

Review Essay

Unravelling the 'P' Word in Environment and Development

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Partha Dasgupta, *Time and the Generations: Population Ethics for a Diminishing Planet*. New York: Columbia University Press, 2019. 344 pp. US\$ 28.00 / £ 22.00 hardback

INTRODUCTION

Partha Dasgupta's book *Time and the Generations: Population Ethics for a Diminishing Planet* (2019) engages us in one of the most taboo issues in development debates: the environmental consequences of population. He asks what level of economic activity our planet can support and what that implies for the optimal global population. As a leading British-Indian economist, Dasgupta models how adverse externalities — poverty, degradation of the environment, resource stress — impact the economy and through his mathematical logic shows the importance of knowing optimum population numbers.

Dasgupta's book is a contribution to population ethics with regard to our obligations to future generations as well as how to value numbers of people in terms of well-being and environmental sustainability. The book is largely based on formal economics with a series of mathematical calculations to suggest the optimal demographic future or the study of population axiology. The book builds on the thinking of demographers and utilitarians including Jeremy Bentham, J.S. Mill, Alfred Sauvy and Henry Sidgwick. But most of all, it builds on Dasgupta's own half century of contributions to population ethics.

The book opens with Dasgupta's essay on 'Birth and Death', in honour of his mentor, Kenneth J. Arrow, with introductory remarks on economic demography, utilitarian ethics, the biosphere and fertility intentions. In Part I ('Foundations'), which follows, Dasgupta uses formal economics

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to look at well-being (p. 54), reproduction replacement (p. 72) and optimum population size, to arrive at his 'generation-relative' utilitarianism (pp. 91–92). This is done by presenting a series of equations that look at population over time in order to calculate an optimum population. In Part II ('Applications'), Dasgupta relates his economic analysis to environmental issues. A series of models allows him to take into account the ecological footprint, ecosystem services and the biosphere, leading to a discussion of how to calculate the earth's carrying capacity (p. 107). The reprinted essay jointly written with his daughter Aisha Dasgupta arrives at an actual number — around 3.5 billion, which is under half the current world population (p. 259).

In addition, the book includes a foreword by Robert Solow, correspondence with Arrow himself and commentaries on the 'Birth and Death' essay from Joseph Stiglitz, Erik Maskin and Scott Barrett, as well as the essay mentioned above by Dasgupta and his daughter (who works at UNFPA) on population in relation to inequalities and reproductive rights.

In a nutshell, Dasgupta argues that awareness of the limitations of our biosphere should lead to smaller optimum population. He emphasizes the importance of sustainability and the need to focus on the wellbeing of future generations. His work raises, but does not resolve, the ethical issues that the idea of optimum population implies and he asks that we confront these issues — in his case, through formal economic thinking.

The book is a difficult set of essays to comment on, given the thorny ethics that the central question implies. Dasgupta states he is 'just' trying to get the numbers right and is principally addressing population ethicists. He sets out to ascertain the maximum level of economic activity the biosphere could support, using simple models to find globally optimum population numbers: 'the idea is to develop methods of analysis and get a sense of the numbers involved, nothing more' (p. xxxiii). But, as I aim to show in this review, the book is about much more. While I am not in a position to comment on the formal analysis and 'back of the envelope' empiricism, I can point to his relentlessly anthropocentric view: wellbeing refers only to humanity and he takes a one-world view to population (there are no countries or diversity of peoples). I would also note his strong critique (pp. 21-25) of Amartya Sen's capabilities approach, and a dismissive reference (p. 102) to The Stern Review (Stern, 2007) which is usually considered a major study on the economics of global warming. The questions Dasgupta asks around 'birth and death' — the core of the book — touch economic demography, reproductive decision making and natural resource use as well as a host of other socio-ecological discourses. His treatise is about far more than just getting a 'sense of the numbers'.

Sir Partha Dasgupta

It could be helpful to know a little more about Partha Dasgupta. The essays in this book highlight his position at the forefront of the economics profession, with letters from Arrow, a foreword by Solow, and glowing commentaries by other winners of the Nobel Memorial Prize in Economic Science. His credentials as a Cambridge Emeritus Professor are evident. He speaks to population ethicists as someone knowing how economic science can help them to evaluate the ethics of procreation and the consequences of reproductive decisions on future generations in a resource-constrained world. As a public intellectual, Dasgupta is Chair of the Management Board of the Centre for the Study of Existential Risk which is 'dedicated to the study and mitigation of existential risks', making the economic as well as environmental case for biodiversity. He contributed to the 2017 Papal Encyclical on Climate Change.

In *Time and the Generations*, he also speaks as a family man. Procreation, as he says, is at once 'so private in motivation and so public in its consequences' (p. xxx). He discloses his intimate decisions with his wife about whether or not to have children, and how many. He refers often to his collaborative writings with his daughter, Aisha, particularly when he speaks about gender equality and women's reproductive rights in poor countries (p. xxxi). Their joint paper is reprinted in the book, and he refers to it when he discusses socially embedded preferences around having children while at the same time needing to avoid 'population overshoot' and therefore requiring policies to reduce 'the externalities' (pp. 54, 237).

Some interesting 'entanglements' of value and fact (Putnam, 2003) emerge from Dasgupta's text. Perhaps more as an aside. I found the references to Homerian tales intriguing when he refers to deep emotional needs that 'we' all have to create children and then the unbearableness of life for the half a billion people who are malnourished and prone to disease, living in conditions where 'you' wouldn't want to create children. I found the tales of Ajax and Athena, Odysseus and Achilles somewhat extraneous, but given the nod to Sidgwick and Nagel as well as Parfit. I recognize that these are rich references to other scholarly conversations/conventions (pp. 61– 64). But more puzzling, as I turned the page, was to be asked to consider the problem of Sleeping Beauty who is suspended in a state of unconsciousness, when discussing parental obligations or 'agent-centred prerogatives to population axiology' (p. 65). That Dasgupta uses this image, plucked from misogynist fairy tales, to discuss what he sees as parents' common project of whether or not to have/whether or not to revive their daughter in a discussion on generational well-being and population ethics, made me wary.

For more biographical detail see the interview by Prof. Alan Macfarlane on the Cambridge website www.econ.cam.ac.uk/people/emeritus/pd10000

^{2.} See: www.cser.ac.uk/about-us/

I hope it is enough to state here that: 'it matters what stories we tell to tell other stories with' (Haraway, 2016: 118).

Entanglements

The book, though somewhat elusive for those who do not do economic modelling, is in other ways marvellously clear. To fully understand it, as Dasgupta proposes, one needs a certain education and a certain belief in neoclassical economics as the best way to comprehend the world. Dasgupta openly positions himself as a believer and fully embraces his methods and theory. The commentaries printed in the book resound with appreciation and admiration. Stiglitz states that this book is of 'great economic and philosophical importance' (p. 199) even as he quietly suggests 'we cannot assume that all individuals have the same well-being within generations' and asks about the issue of policy responses (p. 204). Maskin agrees that Dasgupta has shown, from an economic, philosophic-ecological perspective, in elegant models, that human beings are living well beyond their sustainable means, though he warns that other policies are needed (beyond population policy) to ensure 'humanity's global footprint stays on the safe side of dangerous thresholds' (p. 192). Solow also asks some tough questions about how to combine population policy with distribution of income and wealth, while at the same time speaking about his 'admiration and affection for Partha and Aisha' and saying that it 'took courage to tackle so broad a problem with bare hands' (p. xxvi). Dasgupta carefully responds, reminding his commentators that he has been translating ethical issues into modern economics, and suggests that his work is illustrating 'how to study the population-consumption-environment nexus, in order to tell us how far we are today from where we probably should be' (p. 218).

Reading this book is like having a glimpse of discussions in the common rooms of Cambridge colleges. If that seems impertinent, I should mention my own minor entanglement with Dasgupta. My father was a member of the Cambridge Faculty of Economics, and a close friend of Partha Dasgupta and his father, A.K. Dasgupta, who was also a distinguished economist. I have learnt, at a distance, about the personalities in the different debates of economic schools of thought. I also engaged in some of the cross-disciplinary debates among social sciences, humanities and economics in Cambridge when a visiting fellow at Clare Hall writing about population debates (Harcourt, 2009). And, somewhat like Aisha Dasgupta, I have approached the population, consumption and environment nexus from a gender, development, human rights perspective, engaging in transnational advocacy and policy work with UNFPA and WHO.

I now move to my substantive review, looking at debates that address the population—consumption—environment nexus which Dasgupta touches upon but, I suggest, ultimately evades. In my activist and professional worlds

(as feminist political ecologist, working at an international NGO, and now as an academic at the International Institute of Social Studies) I have chosen to 'stay with the trouble' (Haraway, 2016). Challenging the god's eye view, I am interested to examine how development institutions, disciplines and knowledge systems intersect in order to undertake analysis that goes beyond what an abstracted disembodied elsewhere allows. The well-being of our communities and the planet requires a robust knowledge about the diversity among people, history and their environments, with strong and clear policy and actions, that are triggered but not answered by Dasgupta's book.

Dasgupta's essay might well be an impressive work in formal economics, but it is not entirely clear to me what we can actually learn from his calculations to solve the problems of our real and messy world. Taking off from the quandaries Dasgupta's treatise presents, I explore three sets of debates. I first look at the non-neutrality and specific stance of mainstream economics in relation to values and methodological uncertainties expressed by Dasgupta and other economists working on sustainability. Second, I look at the ways in which population 'matters' in ecological economics and degrowth literature. Third, I address the debates around feminism and environment with a focus on reproductive justice. In conclusion, I suggest why engaging in such debates is important now.

THREE SETS OF DEBATES

Mainstream Economists' Approaches to Sustainability and Population

Discussions about the non-neutrality of values and methodology could seem somewhat superfluous to those of us outside the economics profession. For many of us, it seems obvious that speaking about population and sustainability — and how to consider well-being — inevitably carries values which are entangled with facts and are informed by an ethical stand. Dasgupta is on record disputing this with Amartya Sen and Martha Nussbaum (Dasgupta, 2007), and there is an interesting exchange between Hilary Putnam, Vivian Walsh and Dasgupta (Dasgupta, 2007; Putnam and Walsh, 2007, 2009) on facts and values, in which Dasgupta argues that economics is a predictive science, analytically neutral and scientifically pure. He suggests his analysis (mathematical models) can be divorced from his explicit values, and development (welfare) economics is somehow separate from true economics in ways that segregate off issues of well-being, the development of human capabilities and rights from economics proper. Putnam and Walsh describe it as 'the imposition of a sort of conceptual apartheid' (Putnam and Walsh, 2009: 296). While I must leave aside Dasgupta's critique of Sen's capabilities approach, due to space constraints, the Dasgupta, Putnam and Walsh exchange is interesting, precisely because it points to how Dasgupta's value judgement and factual judgement inform each other. As Putnam puts it: 'The world we inhabit when we describe the world for the purposes the economist is interested in — is not describable in "value neutral" terms. Not without throwing away the most significant *facts* along with the "value judgments" (Putnam, 2003: 396).

Similarly, mathematical modelling is not a neutral method. Acknowledging my discomfort with all the modelling in the book, I looked further into economic methods in sustainability studies and found that the same concern is openly discussed by the economics profession. In another article that uses images from Homerian adventures — depicting economists sailing 'between Scylla and Charybdis' — Strunz et al. (2016: 421) discuss economic methods in sustainability studies, asking if economic concepts might actually increase sustainability problems because they fail to grasp the moral challenge of sustainability.

While Strunz et al. do not advocate completely rejecting mainstream methodology, they do argue that sustainability is best served by a methodological pluralism and that the decisive criterion for whether a given economic method should be used or not is its suitability in tackling the sustainability problem at hand. They summarize a lively scholarly debate about the explanatory power of formal models interpreted variously as metaphors. thought experiments, credible counterfactual worlds or heuristics. They reference one of Dasgupta's studies on ecological non-convexities (Strunz et al., 2016). My point here is that economists' translation of real-world problems into economic models needs to be translated back. This is one of the tensions in Dasgupta's book, which asks important real-world questions about generational fairness, population and the earth's carrying capacity through neoclassical mainstream economic models, but does not do the work of translating back. The highly structured and rule-bound language of mathematics that he selects gives a sense of uniformity and rigour that can be understood across place and culture. It is a universalizing technology for representing truths in ways that minimize complexity and erase the position of the person producing the knowledge (Sasser, 2018). As Struntz et al. state, in such large questions, the domain of standard economic tools is limited. The guest for sustainability science ultimately depends on the power of judgement (2016: 432) and how it can be applied and in which context.

The recognition of the values that underlie economic methods and how people see their applicability to the real world is crucial, particularly in relation to the appropriate policy measures which build on the underlying assumptions of those models. In mainstream policy papers on population and environment there is no polite theorizing that seeks to prove the need to reduce population numbers. For example, in policy discussions on how to meet the Sustainable Development Goals the implicit assumption is that lower population growth will support future human well-being and the natural environment (Abel et al., 2016). The narrative is that better female education and reproductive health can reduce world population growth through fertility declines particularly in Africa. This assumption is made explicit

in a paper by Bongaarts (2016) in the science journal *Nature* which states bluntly that rapid population leads to environmental degradation, economic stagnation, maternal mortality and political unrest. The question is 'how can the population juggernaut be stopped, or at least slowed?' (ibid.: 409). With no regard to the racialization of such a statement, the paper focuses on population projections for sub-Saharan Africa and pushes for 'education and family planning to stop the 74 million unplanned pregnancies' as a major development issue (ibid.: 412).

The origins of the inequalities that led to scarcity and environmental degradation — agribusiness, mining, timber and other corporate interests — receive little attention in this debate. In these scenarios, population pressure is linked to problems of scarcity aggravated by too many children and over-use of resources. Contextual questions around property rights, labour obligations and who decides about the management of environmental resources are not asked. In these debates there is the untroubled assumption that the real issue is scarcity caused by overpopulation and environment degradation. As Lyla Mehta (2010) has pointed out in her review of mainstream economic debates on scarcity, the concept has been naturalized and universalized in academic and policy debates while local knowledges and experiences of scarcity that identify problems more accurately are not considered. She argues that the problem lies not so much in scarcity itself but in how scarcity is socially generated: in other words, the problem of access due to a range of complex historical and political conditions (ibid.). Betsy Hartmann, a well-known analyst of the implicit gender and racial blindness of population policy, puts it more strongly: 'When this god of scarcity meets the devil of racism, the result is the greening of hate' (Hartmann, 2009: 11).

Population Matters in Ecological Economics

Ecological economics is more concerned with ecological footprints — that is, resource depletion and environmental degradation, how many goods and services people consume, and the technological efficiency of production — than with population. The work of Paul Ehrlich (the population bomb) and Garrett Hardin (the tragedy of the commons) that inform Dasgupta's approach are treated gingerly (p. 46) as 'there is a concern that policies to slow growth will violate the right of couples to determine their own family size'. Discussing the earth's carrying capacity in relation to population is, according to ecological economists, a minefield. Very few are

^{3.} Garrett Hardin (1968), in his famous tragedy of the commons essay, was concerned that the freedom to reproduce (or breed, as he termed it) would bring ruin to all. Paul Ehrlich (1968), in his equally memorable population bomb treatise, argued that nations of the earth were overpopulated and in need of population control globally, given resource shortage and population boom in the global South, and overconsumption of resources by affluent populations in the global North. His I=PAT model was intended to represent a universal set of

willing to discuss planetary limits and population constraints in terms of intergenerational justice as it is difficult to 'control [population] consciously, humanely and democratically' (Alcott, 2012: 115). The focus is therefore on sustainable consumption rather than on population numbers. Ecological economists generally feel out of their depth taking on issues concerning sexual rights, contraception, abortion, migration and religion as well as histories of population control and Eugenics. One exception is a recent article by Jane O'Sullivan (2020) who argues for the need to look more closely at social and environmental influences of population rates and demographic pressure on the environment. She posits that reducing population is a way to increase the carrying capacity of the earth, candidly stating that fewer people is always better. Worryingly, she speaks of the 'extra population' born in Africa which has diminished prospects for Africans and has led to mass exodus and therefore 'risks' to the global community.

Degrowth, an upcoming field in ecological economics (Gerber, 2020), takes on the issue of population and environment but with a strong awareness of women's autonomy to choose whether and when to have children. Degrowth takes the perspective of those marginalized in the growth economy, calling on wealthy, consumer-driven post-colonial nations of the global North to repay an 'ecological debt' to the global South. Its proponents are critical of Eurocentric and gendered assumptions in relation to how to determine well-being and completely refute population coercion. They are clear that it is unfettered economic growth in the global North which leads to environmental depletion and deep inequalities. Giorgos Kallis, in his rereading of Malthus, argues that speaking of population in terms of numbers is racist, classist and patriarchal. The issue is about how all of us can learn to live within our limits to stop ecological and social destruction (Kallis, 2019).

Feminism and Environmental and Intergenerational Justice

Dasgupta's book resonates with economic work on sustainability and with ecological economics, although he may not be in conversation directly with advocates of degrowth. His book, however, is completely at odds with the feminist literature which scrutinizes the use of population in discussions of environmental and intergenerational justice particularly around social reproduction. Social reproduction is understood in this debate as the 'intersecting complex of political-economic, socio-cultural, and material-environmental processes required to maintain everyday life and to sustain human cultures

relationships, with a one-size-fits-all approach focused on population control, changing systems of technology distribution, restricted resource use, and poverty alleviation at a global level. See Sasser (2018) for a more detailed discussion.

and communities on a daily basis and intergenerationally' (Di Chiro, 2008: 281).

In contrast to mainstream economics, feminist environmental justice bridges the natural sciences, social sciences and humanities, and is based on action-oriented research methodologies. It refutes any claim of neutrality by the academy and questions the spilt between theory and practice. The focus is not on the numbers but squarely on the lives of people on the margins whose environments are exploited and who are engaged in life and death battles. 'Birth and death' are seen as not just about state and markets but about social processes and institutions which create communities and provide the social, economic and ecological conditions that support human security and sustainability upon which, ultimately, all production, exchange and accumulation rest (Di Chiro, 2008, 2015).

Feminist environmental justice advocates scrutinize the mainstream narrative of the population-environment crisis produced through international population policies supported by donors and funders, NGOs, and the academic community. They refute the idea of women as 'sexual stewards', who manage their fertility and the environment, responsibly, for the greater good (Sasser, 2018: 4). The fight for reproductive justice is not only about individual woman's reproductive rights and freedom of choice, wherever they are living, but also about social, economic, civic and environmental goals. Environmental issues are reproductive issues: 'efforts to protect the health and integrity of natural systems — water, air, soil, biodiversity — are struggles to sustain the ecosystems that make all life possible and enable the production and reproduction processes upon which all communities (human and non-human) depend. In other words, environmental struggles are about fighting for and ensuring social reproduction' (Di Chiro, 2008: 285). The deeply entangled relationships between population growth and environmental problems are exposed: 'the taken-for-granted idea that population growth is a threat to nature and the environment does not in fact reflect an essential, immutable biological reality. Instead it reflects long-standing debates among scientists, activists, academics, and policymakers working to define population problems, their impacts, and how to solve them' (Sasser, 2018: 50).

MAKE KIN NOT BABIES

In recent years, rapid climate change and biodiversity loss have stirred up the thorny issue of population and the environment, asking questions which Dasgupta's modelling fails to capture. Feminist science scholar Donna Haraway (2016) has shaken the feminist environmental justice debate by asking feminists to 'make kin' rather than babies (see also Clarke and Haraway, 2018). Making kin, or becoming responsible for those other than your biological family and also for more-than-human beings,

requires forging relationships of dependence with people of all ages and more-than human beings with whom we live. Such a forging of connections, Haraway argues, is more ethically important than making (fostering, surrogating) babies in these 'end times'. However, Haraway is careful not to couch her call as a solution to overpopulation but rather as the need to change our lives, recognizing our current disastrous ecological/economic ways of living. She is looking for ethics founded on the unity of life that avoids exonerating the rich and white and blaming the poor and racialized. Her essays (2016) acknowledge the problem of differential access to resources, biodiverse environments and the wildly different modes of resilience. Her metaphors are not from classical Greek myths or fairy tales by Brothers Grimm, but from her own knowledge coming from her original, deep and imaginative engagement with the sciences and humanities.

Meehan Crist, writer-in-residence in Biological Sciences at Columbia University, puts it baldly: 'the polar icecaps are melting ... is it ok to have a child?' (2020: 9). She warns that Haraway's 'ecotopia' that requires flourishing and generous lives without having children, could easily be misread. For Crist, 'it is dangerous to assume we know what the limits are and to start curbing births accordingly' (ibid.: 11). She further suggests that humanity has not actually yet really tried to exist sustainably on this planet. We therefore need to hold onto the possibility that 'human flourishing could happen in unprecedented and as yet unimaginable circumstances' (ibid.: 14). In short, we live in uncertain times.

The Covid-19 pandemic has made those circumstances even more uncertain, as the connecting vectors of disease bind us in insidious ways which are circumscribing and demanding new forms of ethical possibilities. Arundhati Roy (2020) argues that the pandemic offers us a chance to think about the world anew, ushering in a new era. Could such an era allow for a lifeworld based on a new regime of social reproduction that can sustain humanity and the environment? Can the pandemic teach us to go beyond the alarm and fear of numbers to look more responsibly at how our human and more-than-human lives are bound up together in the material relations of production and social reproduction? Can humanity live with intimacy not proximity as social beings? The struggle to make kin may be 'even more arduous, yet even more necessary' (Lewis, 2017: 199).

Dasgupta may not be looking for a new form of ethics from a feminist perspective, but he would no doubt agree that the pandemic is pushing for the need to redo the grammar of economics in order to see how economies are embedded within nature. In a newspaper article written with Inger Anderson from UNDP, the message is clear: 'Covid-19 is nature sending us a message. In fact, it reads like an SOS signal for the human enterprise, bringing into sharp focus the need to live within the planet's means ... protecting and enhancing our environment must be at the heart of how we achieve economic prosperity' (Dasgupta and Anderson, 2020).

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