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Anders Hayden

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BRIEF REPORT

Reflections on *Herman Daly's Economics for a Full World: His Life and Ideas*

Anders Hayden

Department of Political Science, Dalhousie University, Halifax, NS, Canada

ABSTRACT

Herman Daly's Economics for a Full World, by Peter Victor, provides a comprehensive overview of Daly's thought and the life experiences that shaped it. Daly has played a key role in advancing the critique of economic growth, helping launch the field of ecological economics, and creating a foundation for many variations of post-growth thinking. This commentary examines some of Daly's main contributions that have included elaborating the idea that growth can be uneconomic, outlining core principles of a steady-state economy, questioning the potential to decouple economic growth from environmental impacts, advancing the project of moving beyond gross domestic product (GDP) to measure economic performance, and emphasizing the importance of separately addressing the economy's optimal scale, just distribution, and efficient allocation. Also discussed are controversial elements of Daly's work, including his population and immigration proposals. While mainstream economists have resisted these ideas, the most important criticisms come from people sympathetic with his challenge to the growth paradigm, including criticism of insufficient analysis of how the dynamics of contemporary capitalist economies drive a relentless pursuit of growth. As Victor argues, it is time for a new generation to build on the foundations that Daly constructed. Much work still lies ahead in creating an economy appropriate for a "full world," including better understanding of how to reduce growth dependency and creating the complementary cultural and political changes needed to overcome opposition.

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In this important book, ecological economist Peter Victor provides a comprehensive overview of Herman Daly's thought and the life experiences that shaped it, from Daly's youth in Texas to his position as a senior economist at the World Bank. Daly also held a number of academic positions, including at the Department of Economics at Louisiana State University, the University of Ceará in Brazil, and the School of Public Affairs at the University of Maryland. Throughout his career, Daly has stood out as an innovative, courageous, and sometimes controversial thinker who has taken on one of the most important and difficult intellectual challenges of our time: confronting the fixation on economic growth and proposing alternatives to it. The book makes clear that those with a critical approach toward the unending pursuit of production and consumption growth owe a great debt to Daly, while also providing grounds for reflection about what is still needed to take forward a post-growth economic project.

The initial pages of the book provide an account of the early years of Daly's life, in which Victor shows a keen eye for the factors that affected Daly's worldview. One striking story is that of Daly's affliction with polio at a young age that eventually led him to lose an arm. Victor explains that Daly had to come to terms with the fact that some things – a cure for his medical condition, unlimited economic growth on a finite planet – really are impossible; the best response is to accept it and focus instead on what is possible.

The book shows that Daly is no mere economist – or ecological economist, for that matter – but an intellectual whose thought has been built on very broad foundations. Daly's intellectual curiosity and engagement with multiple currents of thought stands out in sharp contrast to the dangerously narrow vision of much conventional economics. His effort to ground economics in both natural science and ethics has drawn on sources ranging from the laws of thermodynamics to his Christian faith. Both of those sources contributed to his critique of economics, a discipline that focuses on expanding economic output (an intermediate means) without acknowledging dependence on the ultimate means (the resources provided for free by nature) and with little or nothing to say about the ultimate ends or

CONTACT Anders Hayden anders.hayden@dal.ca Department of Political Science, Dalhousie University, 6299 South Street, Room 358, P. O. Box 15000, Halifax, NS B3H 4R2, Canada

higher objectives it aims to serve. The work of his mentor and dissertation supervisor Nicholas Georgescu-Roegen on entropy was a major influence on Daly's path to a steady-state vision, although their relationship was difficult and volatile, with Georgescu-Roegen coming across less than favorably in Victor's account. Among the many other political-economic thinkers whose ideas Daly has drawn on are Adam Smith, John Stuart Mill, John Maynard Keynes, Kenneth Boulding, Robert Heilbroner, John Kenneth Galbraith, and Karl Polanyi. Daly is also well versed in Marx's work and, while disagreeing fundamentally with some aspects of Marxian thought, has seen value in the analysis of class conflict and critique of capital's exploitation of labor; indeed, he even developed a hybrid Malthusian-Marxist analysis of population growth in northeast Brazil.

By the early 1970s, the critique of economic growth was gaining ground outside of economics, but Daly was a very rare economist who sought to bring that critical analysis into the discipline. Indeed, one observer cited by Victor gives Daly credit for almost single-handedly "holding the anti-growth fort" in the 1980s prior to the rise of modern ecological economics (to which Daly was a key founding contributor). Daly's growth critique has been based on a particular understanding of economic growth: "quantitative increase in the scale of the physical dimensions of the economy; i.e., the rate of flow of matter and energy through the economy (from the environment as raw material and back to the environment as waste), and the stock of human bodies and artifacts" (Daly 1987, 323; quoted in Victor 2022, 141). Daly distinguished growth from "development," which he has understood as qualitative improvement in nonphysical characteristics. One problem with gross domestic product (GDP) that Daly emphasizes is that it conflates growth and development in a single measure. While the material side of economic output cannot grow forever, there is no limit to qualitative development.

The previous point may lead some to think that GDP can grow without limit through qualitative improvements – in other words, decoupling economic growth from material throughput and related impacts on the environment. However, Daly was one of the first main voices to cut through the overly optimistic claims about the potential for decoupling. He has long emphasized the inability to separate GDP from its material dimension, for example, by pointing out that the move beyond manufacturing to a growing service sector generates substantial material throughput of its own. Indeed, Daly has gone as far as saying that "[r]eal GDP … is the best index we have of total resource throughput" (Daly 2014, 63; quoted in Victor 2022, 142). The latter point is best not taken literally; more direct measures of throughput such as material footprints and carbon footprints are needed to test claims about whether and to what degree GDP can be decoupled from material throughput. The more fundamental issue is that the capacity for decoupling, although not non-existent (e.g., Hausfather 2021; Le Quéré et al. 2019), is limited, and many studies support Daly's basic position by showing that decoupling to date has been far from sufficient to respond to crises of climate change, biodiversity loss, and other ecological challenges (e.g., Haberl et al. 2020; Parrique et al. 2019; Wiedmann et al. 2020).

The book's title highlights one of Daly's key insights: that some ideas that made sense in a relatively "empty" world – notably that economic growth is centrally important for prosperity and progress – no longer make sense in a full world. One related insight is that growth can become uneconomic. The benefits of growth are greatest when a poor society gains the capacity to meet basic needs, but as growth continues, the benefits diminish while the costs – both ecological and social costs – grow. Daly argued that growth should cease when decreasing marginal benefits are equaled by increasing marginal costs – the point where the economy has reached its optimal size. That point has already been reached and surpassed in high-income countries, where growth is now uneconomic, Daly maintained. This is a radical idea, but – as with many of Daly's key ideas – it is grounded in large part in conventional economic thinking (in this case, the idea that one should no longer pursue something once the marginal costs exceed the marginal benefits).

Daly's effort to show that growth had become uneconomic was related to his work to find better ways to measure economic performance. With John Cobb and Clifford Cobb, he developed the Index of Sustainable Economic Welfare (ISEW), which others later reformulated into the Genuine Progress Indicator (GPI). The ISEW is not a perfect indicator – and not, according to one critic, an index of sustainable economic welfare (Neumayer 1999). Indeed, as Victor points out, Daly was aware of the ISEW's limits, and admitted that: "If GNP were a cigarette, then the ISEW would be a better cigarette with a charcoal filter. If you are addicted to cigarettes it's better to smoke one with a charcoal filter; if you are addicted to numerical measures of welfare, it's better to use the ISEW" (Victor 2022, 116). Daly's answer to the question of how to measure economic performance could be considered a first draft that requires further refinement or, arguably, a different approach to well-being and sustainability

measurement altogether. Nevertheless, Daly has played a key role in advancing the debate about the need to move beyond GDP, which has not always been adequately recognized, as Victor points out.

Seeing the world as full, and acknowledging the possibility of uneconomic growth, leads to the question of the appropriate scale for the economy, an issue that mainstream economists and policy makers ignore (other than arguing that the appropriate scale is bigger than whatever size the economy has now). For Daly, optimum scale is one of three key economic issues along with just distribution and efficient allocation, which should be addressed in that order, each with separate policy instruments. In other words, it is a mistake to think that one can ignore scale as long as a just distribution and efficient allocation are achieved, or that one can address distribution indirectly by increasing the economy's scale. The idea that growth is no substitute for redistributive policies to ensure just distribution reflects Daly's radical and egalitarian side, as does his related critique of the use by privileged elites of the promise of growth to justify large income and wealth inequalities. Indeed, Daly has called for limits on the range of inequality through policies such as a minimum and maximum income. Once questions of appropriate scale and just distribution are dealt with, Daly's approach becomes more economically conventional, with an emphasis on markets to achieve efficient allocation. In a 1992 article, Daly pointed to emissions-trading schemes as an approach that combines the three key issues of scale (the emissions cap), distribution (the decision about how to assign emissions allowances), and allocation (trading of allowances in markets). The experience of emissions trading in the years since then has shown the complexity and controversies in making such systems work in practice. But what stands out is the way that Daly's emphasis on scale, distribution, and allocation creatively combines a strong ecological consciousness, a progressive/left-leaning concern for equity in distribution, and more conventional market-oriented thinking.

Readers of this journal may find particular interest in Daly's thinking about consumption, which encapsulates many core elements of a critique of the unsustainability of consumer society and highlights key blind spots in orthodox economics. He was one of the early voices in the 1970s to note the impossibility of extending levels of resource consumption in the United States to the entire world population, which then numbered a mere four billion. He took the ethical position that "the extravagant luxuries of the present [should not] take precedence over the basic needs of the future" (Victor 2022, 159) – an idea that may seem like "common sense," but which runs counter to most economists' emphasis on the primacy of responding to preferences revealed in the market (i.e., those preferences backed up by spending power). Daly also challenged the extreme individualism of *homo economicus* – the caricature of atomized, rational, self-interested humans that populates economics textbooks – and instead put forward a vision of "person in community," which (among other implications) draws attention to the social determinants of consumer preferences including the preferences of others, advertising, education, and culture. Daly wrote: "The person-in-community understanding of who we are means that my welfare depends much more on the quality of all the relationships that define me than on my external relations to the commodities I buy or consume" (Daly 2014, 159; quoted in Victor 2022, 188). As Victor points out, these ideas are supported by recent research showing the importance of non-material sources of well-being such as trust, sense of community, and belonging (e.g., Barrington-Leigh and Galbraith 2019; Helliwell 2019). Meanwhile, Daly's critical perspective on economic growth was due in part to an appreciation of the way that increased consumption takes on the characteristics of a zero-sum game in rich societies, as relative income becomes more important than absolute incomes in determining people's well-being (as reflected in the Easterlin paradox). Victor notes that Daly also drew on Fred Hirsch's analysis of positional goods which provide status because few people have them. As positional goods and relative status become increasingly important in societies where basic needs are largely satisfied, economic growth becomes increasingly unable to generate additional well-being as it cannot create any more positions at the top of the relative consumption hierarchy.

While Daly made many contributions, arguably of greatest significance is his work outlining the principles of a steady-state economy (SSE) that allows qualitative development without quantitative growth. For Daly, an SSE is "an economy with constant population and constant stock of capital, maintained by a low rate of throughput that is within the regenerative and assimilative capacities of the ecosystem." Alternatively, an SSE could be thought of as "a constant flow of throughput at a sustainable (low) level, with population and capital stock free to adjust to whatever size can be maintained by the constant throughput" (Daly 2008, 2; quoted in Victor 2022, 168). Daly's writing on steady-state economics appears in many different publications; Victor provides a valuable service by bringing together and summarizing 28 principles that represent the core of Daly's steady-state economics. In addition to many of the points covered

above, these include the "pre-analytical vision" that the economy is a subsystem of the biosphere and economic activities are subject to the laws of thermodynamics, as well as points such as the need to stop counting the consumption of natural capital as income, tax labor and income less and resource throughput more, keep renewable resource-harvest rates at or below regeneration rates, and limit waste-emission rates to the assimilative capacities of the ecosystems. Many of Daly's SSE principles have come to be core ideas in thinking about sustainability.

Victor is clearly on Daly's side, concluding that Daly was right in most of the academic debates examined in the book. That said, Victor does not shy away from discussing controversial aspects and criticisms of Daly's work. These include Daly's questioning of aspects of the theory of evolution and – of more direct relevance to matters of sustainability – questions of population and immigration. Daly is certainly not alone in thinking that all three variables on the right-hand side of the I = PAT equation – population, affluence, and technology – are important and need to be addressed. But while some of his ideas for limiting population growth find quite broad support, such as expanded provision of sex education and family-planning services, others have been more contentious. Daly favored a system of tradable birth licenses, which – following the logic of emissions trading – would cap the total number of births, give everyone a right to a limited number of birth allowances, and allow those allowances to be traded. Daly argued that this system was preferable to China's more rigid one-child policy. Victor points out that Daly has said little about this idea since 1994 – a reflection of its lack of appeal and the growing evidence of falling fertility rates without such policy interventions.

Daly's belief in the importance of a stable population as a core element of an SSE also led him into the contentious issue of immigration. In the influential 1989 book, *For the Common Good,* he and John Cobb argued in favor of keeping legal immigration to the United States close to existing levels, while strengthening control of borders to bring an end to illegal immigration and reducing total immigration numbers. Victor brings out the nuances of Daly's position, which was based on reasoning quite different from the typical "build the wall" arguments. In addition to the ecological concerns underlying belief in a steady state, Daly argued that illegal immigration created a supply of cheap, powerless labor that undermined wages and increased profits, benefiting capital at the expense of workers. At the same time, he acknowledged a responsibility to maintain substantial amounts of legal immigration due, in part, to the United States' role in creating situations that people were forced to flee – as in the case of interventions in Nicaragua and El Salvador. As Victor points out, similar considerations remain very relevant today given the role of high-income nations in causing climate-induced migration. Yet Daly also questioned whether immigration to the United States was necessarily the best way to meet obligations to those outside the country and wondered whether development assistance to the countries in question was a better option. Daly also highlighted an issue often ignored in immigration debates: the costs of the loss of educated and skilled workers to communities that are the source of immigrants. Rather than emphasizing individual rights, his assessment of the net costs and benefits both to the communities that immigrants originate from and where they settle reflects Daly's "person-in-community" approach, which he also applied to other issues such as international trade policy.

Although Daly has encountered resistance from mainstream economists (to the extent that they have paid attention to his work), the more interesting criticism comes from those who are broadly sympathetic with Daly's challenge to the growth paradigm. Victor examines this "friendly fire" in a chapter on "Heterodox critiques of the steady-state economy," which is one of the most important parts of the book for readers interested in thinking about how to build on and go beyond Daly's contributions. One such criticism is that Daly, despite his radical challenges to economic orthodoxy, still relies too heavily on a neoclassical economic framework. Daly has tried to ground key ideas such as "uneconomic growth" in neoclassical ideas. He also shares with neoclassical economists a belief in the value of markets in achieving efficient allocation, which he sees as preferable to a reliance on planning, whether central planning of the Soviet variety or the "democratic ecological planning" proposed by some eco-socialists. Some market-oriented excess is evident in the transferable birth-licence proposal discussed above. That said, Victor makes clear that Daly is no market fundamentalist; for him, the market's role is limited to allocation once the core issues of the economy's scale and distribution are determined.

The criticism that hits closest to the mark, from my own perspective, is Daly's lack of analysis of how the dynamics of a capitalist economy drive a relentless pursuit of growth. The idea that there is an optimal size of the economy, which can in principle be determined by finding the point where the marginal costs of growth equal the marginal benefits, leaves the impression that policy makers can simply hit the brake and stop further growth at that

point. However, even if policy makers wanted to do so, they would still be faced with the task of managing an economy whose institutions have been built around the endless pursuit of capital accumulation – and become dependent on continued growth to solve problems like unemployment and the financing of the welfare state. This points toward the need for a more substantial – and politically contentious – economic transformation to enable people's core needs to be met in equitable and ecologically sustainable ways. In recent years, there has been a growing acknowledgement of the need to better understand growth imperatives (Richters and Simoneit 2019; Wiedmann et al. 2020) and the related idea of growth dependencies and how to reduce them (Jackson 2020; Petschow et al. 2020). Daly's work can contribute to these efforts – e.g., his ideas about how to address employment concerns without growth, through measures such as work-time reduction – but much more work is needed on these issues, not only in terms of academic research but also, as some in the degrowth movement have argued, work for cultural change and building the kind of political movement that will be needed to overcome opposition.

Even when Daly's answers are lacking in some way, he is an impressive figure for wrestling with key questions that others would often prefer to sidestep. The book makes clear how much impact Daly has had on a wide range of key academic and policy debates – including setting the stage for a number of variations of post-growth thinking (e.g., degrowth, doughnut economics, well-being economy) – and on a great many individuals involved in the quest for sustainable economic alternatives. Interspersed throughout are comments that Victor has compiled from many leading thinkers in ecological economics and other sustainability-related fields, who speak of how Daly's work inspired and influenced them. At numerous points in the book, I had my own personal recollections of this kind, reminded of the ways that Daly's ideas had shaped my thoughts about post-growth economics in general and specific issues such as work-time reduction and the need to move beyond GDP as a prosperity indicator. Undoubtedly, many other readers with a critical approach toward growth economics will be similarly reminded of the ways that Daly had a profound effect on their own thinking, while others may realize for the first time how he blazed a trail that many have since followed.

Daly received the Right Livelihood Award (sometimes referred to as "the alternative Nobel Prize") in 1996 for his contributions to ecological economics. Some years ago, there was also a campaign for Daly to be awarded the Nobel Prize in economics. This book provides strong evidence in support of that cause, while also illustrating the obstacles to its success. Victor depicts the marginalization that Daly has faced within the discipline of economics throughout his career despite his efforts to ground his ideas in classical economics. Daly has been treated as a heretic for his challenges to the growth paradigm and felt frustration at the reluctance of mainstream economists to take his arguments seriously and engage with them. That being the case, Daly can still be a source of inspiration for his courage in going against the current and his great influence despite being ostracized by mainstream economists.

As Victor argues, it is now time for a new generation to build on the foundations that Daly has constructed. For those interested in the project of constructing an economics and an economy that respects planetary boundaries, reading this book is an excellent next step.

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ORCID

Anders Hayden http://orcid.org/0000-0003-1479-9573

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