

“Tacit Knowing, Emergent Being, and Three Magic Tricks”

Charles Lowney

"The first step is the one that altogether escapes notice...but that is just what commits us to a particular way of looking at the matter... the decisive move in the conjurer's trick has been made, and the very one that we thought quite innocent"

-Wittgenstein, *Philosophical Investigations* # 308

I. Introduction. Michael Polanyi's approach to emergentism & consciousness, in the context of responses to reductionist assumptions that shape how we think about science, body, mind & meaning. Descartes three little mistakes

Hyperbolic doubt, to get to certainty	v. Personal knowledge
Fully explicit analysis to atomic foundational components	v. Tacit knowing
(Correlatively) Reality derived from earliest/smallest	v. Emergent being

Descartes: “Now it is manifest by the natural light that there must be at least as much reality in the efficient and total cause as in its effect; for whence can the effect draw its reality if not from its cause?” ... "Substances" have more objective reality than their effects, which are mere "modes or accidents" (Descartes, *Discourse on Method and Meditations*, 119).

“Current eliminative reductionists explicitly reject Cartesian dualism, but they are actually engaged in picking one horn of the dilemma that Descartes put out for them. They pick the physicalist horn because the other comes to look like 'spooky stuff.’” They then apply the other reductionist assumptions to eliminate higher level realities. (Lowney, *Rethinking the Machine Metaphor since Descartes* 2011, 185).

Paul Churchland: "The simultaneous claim of evolutionary emergence [of mental properties] and physical irreducibility is prima facie puzzling" (Churchland, *Matter and Consciousness*, 12)... “puzzling” because Churchland expects a fully reductive account rather than one that assists in understanding necessary conditions & mechanistic causal relations operative in emergent systems.

Polanyi Rethinking the Machine: Understanding of the machine metaphor shifts as Polanyi challenges/corrects/balances deep Modern assumptions with (1) personal knowledge, (2) tacit knowing, & (3) emergent being. He shows that living beings and artefacts are emergent.

"physics and chemistry cannot account for the existence of a machine, cannot even identify a machine as a machine, and still less identify its workings and account for these" (*KB* 175).

-Operational Principles: “the physical sciences expressly leave open certain variabilities of a system, described as its boundary conditions. The operational principles of a machine control these boundaries, and so they do not infringe on the laws of physics and chemistry, which operate within these boundaries” (154).

-Dual Control: “...each level is subject to dual control: (i) control in accordance with the laws that apply to its elements themselves, and (ii) control in accordance with the laws of the powers that control the comprehensive entity formed by these elements” (*KB*, 233).

-Hierarchy: Vegetative, growth, muscular action, innate behaviour, intelligence modified behaviour, responsible choices... Polanyi says, “to reduce this hierarchy to ultimate particulars is to wipe out our very sight of it” (*KB*, 236).

Types of Emergence:

"Weak" Emergence: If true, then common; whenever something new has surprising properties.

"Strong" Emergence: rare, and irreducible both in explanation & being (e.g., consciousness).

"Epistemic" emergence: A weak form that sees a failure of reductive explanation, but also holds on to an ontological reduction.

"Ontic" emergence: Not only is there a failure of complete explanation in terms of the lower level, but there is no ontological reduction to lower level entities and their relations.

Without top-down causation: E.g. John Searle: There is no ontological reduction of higher level phenomena, but all such instances supervene on lower level causal relations.

Top-down causation without top-down causes (Bechtel's response to J. Kim, who holds that all higher level causes are pre-empted by causes at the lower level.) The system acts as a whole, synchronically, so mechanistic causes at the top are simultaneous with lower level.

With top-down causes: A strong emergence, in that an emergent system can gain independence from its causal constituents and effect them (Humphreys, Wimsatt, Polanyi)

III. Magic tricks

Looking to a focal meaning casts the subsidiary clues/part into the tacit dimension. Focusing on the clues/parts destroys integration to a meaningful whole. These facts about our intentional awareness encourage both dualisms *and* ontologically reductive or eliminative materialisms.

Magic trick 1: *Why dualism (and then reductive materialism) seems so natural.*

Result of an epistemological illusion generated by the *from-to* trajectory of conscious awareness, i.e. its "vectorial quality" ("Logic of Tacit Inference" *KB*, 141)

Separate spirit: When we look *from* the physical subsidiaries, the bodily aspect disappears into the tacit dimension and we are focally aware of the integration *to* their joint meaning. We neglect the bodily clues and see the spiritual/mental as immaterial, independent and self-sufficient.

Separate matter: When we look back *to* those material subsidiaries, the integration is disrupted and the meaning disappear leading us to believe that matter (the pliable subsidiary base) must be separate from spiritual/mental, and perhaps all there really is. We see mechanism in the physical.

Polanyi: "the relation between body and mind has the same logical structure as the relation between clues and the image to which the clues are pointing" ("Structure of Consciousness" 213)

Wilder Penfield's experiments: In Polanyi's terms, what the patient observes by *looking from* the subsidiary structure is different from what the neurophysiologist can observe by *looking at* it.

Magic trick(s) 2: *Why ontological reduction (and even elimination) may seem so inevitable.*

Result of (1) "mechanistic" reductionist assumptions, aided by (2) a misdirection of language.

The Churchlands: Betty Crocker & the march of science argument: They “perform what Wittgenstein would call a conjurer’s trick. They make it look like you are challenging science’s method and success by challenging their picture of an ontological reduction to physical particles.” (Lowney, 2011, 189) A mechanistic explanation is illicitly enlisted into an eliminativist agenda and so the progress of science is mistakenly believed to support a metaphysical assumption.

1. Reductionist assumptions about the machine metaphor make us think that an **interlevel mechanistic explanation** is an ontological reduction (identity) or elimination (if mistaken for an intralevel succession of theory).

Paul C: “the red surface of an apple” just is “a matrix of molecules reflecting photons at certain critical wavelengths” or “the sound of a flute” just is “a sinusoidal compression wave train in the atmosphere” (*Matter and Consciousness*, 1988).

Patricia C: “**Science as we know it says** electrical current in a wire is not caused by moving electrons; it is moving electrons... Temperature is not caused by mean molecular kinetic energy; it is mean molecular kinetic energy.”...“I am predicting that the explanatory power, coherence and economy will **favor the hypothesis that** awareness just *is* some pattern of activity in neurons” (“Can Neurobiology Teach Us Anything About Consciousness?”(1993) 30, 31)

Rebuttal, William Wimsatt: “Interlevel reductive explanation, successful or not, is never eliminative. Eliminative (interlevel) reduction is a mythic invention reflecting older aims of ontological economy since abandoned” (“Reductionism & Its Heuristic: Making Methodological Reductionism Honest” *Synthese*, 151 (2006) 457).

“A reductive mechanistic explanation should not deny the causal efficacy of or eliminate higher level entities or properties, including their powers to affect lower level phenomena” (451 ft#8).

Intralevel theory succession: “Robust (multi-detectable) higher-level entities, relations, and regularities ... don’t disappear wholesale in lower-level scientific revolutions. Transmute, add (or occasionally subtract) dimensions, or turn up in different ways—yes, but disappear—no. Eliminativism rests on exaggerated or incorrectly described accounts of unrepresentative cases” (Wimsatt, 457)

2. Aided by a linguistic illusion: turning the explanation into a definition & seeing it as intersubstitutable with the definiendum in all cases; drawing an ontological conclusion from a linguistic strategy:

Rom Harré: “The reductionist strategy is to insist that the rational course is to delete one of two sets of predicates to achieve a unified discourse” which is “to move from a discourse strategy to an ontological conclusion” (“Resolving the Emergence-Reduction Debate”, *Synthese*, 151 (2006, 502)

John Searle: “...this is not a new discovery, it is a trivial consequences of a new definition. Such reductions do not show that heat, solidity, etc, do not exist in the way that, for example, new knowledge showed that mermaids and unicorns do not exist” (“Reductionism and the Emergence of Consciousness” in Bedau and Humphreys eds., *Emergence* (2008) 76).

Magic Trick 3: *Why even holistic functional explanations can look ontologically reductive.*

Result of *from-to* illusion: When we look at the parts, the meaning of the whole that is informing our (now) focal understanding of the parts slips into the tacit dimension. We tend to forget we are looking at clues through properties irreducible to the physical and chemical.

Brian McLaughlin: his "faith in reductive materialism" (94) seems based on **two "results"** (in "Emergence and Supervenience")

1. functionalism as a reductive strategy (89) (based on Jaegwon Kim, 1992)
2. 'definitions' provide a necessary identity (90) (based on Kripke, 1971)

If mental "dispositions and capacities can be functionally analyzed" in "physical and non-topical terms" then "the dispositional property or capacity is physicalistically reducible" (89)... "For the functional analysis will yield necessary (definitional) truths" (89)

For point 2, on definitions sliding to ontological reductions, see magic trick #2. Re 1:

Polanyi: Behaviourists claimed they were purely descriptive, but "Behaviourist psychology depends covertly on alluding to mental states which it sets out to eliminate" (KB 216).

"questions in which we are interested arise in the context of experiences which do not consist in atomic configurations, and which may not be derivable from the conceptual framework of atomic configurations" (175) "...we can use our formulas only after we have made sense of the world to the point of asking questions about it and have established the bearing of the formulas on the experience that they are to explain" (179).

Jaegwon Kim: provides a formula for a (purportedly) physicalist reduction of emergent properties that goes beyond a simple Nagelian bridge law form of reduction.

"Step 1. [Property] E must be functionalized--that is E must be construed or reconstrued, as a property defined by its causal/nomic relations to other properties, specifically properties in the reduction base B" ("Making Sense of Emergence" in Bedau & Humphreys, 132).

The "result" *relies on* higher level functional description for its parameters, but assumes that if it can base its lower level description in physical or topic-neutral terms there has been an adequate ontological reduction. That first step may not be as innocent as it may appear. The ineliminable dependency on the higher level description/principles applies to machines and organisms.

IV. Conclusion:

1. Recognizing (a) how the intentional structure of tacit awareness works, (b) how language can mislead us to slip from explanation to ontology, and (3) how we need higher level concepts to form mechanistic explanations, shows us why physical reductionism appears to be the correct scientific approach, when it is not.
2. An awareness and adjustment of the Modern assumptions and magic tricks that promote ontological reduction shifts the burden of proof: Having no epistemic reduction should indicate *against* an ontological materialist reduction.
3. Seeing how our body is layered with dual controls, gives good *prima facie* support for the idea that the relation between the body and the mind is also one of dual control.