

EDITORIAL

Just rewards: Herman Daly, the Heineken Environmental Prize,
and the *Ecological Economics* best article award

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Herman Daly is familiar to readers of this journal. He was a co-founder of the journal and of the International Society for Ecological Economics (ISEE) and has been an Associate Editor since the journal's inception in 1989. He has also published several influential articles of his own in the journal. In 1994, he and Robert Goodland were awarded the first Kenneth Boulding Memorial Award by ISEE. In 1996, he was awarded the \$160 000 Dr. A.H. Heineken Prize for Environmental Sciences by the Dutch Academy of Sciences. In the words of the prize committee, the award was made 'for his outstanding and original contribution to understanding the socio-economic driving forces that induce environmental degradation, and the ways to address these from a socio-economic perspective. He was one of the first economists to analyze environmental problems.'

The committee goes on to detail their reasons for awarding Dr. Daly the prize, which I quote extensively from here in order to convey what aspects of Dr. Daly's work they considered to be worthy of the prize:

"In essence, the originality of his work lies in the approach of environmental degradation as a phenomenon that is fundamentally related to the scale of economic activity at the macro and even the global level, which implies a deviation from the approach typical of mainstream economics, which essentially regards environmental problems as manifestations of so-called relatively isolated 'external effects' of some specific economic activities. Daly very early on observed that such effects are so pervasive and so structurally embedded in economic activity per se that they merit direct analysis as a macro-economic phenomenon. He saw that economic activities entail a fundamental claim on natural resources and on the limited environmental capacities to buffer such claims and to restore its regenerative and productive potentials, for which he used the term 'throughput.' Economic growth as traditionally understood—that is, growth of the national product or national income—was recognized by him as inherently driving the economy to a scale, that is, a level of throughput, which may exceed the environment's carrying capacity. Daly was among the first economists to link the study of human systems to that of ecosystems, and to

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deal with these systems as an integrated whole subject to a common set of physical and biological constraints. His approach entailed a fundamental change in the perception of the problems of resource allocation. His work on steady state economics elaborates the implications of acknowledging that the earth is materially finite and non-growing and that the economy is a subset of this limited global system. Hence economic growth is only possible, or 'sustainable,' as long as throughput does not surpass these limits. In terms of throughput, ultimately some sort of 'steady state'—to borrow a mathematical phrase—is to be attained and maintained. This implies that there can only be ongoing growth to the extent that economies are successful in enlarging the level of services derived from material and energetic throughputs.

In recent years Professor Daly has been writing on aspects of natural capital and the meaning as well as the measurement of economic welfare. His 'index of sustainable economic welfare (ISEW)' has caused a major shift in thinking about wealth measurement and penetrates into thinking about national income accounting by important international institutions such as the European Union, the Organization of Economic Cooperation and Development, and the United Nations. Another outstanding feature of his work is that he has successfully indicated how, in the analysis of environmental issues, ethical aspects must, and can, be incorporated so as to provide a proper basis for prescriptive work on how to deal with these issues.

Herman Daly has never wavered under the often intense criticism from more technocentric analysts and policy makers. He has remained true to his personal and environmental ethical position and academic insights while rigorously defending his arguments and views.

Professor Daly worked in a range of universities in the US and Brazil. From 1988 to 1994, he was associated with the World Bank as a Senior Economist, and there he was instrumental in giving shape and substance to the Environment Department of the World Bank. His contributions there were outstanding, especially

in two areas: first, the development of the insight—which was later adopted as a principle during the UN Conference on Environment and Development in Rio de Janeiro in 1992, and is now a standard view in World Bank projects and programs—that environmental costs must be in market prices of goods and services; secondly, in preparing the ground for the acceptance in the World Bank of the notion of 'sustainability' as the conceptual basis of the Bank's work in developing countries. Although Daly's notion of a steady state economy has not gained full acceptance, he has nevertheless been instrumental in making the development approach of the World Bank noticeably more susceptible to environmental concerns.

The jury follows several supporters of this nomination in concluding that it is difficult to think of other environmental economists who have made such a consistent and high quality contribution both to academic debates and to policy relevant debates about the environment and its conservation requirements. One of these supporters observes that Professor Daly 'has been steadily swimming against the stream for the last 30 years and the real value, magnitude, and brilliance of his contributions have only recently begun to be widely realized and appreciated.' The jury hopes that by awarding him with the Dr. Heineken Prize for Environmental Sciences, Herman Daly will be stimulated to proceed with his work and that this will be an encouragement not only to him personally, but also to those who have joined him in his efforts to develop the discipline of ecological economics."

The prize committee thus explicitly wished to encourage not only Herman Daly, but the entire venture of ecological economics (I prefer not to think of it as a discipline) so we all can share in the prize's recognition of the importance of the field. In keeping with that spirit, Herman Daly generously donated part of his 1996 Heineken Environmental Prize to ISEE to establish an annual Best Article Award for papers published in *Ecological Economics*. The award is intended to provide an additional incentive to publish in *Eco-*

logical Economics, and also to allow us to reflect on the papers published each year. The initial gift has been placed in a green money market account and the interest will be used to fund the annual prize of \$500. Additional contributions to the prize fund are being sought and the award amount is expected to grow in the future.

The 46-member editorial board of the journal was asked to vote to determine the winner of the Best Article Award. They were asked to vote for their top 3 choices (1 for best paper, 2 for second best, 3 for third). Only full-length articles were eligible for the award (Commentaries, Surveys, Analysis, and Methods—not Editorials, News and Views, Letters, or Short Notes). There were 72 full-length articles published in 1996; fifteen articles received first place votes and 30 articles received at least 3rd place votes.

The winner for the best article in 1996 (in a very close vote) was: Robert Ayres for his article: Limits to the Growth Paradigm (Ayres, 1996a). Ayres, a well-known figure in mainstream economics who pioneered application of the materials/energy balance approach (Ayres and Kneese, 1969), makes quite a departure from the conventional views in his award-winning paper, and picks up many of the themes for which Herman Daly was recognized. The paper makes four basic points and backs them up with a well-tempered mixture of reason and data: '(1) that economic growth (as conventionally measured) is not, and never has been, the most important contributor to increasing human welfare; (2) that technological progress has always been the primary source of both growth and welfare (considered separately); (3) that trade was at best a minor contributor to growth in the past and is probably now contributing negatively to both national wealth and equity, hence to welfare in Western Europe and North America and (4) that both growth (of GDP) and trade are increasingly incompatible with environmental protection. In fact, while increasing prosperity breeds environmental sensitivity, many of the processes by which it is achieved are environmentally destructive.' While these arguments are certainly not new, Ayres was able to back them up with sufficient intellectual force to make a compelling new statement, one that should have a major impact on the debate.

The second and third place articles were both co-authored by Christian Azar, so I think he deserves some sort of special recognition. Second place went to his article with John Holmberg and Kristian Lindgren on Socio-ecological Indicators for Sustainability (Azar et al., 1996), while third place went to his article with Thomas Sterner on Discounting and Distributional Considerations in the Context of Global Warming (Azar and Sterner, 1996). Both of these articles were substantial contributions to the field. A total of 15 articles received first place votes, and 30 articles received some votes (out of a total of 72 eligible articles for the year), so the voting was actually quite evenly distributed. Other articles receiving first place votes were (in alphabetical order): Ayres (1996b), Bojö (1996), Boxall et al. (1996), Browder et al. (1996), Brown and Herendeen (1996), Darwin et al. (1996), Huetting (1996), Munda (1996), O'Hara (1996), Rotillon et al. (1996), Tol (1996), and Winter-Nelson (1996).

In summary, we are extremely pleased that ecological economists and ecological economics are being recognized and rewarded, both within ISEE and from the outside. Congratulations are in order all around for a job well done.

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