Funding the Future

Quantum economics from the perspective of quantum biolo...

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This is the fourth in a series of articles that will be published daily during the rest of this week.

The first quantum economics series and then the resulting quantum essays can be found here, but from the outset, whilst we knew the original ten-part series that laid the foundation for ideas on this issue was a starting point, there was always going to be a second series of essays, based on concepts in quantum biology, which is how and why Jacqueline, my wife and co-creator of these ideas, had become interested in these issues in the first place.

This post is chapter 3 in that new series, which will, we hope, provide a deeper explanation of our thinking on what we think is a key issue with the potential to deliver a new understanding of the economy.

A list of previous posts in this series is included at the end of this chapter.

Chapter 3 – Coupling and Uncoupling

Life is a self-organising, dissipative system characterised by the flow of electrons and protons through an electromagnetic field. Inside every living cell, the energy released by electrons moving through the redox chain must be captured carefully. If too much is trapped, the system burns itself out. If too little is held, it collapses. Cells manage this tension through coupling and uncoupling: sometimes they bind the flow of energy tightly to production, and sometimes they let some energy go as heat. Both are necessary. Efficiency without flexibility kills as surely as waste without limit.

The same is true of economies. They, too, must strike a balance between efficiency and resilience. In periods of tight coupling, almost all labour is absorbed into measured output. Growth rises, productivity improves, and everything seems to work. But beneath the surface, the system becomes brittle. When the unexpected happens — a

crisis, a shock, or a change in resources — the system cannot adapt. It has lost the slack that allows it to recover.

Uncoupling, by contrast, is what provides that resilience. Some of the energy of labour is released into activities that do not directly increase output but which sustain the social and emotional infrastructure on which output depends. These activities — caring, teaching, creating, governing, maintaining public spaces and institutions — often appear inefficient in economic terms. They do not maximise GDP, and they rarely attract private investment. Yet without them, society overheats. It becomes stressed, divided, and unable to regenerate itself.

Efficiency and its limits

Neoliberal economics has spent forty years promoting the virtues of efficiency. Public services have been squeezed, labour rights curtailed, and working lives intensified in the name of productivity. Yet the outcome has not been stability or prosperity but exhaustion. The narrow pursuit of efficiency has created systems that cannot cope with uncertainty. Hospitals operate at capacity until a crisis exposes their fragility. Supply chains stretch across continents until a disruption brings them down. Workers are pushed to their limits until burnout and ill health reduce their effectiveness.

The illusion is that everything is working perfectly until it suddenly isn’t. The truth is that perfection in economic terms means fragility in human terms. The energy of labour cannot be stored indefinitely in profit or output. Some of it must circulate through the forms of work that maintain human capacity itself. A society that denies this is not efficient; it is self-destructive.

The work that sustains life

The forms of labour that neoliberalism dismisses as unproductive are those that make all other work possible. Care keeps people alive and able to work. Education renews knowledge. Culture provides meaning and imagination. Public goods such as parks, libraries, and open information give people space to think and recover. Democracy allows disagreement to be resolved without violence. None of these can be measured fully in prices, but all are essential.

To describe them as “uncoupled” is not to diminish them. It is to recognise that their value lies precisely in their freedom from the constant demand for immediate output. They are what allow the economy to remain open, adaptive, and human. They are the equivalent of the controlled release of energy that prevents the cell from burning itself out.

Reclaiming balance

The challenge, then, is not to choose between coupling and uncoupling but to maintain

a balance between them. Too much coupling, and society becomes brittle and unjust. Too much uncoupling, and resources are squandered. The balance is political, not mechanical. It depends on collective choices about what kinds of work deserve recognition, how much time people should have for life beyond production, and what kind of society we want to build.

A politics of care would restore that balance. It would fund public services and cultural life not as luxuries but as foundations of resilience. It would protect time for rest and family life as part of economic policy, not a concession from it. It would recognise that the measure of an economy is not how much energy it extracts from its people, but how much life it returns to them.

Conclusion

Biology reminds us that systems survive not by maximising efficiency but by managing entropy. Life is sustained through a rhythm of activity and recovery, of coupling and uncoupling, of use and renewal. Economies must do the same. When all labour is driven into productive work defined narrowly by output, the economy becomes efficient in the short term and unstable in the long. When some labour is directed towards care, culture, and community, the economy gains the capacity to endure.

The purpose of work is not simply to produce. It is to sustain life in all its forms. The task of policy is therefore not to chase efficiency to its limit but to preserve the equilibrium that allows labour to create value without destroying itself in the process.

Previous posts in this series

* ***The prologue***
* ***Chapter 1: Labour, value and reflection***
* ***Chapter 2: The circuit of value and its pathologies***

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