

BROWNBAG SEMINAR

Energy, Information, Consciousness, and the Evolution of Intelligence

Abstract:

From the Big Bang unfolded a universe of energy, matter, and space-time; billions of years later, some of that energy learned to think. Energy is scarce, and life turns it into information and information into action. Organisms are temporary vessels of biological information, each inheriting a goal—to pass its pattern on—and bearing the costs of pursuing it. *Consciousness makes these stakes felt*: pleasure and pain register outcomes as gain and loss. We define *intelligence as the ability to attain goals*. In human evolution, tool use provided the early thrust for the expansion of our brain. The demands of social life—modeling multiple minds and shifting relations—grew faster than the group itself, providing the impetus for the explosive growth of brain information capacity. Language made the social brain a shared one across minds and generations. Collective intelligence extends individual intelligence towards attainment of shared goals. Here, we propose a *moral brain hypothesis*: recurrent interdependence favored moral sentiments—pride, shame, guilt, and the joy of belonging—through which members experience collective gains and losses as their own and shared responsibility as an expression of belonging, even when contributing is costly. Social understanding supports coordination; moral feeling sustains commitment and can lower the costs of upholding norms. Governance builds on both: shaping collective goals, pooling information, aligning incentives, resolving conflicts, and allocating responsibility so that groups can act together and learn from consequences their members feel. The AI age may mark a new phase in this evolution. Drawing on accumulated records of human thought and interaction, AI inherits something of a “social brain”; such informational inheritance does not itself confer moral feeling or a sense of belonging. Programmable and eminently scalable, AI can amplify damage as readily as benefit, including harms no one intended—recognizing the difference does not imply feeling it. Its capacity to optimize does not determine which goals deserve pursuit or who should bear the consequences. As we enlist AI to expand our capacity to attain collective goals, do we possess *the wisdom to define its scope and govern its autonomy*?



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Biography:

Prof. CHEW Soo Hong is Chief Professor at the Southwestern University of Finance and Economics. He is among the pioneers in axiomatic non-expected utility models and is a fellow of the Econometric Society which awarded him the Leonard J. Savage Thesis Prize. He is also fellow of the Society for Advancement of Economic Theory and the Economic Science Association. Chew has published in well-regarded journals such as *Econometrica*, *Journal of Economic Theory*, *Journal of Political Economy* and *Review of Economic Studies* as well as more biology-oriented ones including *PNAS*, *Neuron*, and *PRSB*.



24 September 2026 (Thu)
12:00 – 13:00



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