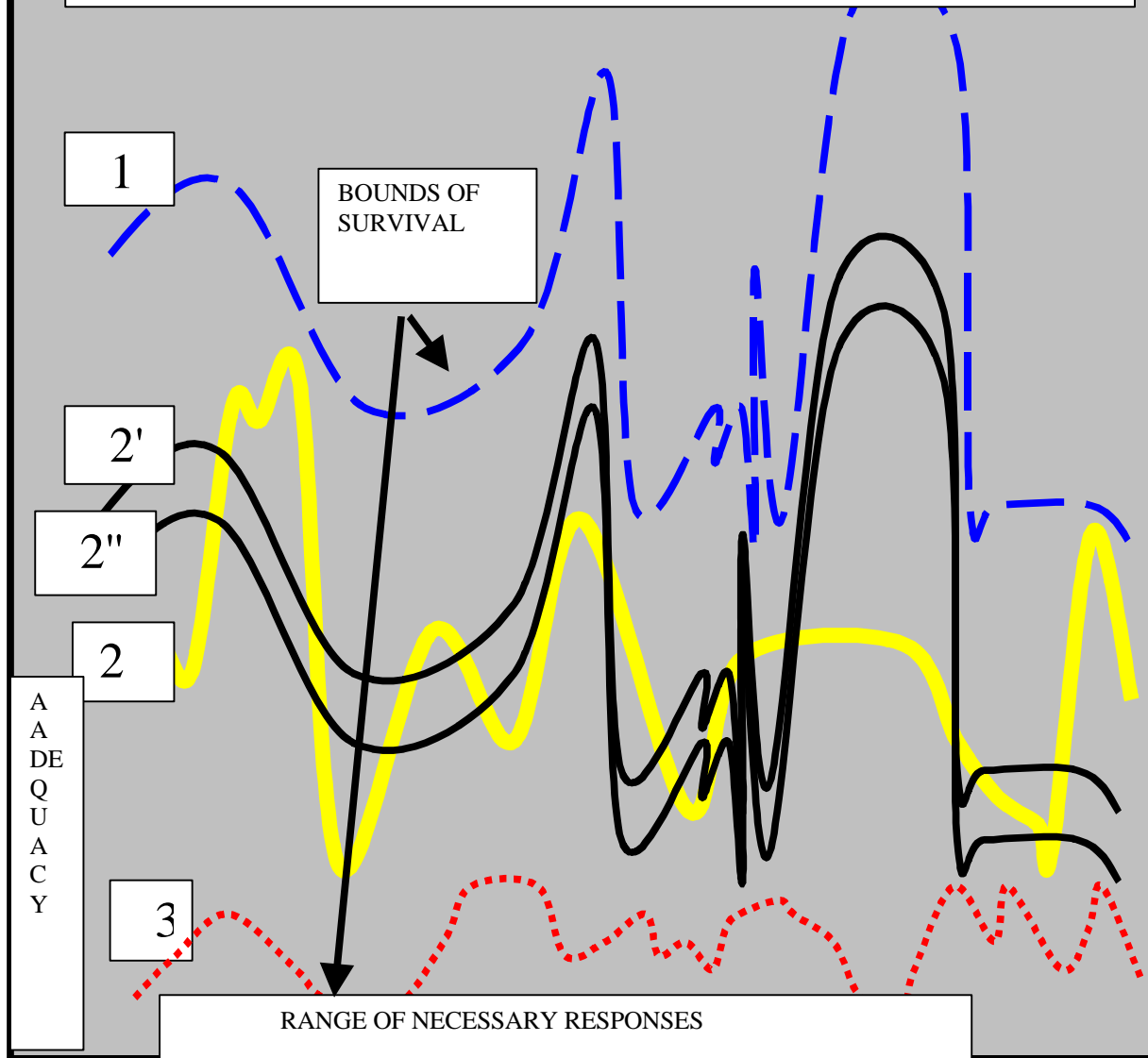


Upper and Lower Bounds of a Biological Organism's Performance / Response



(1) and (3) represent the best and the least possible performance for an organism over the domain of its behavior in absolute (ontic) reality. Less than (3) results in lessened survivability or death; greater than (1) is impossible as it is perfect performance with perfect knowledge in actual reality. Between the two bounds, *adequate performance*, ((2), (2'), (2''),...), need not match, *nor even parallel* these outer bounds. (Note: 2' and 2'' parallel 1, but 2 does not!) Any curve within them is consistent with evolution. Edelman, for instance, talks about the multiple, non-commensurate antibody responses to a given antigen. The same must surely apply to cognition, another "recognition system". Cognition and response must be adequate, but it isn't obvious that there is only one way - a mirroring way. Nor is it inherent that all ways be commensurate!

An organism's performance in its environment is measured, fundamentally, not in perfection or in rationality, but in simple adequacy. It is very easy to envision multiple, noncommensurate blind-thought-adequate responses to a given situation. It is not easy to envision *rational* responses