Funding the Future

Quantum economics, part 7A: The Ergon or Praxeon

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Background

Johan G, who is a commentator on this blog and who has been following the quantum economics series, posted this comment on **Quantum Economics 7: The Photon Question — labour as the Quantum of Value:**

I like the idea of labour as wavelength. The human-hour is easily recognisable as a quantum of effort, and its 'energy', rather than intensity, is dependant on the H-H wavelength. I pedantically use energy, rather than intensity, because energy could be tied to specialism, whereas intensity would be the number of humans working on the same thing at once. Much like you can use a microwave to heat stuff up, but you couldn't give yourself sunburn with it, because the wavelength is too long to cause UV-esque damage.

The other thought that popped into my head, was that photons belong to a family of particles: bosons. Bosons are the exchange particles that are responsible for fundamental force interactions. In the photon's case, that is electro-magnetism. Maybe we could coin a term for the exchange particle of human labour? The labouron, or the workon. I'm not sure I really like either of these, but they illustrate the idea.

That set my mind racing - and exploring, because I am on a massive learning curve here.

This is **the response I came up with:**

Response

Let me offer this for now, generated by AI, I admit, but in a directed and generated fashion, as was this whole series.

1. Why this analogy is powerful

In physics, bosons are the mediators of forces – photons carry the electromagnetic force, gluons bind quarks, W and Z bosons manage the weak force, and so on. They don't constitute matter itself (fermions do that), but they make matter interact.

If we apply that metaphor to economics and society, human labour is not just "stuff" (like goods, capital, or even money) – it is the interaction that makes the economy cohere and function. Without labour, there is no production, no exchange, no organisation.

So: imagining a "labour boson" – a fundamental exchange particle that mediates human economic activity – has conceptual bite.

2. Possible names

"Labouron" or "workon" both convey the particle idea, but I see why you feel they don't quite land. Here are some alternatives:

- Ergon – from the Greek for work/energy (Aristotle used ergon to mean the characteristic activity of something).
- Praxeon – from praxis, meaning purposeful human activity.
- Doleon – from doleo, Latin "to toil."
- Taskon – straightforward and modern, but carries the right sense of discreteness.
- Hieron – from hieros (sacred), suggesting the deep social value of labour.

Of these, ergon or praxeon might sit best: they link both to energy and to purpose.

3. What would the "labour boson" do?

If we extend the analogy:

- It mediates between human needs and material resources.
- It binds people into cooperative structures – firms, households, states.
- It transmits value, because labour embodies and expresses what people want to prioritise.
- It interacts with other "forces": capital, land, technology, institutions.

In other words, just as photons make the invisible force of electromagnetism visible through interaction, the "labour boson" would make the invisible social force of work visible through action.

4. Extending the metaphor

We could build a small "particle table" of economics:

- Monevon (currency as medium of exchange, a unit particle of trust).
- Creditron (the particle of deferred exchange).
- Labouron/Praxeon (the particle of human effort).
- Needon (the driver particle, representing demand or necessity).

You'd then have an economic "field theory," where interactions between these exchange particles generate the larger structures we see as markets, institutions, and crises.

□

5. Why it matters politically

This is not just whimsy. By treating labour as the mediator of forces, you place people – their energy, creativity, and care – at the very centre of the economic model. That's a direct challenge to neoliberal economics, which sidelines labour in favour of abstract capital flows or equilibrium equations.

The metaphor says: without the "labour boson," the system collapses. Without people at the heart, economics is sterile mathematics.

Reaction

Having mused on this last night, I could now comment further.

I am accepting the risk of becoming more than a little geeky in posting this particular exchange, rather than part nine of the series this morning (which will now happen tomorrow). However, I thought that this was particularly fascinating for a number of reasons.

Firstly, this idea puts human activity at the centre of economics, where it belongs. Economics is not about money, markets, or abstract mathematics. It is about human activity, and that has to be its focus. This series has highlighted the necessity of creating narratives around that fact to me.

More than that, though, the extension of the metaphor also made some sense to me. The other ideas noted, representing a range of particles within the economic sphere, implied that a multitude of factors need reconciliation within a successful economy, and that there is not one, as Rachel Reeves would have it.

Taking that idea, and putting it within the mathematics of Heisenberg's uncertainty principle (which I make clear, I only understand in very small part, at most) it seems that you come up with something for economics that looks more like matrix algebra than the standard differential equations currently used by most economists.

I very much doubt that this is something that I would develop at a theoretical level, and yet there is in that idea something that looks to me to be incredibly powerful. There are two reasons for that.

Firstly, matrix algebra is a form of mathematics which requires specific ordering, and so does the economy.

More than that, though, if you multiply two matrices together, the order in which you do so matters; then the implication is that the action does not work in reverse, and again, nor does the economy.

The implication is that the economy is not something on which to experiment, precisely because real lives are involved. Instead, it is something that you have to take seriously. I am not entirely sure that this is clear to all those who are policymakers at present.

I accept the possibility that I might have gone off on a significant tangent here, but there are ideas implicit in this that I think are worth recording, which is why I have chosen to put them out as a separate blog post.

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