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BACK TO THE HOLOCENE

A conceptual, and possibly practical, return to a nature not intended for humans

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Introduction

Life on Earth is going through an unprecedented crisis, often referred to as the sixth mass extinction. Human activities affect virtually all taxa and biomes of the planet. If species extinctions are the most visible manifestation of this global disaster, others, like the degradation and fragmentation of natural habitats, global deforestation and defaunation, and the acidification of oceans, are no less critical and, at least for some of them, no less irreversible. Parallel and somehow independent of this ecological crisis, the concept of nature has drawn harsh criticism over the past thirty years. Today, environmentalists, scientists and policy makers scrupulously avoid this term, preferring to address conservation issues by talking about ‘biodiversity’, ‘environment’ or even ‘ecosystem services’. Nature, as a reality as well as a concept, could thus be declared to be dead, and the mere idea of the Anthropocene is nothing but the confirmation that we now live in a wholly human-made world.

However, my purpose in this chapter is to show that, more than ever, we need to reinvestigate and revivify the idea of nature. The aim is not to exhume a zombie but to argue that, despite some convincing arguments to abandon the unified, idealised and somehow sterilising concept of Nature (with a capital ‘N’), there is still room for a creative representation of nature, natures, and natural entities and processes. More specifically, there are three features of the non-human world that offer a sound basis to characterise nature: its externality, its otherness and its agency. Taking them into account in the way we consider and protect biodiversity should be a great asset in facing the present environmental crisis.

The circumstances of the death

To begin, as forensic scientists, let’s take the time to examine the circumstances of the so-called ‘death of nature’.

First, the scene of the crime – a blurred dichotomy

The dichotomy between culture and nature, humans and non-humans, traditionally lies at the heart of Western culture. Lynn White Jr accused this dualism of constituting the root of our ecological crisis (White 1967). Many contemporary environmental ethicists conflate anthropocentrism with this strong separation of human beings from the rest of the world (Sylvan 1973; Callicott 1987). Yet it should be noticed that more than the dichotomy itself, it was the concomitant hierarchy between humans and the rest of living beings that gave rise to the radical appropriation and deterioration of the natural environment. The ambition of this chapter is to maintain the separation between humans and nature while rejecting the domination of the former over the latter. To make the argument I will present and reject the two strategies that have been used to undermine the Nature/Culture dichotomy – the one that claims that nature is nothing but a product of culture and the one that claims that culture is nothing but a natural process. I will then offer an alternative consisting of the reassessment of a natural world independent of culture and human ends.

The acculturation of nature

On one hand, the acculturation of nature stems from the assumption that there is no nature; there are only ideas of nature. This deconstruction of the concept of nature has taken different forms over the past decades. I briefly sketch three of them: the ecofeminist criticism, the anthropological criticism and the sociological criticism.

In *The Death of Nature: Women, ecology and the scientific revolution*, Carolyn Merchant criticises the strong association between women and nature made by Western culture after the scientific revolution (Merchant 1980). For the ecofeminist, Western science and its political extension into modern capitalism have been a historical enterprise to subjugate and dominate both women and nature. The mere concept of nature is thus so tinged with anthropocentrism and phallocentrism that it would be better to avoid it. Merchant suggests we find a less gendered concept, such as an ethic of partnership, in order to assess the numerous interdependencies between humans and non-humans.

Based on a thorough anthropological study of diverse cultures around the world, Philippe Descola (2013) shows how the idea of a nature external to and separated from human beings is historically and culturally constructed, specific to Euro-American modernity, which is characterised by what Descola calls a 'naturalist epistemology'. Far from being universal, the nature–culture dualism is the fruit of a provincial worldview that operates a separation and a hierarchy between human beings and all other living things. The aim of Descola in *Beyond Nature and Culture* is to provide an appropriate epistemology for anthropology that does not impose ill-suited homogeneous categories on varying cultures. However, beyond this epistemological issue, his thorough study of the genealogy

and partiality of the concept of nature offers good reasons to try to overcome the traditional dualistic worldview that no longer fits with our environment and our knowledge.

In a different vein, Bruno Latour (2004) has argued that what stands for a smooth and unequivocal concept of nature is rather an inextricable composition of hairy objects, hazardous hybrid things that carry with them a slew of social and cultural excrescences. For Latour, the concept of nature is not only an empty one, since nothing in the world could be properly designated as 'nature', but is also not operative and represents a threat to political action. Indeed, as long as nature is considered to be the immutable hierarchy of beings, subsuming everything in a continuous chain from the stars to the underground bacteria, the defence of nature could mean nothing but the offence of politics. Politics has nothing to do with any so-called 'natural order'. For Latour, politics has to do with the complex and embedded real-life situations in which balance of powers, individual wills, knowledge uncertainties and plural experiences articulate around particular collectives in which social and natural entities are inseparable. However, contrary to Latour, who proclaims the 'death of nature', one can try to revise the old modernist vision of nature in order to capture the strong intuitions at stake when nature's advocates engage themselves in its defense while avoiding the anti-political claim to come back to a 'natural order'.

The naturalisation of culture

By contrast, the naturalisation of culture is essentially due to more or less fruitful human sociobiological reductions (Wilson 1975). Indeed, the application of evolutionary theory to social behaviour allows for the blurring of the distinction between what is considered a natural process and what is properly cultural. An essay by Boyd and Richerson (1988) offers an ambitious attempt to apply evolutionary theory to cultural transmission. For them, cultural transmission (that is, transmission by means of communication, learning, imitation and so on) is not essentially different from genetic transmission, and it could be studied and explained through the same evolutionary lens. Thus even if the evolution of human cultures is based much more on cultural transmission than genetic heredity, the difference between human societies and non-human societies is more one of degree than a qualitative one.

In both cases, the separation between human beings and nature is blurred in favour of a continuum of more or less anthropogenic beings and matters-of-facts. The concept of nature has been harshly criticised as an artificial way to separate humans and non-humans, one mainly founded on an old-fashioned Western dualist worldview. Today, the consensus is growing that the dichotomy between Nature and Culture should be abandoned in favour of a more holistic conception of the human/non-human relationship. So much for the background scenery; now what of the evidence?

Second, the evidence – a tame earth

The place for nature on Earth is dwindling. Today there are more than seven billion humans occupying two-thirds of the planet's land surface (Mittermeier et al. 2003). The remaining parts of the planet, while not used by humans, are either under permanent ice (one-third) or threatened by diverse human activities like agriculture, logging, mining, pollution and so on (one-half). Almost all the coastal ecosystems are heavily influenced by human activities. No marine area is unaffected by human influence, and over 40 per cent is strongly affected by factors like pollution, fishing, species invasions and climate change (Halpern et al. 2008).

If nature is thought of as wilderness or as the spatial portion of the Earth immune from any human influence, it might be the case that the only remaining nature has to be found in the highest mountains, the deep sea and the ice sheets, which, unfortunately, are all threatened by anthropogenic global warming. As anticipated by Bill McKibben (1989) more than twenty-five years ago, we are witnessing 'the end of nature'. There is no longer something like a true nature independent of human influence. But obviously nature cannot be reduced to wilderness or pristine nature, and most of us would agree that walking in a second-growth forest, bird watching in a saltpan or hiking in a mountain pasture have something to do with nature, even if all these habitats are heavily influenced by human activities.

Third, the suspects – no one is innocent

Now, let's browse the suspects. First, in the role of the innocent culprit we could mention the naturalists themselves. Those who traditionally used to care for nature have been prompt to abandon their cherished baby in favour of the more serious and scientific-sounding concept of 'biodiversity' (Takacs 1996). The neologism, coined by Walter G. Rosen during one of the first scientific meetings dedicated to biological diversity, was kept by Edward O. Wilson for the title of the proceedings (Wilson 1988). It soon became a rallying cry for scientists to alert the public and policy makers to the unprecedented crisis of the diversity of life on Earth. 'Biodiversity' is generally defined as the diversity of life at its different levels of organisation. Despite the scientific and formal flavour of the term, there is no single measure or theoretical appreciation of biodiversity, but rather a constellation of heterogeneous and sometimes contradictory concepts depending on the scale and the level of organisation – species richness, genetic variability, phylogenetic diversity, alpha, gamma and beta diversity, and so on. The profusion of definitions is not an issue for scientists themselves, who can make explicit which facet of biodiversity they refer to in their works. But it may give the public the impression that the protection of nature, requalified as biodiversity conservation, is a matter of science more than a social and political issue.

Second, in the role of the unexpected accomplices, some of those who could have been the natural allies of nature conservation turned out to be harsh detractors. Environmentalism is all but a homogeneous field. The concern for nature preservation

has been attacked by some environmental philosophers as misanthropic (Bookchin 1995) or imperialistic (Guha 1989). In the political arena, the green parties have often neglected biodiversity conservation, considering that the critical environmental issues lie elsewhere, in the farmlands, in the factories and, ultimately, in the atmosphere (O'Neill 1997).

Third, the true bad guys could be cast as the capitalists and neoliberals, who first organised the global plundering of nature in the name of economic growth and who now loudly call for the commodification of the last remnants to have resisted to them (O'Neill 2001). The rise of market-based conservation approaches, for instance through payment for ecosystem services (Kosoy and Corbera 2010) or mitigation banks (Robertson 2004), can be seen as an attempt to internalise nature into the capitalist logic of markets (Maris 2014).

The dilution of nature in the technical, economic and technocratic spheres

The focus of this chapter is the science, management, policies and institutions for which nature is a central concern – that is, the world of biodiversity conservation. Obviously it is a fragmentary analysis, but it has a strong influence on the way biodiversity policies are designed and on the narratives conveyed from the scientific arena to the public.

The care for nature has long operated along two distinct lines: resource conservation and wilderness preservation. From a management perspective, these two ends have distinct sets of means and rationales – interventionism and economic efficiency for resourcism on one side, and *laissez-faire* and ecological processes for preservationism on the other.

With the concept of biodiversity the distinction is subsumed; nature and natural resources are reconciled. The coherent framework of the past, in which nature preservation calls for the fewest interventions and resource conservation necessitates active management, has been blurred. The optimisation of resource management sometimes appeals to *laissez-faire* supporters since it may be cheaper not to intervene; conversely, nature preservation could be the theatre of strong interventions in order to mimic nature, interventions that have the inherent paradox of working out how to design spontaneity. This reorientation of conservation goals and rationales is accompanied by the progressive absorption of nature in the technical sphere, the economic sphere and the technocratic sphere.

The technical absorption

Biodiversity conservation now has at its disposal a growing technical toolkit for the conservation, restoration or recreation of nature. Beside the traditional enclosure policies, natural habitats are subject to more and more intrusive conservation measures: exotic species eradication, population reinforcement by the reintroduction of animals raised in captivity, translocation, assisted colonisation, and so on.

With a much more technological flavour the new biotechnologies of reproduction are now part of conservation, with artificial insemination, the transplantation of wild species embryos into females of closely related domestic species, or even the so-far unsuccessful attempt to resurrect extinct species. For instance, in 2009 a Franco-Spanish research team managed to make a clone from the conserved genetic material of the Pyrenean Ibex, a species extinct for 2,000 years (Folch et al. 2009), and work is underway on genetic material from woolly mammoths and even Neanderthals. This intensification of intrusive and technology-dependent means to conserve or restore biodiversity makes it less and less easy to distinguish what is natural from what is artificial, including in those areas traditionally dedicated to nature.

The economic absorption

A second mutation observable in the field of biodiversity sciences and management is the multiplication of appeals to strictly economic rationality in order to incorporate nature's values to justify its protection or pay for its conservation. In the 1990s, monetary valuation of biodiversity and ecosystem services proliferated at varying scales and deployed a growing set of methodological devices, culminating with the well-known work of Robert Costanza and his colleagues published in *Science* in 1997 (Costanza et al. 1997). They estimated that the total value of the world's ecosystem services and natural capital amounted to US\$33 trillion each year, which (if valid) equates to more than twice global gross national product. During the Nagoya meeting of the Convention on Biological Diversity in 2010 the United Nations Environment Programme (UNEP) published *The Economics of Ecosystems and Biodiversity*, the object of which was to estimate the economic costs of biodiversity loss and ecosystem services degradation, as well as to offer a comprehensive assessment of the various methods for the monetary valuations of biodiversity and ecosystem services (UNEP 2010).

The popularity of monetary valuations is not confined to academic economics but has been encouraged and appropriated by institutions. Within its *Horizon 2020* framework, the European Union requires all member states to provide a national economic valuation of their ecosystem services. This flow of monetary quantification, despite the insurmountable methodological and conceptual weaknesses of such exercises, reflects the idea that in order to protect nature, its benefits to humans and the costs induced by its degradation should be internalised into economic accounting systems. The trend is made visible in the changing vocabulary of conservation, which increasingly borrows jargon and metaphors from economics. Nature protection is now concerned with the management of natural capital and the optimisation of ecosystem services. For the proponents of this approach, 'conservation must pay for itself' (Daily 1997) or, better, conservation should no longer be viewed as a constraint but an *opportunity*. To achieve this goal new mechanisms of commodification have been developed, such as mitigation banks and payments for the use of ecosystem services (Gómez-Baggethun et al. 2010; Maris 2014).

The bureaucratic absorption

The third sphere that progressively digests the idea of nature is the bureaucratic one. Biodiversity sciences have proudly and enthusiastically embraced the era of Big Data. Everything looks as if scientists, unable to slow down the unprecedented rate of biodiversity erosion, are rushing to collect and to monitor any possible information, from the smallest scale – with, for instance, the new technical tools of barcoding – to the largest one – with global monitoring and the mapping of land cover, atmospheric composition and so on. A giant bio-panopticon is being constructed; trillions of data are collected every day, sometimes without the slightest idea of the way the information could be treated in order to extract usable knowledge or practical recommendations (Hampton et al. 2013; Kitchin 2014).

The ‘Anthropocene’ narrative as the ultimate assault

So now let’s enter the Anthropocene era, whose narrative forms the ultimate assault on the idea that there could be something out there to be called nature. Previously, the ages of the Earth were stratigraphically recorded in its geological skin, making visible biogeological successions and the rhythm its long life. Now, with Earth entering the era of humans, we are at home everywhere. We have become the powerful – although blind and planless – architects of the planet we inhabit.

I will not address the scientific relevance of the Anthropocene from a geological perspective but rather question whether this new narrative can become an effective lever to take control of the ecological crisis. To do so, I will focus on three features of the Anthropocene narratives – the Earth as a globalised planet, human beings as a species, and the ecological crisis as a techno-scientific issue. Each is problematic.

The scientific description of the Anthropocene throws us in spatial scales disconnected from political action and, even more, from individual choices and responsibilities. The main components of Anthropocene sciences are ‘the atmosphere, the biosphere (including humans and their societies) and the oceans’ (Leemans 2006, 246). The Anthropocene tells the global story of Earth as if observed from the sky, hardly a view to motivate local political action.

If humans have long been cultural and biological agents, it is only recently that they became known as geological agents (Chakrabarty 2009). But it is worth noting that the new agents are not of the same kind. Cultural and biological agents are individuals or, at least, social groups. The idea that humans could be geological agents refers to humans as a species. Individual or small group behaviours cannot interfere with the great geological processes. The anthropogenic influence on climate is not due to the action of anyone specifically, but to the cumulative effects of a multitude of actions across time and across people. It is humanity as a whole that is at stake in climate change sciences. Thus the Anthropocene has been described ‘as an unintended effect of human choices’ (Chakrabarty 2009, 210) where human beings are considered to be a homogenous species. Accepting that, as matter of fact, *Homo sapiens* is a geological agent leads one to seek solutions in the ability of

humanity to use its geological agency in a more conscious and deliberate way. In their seminal article Crutzen and Stoermer wrote: ‘An exciting, but also difficult and daunting task lies ahead of the global research and engineering community to guide mankind towards global, sustainable, environmental management’ (Crutzen and Stoermer 2000, 17).

Philosophers such as Hans Jonas (1985) and, more recently, Dominique Bourg and Kerry Whiteside (2010) have defended the need to assign a special and privileged place to experts and scientists both in public debate and in decision making. Calls for a new kind of ‘expertocracy’ or even an enlightened despotism are common, especially in the scientific community.

These three features of Anthropocene sciences (their global scale, humanity as a species and the techno-scientific characterization of the problems) all converge on the same dead-end – individuals are dispossessed of their moral responsibility and ability to be actors in the solutions. The future of the Earth now lies in the hands of global institutions, scientists and engineers. The public become powerless witnesses to the degradation of the planet. Every two or three years, over several days, the world’s eyes turn anxiously toward climate negotiations at some international summit or other. The negotiations are typically judged to be unsatisfying in the face of the challenges at stake. Then we immediately turn back to real life, driving our cars, eating our steaks, and waiting for the next global warming summit to solve the problem.

Why do we need nature?

In this final section, I will not attempt to offer a ready-made operational conception of nature to replace the idealised old ‘Nature’, but I do suggest three characteristics that should be conveyed by a new concept, ones that provide the conceptual backdrop against which the ecological challenges should be sketched – the exteriority of nature, the otherness of nature and the agency of natural entities.

The exteriority of nature

Nature can be considered to be the part of reality that we have not created. We must cease to absorb and swallow everything around us, like unconscious macrophages or innocent bulimic babies. Recognising the exteriority of nature, accepting that we are not the designers of the Earth we inhabit and of the living things with which we share it is urgently needed to halt the tyrannical delirium that possesses us. Without such an external background, it is impossible to build and to reframe our own subjectivity.

The otherness of nature

Humanism and the consonant anthropocentrism are deeply rooted in reciprocity. Western traditional moral theories all depend of the recognition in the other of

the same kind of fundamental interests or the same inherent autonomy as those of the moral agent. We are looking for ourselves in the others in order to grant them our moral consideration. This narcissistic feature of humanism, if able to ground morality inside quite homogeneous cultural groups like white enlightened Western men, has failed to create the genuine moral framework needed in the pluralist and globalised societies we now live in. We urgently need to find ways of rethinking morality from a different perspective. The recognition of the otherness of the others and the respect of differences, rather than the desperate seeking for resemblances could be fruitfully stimulated by the reconsideration of human–nature relationships that are grounded neither in assimilation nor in rejection.

The agency of nature

Since swallows breed under human roofs they are not independent of human activities. Yet swallows are not hybrid human-and-non-human objects; they are just swallows. They do not need us, and they do not care about us. To consider swallows as hybrid composites stemming from a long coevolution of birds and humans, carrying with them representations, symbols and cultural values (Latour 2004) is just ignoring the fact that swallows live their own swallow life, with feelings, intentions and potentialities that cannot be reduced to human ends. A thorough consideration and respect for nature could be a real asset in reconciling ideals of autonomy and solidarity between humans and non-humans as well as between humans themselves. The universalist pretension of traditional humanist theories fails to offer a satisfying account of our moral bonds in a globalised world, where those who are affected by our daily choices and actions are so unprecedentedly remote in space and time that the reciprocity cannot tell us much about our responsibility toward them.

Final thoughts

In this new era of the Anthropocene, the worst approach would be to remain prostrate, gazing at nature's agony, both fascinated and terrorised by our own power. But there is also good news under the sky. While technophiles and environmentalists are chorusing a requiem for the late nature, nature itself comes back everywhere, and not only nature but, for better or worse, wild nature. The wolves have come back to the Alps. The otter, almost extinct in France in the 1980s, is recovering, and more and more of Britain's rivers are now hosting this elegant little mammal. Even big cities can become habitats for wildlife: coyotes stroll Chicago's streets and foxes forage in London's backyards; prairie dogs colonise Denver's suburbs; Peregrine falcons nest in the highest roofs of New York City, and so on. Obviously, these heartening stories are anecdotal compared to the strong evidence of biodiversity decline, but they offer perspectives on the possible cohabitation of human beings and wildlife. Reframing the ecological crisis at smaller scales so as to question our personal relationship with our fellow humans and with non-humans

is a great occasion to reconsider the ways we can accommodate and welcome the otherness of others. At the global scale, the human imprint on the Earth might seem omnipresent and unprecedented, but at a smaller scale one just needs to let things go in a couple of square metres in the backyard to realise that nature is neither dead nor agonising. Nature is everywhere, latent, silent, waiting for the opportunity to burgeon and flourish, and there are many ways to protect it other than to subjugate it. These ways are explored by some restoration ecologists who are humble enough to consider their work as giving a push for degraded ecosystems to recover their natural trajectories, by biodiversity managers adopting a rewilding approach, and by urban wildlife activists campaigning for a peaceful cohabitation with nature.

References

- Bookchin M 1995 *Re-Enchanting Humanity: a Defense of the Human Spirit Against Antihumanism, Misanthropy, Mysticism and Primitivism* Cassell, New York
- Boyd R and Richerson P J 1988 *Culture and the Evolutionary Process* University of Chicago Press, Chicago
- Bourg D and Whiteside K 2010 *Vers une Démocratie Écologique. Le citoyen, le savant et le politique* Presses de Seuil, Paris
- Callicott J B 1987 *A Companion to a Sand County Almanac* University of Wisconsin Press, Madison
- Chakrabarty D 2009 The climate of history: Four theses *Critical Inquiry* 35 197–222
- Costanza R d' Arge R de Groot R Farber S Grasso M and Hannon B 1997 The value of the world's ecosystem services and natural capital *Nature* 387 253–60
- Crutzen P J and Stoermer E F 2000 The 'Anthropocene' *Global Change Newsletter* 41 17–18
- Daily G C 1997 *Nature's Services: Societal Dependence on Natural Ecosystems* Island Press, Washington, DC
- Descola P 2013 *Beyond Nature and Culture* University of Chicago Press, Chicago
- Folch J et al. 2009 First birth of an animal from an extinct subspecies (*Capra pyrenaica pyrenaica*) by cloning *Theriogenology* 71 1026–34
- Gómez-Baggethun E de Groot R Lomas P L and Montes C 2010 The history of ecosystem services in economic theory and practice: From early notions to markets and payment schemes *Ecological Economics* 69 1209–18
- Guha R 1989 Radical American environmentalism and wilderness preservation: A third world critique *Environmental Ethics* 11 71–83
- Halpern B S et al. 2008 A global map of human impact on marine ecosystems *Science* 319 948–52
- Hampton S E et al. 2013 Big data and the future of ecology *Frontiers in Ecology and the Environment* 11 156–62
- Jonas H 1985 *The Imperative of Responsibility: in Search of an Ethics for the Technological Age* University of Chicago Press, Chicago
- Kitchin R 2014 Big Data, new epistemologies and paradigm shifts *Big Data & Society* 1 1–12
- Kosoy N and Corbera E 2010 Payments for ecosystem services as commodity fetishism *Ecological Economics* 69 1228–36
- Latour B 2004 *Politics of Nature: How to Bring the Sciences into Democracy* Harvard University Press, Cambridge
- Leemans F 2006 Scientific challenges in anthropogenic research in the 21st century: The problem of scale, in Ehlers E and Krafft T eds *Earth System Science in the Anthropocene* Springer, Berlin 248–62

- Maris V 2014 *Nature à Vendre: Limites des services écosystémiques* Quae, Paris
- McKibben B 1989 *The End of Nature* Random House, New York
- Merchant C 1980 *The Death of Nature: Women, Ecology, and the Scientific Revolution* Harper Collins, San Francisco
- Mittermeier R A et al. 2003 Wilderness and biodiversity conservation *PNAS* 100 10309–13
- O'Neill J 2001 Markets and the environment: the solution is the problem *Economic and Political Weekly* 36 1865–73
- O'Neill M 1997 *Green Parties and Political Change in Contemporary Europe: New Politics, Old Predicaments* Ashgate Publishing Limited, Aldershot
- Piña-Aguilar R E et al. 2009 Revival of extinct species using nuclear transfer: hope for the mammoth, true for the Pyrenean Ibex, but is it time for 'Conservation Cloning'? *Cloning and Stem Cells* 11 341–6
- Robertson M M 2004 The neoliberalization of ecosystem services: wetland mitigation banking and problems in environmental governance *Geoforum* 35 361–73
- Sylvan R 1973 Is there a need for a new environmental ethics? *Proceedings of the XVth World Congress of Philosophy* Sofia Press, Varna
- Takacs D 1996 *The Idea of Biodiversity: Philosophies of Paradise* Johns Hopkins University Press, Baltimore
- United Nations Environment Programme (UNEP) 2010 *Mainstreaming the Economics of Nature: a Synthesis of the Approach, Conclusions and Recommendations of TEEB* United Nations Environment Programme, Bonn
- White L Jr 1967 The historical roots of our ecologic crisis *Science* 155 1203–7
- Wilson E O 1975 *Sociobiology: the New Synthesis* Harvard University Press, Cambridge, Mass.
- Wilson E O (ed.) 1988 *Biodiversity* National Academies Press, Washington, DC

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