Funding the Future

Economic questions: the Herman Daly 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 its relevance is today. A list of all posts in the series appears at the end of each entry. The origin of this series is noted here.

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 is Herman Daly in this list when he is relatively little known outside specialist environmental economics circles? That is partly because environmental economics is important. He confronted one of the most deeply embedded assumptions in modern economics: that economic growth can continue indefinitely on a finite planet. Daly's work on steady-state economics forces political economy to confront physical limits.

The other is that in the 1980s, I considered pursuing a PhD in environmental economics. I discussed this with a potential supervisor. He provided me with a reading list. I am not sure I ever completed it because I realised back then that I could not do a PhD and pursue my plans to create a firm of accountants at the same time, and I opted for commercial experience at that stage of my career. What I did, however, was read Herman Daly on steady-state economics. What he asked about is what the means to meet economic needs really were, and how the ends economics supposedly served could be justified. His combination of economics, ecology, and ethics was a revelation and a lasting influence. That is why Herman Daly is in this list.

Herman Daly (1938-2022) spent much of his career challenging one of the central dogmas of modern economics: the belief that continuous economic growth is both possible and desirable. Working first within mainstream economics and later helping to establish the field of ecological economics, Daly argued that the economy cannot be understood apart from the physical systems that sustain it.

Conventional economic models often treat the environment as a backdrop or as a supplier of resources and a sink for waste. Daly reversed this perspective. The economy, he insisted, is not the whole system. It is a subsystem embedded within the biosphere, dependent on flows of energy and materials that the planet can supply only in limited quantities.

Once this is recognised, the idea of endless growth begins to look less like ambition and more like denial.

Hence, the ***Herman Daly Question: If the economy is a subsystem of the biosphere, and the biosphere has limits, why do we organise economic policy around the assumption that growth can continue indefinitely?***

The economy as a physical system

Daly argued that economics had become detached from the physical realities on which it depends. Production requires energy, materials and ecological processes. Waste must be absorbed somewhere. These flows are governed by the laws of thermodynamics, not by market preferences.

Yet economic models frequently assume that technological innovation or substitution can overcome any resource constraint. Daly did not deny the importance of innovation, but he insisted that physical limits cannot be wished away by theory.

An economy that ignores its material foundations risks expanding beyond what the planet can sustain.

Growth versus development

Daly distinguished between growth and development. He argued that growth means an increase in the physical scale of the economy, involving more extraction, production, and consumption. Development, however, means improvement in quality, requiring better technology, better organisation, and greater wellbeing without necessarily expanding material throughput.

This distinction is crucial. Growth cannot continue forever in a finite system, but development can. Daly, therefore, argued that mature economies should shift their objectives away from expansion toward qualitative improvement.

The goal should be a steady-state economy in which resource use stabilises within ecological limits.

When growth becomes uneconomic

In Daly’s framework, growth can become uneconomic when the environmental and social costs exceed the benefits. At that point, further expansion reduces overall well-being, even as GDP continues to rise.

Examples are increasingly visible: pollution, climate change, biodiversity loss, urban congestion, and rising inequality. These costs are often treated as externalities, but Daly insisted they are signals that the scale of economic activity has exceeded sustainable limits.

Continuing to pursue growth under these conditions is not progress. It is an overshoot.

The illusion of decoupling

Many policymakers respond to ecological concerns by arguing that economic growth can be decoupled from environmental impact through efficiency improvements and technological change. Daly was sceptical. Efficiency gains can reduce resource use per unit of output, but total resource use may still rise as the economy expands.

This phenomenon, sometimes called the rebound effect, means that efficiency alone cannot guarantee sustainability. Without limits on total throughput, productivity improvements may simply enable faster expansion.

Daly, therefore, argued that sustainability requires attention not just to efficiency but to scale.

The steady-state economy

Daly’s proposal for a steady-state economy does not imply stagnation. Instead, it envisions an economy in which population and material throughput remain within ecological limits while human well-being continues to improve.

Such an economy would focus on stability, resilience and equitable distribution rather than constant expansion. Investment would prioritise maintaining infrastructure, restoring ecosystems and improving the quality of life rather than simply increasing production.

In Daly’s view, prosperity does not require perpetual growth.

What answering the Herman Daly Question would require

Taking Daly’s insights seriously would require profound changes in economic policy and measurement. At minimum, this would involve:

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Recognising ecological limits as binding constraints on economic activity.

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Replacing GDP as the primary measure of success, incorporating indicators of wellbeing and environmental health.

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Stabilising material throughput, ensuring resource use does not exceed planetary boundaries.

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Reducing inequality, which intensifies pressure for status-driven consumption.

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Designing policies that prioritise resilience and long-term sustainability over short-term growth.

These changes would not abandon economics. They would reconnect it with the physical world on which it depends.

Inference

The Herman Daly Question challenges one of the most deeply ingrained assumptions of modern political economy, that growth must continue indefinitely. Daly showed that this assumption is incompatible with the ecological realities of a finite planet.

If the economy is embedded within the biosphere, its scale cannot expand without limit. Eventually, the costs of growth exceed its benefits. Ignoring this truth does not remove the constraint; it simply delays the moment when ecological limits assert themselves.

To answer Daly's question is to recognise that the real challenge of the twenty-first century is not how to grow the economy endlessly, but how to organise it so that human wellbeing can flourish within the limits of the Earth.

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