Funding the Future

Economic questions: the Schrödinger question

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This is one of a series of posts that will ask what the most pertinent question raised by a prominent influencer of political economy might have been, and what the relevance of that question might be today. There is a list of all posts in the series at the end of each entry. The origin of this series is noted here.

After the first two posts in this series, the topics have been chosen by me, and this is one of those. This series has been produced using what I describe as directed AI searches to establish positions with which I agree, followed by final editing before publication.

Why have I included Erwin Schrödinger? That is because his work underpins three things that have been of significance for me this year. One is the work I have been doing with Jacquieline on quantum economics, which should restart in the new year. The second is that his thinking directly contributes to and informs my concept of the politics (and economics) of care. The third is that this informs my Christmas video series, which starts today.

Schrödinger was a physicist, and not an economist. But in his book, What Is Life?, he showed himself to be a multidisciplinary thinker, creating ideas that crossed boundaries because of the universality of their application. They most certainly belong in the sphere of political economy, and it would be very much richer, more appropriate, and focused on human needs if that were the case. That is why he belongs in this series.

Erwin Schrödinger is best known as one of the founders of quantum mechanics, but in *What Is Life?* (1944), he did something quietly revolutionary. He asked how living systems maintain order in a universe governed by the second law of thermodynamics, which states that entropy, or disorder, always increases. In the pivotal sixth chapter of that book, he offered an answer that should have transformed not only biology, but economics: life survives by feeding on “negative entropy”. This means that life can be

maintained only by continuously expending energy to resist decay.

This insight has profound implications far beyond biology. Schrödinger showed that order is not natural or free. It is costly, fragile, and temporary. It must be actively sustained. Decay is the default. Maintenance is not optional. And without continual energy and care, all systems, whether biological, social, or institutional, fall apart.

Economics, however, largely ignores this truth. It treats growth as automatic, equilibrium as usual, and maintenance as secondary. Schrödinger's work exposes this as a fundamental error.

Hence, the Erwin Schrödinger Question: ***If life persists by resisting entropy through care, maintenance and the continual input of energy, why does economics still treat decay, depletion and disorder as externalities rather than central facts of social organisation?***

Entropy as the default condition

Schrödinger's starting point is stark: the universe tends toward disorder. Structures do not persist by chance. They persist only by consuming energy and exporting entropy elsewhere. Living organisms survive by maintaining internal order at the expense of increased disorder in their surroundings.

This overturns any worldview that assumes stability is natural. Order is, when thermodynamics is understood correctly, achieved; it is not a given. The same applies to societies. Infrastructure crumbles. Institutions decay. Trust erodes. Skills atrophy. Ecosystems and cultures collapse. Without continual investment of energy, attention and care, decline is inevitable.

Economics, by contrast, often models systems as if they naturally tend toward balance. Schrödinger shows this is a fantasy.

Life as a process, not a state

In Chapter 6 of ***What Is Life?***, Schrödinger emphasises that life is not a thing but a process. It is a continuous struggle against entropy. To live is to work constantly to preserve structure. The moment that work stops, decay begins.

This insight directly contradicts economic models that treat capital, infrastructure, skills and institutions as durable stocks rather than fragile processes. Maintenance, in such models, is often invisible. Only new production counts. GDP rises when something is built, not when something is cared for, repaired or preserved.

Schrödinger reveals the absurdity of this distinction. In reality, maintenance is the primary economic activity of any mature system.

Energy, not money, sustains order

Schrödinger was explicit: life feeds on energy. No amount of information, coordination or cleverness can substitute for the physical requirement of energy input. This has direct relevance for economics, which frequently treats energy as just another input, interchangeable, substitutable, and secondary.

But without energy, there is no production, no maintenance, no life. Economic growth has always been tied to increased energy throughput. Ignoring this leads to fantasies of dematerialised growth, frictionless digital economies, and limitless expansion detached from physical reality.

Schrödinger reminds us that economies are thermodynamic systems, not abstract machines.

The invisibility of care and maintenance

One of the most striking implications of Schrödinger's argument is how closely it aligns with feminist economics and the politics of care. The work that resists entropy, whether it be cleaning, repairing, caring, teaching, healing, or maintaining, is systematically undervalued or ignored in economic accounting.

Yet this is the work that keeps systems alive. Without it, collapse follows. Schrödinger gives this insight a physical foundation: care is not sentimental. It is thermodynamically necessary.

An economics that ignores care is not incomplete — it is wrong.

Growth as a temporary victory over decay

Schrödinger does not deny that order can increase locally. Life does it all the time. But it does so by drawing down energy and exporting disorder. Growth, therefore, is always conditional and temporary.

This directly challenges the economic obsession with perpetual growth. Growth is not the natural state of a system; it is a phase. Mature systems must prioritise stability, resilience and maintenance over expansion. Failure to do so leads to overshoot and collapse, a point echoed by the Club of Rome in the 1970s, Herman Daly, and ecological economists.

Schrödinger provides the underlying physical logic.

Institutions as living systems

Seen through Schrödinger's lens, institutions behave like living organisms. They require constant renewal. Rules must be updated. Norms reinforced. Trust rebuilt. Skills refreshed. Infrastructure repaired.

When maintenance is cut, whether through austerity, neglect or ideological hostility to the public realm, entropy accelerates. Services fail. Legitimacy erodes. Systems become brittle. Collapse appears sudden, but it is always the result of long-term neglect.

Schrödinger helps us see that institutional failure is not mysterious. It is entropic.

What answering the Schrödinger Question would require

To take Schrödinger seriously would require a profound reorientation of political economy. At minimum, it would mean:

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Recognising entropy as central to economics, meaning that we treat decay, depletion and disorder as core realities, not side issues.

*
Valuing maintenance as productive work, requiring that infrastructure be repaired and that care, education, health, and ecological restoration be seen as central economic functions.

*
Re-centring energy and ecology, which means that we acknowledge that economic activity is constrained by physical energy flows and planetary limits.

*
Abandoning equilibrium fantasies, requiring that we replace static models with dynamic, open-system thinking.

*
Designing economies for resilience, not maximum throughput, meaning that we prioritise stability over growth.

*
Embedding care at the heart of economic design, because care is how systems resist collapse.

These are not ideological choices. They are physical necessities.

Inference

The Erwin Schrödinger Question exposes a foundational blind spot in modern economics. Life does not persist by optimisation, equilibrium or price signals. It persists through continuous work against decay. Schrödinger showed that order is costly, fragile and temporary, and that ignoring this reality guarantees collapse.

An economics that treats maintenance as secondary, care as unproductive, and energy as interchangeable is not merely incomplete. It is incompatible with life itself.

To answer Schrödinger's question is to accept a humbling truth, which is that the central economic problem is not scarcity, but entropy, and that the central economic activity is care.

That insight belongs at the heart of any political economy worthy of the name.

Previous posts in this series:

* ***The economic questions***
* ***Economic questions: The Henry Ford Question***
* ***Economic questions: The Mark Carney Question***
* ***Economics questions: The Keynes question***
* ***Economics questions: The Karl Marx question***
* ***Economics questions: the Milton Friedman question***
* ***Economic questions: The Hayek question***
* ***Economic questions: The James Buchanan question***
* ***Economic questions: The J K Galbraith question***
* ***Economic questions: the Hyman Minsky question***
* ***Economic questions: the Joseph Schumpeter question***
* ***Economic questions: The E F Schumacher question***
* ***Economics questions: the John Rawls question***
* ***Economic questions: the Thomas Piketty question***
* ***Economic questions: the Gary Becker question***
* ***Economics questions: The Greg Mankiw question***
* ***Economic questions: The Paul Krugman***

* ***Economic question: the Tony Judt question***
* ***Economic questions: The Nancy MacLean question***
* ***Economic questions: The David Graeber question***
* ***The economic questions: the Amartya Sen question***
* ***Economic questions: the Jesus of Nazareth question***
* ***Economic questions: the Adam Smith question***
* ***Economic questions: (one of) the Steve Keen question(s)***
* ***Economic questions: the Stephanie Kelton question***
* ***Economic questions: the Thomas Paine question***
* ***Economic questions: the John Christensen question***
* ***Economic questions: the Eugene Fama question***
* ***Economic questions: the Thomas Hobbes Question***
* ***Economic questions: the James Tobin question***
* ***Economic questions: the William Beveridge question***
* ***Economic questions: the William Nordhaus question***

Tickets are now on sale for the Funding the Future live event in Cambridge on 28 February. ***Tickets and details are available here.***

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