mind'

is a kind of stuff contrasted with matter, I would face the equally traditional challenge of explaining how this stuff could be portioned out among spatio-temporally localized agents, and be able to influence events at a particular place, despite not being localized in space. It would be equally challenging to explain how it could have authority over the disposition of elements of a material world given that it deploys none of the forces – energy, momentum etc. – associated with change in that world. Ghostly stuff, even if it could somehow take up residence in a particular bit of living machinery, would not have the capacity to direct that machinery and, through it, the material world around the machinery. So, the charge of dualism, if justified, would be a serious one.

A passage from *Freedom,* cited by Tartaglia, that begins "Intentionality is non-physical and its difference from the physical world" might be taken inadvertently to suggest that intentionality is a property of some kind of mental stuff that is side-by-side, or additional to, physical stuff. I say 'inadvertently' because nothing of the kind is meant. Consciousness is no kind of stuff. It is not even comparable to the *Néant* that Sartre – whose views in some places are close to mine – invokes to specify that in virtue of which humans are able to act upon Being as genuine agents. The status of *Néant* as a noun – thickened by '-ness' in its English translation as 'Nothingness' – seems to give it stuff-like status, however much Sartre would reject this. Sartre's Nothingness is problematic for other reasons. It is impossible to see how Nothing could be located in space or time in such a way as to confer the capacity to act freely on spatio-temporally located individuals – which is why I do not identify it as the key to freedom. Indeed, it highlights the perils of embracing the idea that that which makes freedom possible is a kind of immaterial stuff acting upon the material world. The point is that intentional consciousness is not a stuff at all; indeed, it is not something that may be present, even less present at a particular place; rather it is that in virtue of which things become present and what-is becomes *that*-it-is.

Tartaglia may still argue, with some apparent justification, that if my compatibilism does not necessarily commit me to dualism, it commits me to *some* ontology, and I need to fess up to it. My argument, he says, "depends on an ontological privileging of everyday life" (Tartaglia, 2022, p. 470). While I would accept that I do privilege everyday life, I reject that doing so involves embracing an implicit ontology. Everyday life is too rich, complex, and, yes, untidy, to be harvested in any of the ontologies philosophers have argued for over the millennia.

I shall return to this, but I want briefly to touch on the idea that science – with its deterministic picture of the natural world – generates an ontology that rivals or corrects or supersedes that of everyday life and dispel the impression that I am siding with everyday ontology against that of science.

It is true that fundamental science reveals realities that are utterly unlike those we encounter in our everyday life and take account of while we go about our business. And it is equally true that what science claims is overwhelmingly validated by the extraordinary predictive power of its laws and their countless applications that have transformed our lives. This does not, however, imply that what we experience in everyday life has been superseded by the scientific image. Science, after all, has not allowed us to leave everyday life behind. The activities leading up to scientific discoveries are pursued in and sustained by and are ultimately tested by what happens in daily life seen through the lenses of common sense.

Science is a product of, and an amplifier of, human agency in a largely human-sized world. The communities of minds that built and have used CERN seemingly to undermine our everyday understanding of the stuff of the world, operate within an everyday world. The scientists and what they get up to cannot be understood as manifestations of the habits of nature as revealed by fundamental physics. Quantum physicists live and work in a non-quantum world – in the manifest reality that we all live in. It is hardly necessary to point out that the paradoxical (and incoherent) world-picture of fundamental physics is not the result of particles, forces, fields, and energies, being somehow suddenly minded, of their own accord, to reveal aspects of themselves through organisms (scientists) most accurately portrayed as the progeny of quantum processes.

What Tartaglia characterizes as prioritizing everyday ontology is simply a matter of (for example) acknowledging that what has to happen in the Large Hadron Collider at CERN for it to do its business depends on the largely macroscopic events that lead up to the collisions in the tunnel. What is more, the construction of the tunnel, its employment, and the subsequent analysis, discussion, and interpretation, of the findings it permits, takes place in a realm that is not ontologically distant from what happens in the canteen. The greatest embarrassment for fundamental physics (if it was capable of feeling embarrassment) that believes it is *en route* to a theory of everything are the macroscopic, classical embodied subjects necessary for science to be pursued and who insist on living their lives in a world entirely unlike that revealed by their science. The two images of the world – the everyday and that of fundamental science, represented, for example, by the bespectacled Peter Higgs and the Higgs Boson – are not rivals, even less equals, between which one has to choose. Privileging everyday life is not a matter of choosing one ontology over another.

Tartaglia correctly points out that what he calls my prioritizing of the ontology of everyday life is not made sufficiently explicit and even, in places, contradicted because what I prioritize is not an ontology. If I sometimes give the impression "of a metaphysical realist who distinguishes the human take on nature from nature itself, considering the latter to self-evidently possess ontological priority" (Tartaglia, 2022, p. 468), it may be because of an unresolved conflict, evident throughout my writing, and referred to in my discussion of Scott's, Kavenna's and Halák's responses – over the extent to which human beings have shaped the *Lebenswelt* in which they live their lives and to what extent they have inherited it from a universe that has long antedated them.

It is for this reason that, far from embracing anything corresponding to an *ontology* of everyday life, I am an ontological agnostic – something to which Tartaglia refers. I am not, however, entirely happy about this, if only because it is difficult – though not impossible – to address many important philosophical questions without digging down to the most fundamental level and addressing the ontological question as to what kinds of being there are. And, as Tartaglia has pointed out to me, I am an impure agnostic. After all, I reject materialism, dualism, and panpsychism.

This uncertainty is evident in *Freedom,* most particularly in my treatment of causation, as acknowledged in my response to Scott. I toy with the notion that the universe in the absence of human consciousness is a continuum that is splintered by the eruption of the subject, as a radicalization of Hume's critique of causation as oomph or glue, as material necessity, connecting the discrete and separate elements of the material world. As I accepted

in response to Scott's critique, this ascribes implausible powers to the subject and is unsustainable without a willingness to go the whole Kantian distance to transcendental idealism, a route that, as Tartaglia points out, is cut off by my claim to know more about nature (that, for example, it has incurable habits) than would be permitted if nature were a Kantian in-itself. While I believe that the laws of science are a product of the synthetic activity of the collective consciousness, this does not go as far as Kant's claim that "the synthetic power of the mind is the lawgiver of *nature*" (my italics) (Kant, 1781, p. 82).

So there is much work left undone. This would be ontological work if one believed that trying to reduce the world to a single kind of being, or a small number of kinds of being, or a single stuff, or a small number of stuffs, is a key function of philosophy. It will, however, be evident that I do not share that belief. More specifically, I do not think that the conflict between the objective, quantitative view – whose most astonishing, practically fruitful and human life transforming manifestation is natural science – and views seemingly implicit in the assumptions of everyday life is a conflict between ontologies. Not only, as already noted, is everyday life not an expression of a particular ontology; but also, the science that is regarded as most advanced, having most universal reach and being most fundamental, is struggling to deliver anything like a coherent ontology. The interchangeability of mass and energy, the appeal to dark mass and dark energy to make the fundamental equations work, and fancy footwork in response to Heisenberg's uncertainty - entanglement, locality, ghosts haunting atoms, and the unending threat of circling infinities, has led to even fancier footwork – which tends towards a Pythagorean claim that Being is a mathematical structure without content.[9] Everyday life does not have an ontology and neither does science, for all that some scientists would like to think it is on course to develop one.

And yet, and yet. Without the kind of goal implicit in the very idea of a satisfactory ontology, it may be that philosophy lacks an important motivation. To embrace "the drunken variousness of things" – to borrow the lovely phrase from the poet Louis MacNeice – and give up on the immemorial philosophical ambition to gather up the sum of things in a single gaze, may be to give up on philosophy. And there are some who believe that it is equally defeatist to adopt a Mysterian position regarding freedom, expressed in the passage earlier quoted from H. D. Lewis.

Yes, freedom is mysterious, though no more so than consciousness or the fact that there is something rather than nothing. The aim of *Freedom* is not to make agency less mysterious but to challenge, hopefully successfully, the claim that science has demonstrated that freedom is impossible and its apparent manifestations are illusory. The distinctive nature of actions – and the role played by intentionality, propositional attitudes, envisaged possibility, the first-person viewpoint – reminds us that they are like nothing else in nature, especially as seen through the lens of natural science.

This said, as Tartaglia's response and that of the other contributors to this special issue of *Human Affairs* have made clear, *Freedom* has left much business unfinished. Whether anyone could finish that business remains to be seen.

[9] For a critique of the privileging of quantity over quality in science and the consequent Pythagorean ontology that results, see Tallis, 2017, Chapter 3, 'Mathematics and the Book of Nature'.

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