[a] E.g., in classical physics, observables are commutative; in quantum physics, noncommutative.

[b] Formally, the equations are Cauchy well-posed. Given complete data on one Cauchy hypersurface (a space-like 'slice' of space-time), the laws determine all future surfaces.

[c] Synchronicity is tricky. If exact synchronicity is required, then there is a problem with any distributed system because relativity teaches that synchronicity depends on frame of reference. If someone's head were rotating, neurons at the middle of the brain would disagree with neurons at the edge about which events are simultaneous. If inexact synchronicity is allowed, how fuzzy can it be? In either case, what do we do about synchronous activity, whose information content should be outside of consciousness? Careful rules are required to exclude, e.g., rich cerebellum activity which might coincidentally spike at the same time as the target set of synchronised neurons, let alone electrochemical activity outside of neurons but still present in the wider causal graph. Most importantly, synchronicity does not convey the instant information sharing we need. Entities' behaviour might allow others to infer that they are synchronised, but that behavioural insight is transmitted via local-only interactions that take time. Just because the system 'acts' as if events are simultaneous is not the same as the information being simultaneously connected.

[d] A different strategy, is to demarcate groups of particles - potentially over time as well as space - into new fundamental entities, as Integrated Information Theory does with complexes. However, such definitions are not directly found in the classical physics of ?1.3. Even if we can motivate some definition ahead of others, classical physics would not permit any instantaneous interaction between the entity's distributed points. None of this stops observers making epistemologically useful demarcations. We can choose to group atoms/pixels into 'trees' or 'rivers', as building blocks for more abstract theories. But from a classical physics perspective, these are arbitrary analytical perspectives: zoom in close and the boundaries turn fuzzy. Some researchers argue that some demarcations correspond with truly new forms of physical behaviour, beyond what can be accounted for by individual particles and their interactions. Even where correct, their claims support our arguments, because it necessarily gives rise to additional equations beyond classical physics.

[e] If the vacuum field of QFT can be treated as a single entity universal substrate to address phenomenal binding, perhaps Einstein's space-time provides a similar solution pathway under classical physics. However, this diverges from the current classical physics approach to consciousness: object-oriented, logic-gate reasoning of neural networks. It would also be a non-standard, nonclassical feature arbitrarily and *epiphenomenally* added to a classical model.