THE VARIETIES OF EMERGENCE: THEIR PURPOSES, OBLIGATIONS AND IMPORTANCE

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Summary
I outline reasons for the recent popularity, and lingering suspicion, about ‘emergence’ by examining three distinct concepts of property emergence, their purposes and associated obligations. In Part 1, I argue ‘Strong’ emergence is the grail for many emergentists (and physicalists), since it frames what is needed to block the ‘Argument from Realization’ (AR) which moves from the truth of physicalism to the inefficacy of special science properties. I then distinguish ‘Weak’ and ‘Ontological’ emergence, in Part 2, arguing each is a way one may fail to establish the possibility of Strong emergence. But I also show Weak emergence can help the full-blown reductionist and Ontological emergence helps those opposed to physicalism. Lastly, in Part 3, I argue that the Completeness of Physics (CoP) is incompatible with Strong emergence and that rejecting CoP provides hope for the possibility of Strong emergence in a physical world. The result is a notion of Strong emergence offering much to non-reductive physicalism. My final conclusion is that concepts of emergence, when properly understood, have important contributions to make to philosophical debate.

At present there is a remarkable flowering of interest in what is, basically, a technical philosophical notion—‘emergence’. In areas of intellectual inquiry as diverse as the sciences of complexity, and even theology, workers are positing ‘emergent’ properties in the course of their research. However, many analytic philosophers remain extremely dubious about the notion. In this paper, I will argue that such concerns are often justified. But I will also show that, when clearly understood, certain concepts of emergence have an important role to play in ongoing intellectual debate. I will examine three distinct concepts, their

1. For the sciences of complexity, see for example Kauffman (1995) or Crutchfield et al. (1986); and for theology see the mass of papers in Russell et al. (1995) and (1999).
purposes and associated obligations. On one side, we shall see that a failure to clearly appreciate the metaphysical implications and problems facing the different notions of ‘emergence’ leads many contemporary emergentists astray. However, on the other side, I will show that, perhaps surprisingly, the various concepts of emergence can serve the purposes of the major positions in the recent debates over higher level causation, including not just non-reductive physicalism, but also anti-physicalism and the most hard-line metaphysical reductionism.

I should explicitly mark the limitations of my project in this paper. First, I shall solely focus on the uses to which concepts of emergence may be put in addressing the problems posed by the truth of physicalism for the existence of mental causation and higher level causation generally. As a result, for example, I will focus solely upon concepts of property emergence. Though I contend this problem is an important background against which concepts of emergence have been developed there are other problems that lead to rather different distinctions and kinds of concept. Second, I will not discuss the historical emergentists, since I have defended my favored interpretation of one group elsewhere. Lastly, I have tried to cover most of the prominent recent emergentists and their accounts. However, given the burgeoning literature on emergence I cannot discuss all writers, but my hope is that my taxonomy of positions will regiment the views of any emergentist, whether explicitly covered here or not.

I will begin, in Part 1, by examining the problems recently posed for the causal efficacy of higher level properties. Using what I term the ‘Argument from Realization’ (AR) I will show that it is prima facie plausible that if physicalism is true, then we should not take higher level properties to be causally efficacious. Such skeptical arguments are now well known and they are important for our purposes since

2. For two much wider surveys of notions of both reduction and emergence see Van Gulick (2001) and Silberstein (2002). And for the role concepts of emergence play in the rather different debates over consciousness, and a range of other rather different distinctions than I outline, see Stephan (1999).

3. Amongst the most prominent historical emergentists are: Mill (1843), Bain (1870), Lewes (1875), Alexander (1920), Lloyd Morgan (1923) and Broad (1925). See Gillett (Unpublished-a) for an interpretation of Samuel Alexander as defending Strong emergence of the kind outlined in Part 3 below. For alternative, and wide-ranging, surveys of historical emergentism see Blitz (1992), McLaughlin’s seminal (1992), and also the other papers in Beckermann et al. (1992). In addition, Klee (1984) provides a critical survey of emergentist positions of the previous generation to the present accounts, and in particular assesses the emergentism of Roger Sperry amongst others (Sperry (1986) is a reply to Klee).