Emergence, Emergentism and Pragmatism[1]

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Abstract: In this paper, I argue for the usefulness of pragmatism as a framework within which to develop the theological application of emergentist theory. I consider some philosophical issues relevant to the recent revival of interest, across various disciplines, in the concept of emergence and clarify some of the conceptual issues at stake in the attempts to formulate the philosophical position of emergentism and to apply it theologically. After highlighting some major problems arising from the main existing ways of formulating emergentism, I build on the work of Sami Pihlström, outlining a less problematic, alternative proposal. I attempt to show that the philosophical problems can be circumvented by an appeal to the pragmatist tradition, which is a useful philosophical framework within which to develop an emergentist theory that is fit for theological application.

Key words: Emergence; Emergentism; Pragmatism; Pihlström; philosophy

I: Introduction: The Meaning of 'Emergence'

In the broadest possible terms, the concept of emergence is supposed to describe what happens when systems reach a certain level of complexity, at which point 'new' properties or entities are said to emerge. I shall call such emergents, which are variously taken to be properties or entities, 'emergent phenomena'. On the one hand, there has to be an important connection between the system, from which the phenomena emerge, and the phenomena themselves. In general terms, this connection is usually taken to be a dependence relation and, in particular, the specific kind of dependence relation in play is often thought to be supervenience. On the other hand, however, in order to count as emergent, phenomena have also to be novel with respect to the system out of which they supposedly emerge. We might capture the relevant kind of novelty in the mereological claim that such emergent phenomena are not, at any stage, possessed by any of the parts of that system. Or it could be captured temporally, in the thought that emergent phenomena did not exist before the system existed or when it was in a less complex state.

Unsurprisingly, there is a great deal of debate over not only what constitutes an appropriate balance between dependence and novelty (of the relevant kinds) but also over whether these are mutually compatible. The question of the compatibility of these concepts is the main conceptual issue

at stake in philosophical discussions of emergence because their combination is a key common feature of philosophical theories of emergentism.[2] But before discussing this important question of compatibility in section III below, I want to clarify the distinction, referred to by Philip Clayton as the 'red thread' in discussions of emergence, between weak and strong versions of emergence theory.[3] My purpose, in what follows, is not merely to reiterate the commonplace distinction between weak and strong emergence but rather to clarify it with a view to considering, in later sections, why and how the distinction might fruitfully be transcended.

II: Emergence, Weak and Strong

A weak understanding treats emergence as a concept that helps us to think about certain kinds of phenomena. For example, there comes a point where it is less helpful to think in terms of large numbers of interconnected neurons and more helpful to think in terms of conscious minds. 'Emergence', on a weak understanding, is just the term we use to articulate and accommodate that fact about our epistemology. On this weak understanding, it does not follow from the epistemological fact just mentioned that conscious minds are real things - that there is any *independent* reality that falls under the conceptual category of consciousness. What we think and speak of as conscious minds are really, ontologically, just large numbers of neurons interconnected in the appropriate ways.

A strong understanding of emergence, by contrast, treats it as a concept that refers not just to our conceptual world but to the real world, reality, itself. If we need the concept of emergence, on a strong understanding, this is because emergence really happens. Consequently, emergent phenomena should be understood as real entities, that are novel with respect to their emergence bases. For example, there comes a point in the developing complexity of neurological systems where it is not just *more helpful for us* to think and talk about conscious minds but where conscious minds actually *come into being*, when they can be said to emerge in this stronger sense.

The main effect on emergentism of this distinction between weak and strong emergence may be summarised as follows. The strength of the notion of emergence accepted by a given emergentist has a determining effect on the weighting that is given, respectively, to dependence and novelty in that emergentist theory.

Starting at the weaker end, where emergence is thought to be best understood epistemologically, such theories tend to be weighted away from the notion of novelty and towards notions of dependence and supervenience. The novelty in play here is of such a weak kind that a great many properties would count as emergent if the concept were not further restricted. As Kim writes, "this object on my desk has the property of being a ballpoint pen, although none of its parts are ballpoint pens".[4] Kim's example illustrates that, on a very weak understanding of emergence, dependence is emphasised to such an extent that the novelty becomes unsurprising and perhaps trivial. It is not, in the second example, that a ballpoint pen is not 'ontologically' a ballpoint pen. The point is that the fact that the pen's microstructure is not itself made up of ballpoint pens is unsurprising and uncontroversial because the property of being a ballpoint pen supervenes on the microstructure of ballpoint pens. The property (if it is one) of being a ballpoint pen is entirely dependent on the properties of the microstructure of the object that possesses it. It follows that two objects with identical lower-level properties and structures could not differ with respect to their higher-level properties (as could be the case if strong emergence occurred): both objects will be ballpoint pens. Extremely weak emergentist theories such as this emphasise dependence to the point where the required kind of novelty (novelty of a surprising or conceptually interesting kind) is very difficult to establish.

By contrast, consider the example often given to illustrate strong emergence: (human) consciousness. David Chalmers, who argues that the vast majority of cases of emergence are weak, also suggests that consciousness is the one and only case of a strongly emergent phenomenon.[5] For these purposes, a conscious system is defined, in Spriggean terms, as a system for which there is something it is like to be that system.[6] The view that consciousness should be regarded as a strongly emergent property of certain systems, Kim says, requires the notion of supervenience. Since supervenience is a necessary, but not sufficient, condition for strong emergence, the strong emergentist about mind must allow that mentality both supervenes on and emerges from physical or biochemical basal conditions.[7] In order to obtain novelty, and therefore strong emergence, in the presence of supervenience, the emergentist has to add that there can be no warranted process of reduction, explanation, prediction or derivation between the ontological 'levels'.[8] To apply this thought to the example of consciousness, the strong emergentist has to accept the supervenience of the mental on the physical. At the same time, however, she also has to deny that the mental can be reduced to the physical, that it can be explained in terms of it, predicted on the basis of it or derived from it.

Kim suggests that the appropriate concept of reduction, which the emergentist has to deny holds in cases of strong emergence, is a functional one because this also entails prediction, explanation

and therefore, I extrapolate, 'derivability'.[9] The functional reduction of conscious experiences, *via* behaviour, to brain states by way of philosophical conceptual work is followed by the scientific, empirical search for the 'neural realizers' of those functionally reduced experiences.[10] This concerns strong emergence insofar as "the emergentist's question, 'Would complete knowledge of the neurophysiology of an organism suffice for deriving knowledge about the organism's consciousness?' could be answered affirmatively, if mentality has been functionally reduced."[11] On the view that Kim describes as the classical account of strong emergence, in order to count as such, emergent properties have to be irreducible in the above, functional sense and they also have to supervene on their emergence bases.[12] This strong view of emergence adds functional irreducibility to supervenience in an attempt to obtain a more robust conception of novelty.

However, while philosophers like Kim (who is sceptical about the defensibility of strong emergentism) associate emergence and supervenience with each other, others suggest, in the opposite direction, that the distinction between emergence and supervenience should be characterised in terms of contrast. For example, Achim Stephan highlights the relevant issue as being the explanatory irreducibility of emergent properties to their bases, which involves the finer distinction between emergence and what has been called 'super*duper*venience'.[13] The latter term is defined as "an explanatorily relevant strong notion of supervenience", an "ontological supervenience that is robustly explainable in a materialistically explainable way" and explicable as "primarily a relation of explanatory reducibility".[14] The distinction between supervenience and superdupervenience amounts to a distinction between a type of ontological dependence captured by the familiar sloganized expression of supervenience ('there cannot be an A-difference without a B-difference') and ontological dependence combined with explanatory reducibility. This distinction allows the strong emergentist to deny that emergent phenomena 'superdupervene' on the properties and relations of the parts of the system while simultaneously allowing that they supervene mereologically upon them.[15] Extremely strong versions of emergentism such as this are weighted towards novelty to the point where ontological dependence is affirmed but distinguished from explanatory reducibility, which, in accordance with Kim's *desiderata*, is denied.

The landscape is complicated by the fact that the choice facing would-be emergentists is not a straightforward choice between a weak and a strong conception of emergence but rather a range of choices between a plethora of concepts that differ in strength.[16] But the extreme examples (weak and strong), given above, illustrate the general character of the spectrum of emergentist theories in which this variety results. Weaker forms stress dependence to the point where, to a greater or lesser degree,

the kind of novelty involved can start to look trivial. Stronger ones, by contrast, stress novelty to the point where the distinction between ontological dependence and explanatory reducibility has to be introduced in order that dependence can be preserved.

Having sketched the terrain, I want, in the next section, to examine the vexed question of the compatibility of dependence and novelty in the context of philosophical theories of emergentism. For it will by now be clear that such emergentism, of whatever strength, will stand or fall with the compatibility of these concepts. If dependence were emphasised to the point of incompatibility with novelty, then we would have a base with nothing, even possibly, emerging out of it. Equally, if novelty were stressed to the point of incompatibility with dependence, we would have emergent phenomena with no base from which to emerge. The viability of emergentism, therefore, depends upon novelty and dependence being held together in a delicate balance.

III: Are Dependence and Novelty Compatible?

In what I have been arguing so far, an implicit distinction has been at work: the distinction between emergence and emergen*tism*. I have been suggesting that concepts of emergence impact upon the philosophical theories of emergentism into which they are incorporated in different ways according to their strength. Throughout its short history, emergentism, especially the kind that incorporates a strong understanding of emergence, has been associated with a position that is today known as non-reductive physicalism. The classical emergentist, Samuel Alexander, expresses this thought in relation to life, understood as an emergent phenomenon:

Physical and chemical processes of a certain complexity have   the quality of life. The new quality of life emerges with   this constellation of such processes, and therefore life is   at once a physico-chemical complex and is not merely physical   and chemical, for these terms do not sufficiently   characterise the new complex which in the course and order of   time has been generated out of them.[17]

Russell Re Manning glosses Alexander's emergentist position about 'life' as follows:

Alexander's 'emergentism', is a product of the search   for a third way between the   extremes of vitalism and empiricism, in order to explain the processes of life scientifically

without reducing them to the epiphenomenal residue of the material. To use contemporary terminology, Alexander's account is physicalist in as much as he rejects vital substances; it is nonreductive in as much as he retains the legitimacy of irreducible vital qualities.[18]

More recently, as Re Manning continues, Philip Clayton uses Alexander's basic proposals as a basis for his own suggestions concerning the possibilities for the application of strong emergentism in the context of theology.[19] Accordingly, Clayton intimates that emergentism promises to provide a third way between physicalism and dualism, undercutting the 'hegemony' of the dichotomy between them.[20] In his sketch of an emergentist theory of mind, Clayton attempts to achieve a delicate balance between the conception of mind in physical and mental terms. He wishes to avoid a conception of mind as wholly physical. Based on the assumption that there can be no mental causes, such a conception would result in empirical descriptions of neurological activity. On the other hand, he also hopes to avoid a conception of the mind in purely mental terms and the concomitant assumption that it could have no connection or, at best, a contingent connection to the central nervous system. As Clayton summarises his position,

> The balance that we seek conceives mind as a type of property   that emerges from the brain, which though different from   remains continually dependent on its subvenient base.[21]

Like Kim, then, Clayton clearly believes that supervenience is a necessary condition for emergence, hence his term 'emergentist supervenience'.[22]

At times, Clayton seems to want to distance himself from the view that, although everything is ultimately physical, not all explanations have to be given in physical terms.[23] He expresses agreement with Kim that "this view is an inherently unstable position rather than a useful halfway point between other options".[24] However, it not clear that his own attempted 'balance' between mentalist and physicalist accounts of mind, which, in his view, can eventually be helpfully recruited into the service of theology, does not itself amount to the attempt to sustain such a position. Indeed, the attempt to establish non-reductive physicalism appears to be the main philosophical purpose of emergentism and the reason why it is often formulated. Indeed, as a theologian, Clayton is attracted to strong emergentism on account of its promise to establish non-reductive physicalism.[25] He is attracted by its promise to allow acceptance both of the scientifically credible view that everything is ultimately physical and of the theologically attractive claim that not all explanations have to be given in physical terms; in

other words, the promise coherently to combine ontological monism with explanatory pluralism.[26] Clayton's position may be described as strongly, as opposed to weakly, emergentist on account of his thesis that explanatory pluralism is actually, in his view, begotten by ontological pluralism. He believes that "the best explanation for explanatory pluralism is ontological pluralism."[27]

Although the establishing of non-reductive physicalism may not exhaust the point of emergentism, it is a philosophical purpose for which emergentism has been used throughout its history and one that makes it appear, to thinkers like Clayton, theologically attractive. As intimated above, insofar as they seek to establish non-reductive physicalism (for whatever purpose), emergentist theories require the compatibility of dependence and novelty. But, in what follows, I want to suggest that the different forms of emergentism compromise this compatibility in different ways. I therefore agree with Kim (and, at times, Clayton) that the position of non-reductive physicalism is inherently unstable. In the remainder of this section, I illustrate that instability in further detail.

At one end of the emergentist spectrum, weaker forms of emergentism have the advantage of being able to draw on the scientific credibility that is associated with weak concepts of emergence. On account of the compatibility of emergence, weakly construed, with reduction, scientists incline towards the use of weak concepts of emergence.[28] Many scientific (and some philosophical) explanations proceed by means the reduction of phenomena that are not yet fully understood to others that are. Weak concepts of emergence are quite at home in such contexts. Although, epistemologically construed, emergent phenomena are not irreducible in principle, they may be so in practice if there is no obvious way of reducing them to phenomena that are already understood or if the relationship between them and fully intelligible phenomena is not yet clear. Although phenomena that are emergent in this sense may, at some point in the future, turn out to be just highly complex aggregations of the parts of a system, we currently have no way of exhaustively articulating such a picture. At present, therefore, it is just easier for us to think and speak about the system itself as a simple emergent entity - hence the need for a concept of emergence. The weakest forms of emergentism leave emergent phenomena under the continuous threat of reduction, perhaps even elimination, as our knowledge progresses.[29] Insofar as the advance of human understanding is a good thing, this is a fact that should be welcomed. A philosophical theory of emergentism that makes use of such a weak concept of emergence, emphasising dependence, will be able to capitalize on the scientific acceptability of this form of emergentism. This is a feature that might make this kind of emergentism particularly attractive to theologians who are interested in eliminating or mitigating the apparent tension between scientific and religious or theological perspectives on the world by construing the latter as emergent from the

former. This would be especially true if the novelty promised by this weak form of emergentism were mistaken for the irreducible kind supposedly achieved by its stronger cousin.

However, as already intimated, the difficulty is that the weaker versions of emergentism emphasise dependence to the point of incompatibility with an irreducible, non-trivial and therefore conceptually interesting kind of novelty. As is shown by Kim's view of the affinity between emergence and supervenience, such weak forms nicely capture the dependence relation that emergent phenomena must have with their emergence bases but with the consequence that they are perfectly compatible with reductionism. If A supervenes on B, which is to say that one cannot bring about a change in B without also bringing about a change in A, then A is reducible to B, which is to say that A just consists in B - although it may still be helpful to think and speak of 'A's as though they were separate entities from 'B's. Clayton suggests that, ontological irreducibility requires both explanatory irreducibility and causal irreducibility.[30] Weakly emergent phenomena are causally reducible to their emergence bases, though not explanatorily reducible to them, therefore they are susceptible to ontological reduction. And if the dictum attributed to Samuel Alexander, that "*to be real is to have causal power*",[31] is correct, then such weak forms of emergentism will struggle to establish the causal efficacy - the reality - of emergent phenomena. Consequently, weak emergentism has less mileage for useful application in disciplines like theology inasmuch as it turns out to be a form of physicalism, which, though not explanatorily reductive, is compatible with ontological reduction.

So weak forms emergentism can give us scientific credibility by stressing the dependence of emergent phenomena on their bases. They can do so only by emphasising dependence to the point of incompatibility with the robust, ontological kind of novelty that could justify the required explanatory pluralism in principle rather than merely in practice. Therefore, the possibility of the required delicate balance between dependence and novelty is undermined.

With stronger versions of emergentism, according to which emergent phenomena enjoy real existence, the same problem applies in its reverse formulation. Strong emergentism promises to supply real emergent phenomena that are causally efficacious and therefore evade the threat of causal, and hence ontological, reduction. Even if emergent phenomena supervene on their emergence bases,[32] two systems with identical lower-level properties could differ with respect to their higher-level, emergent properties. In addition, while the causal activity of supervenients can be reduced, in Kim's functional sense, strongly emergent emergents have independent causal efficacy. This is referred to as Downward Causation: a wider, thorny issue in the emergence debate. If emergent phenomena are real, and if to be real is to have causal power, then real emergent phenomena must be causally efficacious. Since the

causal efficacy of strongly emergent phenomena cannot, by definition, be reduced to that of its emergence base, a strongly emergent phenomenon must be able to exert 'downward' causal influence on the base from which it emerges. To return to the example of consciousness: if consciousness strongly emerges from the central nervous system (is explanatorily, causally and therefore ontologically irreducible to it), then its causal efficacy will not be merely specious and reducible to that of the central nervous system. Rather, consciousness will have a causal efficacy of its own, mental causation, and will be able to exert downward causal influence on the central nervous system from which it emerged. For example, my ability to raise my arm by thinking about it will be an instance of downward (mental) causation, if my thinking about raising an arm is explanatorily, causally and ontologically irreducible to the activity of my central nervous system.

These features of strong emergentism, with emphasis on the required kind of novelty, apparently allow it to resist reductive physicalism without having to give up the scientific credibility gained by a stated commitment to physicalism. They also make it look promising with respect to its potential theological application. But, arguably, strong emergentism can only be genuinely non-reductive by giving up physicalism, and any associated scientific credibility, altogether, since physicalism is by definition reductive (if not eliminative or some combination of the two).[33] The possibility of downward causal influence, which the strong emergentist is forced to entertain, violates the scientific truism that the physical world is causally closed. Therefore, the strong emergentist must either reject the closure principle or face the impossible task of showing how the downward causation of emergent phenomena is consistent with physical causal closure.[34] The required kind of novelty, represented by the notion of Downward Causation, problematises the dependence relation that emergent phenomena must have with their emergence bases, especially when those bases are held to be purely physical. It creates the difficult problem of how what is not (or not entirely) physical can possibly supervene on the physical. Given strong emergentism's philosophical status as a form of non-reductive physicalism, Downward Causation, as Clayton admits, is its Achilles heel. In tension with the closure principle, Downward Causation results in a dilemma induced by the question whether all causes have to be physical.[35] On the one hand, if this question is answered affirmatively, the result is reductive physicalism. Therefore, strong emergentism is false and emergent phenomena become mere epiphenomena.[36] If it is answered negatively, on the other hand, and there can be non-physical causes, emergentism is not really physicalist at all but is rather a form of substance dualism or,[37] worse, vitalism.[38]

So strong emergentism can give us the sought-after kind of novelty only by weakening the dependence of emergents on their (physical) bases that is essential for the theory's scientific credibility, preventing it from lapsing into the 'spooky', non-empirical demesnes of dualism and vitalism. This philosophical instability of emergentism in its key role as a form of non-reductive physicalism, which attempts to balance the notions of dependence and novelty, has been variously expressed by different philosophers. In connection with the concept of supervenience, the specific kind of dependence relation that he thinks emergentism requires, Kim says:

[I]f a relation is weak enough to be nonreductive, it tends to be too weak to serve as a dependence relation; conversely, when a relation is strong enough to give us dependence, it tends to be too strong - strong enough to imply reducibility.[39]

And in connection with Downward Causation, whose possibility is implied by the ontological novelty that emergentism also requires, Peacocke writes:

the *non-reductive* physicalist cannot live without Downward Causation, and the non-reductive *physicalist* cannot live with it.[40]

In this section, I have described the essential philosophical instability of the spectrum of emergentist theories. In general terms, the weaker the theory, the more scientifically credible it is (because of its greater compatibility with reductionism) but the less conceptually interesting it is and the less ripe for fruitful application in disciplines like theology; the sense in which emergent phenomena are novel can start to look trivial. The stronger the theory, by contrast, the more conceptually interesting it is and the more relevantly applicable. But owing to the tension between Downward Causation, which secures immunity from ontological reduction, and the closure principle, scientific credibility is lost, physicalism threatened and the route opened up to more exotic, and apparently implausible, philosophical positions like substance dualism and vitalism. Throughout this analysis, a distinction was operative between emergence as a commonplace concept freely used by many scientists (usually in a weak, epistemological form) and emergentism, a more speculative philosophical position which, especially in its stronger, ontological forms, is used in the attempt to establish non-reductive physicalism.

As a way into the next section, I introduce some wider criticism of the ways in which the emergence discussion is currently framed, before outlining how these difficulties compromise the constructive theological application of emergentism. I conclude by exploring the philosophical potential for, and theological implications of, a pragmatist reframing of the emergence discussion.

IV: Towards a Pragmatist Emergentism

Sami Pihlström convincingly argues that the spectrum of emergentist theories is pervaded by unhelpful and unchallenged philosophical assumptions. The two related assumptions, flagged by Pihlström, that I discuss here are (1) that causal concepts are sufficient exhaustively to capture the complexity of life and (2) metaphysical realism.

The causalist assumption is expressed in the popular emergentist dictum that 'to be real is to have causal power'. Clayton, for example, shows his commitment to the formula that ontology equals epistemology plus causation in his claim that "if a system is explanatorily and causal irreducible, it is also ontologically irreducible."[41] The implication is that something that is purely epistemologically irreducible, which lacks irreducible causal power, is ontologically reducible. And what is ontologically reducible is an epiphenomenon; it is unreal. This thought that causal efficacy and reality are equivalent problematises a move sometimes made by emergentists: the argument from something's causal efficacy to its existence. George Ellis uses his argument for Downward Causation (the view than non-physical quantities can have a physical effect) to establish that such phenomena "hence must be recognized as having a real existence"; the causal efficacy of the non-physical establishes, in his view, "a richer ontology than simple physicalism".[42] Similarly, in the specific context of mental causation, Clayton argues in the following way:

> I wager that no level of explanation short of irreducibly mental explanations will finally do an adequate job of accounting for the human person. This means wagering on the causal efficacy of the conscious or mental dimension of human personhood. And of course, if it's causally efficacious, it must exist.[43]

This argument can be formalized as follows:

1) To be real is to have causal power

2) *x* has causal power

3) Therefore, *x* exists.

However, a problem arises when it comes to establishing the identity of *x* in an emergentist context. If existence and causal efficacy are equivalent, it seems odd to attempt to use one to establish the other. For how could one be more sure of something's causal efficacy than one is of that thing's existence as this rational justification requires? This question is especially urgent when the existence of emergent phenomena is the very point in question. The emergentist's argument that the reality of *x*, the emergent phenomenon, can be established by pointing to its causal effects can always be countered by the suggestion that the emergentist is just incorrectly attributing observable effects to something that does not exist. Although those observable effects must have a cause, the opponent will concede, that cause is not the supposedly emergent entity that the emergentist claims it is. It is always possible incorrectly to attribute observable effects to a non-existent entity, as when a child attributes a broken toy to the causal activity of her imaginary friend. Moreover, depending on the precise meaning of 'existence' involved, something's existence is likely to be a necessary but not a sufficient condition for its causal efficacy. If something's existence were a prerequisite for its causal efficacy, as seems the case, the emergentist could not attribute a given effect to an emergent cause without, in a circular manner, assuming the existence of such emergent causes - the very point to be established.

Pihlström wants to challenge the assumption behind the thought that to be real is indeed to have causal power. For this assumption leads to the emergentist thought that, if emergent phenomena are indeed real, then they must have causal power - the thought that Downward Causation is possible. This argument leads to the dilemma created by Downward Causation that Pihlström summarises in connection with the emergentist account of mind:

Emergentists…can have mental causation only by treating it as something that does not belong to our unified scientific picture of the world (which they do not want to do) or by reducing it to the physical *via* a stronger notion of supervenience (as Kim suggests).[44]

Pihlström challenges the undefended emergentist assumption that the whole of human life can be captured in causal concepts,[45] questions the reductionist assumptions that lead to the dilemma of Downward causation,[46] and advances a pragmatist 'dissolution' of the dilemma.[47] He uses the, in his view insoluble, problems associated with Downward Causation as a *modus tollens* against the causalist

picture that most emergentists assume without argument.[48] Pihlström denies that everything in the
world (including human rationality and moral responsibility) can be accounted for in physical and
causal terms.[49] Although a causal vocabulary may be necessary to account for the complexity of life, the
emergentist's (more or less explicit) assumption that it is therefore sufficient is simply mistaken.[50]
Human beings operate, inseparably, in the realms of the normative as well as the factual, according to
Pihlström, and the causalist assumption actually precludes a truly emergentist account of how the
normative might be novel with respect to the factual.[51]

The alternative approach draws heavily on classical and contemporary pragmatist philosophy,
challenging the second and related widespread emergentist assumption: metaphysical realism. This
assumption leads to the cardinal distinctions, rehearsed above, between weak and strong emergence
and between weak and strong forms of emergentism. In this context, a typical question raised is
"whether there *really* are emergent properties (however they are defined) in the basic structure of the
world itself, independently of our conceptualizations of the world."[52] As we saw in connection with
Clayton, this question is also expressed in something like the following way: are emergent phenomena
ontological, i.e. both epistemological and causally efficacious?

On Pihlström's pragmatist approach, which he calls a 'mild realism', we carve the world up in
different ways, identifying different properties, according to our conceptual schemes. There is no way
to draw the metaphysical distinction between our conceptual contribution from that of the world as it
is in itself because it is impossible to compare the accuracy of our conceptualisations with an
indepdendent, unconceived reality.[53] When this view is applied to the concept of emergence, emergents
are not considered impotent or epiphenomenal if they lack causal power. A pragmatist approach is
uninterested in the independent ontological reality (or otherwise) of emergent properties.[54] Thus the
problem of Downward Causation, with which most emergentists are preoccupied, becomes less urgent.
Kim's failure to salvage 'real' Downward Causation (his successful defence not of downward causation
but only of downwardly causal explanation) is no longer seen as a failure, since "[t]his is all we may care
about".[55] Since the pragmatist emergentist sees no point in arguing for a non-conceptual approach to
Downward Causation,[56] 'real' causal efficacy is no longer the distinctive marker of the reality of
emergent phenomena. On a pragmatist approach,

[a]n emergent property can be regarded as real to the extent that it provides a more efficient
description (for some   purpose) of the configurational pattern with which it is
    identified than a micro-level description of that same   configuration.[57]

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We shall return to the important question of what such purposes might be.

While this view might superficially look like weak emergentism, the rejection of metaphysical realism actually entails that the distinction between weak and strong emergence falls apart. For the pragmatist, there can be no objects that are not also concepts.[58] On this view, emergent properties are not conceived as independently real "but gain their ontological status from the practice-laden ontological commitments we make."[59] The pragmatist approach does not deny that emergence is ontological but rather that no ontology is separable from epistemology, since all ontology concerns a world that is humanly structured and conceptualized.[60] This insight is drawn from Putnam,[61] who resists reductively physicalist accounts of causation, insisting on the interest- or purpose-relative nature of the concept of causation and its dependence on the context of explanation, or conceptual scheme, in which it is used.[62] Interestingly, as we might expect, Putnam also claims that "not even basic ontological notions such as existence have one fixed metaphysical privileged meaning or use."[63] (In this respect, the pragmatist approach to the issue of realism is strikingly similar to the phenomenological one.[64]) As Pihlström states, what the pragmatists question is the assumption that metaphysical realism is true. To separate causation off (in its designation as (part of) the ultimate ontological structure of reality) from causal explanation is to subscribe to metaphysical realism - the second assumption that is questioned by Pihlström's pragmatist approach to the emergentist discussion.[65]

In summary, then, not only do the difficulties surrounding causation give us good reason to abandon (1) emergentism's undefended causalist assumption, from a pragmatist perspective. Those difficulties can also be traced back to the broader (and equally undefended) emergentist assumption (2) of the truth of metaphysical realism. The pragmatist challenge to these assumptions in tandem points towards the radical reframing of the emergence discussion, which also undermines the cardinal distinction between weak and strong forms of emergentism, the 'red thread' running through almost all existing contributions to the debate.

IV: Emergentism, Pragmatism and Theology

We have just seen in detail what the pragmatist critique of the current shape of the emergence debate looks like and what, from a pragmatist perspective, is wrong with the ways in which the relevant questions are currently being framed. Pihlström also sketches a positive proposal concerning a

pragmatist reframing of that debate, which I would like to introduce and build upon in the context of a critical discussion of the contemporary application of emergentism to theology. We have cursorily seen how the incompatibility of dependence and novelty in existing forms of emergentism compromises the philosophical coherence and superficial theological attractiveness of those theories.[66] I show, in this final section, how Pihlström's pragmatist proposal may not only help to resolve some of emergentism's thorny philosophical problems but also prepare the ground for its more fruitful theological application.

The central problematic implication of the dominant way of framing strong emergentism is the following. While supervenience, which is held to be a necessary condition for strong emergence, is able to make mental causation 'scientifically innocent', it also renders it irrelevant to *human* mentality from a pragmatist perspective.[67] The point can be substantiated by Putnam's critique of Kim, which argues that the idea that the mental supervenes on the physical implies the absurd thought that there could be soulless entities without minds that are nonetheless physically indistinguishable from human beings.[68] Putnam refers to William James's 'Automatic Sweetheart', a 'remarkable' thought experiment presented in *The Meaning of Truth*:

I thought of what I called an 'automatic sweetheart,' meaning a soulless body which should be absolutely indistinguishable from a spiritually animated maiden, laughing, talking, blushing, nursing us, and performing all feminine offices as tactfully and sweetly as if a soul were in her. Would anyone regard her as a full equivalent? Certainly not…[69]

Pihlström's view is that a background assumption of most emergentists, which implies the intelligibility of the idea of there being an Automatic Sweetheart, should be rejected. James's Cartesian thought experiment is made possible by the prevailing physicalist conception of the mind as a thing, which is dependent on an unhelpful dichotomy between epistemology and ontology, subject and object. Such a conception, which confuses our subjectivity, by which there are any objects at all, with yet another object, results in debates about whether there are strange, subjective 'objects' and, if so, how they are related to the more truly objective ones. From the pragmatist point of view, these debates misconstrue subjectivity as a special kind of objectivity and wrongly conceive the mind as a thing.[70]

From Putnam's pragmatist perspective, we should jettison the presupposition that such reduction of the mental to the physical makes sense. Since emergentism is predicated on just such reductionist presuppositions (though, ironically, also designed to overcome them),[71] Putnam denounces emergence as a 'bad metaphor' that "suggests that all the true statements expressible in the vocabulary

of the 'basic' sciences of physics, chemistry, biology … might have been true *without* there being consciousness or intentionality. In short, it suggests that we might conceivably have all been Automatic Sweethearts, and that it is 'mysterious' that we *aren't*."[72] From the pragmatist perspective, by contrast, according to James, "belief in the automatic sweetheart would not *work*, and in point of fact no one treats it as a serious hypothesis."[73] From this perspective, the scientific truths that Putnam mentions emerge out of human agency and out of the practices that we human agents engage in. The human world of lived experience and practice is the world that we carve up from scientific perspectives, and from innumerable others as well.[74]

It does not follow from Putnam's criticism of the traditional understanding of emergence as a bad metaphor that the concept has no possible use. Indeed, although he accepts Putnam's Jamesean arguments, Pihlström thinks that, when appropriately modified, the concept may well be useful in a description of the relationship between human agency and the lived world that arises out of it.[75] Continuing in this constructive vein, Pihlström suggests that once ontology is understood as being transcendentally constituted by, and grounded in, human agency and practice, the concept of emergence can return to its original task of describing the empirical world but within a philosophical framework that jettisons the problematic commitment to physicalism.[76] Since it is the physicalist, causalist picture that makes Downward Causation problematic,[77] the emergence discussion should be reframed according to the pragmatist ontology, which avoids this dilemma though a milder realism that rejects the physicalist and causalist background picture while remaining naturalistic. If we reject the assumption that the ontology of the physical world is independent of the conceptual work we do in the space of reasons, then we will conclude there is no independent 'emergence base' at all. This base will itself be understood to emerge from our practice of ontologizing and Pihlström further suggests that this practice itself "must be seen as emergent in relation to the physical world it constitutes".[78]

If Pihlström's criticisms and positive, pragmatist proposals are well-taken, it will no longer be adequate to think of emergentism as being a cogent way of articulating non-reductive physicalism. Rather, the philosophical role of the concept of emergence will have to be revised. As a way into the question of the potential pragmatist role of the concept of emergence, it may be instructive to consider one field in which the concept has been regarded to be pragmatically useful, namely theology.

In *Mind and Emergence*, Clayton finds emergence valuable as a way of articulating the hierarchical structure of the entities produced by natural history and of the sciences that systematically study those entities.[79] Referring to Sellars (interestingly), Clayton sees the point of emergentism as being not to

reconcile the conceptual framework of the human mind, human values and personhood with scientific enquiry but to connect the two.[80] In Sellars's language, the point is to relate the world as it is conceived by science to human purposes "and make it *our* world".[81] But in Clayton's view, descriptions finally call for explanations.[82] Clayton's favoured explanation, in contrast to physicalist, vitalist and dualist ones, is the emergentist one "that the correct explanatory ontology has to include multiple levels of 'really existing properties', since brains, mental properties and interpersonal structures all exercise causal agency."[83] And in just the way that emergence is visible in the evolution of life, *a fortiori* (Clayton argues) it is also visible in the emergence of culture. For example, the concept of personhood does not appear as an ontological category in physics or chemistry but is basic to research in the social sciences.[84] Thus emergentistically construed, personhood "is … a level of analysis that has no complete translation into a state of the body or brain - no matter how complete our neuroscience might be."[85] While brain and body may be necessary conditions for personhood, Clayton suggests, they are by no means sufficient.[86] Having reached this point, "the postulation of persons as self-conscious agents" (rather than as aggregations of microphysical particles),[87] Clayton begins to advance his argument in the direction of theism.

Drawing on Nagel, Clayton argues that the content of the beliefs of such irreducible agents demands an explanation. He argues that it would take more than 'naturalism' (by which he seems to mean (reductive) physicalism) to justify the practically indispensable supposition that a correlation exists between human beliefs and the state of the world. Clayton's view is that nothing internal to the world could provide such explanation or justification. That the world has a rational structure is either a Nagellian 'brute' datum or, as Clayton thinks, it in turn has a reason. Clayton concludes that the only reason that could function on this second-order level is the idea that the world was 'made' to be reasonable and was designed by an intentional agent, namely God.[88] Thus, in contrast to Alexander's suggestion that deity is itself emergent, Clayton's argument concludes with "the postulation of transcendent mind" on the basis of a version of the argument from design.[89] Unlike Alexander's thoroughgoing theistic emergentism, Clayton abandons the emergentist schema with this postulation of the creative, divine mind. Having used emergentism to resist dualistic responses to the mind-body problem, Clayton does so at the cost of introducing theological dualism in his "conception of the relationship of the divine nature to the nature of the finite world."[90] Such dualism, he freely admits, goes "beyond the theoretic resources of emergence theory."[91] As Clayton summarises his conclusion:

The theistic account concludes to a conscious intentional being or force that preceded the evolutionary process and whose creative intentions led, however indirectly, to the emergence of intelligent life.[92]

In light of Pihlström's pragmatist criticisms, Clayton's argument can be seen to share the main difficulty faced by emergentist theories that rest on causalist assumptions but attempt to reach the level of mind or normativity: a version of the naturalistic fallacy. If to be real is to have causal power, then an emergentist account of mind, like the one Clayton defends, will eventually face the problem of Downward Causation. The conclusion of the (ontological) reality of the mental or normative requires a demonstration of their causal efficacy. But from the pragmatist perspective the normative sphere is not, by definition, made up of entities in that physicalist sense. Pihlström refers to this as physicalism's 'blind spot', arguing that physicalism is not even a candidate for truth (or falsity) since it eliminates or reduces away the normativity we attach to the pursuit of truth. It thereby destroys its own status as a thesis that could be true, justified and so on.[93] The physicalist bracketing of the ontology of normativity compromises the possibility of stating and defending the physicalist thesis, which presupposes a commitment to just such a normative framework of inquiry.[94] Pihlström argues that the physicalist, or the emergentist who starts out with a sympathy for physicalism's causalist assumptions, is forced to reduce herself as an inquirer, together with the practice of inquiry, to a physical (or at least physically realised) object of enquiry.[95] This amounts to a 'fatal confusion' between subjectivity and objectivity: the subject disappears from the physicalist view of the world.[96] While it is supposed to be arrived at by means of inquiry, there is, in fact, no one to reach it, no one for whom it could be true or false, justified or unjustified.[97] If the pursuit of truth is reduced to the physical or the causally efficacious in this way, then the pursuit itself is given up, together with anything it might yield - including the truth of physicalism as a potential rational commitment.[98]

The pragmatist perspective, by contrast, rejects such physicalistic assumptions together with the metaphysically realist view that there is anything like an emergence base out there in the world that exists independently of our inescapably normative practices of ontologizing. This perspective challenges the dichotomy between subject and object that makes possible the 'fatal confusion' just mentioned. Elaborating a point made by Dewey (and elaborated by Putnam), we might say that the *distinction* between subject and object may sometimes be useful but that the insistence on a dualistic understanding of that distinction or on a dichotomy between them, which renders the relationship between the distinguished items unintelligible (as happens, for example, when the dichotomy ramifies into a version of the naturalistic fallacy), is a philosophically 'vicious affair'.[99] Subject and object cannot

be logically independent of one another because our only means of access to the objective world is in and through our subjectivity.

None of this necessarily means that the idea of emergence should be abandoned. Indeed Pihlström thinks it can be used for something like its original purpose: as a way of articulating the relationship between the factual and the normative - what Sellars and McDowell distinguished as our 'first' (animal) nature compared to our 'second' (cultural) nature and as the realm of causal law investigated by science compared to the 'space of reasons'.[100] Specifically, if it is reconstrued along pragmatist lines (without causalist assumptions, a dichotomous understanding of the subject-object relationship or, relatedly, a commitment to metaphysical realism), the concept of emergence can be used to articulate the relationship between the factual and the normative. It can be used in a pragmatist way to broaden the non-reductive physicalism that is usually associated with emergentist theories into non-reductive *naturalism* - a position that has been associated with pragmatism since Dewey.[101] Such a position refuses to acknowledge dichotomies between nature and culture, fact and value.[102] But, as Pihlström warns, an adequate understanding of the fact-value relationship demands a richer form of naturalism than those found in mainstream analytic philosophy of mind.[103] It is just such a rich form of naturalism that pragmatism has developed: while the normative is not supernatural (values are not taken to be transcendent entities),[104] neither is it reducible to the causal and the physical. Further, it is necessary to invoke values to attain a coherent concept of a fact. Although, as is often claimed, there would be no values without any facts, the reverse must also be true: in Putnam's words, "[a] being with no values would have no facts either."[105] In short there is "no clean way to cut our human practice into a factual and a normative part."[106] Hence, the pragmatist reframing of the emergence discussion allows for acceptance of the principle of causal closure to be combined with the judgment that it is irrelevant since, for the pragmatist (who subscribes to non-reductive naturalism) the objective structures of the world emerge out of human agency, which is always already a normative act, "a move within the space of reasons".[107] From the pragmatist perspective, to pose the question of values is already to raise a normative question.[108] With Pihlström, we may conclude from these pragmatist considerations that emergence is able to provide a promising picture of the fact-value entanglement. Values emerge out of facts, and are based upon them, and yet are also novel with respect to them and cannot be conceptually, ontologically or explanatorily reduced to a supposedly merely factual structure of the world such as that expressed in the causal laws and processes described by the natural sciences. Emergentism therefore becomes a way of cashing out the idea of non-reductive naturalism. Like mental states, values are seen as fully natural, yet irreducible to nature as the sciences describe it.[109]

What effect would this pragmatist proposal have on the application of emergence in a theological context? Recall that the structure of Clayton's argument, hanging on the 'red thread' - the dichotomy between weak and strong emergence - required him to abandon emergence at the theologically crucial moment: while making the transition from human personhood to divine transcendence. This gap was bridged by means of a version of the more ancient, and less scientifically credible, argument from design. But a pragmatist approach, as we have seen, abandons this dichotomy. It also abandons metaphysical realism, with its reductively physicalistic and causalist assumptions, because "many human capacities we take to 'emerge' from lower levels of reality can be accounted for in non causal terms".[110] This is perhaps especially true of the aesthetic and religious capacities of human beings. Perhaps, as many emergentists hoped, the discussion between science and religion can be enhanced. But, as I have shown, we have reason to think that most of the existing forms of emergentism suffer from serious, and perhaps insurmountable, obstacles to delivery on this hope. We should be optimistic, I think, that a new a new form of emergentism, appropriately informed by classical and contemporary pragmatism, would not need to be abandoned at the crucial moment and, consequently, has better prospects in this regard.[111] I agree with Pihlström that, in the complex philosophical field of emergentism, "[t]he exciting issues are pragmatic".[112] I venture that this is true, *a fortiori*, of the theological application of emergentism in the science and religion debate. It is my sincere hope that, in both fields, the excitement will continue.

[2] S. Pihlström, 'The Re-Emergence of the Emergence Debate', *Principia* 6 (2002), 133-181, 144. I explicitly articulate this implicit distinction between emergence and emergen*tism* in section III, below. By way of initial orientiation, 'emergentism' can be defined as a philosophical theory in which the concept of emergence plays a central role.

[3] P. Clayton, 'Conceptual Foundations of Emergence Theory' in P. Clayton and P. Davies (eds.) *The Re-Emergence of Emergence: The Emergentist Hypothesis from Science to Religion* (Oxford: OUP, 2006), 1-34, 8.

[4] J. Kim, 'Being Realistic About Emergence' in Clayton & Davies (eds.) op cit., 189-202, 192.

[5] D. J. Chalmers, 'Strong and Weak Emergence' in Clayton and Davies, op. cit., 244-254, 246.

[6] Ibid., 246. T. L. S. Sprigge, 'Final Causes', *Proceedings of the Aristotelian Society* 71 (1971), 166-8 cf. T. Nagel, 'What Is It Like to Be a Bat?', *Philosophical Review* 83 (1974), 435-50; L. McHenry 'Sprigge's ontology of Consciousness', *Royal Institute of Philosophy Supplement* 67 (2010), 5-20, 7.

[7] Kim, op. cit., 193.

[8] Ibid., 194.

[9] Ibid., 196.

[10] Ibid., 195-6.

[11] Ibid., 197.

[12] Ibid.

[13] Pihlström, op. cit., 143. Italics in the original.

[14] Ibid.

[15] A. Stephan, cited ibid., 243.

[16] Ibid., 139. Space does not permit a survey of these positions nor a discussion of whether strength of emergence in fact admits of degrees.

[17] S. Alexander, *Space, Time and Deity: The Gifford Lectures at Glasgow 1916-1918*, 2 vols (New York: The Humanities Press, 1920), vol. II, 46.

[18] R. Re Manning, 'Mere Summing Up? Some Considerations on the History of the Concept of Emergence and its Significance for Science and Religion', *Science & Christian Belief*, 19.1 (2007), 37-58, 43.

[19] Ibid., 55.

[20] P. Clayton, *Mind and Emergence: From Quantum to Consciousness* (Oxford: Oxford University Press, 2004), 2.

[21] Ibid., 128.

[22] Ibid.

[23] Ibid., 130.

[24] Ibid.

[25] Ibid., 60.

[26] Ibid., 130.

[27] Ibid., 148.

[28] Ibid., 31.

[29] While the reduction of A to B may still preserve the *concept* of A as being potentially useful, the eliminative approach also eliminates the concept of A.

[30] Ibid., 310, n. 3.

[31] A. Peacocke 'Emergence, Mind and Divine Action: The Hierarchy of the Sciences in Relation to the Human Mind-Brain-Body', in Clayton & Davies, op. cit., 257-278, 262. I shall return to the question of the truth of this dictum in the discussion of the issue of downward causation, below.

[32] We have seen that the dependence relation is most often expressed in terms of supervenience.

[33] Pihlström, 'Emergent Truth and a Blind Spot: An Argument Against Physicalism' *Facta Philosophica* 8 (2006), 79-101, 88.

[34] Kim, op. cit., 200.

[35] Clayton, *Mind and Emergence*, 130.

[36] Pihlström, 'The Re-Emergence of the Emergence Debate', 143.

[37] Ibid., 128. Interestingly, Clayton thinks of Chalmers's position, cited above (that the only strongly emergent phenomenon is consciousness), as a form of dualism.

[38] Vitalism is the implausible-sounding view that biological systems (or reality as a whole) is governed by forces that are not at all physico-chemical.

[39] Kim, *Supervenience and Mind* (New York: Cambridge University Press, 1993), 276. According to Pihlström, ('The Re-Emergence of the Emergence Debate', 144), this thought was first formulated by Stephen Pepper in 1926.

[40] Peacocke, op. cit., 268.

[41] Clayton, 'Emergence from Quantum Physics to Religion: A Critical Appraisal' in Clayton & Davies, op. cit., 303-322, 310, n. 3.

[42] G. F. R. Ellis, 'On the Nature of Emergent Reality', in Clayton & Davies, op. cit., 79-104, 104.

[43] Clayton, 'Emergence from Quantum Physics to Religion', 312.

[44] Pihlström, 'The Re-Emergence of the Emergence Debate', 147.

[45] Ibid., 148.

[46] Ibid., 162. Following Hume, the case could also be made that the identification of the real with the causally efficacious is odd on account of the fact that causation is not actually susceptible to experience.

[47] Pihlström, 'The Re-Emergence of the Emergence Debate', 148, 164.

[48] Ibid., n. 60.

[49] Ibid., 149.

[50] Ibid., 150.

[51] Ibid., 151.

[52] Ibid., 154.

[53] Ibid., 16.

[54] C. N. El-Hani & S. Pihlström, 'Emergence Theories and Pragmatic Realism', *Essays in Philosophy* 3:2 (2002). This article is unpaginated.

[55] Ibid.

[56] Ibid.

[57] Ibid.

[58] Ibid.

[59] Ibid.

[60] Ibid.

[61] H. Putnam, *Realism with a Human Face*, ed. J. Conant (Cambridge, MA: Harvard University Press, 1990) 28, 96-97. El-Hani & Pihlström, 'Emergence Theories and Pragmatic Realism'.

[62] El-Hani & Pihlström, 'Emergence Theories and Pragmatic Realism'.

[63] Ibid.

[64] L. Kołakowski, *Husserl and the Search for Certitude* (London: Yale University Press, 1975), 65 cf. Pihlström *Structuring the World: The Issue of Realism and the Nature of Ontological Problems in Classical and Contemporary Pragmatism*, Acta Phhilosophica Fennica 59 (Helsinki: Philosophical Society of Finland, 1996), 123.

[65] Pihlström, *Structuring the world*, 217.

[66] See Section III, above.

[67] Pihlström, 'The Re-Emergence of the Emergence Debate', 151.

[68] H. Putnam, *The Threefold Cord: Mind, Body, and World* (New York: Columbia University Press, 1994), 73-92.

[69] W. James, 'Pragmatist Account of Truth' in *The Meaning of Truth* 189-216, 189, n.1.

[70] Pihlström, 'The Re-Emergence of the Emergence Debate', 160-1.

[71] Ibid., 162.

[72] H. Putnam, *The Threefold Cord*, 174. Pihlström, 'Toward a Pragmatically Naturalist Metaphysics of the Fact-Value Entanglement: Emergence or Continuity?', *Journal of Philosophical Research* 35 (2010), 323-352, 335.

[73] James, op. cit., 189, n. 1.

[74] Pihlström, 'The Re-Emergence of the Emergence Debate', 162.

[75] Ibid.

[76] Ibid.

[77] Ibid., 163.

[78] Ibid., 162.

[79] Clayton, *Mind and Emergence*, 128.

[80] Ibid., 143.

[81] W. Sellars, *Science, Perception and Reality* (New York: Humanities Press, 1971), 40, cited in Clayton, *Mind and Emergence*, 143.

[82] Clayton, *Mind and Emergence*, 143.

[83] Ibid., 144.

[84] Ibid., 145.

[85] Ibid.

[86] Ibid., 146.

[87] Ibidl, 175.

[88] Ibid., 177-8.

[89] Ibid., 179.

[90] Ibid., 184.

[91] Ibid.

[92] Ibid.

[93] Pihlström, 'Emergent Truth and a Blind Spot: An Argument against Physicalism', *Facta Philosophica* 8 (2006), 79-101, 82.

[94] Ibid.

[95] Ibid.

[96] Ibid.

[97] Ibid., 83.

[98] Ibid.

[99] J. Dewey & A. F. Bentley, *Knowing and the Known*, <https://www.aier.org/sites/default/files/otherpublications/KnowingKnown/KnowingKnownFullText.pdf> [accessed 29th April, 2014], 187. H. Putnam, *The Collapse of the Fact-Value Dichotomy and Other Essays* (Cambridge, MA: Harvard University Press, 2004), 10ff.

[100] Pihlström, 'The Re-Emergence of the Emergence Debate', 151.

[101] Ibid., 154.

[102] Pihlström, 'Toward a Pragmatically Naturalist Metaphysics', 327-8.

[103] Ibid., 326.

[104] Ibid., 337.

[105] Putnam, cited in Pihlström, *Structuring the World*, 274.

[106] Pihlström, *Structuring the World*, 279.

[107] Ibid., 153.

[108] Pihlström, 'The Re-Emergence of the Emergence Debate', 154.

[109] Pihlström, 'Toward a Pragmatically Naturalist Metaphysics', 337.

[110] Pihlström, 'Does Emergence Help in Defending Religious Belief?', *Pre-Proceedings of the 26th International Wittgenstein Symposium* (Kirchberg am Wechsel: Austrian Ludwig Wittgenstein Society), 280-282, 281.

[111] Pihlström's own tentative suggestion that two concepts of emergence, of different strengths, might be required, seems in tension with his general proposal. He does concede, however, that the applicability of such concepts requires further assessment ('The Re-Emergence of the Emergence Debate', 165-6.).

[112] Pihlström, 'The Re-Emergence of the Emergence Debate', 164.