University of Oxford
St Edmund Hall

We are looking forward to welcoming you to Oxford in October.

In the past we have found it very useful if students do some preliminary work before arriving in Oxford. One of the first-year courses is 'Geographical Controversies'. In this course, you are required to study at least one key book (chosen from the list at the end of this letter) that have influenced geographical thought. We encourage you to have read at least two of the books from the list. In the examination at the end of the first year, you will need to answer a question on one of the books and demonstrate that you have understood the book's argument, forms of reasoning and use of evidence and are able to situate it in its historical, geographical and social context.

We think you will find it useful to have read in detail one of the books before you come up to Oxford. It would also be good if you could browse the other books to gain an idea of their content. We will ask you to read another of the books in detail during the first year. You can choose any of the books from the list; they are all interesting and relevant. We have included a brief description of each book with this letter. Do think carefully before making your choice: don't simply choose the one that you find first or the shortest one! To find out what the books are about you could look on the websites for Blackwells (http://bookshop.blackwell.co.uk) or Amazon (http://www.amazon.co.uk). Both of these have short reviews of each of the books. Another option is to look on Google books (http://books.google.com) which may have some extracts from the book to give you an idea of its content. The books cover topics in the social, environmental and natural sciences and you should make sure that the ones you choose interest you. You will have to write about one of these books in the exam at the end of the first year, so you should make detailed notes.

All of these books are available from most large libraries and bookshops. Alternatively, they can be bought on-line at Blackwells (http://bookshop.blackwell.co.uk) or Amazon (http://www.amazon.co.uk). Through Amazon you can also obtain special "used and new" discounts.

We would also like you to write a 1500-word essay review of one of the books, summarising its main arguments. We would like you to send this to us by the 1st October, so we can read it before term starts. The essay should be sent by email to: david.morenomateos@ouce.ox.ac.uk

NOTE: the 1500-word limit is a real limit: we won't read more than 1500 words. Please see the set list of books on page 2.

Best wishes,

David Moreno Mateos and Lorraine Wild
College Geography tutors

List of Geographical Controversies Set Books 2025-26

- Alvarez, W. (1997) *T.rex and the Crater of Doom*
  Also 2008 and 2015 reprint – available in Kindle.

- Carson, R. A. (1962/2000) *Silent Spring*
  Widely available as a Penguin Modern Classic edition and for Kindle

- Hickel, J. (2021) *Less is More: How De-growth Will Save the World.* Widely available in paperback and Kindle

- Keith, D. (2013) *A Case for Climate Engineering*
  Hard copies and electronic copies in Bodleian, available second hand for around £5, available on Kindle.

- Kimmerer, R. W. (2020) Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants.
  Widely available in paperback and Kindle

- Monbiot, G. (2022) *Regenesis: Feeding the World Without Devouring the Planet*. Widely available in paperback and Kindle

- Shiva, V. (2001) *Protect or Plunder? Understanding Intellectual Property Rights*
  NOT available in Kindle – plenty of hard copy availability.

- Thompson, K. (2014) *Where do Camels Belong? The Story and Science of Invasive Species*
  Also 2015 reprint – available in Kindle.

- Wang, X. (2020) *Blockchain Chicken Farm: and Other Stories of Tech in China's Countryside.*
  Widely available in paperback and Kindle

These books have been selected for a number of reasons:

- Each one is either based around a controversy of some kind or is a controversial book in its own right. They are not simply textbooks or reviews.
- They are accessible to the general reader, although some will be easier to read than others and you should take this into account when you make your choice. The notes on each book below will help you make up your mind.
- Although most of these books are not written by people who regard themselves as geographers (you'll read plenty of those in the rest of the course) all of them are relevant to Geography. Some feed into other parts of the Prelims course, some into foundational papers in the Final Honour School course and others relate directly to some of the options. Reading these now will be useful later.
- All the books should be interesting and original – some are landmarks in their field.

Finally, the selection aims to provide variety. There are books from the past and some published recently. Their authors are from a diverse range of backgrounds, so there should be something to suit everyone.

Reflecting on the texts

In the section which follows, for each book there is a page outlining its argument, its relevance to controversies and suggesting who it might interest. There are also a few suggested readings to provide context for the title. We realise you may not be able to get access to many of these readings before you come to Oxford. These are readings you can follow up later; you don't need to have read them for the vacation work. You should be able to place the book in its context – biographical, social, political, intellectual and geographical. You are not expected to read across the entire field from which they come. Although you are free to track down your own sources – and to follow your curiosity, try to concentrate on your response to the text. Do not be too swayed by what others have written or by other reviews. In the examination the most important thing is that you can demonstrate that you have read and understood the book and you will be expected to show first-hand knowledge of its content.

The main thing to remember is that a review is not simply a summary of each chapter in turn ending with a brief statement of whether you liked it or not. Nor is it a summary of other reviews of the book already in print or on the web.

Set Books Summaries

T. rex and the Crater of Doom

Walter Alvarez
Princeton University Press 1997, reprinted 2008 and 2015

Of the five major extinction events of the past 540 million years, the most extreme in magnitude and speed was the extinction marking the boundary between the Cretaceous and Tertiary periods about 65 million years ago. This K-T extinction (or sometimes K-Pg) extinguished around three quarters of all species on the planet, including the non-avian dinosaurs. One explanation for the mass extinction is that it was in fact more gradual than it first appeared, resulting from a combination of geological changes. But most explanations favour a more catastrophic cause, either mass vulcanism or asteroid impact. Evidence from the Deccan Traps in India supports the notion that a sudden and massive rise on volcanic activity could have blocked sunlight from the earth's surface. The theory that the extinction was caused by either a comet or asteroid impact was first advanced around 30 years ago and now holds sway. The impact theory was put forward by Luis Alvarez, Nobel-prize winning physicist, his son Walter Alvarez, a geologist and their colleagues Frank Asaro and Helen Michel, both chemists. In this book, Walter Alvarez writes a retrospective account of how they arrived at the idea and then how they searched for the critical evidence.

There were two key pieces of evidence to support the theory. One was a thin layer of clay at the KT boundary identified by Alvarez in the Apennine Mountains in Italy. It was unusually rich in iridium which, the geologists concluded, could only have originated from an outside source. Once identified, other geologists located the same layer in many other parts of the world, confirming its significance. The 'smoking gun' was the impact crater, which eluded geologists for a long time, not least because it proved neither to be based neither wholly on land nor wholly in the ocean. The Chicxulub crater was eventually found in 1990 and has since been recognised as evidence of an impact large enough to cause mass extinction. There are still doubts about whether it was the only impact in the period and whether it was the sole cause of the extinction, but recent findings have closed the gap between the impact event and the last known fossil dinosaur remains (see Lyson *et al.,* 2011).

Alvarez not only describes the process by which the theory was first advanced, as a hunch, and then tested, but he also tries to show how it necessitated a greater shift in geological thinking. He began his career when geological inquiry was still guided by the general idea of uniformitarianism, i.e. that the long-run impact of low magnitude events and processes shapes the Earth's geology. By contrast, the impact theory marks a return to a kind of catastrophism, the notion that low frequency high magnitude events are the most significant. Alvarez explains how the geological community was at first resistant to the idea of a sudden and dramatic cause for extinction. (There were overlaps between the theory and the contemporary idea to Nuclear Winter.) But the book is also informative of two other important characteristics of scientific controversy. It is a good illustration of how field-based work, laboratory experimentation and modelling combine to arrive at an explanation. And it is an excellent example of how inter-disciplinarity works, not least through friendships and social networks.

The extensive bibliography lists the counter theories and objections to the impact thesis, by William Clemens, Charles Officer and others.

- Lyson, T.R. *et al.* (2011) Dinosaur extinction: closing the '3m gap'. *Biology Letters*, doi: 10.1098/rsbl.2011.0470, published online 13 July.
- Schulte,P. *et al.* (2010) The Chicxulub Asteroid Impact and Mass Extinction at the Cretaceous-Paleogene Boundary. *Science*, 5 March 2010: Vol. 327 no. 5970 pp. 12141218 doi: 10.1126/science.1177265.
- See also responses in Science Vol 328, 21 May 2010 in Letters section.

Silent Spring

Rachel Carson
1962, Houghton Mifflin; 2000 Penguin Modern Classics

Rachel Carson's ground-breaking book, Silent Spring, remains a landmark work in environmental literature. Published in 1962, it sounded the alarm on the widespread use of pesticides and its devastating impact on ecosystems. Carson's eloquent prose and meticulous research highlighted the far-reaching consequences of indiscriminate chemical spraying, raising awareness about the fragile balance of nature and the urgent need for environmental stewardship. Despite its immense influence, Silent Spring ignited significant controversy, challenging entrenched interests and initiating a broader public debate on the costs and benefits of industrialization and chemical-intensive agriculture.

Silent Spring begins by presenting a vivid portrait of a world silenced by pesticides, where birds no longer sing and once-thriving ecosystems lay barren. Carson's engaging storytelling captivates readers from the outset, demonstrating the intricate connections between living organisms and their environment. Drawing on a wide range of scientific studies, she meticulously documents the devastating impacts of pesticides on wildlife, particularly birds, and the long-term consequences for human health. Carson's eloquent plea for a re-evaluation of the indiscriminate use of chemicals in agriculture and public health interventions sent shockwaves through the scientific community and challenged the powerful chemical industry.

Controversy erupted in response to Silent Spring's publication, with critics questioning Carson's credentials and accusing her of emotionalism and exaggeration. The book's indictment of the chemical industry, its regulators, and the government's role in protecting public health collided with vested interests and established narratives. However, Carson's meticulous research and evidence-based arguments stood firm against the onslaught of criticism. While some of her specific claims have been refined over time, Silent Spring's central message—that humanity's actions have profound and often unintended consequences on the environment—continues to resonate, spurring ongoing research and advocacy in the field of environmental science.

Less is More: How De-growth Will Save the World

2021, Penguin

In "Less is More: How Degrowth Will Save the World," Jason Hickel presents a provocative and controversial argument challenging the prevailing paradigm of relentless economic growth. Hickel argues that the pursuit of perpetual expansion is driving ecological devastation, exacerbating inequality, and failing to deliver true well-being. Drawing on a wide range of data, the author advocates for a radical shift towards a degrowth model that prioritizes sufficiency, social justice, and ecological sustainability. While Hickel's book has garnered attention and sparked vigorous debates, its bold proposals have faced criticism for their feasibility and potential consequences.

The book's central contention, that degrowth is the key to a sustainable and just future, has generated considerable controversy. Critics argue that scaling down economic activity could lead to job losses, economic stagnation, and a decline in living standards. Hickel counters these concerns by challenging the assumption that growth is the only path to prosperity, emphasizing that degrowth entails a redistribution of resources and reimagining of societal values. However, some readers may find his proposals insufficiently detailed or dismiss them as idealistic.

A Case for Climate Engineering

David W. Keith
2013 MIT Press: Cambridge, Massachusetts

David Keith is one of the world's foremost proponents of active research (not necessarily leading to deployment) into solar albedo geo-engineering. This means technologies that actively cool the planet to compensate for the warming impact of elevated greenhouse gas levels, with the most common being injecting or generating reflective aerosol particles in the stratosphere.

First proposed by Mikhail Budyko in the early 1970s, and resurrected by Paul Crutzen in 2006, albedo geo-engineering has always been deeply controversial, with many arguing that even research into this subject is dangerous because it might legitimize a "technical fix" to the problem of climate change with unknown and unknowable consequences. David Keith takes a very different view:

Boston Review Books summarises as follows: "Climate engineering—which could slow the pace of global warming by injecting reflective particles into the upper atmosphere—has emerged in recent years as an extremely controversial technology. And for good reason: it carries unknown risks and it may undermine commitments to conserving energy. Some critics also view it as an immoral human breach of the natural world. The latter objection, David Keith argues in A Case for Climate Engineering, is groundless; we have been using technology to alter our environment for years. But he agrees that there are large issues at stake.

A leading scientist long concerned about climate change, Keith offers no naïve proposal for an easy fix to what is perhaps the most challenging question of our time; climate engineering is no silver bullet. But he argues that after decades during which very little progress has been made in reducing carbon emissions we must put this technology on the table and consider it responsibly. That doesn't mean we will deploy it, and it doesn't mean that we can abandon efforts to reduce greenhouse gas emissions. But we must understand fully what research needs to be done and how the technology might be designed and used. This book provides a clear and accessible overview of what the costs and risks might be, and how climate engineering might fit into a larger program for managing climate change."

- Another physical climate scientist's view: Robock, A. (2008), 20 Reasons why geoengineering may be a bad idea, Bull. Atomic Sci., 64(2), 14–18, doi:10.2968/064002006.
- A political scientist's view: Corry, O. (2017), *The international politics of geoengineering: The feasibility of Plan B for tackling climate change,* Security Dialogue. 48(4): 297–315, doi: 10.1177/0967010617704142
- A recent summary report: National Research Council (2015b), *Climate Intervention: Reflecting Sunlight to Cool Earth*, The National Academies Press, Washington, DC, doi:10.17226/18988.

Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants

Robin Wall Kimmerer
2020, Penguin

In "Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge, and the Teachings of Plants," author Robin Wall Kimmerer weaves an intricate narrative that challenges the dominant scientific paradigm while illuminating the profound wisdom of Indigenous cultures. This groundbreaking work has sparked both admiration and controversy, igniting heated debates about the intersection of traditional knowledge and modern science.

Kimmerer, a botanist and member of the Citizen Potawatomi Nation, embarks on a journey to bridge the gap between two seemingly incompatible worldviews: the Western scientific perspective and the rich ecological wisdom passed down through generations of Indigenous peoples. Drawing from her personal experiences and Indigenous teachings, she advocates for a new ecological ethic that celebrates reciprocity and respect for the natural world. One of the most controversial aspects of the book lies in Kimmerer's insistence on elevating Indigenous knowledge systems to the same level as Western science. She challenges the notion that scientific knowledge is the only valid way of understanding the natural world. Instead, she argues for a more inclusive approach that embraces Indigenous ways of knowing, emphasizing the interconnectedness of all living beings. Whether viewed as a ground-breaking manifesto or a threat to established norms, Kimmerer's blend of memoir, scientific inquiry, and Indigenous storytelling undeniably demands attention and invites readers to reconsider their relationship with the natural world.

Regenesis

George Monbiot
Allen Lane, 2022

George Monbiot is a journalist, environmentalist and political activist. He studied zoology at Oxford, and currently lives in the city. He writes a column in the Guardian, and has published a number of polemical books including Captive State, The Age of Consent, Heat, and Feral.

In Regenesis: Feeding the World Without Devouring the Planet, George Monbiot focuses on what he considers 'the most important of all environmental questions': the question of land use. In a critical examination of global food systems, he focuses on farming which in his view 'is the world's greatest cause of habitat destruction, the greatest cause of the global loss of wildlife, and the greatest cause of the global extinction crisis'. He explores the way in which standardisation has occurred in both diets and farming practices. He discusses the emergence of a Global Standard Diet which has reduced the global diversity of diets and led to an increase in the livestock population. He describes how food is being produced on what he calls the Global Standard Farm, dominated by agribusiness with four companies now controlling 90% of the global grain trade.

He explores the effects of these standardised farming practices, focusing a whole chapter, 'What lies beneath', on soil and the effects of farming on the complex ecosystem of soil.

As a response to the destructive effects of contemporary farming, Monbiot explores the potential of alternative farming practices through a series of examples of farmers using regenerative practices including no-till farming, agroecology, and diverse cropping systems that prioritize soil regeneration. Monbiot argues a case for a diet free from animals and devotes a chapter, 'Farmfree', to exploring the potential of new technologies, including precision fermentation, to produce meat identical proteins and fats. Fermentation in vats would take minimal land and free up farmland for restoration. As the sub-title of the book indicates, Monbiot considers the search for ways to feed the world 'without devouring the planet' to be one of society's most urgent challenges.

Protect or Plunder? Understanding Intellectual Property Rights

Vandana Shiva
Zed Books, 2001

Patent symbols, including ©, ™, and ®, are among the most ubiquitous and seemingly innocuous signs of the modern age. But, according to Vindana Shiva's book, patents lie at the heart of a new, vigorous phase of colonization of the Third World by the First. Whereas the first era of colonization involved the seizure of indigenous peoples' land and by extension its recourses, the second phase centres on the theft of indigenous minds and bodies. The international system of governance underpinning this new colonization is the Trade Related Intellectual Property Rights Agreement of the World trade Organization (TRIPS). According to Shiva, it is driving towards the colonization of life itself and its ethic of 'predation and plunder' must be countered by values of 'democracy and diversity'. This short, polemical book, addresses one of the defining issues of early 21st century global affairs.

Vandana Shiva is an Indian environmentalist, activist and feminist philosopher, who has risen to worldwide prominence in conjunction with the global justice movement. Her academic background is in physics, but her writings have been more political – on matters such as water rights, biodiversity, food security, and biopiracy. She was an activist with the 1970s Chipko movement, one of the defining political actions of modern environmentalism. Shiva remains active in a host of local and transnational organisations and causes.

Protect or Plunder? Brings together many of the ideas found in her other books, but focuses on the single issue of intellectual property rights. She traces the historical origins of various forms of patent, as well as their geography; patents granted in one part of the world were not always recognised in another, thereby undermining their utility as a monopoly over some kind of economic-related activity. Shiva contests the claim that patents are there to protect creativity and invention; this was not their original purpose. Rather, she argues, knowledge is always social or shared. Against the western view of knowledge or ability as an individual possession, she das on examples of indigenous farming cultures to argue that it has always been about circulation and culture. Most scientific knowledge from universities is also still made public.

Moreover, where patents apply to such things as farming or health care – seeds and medicines most notably – they concern matters of life and death for millions of individuals. They are not optional features of life. In such circumstances, exclusions and monopolies are, she argues, unjust.

Further, Shiva argues that by allowing Western companies to patent plants and other organic lifeforms, including human tissue, there is a threat to biodiversity. She also questions whether genetic engineering actually 'creates' anything. Instead, she stresses cultural accounts of seeds and the origins and meaning of life-supporting organisms: in Indian culture, seeds are gifts, not property.

In place of a globalized system of intellectual property rights supported by legal mechanisms. Shiva proposes a principle of local farmers' rights to biodiversity. She favours common property over both state and market, public values over private. In her book, these binary contrasts assume a geographical form, of Third World over First World, agrarian over industrial. TRIPS is not a completed process, and so she argues that there remain vital opportunities to challenge and change it.

Her website: http://www.vandanashiva.com/.

- Castree, N. (2003) 'Bioprospecting: from theory to practice (and back again)', *Transactions of the Institute of British Geographers.* **28**: 1-21.

Where do camels belong? The story and science of invasive species

Ken Thompson
2014 Profile books: London, new edition 2015

Thompson's book uses as its title a question to which we might consider the answer obvious: surely everyone knows that camels belong in the Middle East? Through a wide range of examples, Thompson shows that the answer to the question about where any species 'belongs' is neither obvious nor straightforward. Once we recognize this, he argues, we are forced to acknowledge that terms such as 'native' and 'alien', which are widely used in the literature on conservation, must be used with caution. This matters because there is a widespread assumption that 'if it's nice, it must be native' (the title of chapter 5) and that 'aliens' are invariably invasive and harmful to 'native' species. As Thompson demonstrates, such beliefs, often unsubstantiated by scientific evidence, have led to 'attempts to control species suspected, rightly or wrongly of causing economic or environmental harm...[and] the cure has often turned out to be worse than the disease' (p.129). He explores these ideas through considering the origins of the concept of 'nativeness' in the writings of H.C. Watson in the 19th century and the ways in which the label 'alien' becomes tied up with public preferences, as seen in the case of the dingo in Australia. He concludes that 'we should commence any attempt to control alien species with our eyes wide open' (p. 221).

Ken Thompson, an ecologist and former lecturer at the Department of Animal and Plant Sciences at the University of Sheffield, is an author of popular science books. This book is written in an engaging popular science style which deliberately makes limited use of citations, although some notes are given at the end of the book. It is a popular science contribution to wider academic discussions about 'invasion biology', a controversial field of research which dates from Charles Elton's 1958 classic text on *The Ecology of Invasions by Animals and Plants.* Debates about aliens and invasive species have frequently led to passionate discussions, see for example the responses by Lambertini, the ISSG and others to the articles by Davis et al (in Nature 2011) and by Vince (in Science 2011). Thompson has brought these debates to a wider audience and those who oppose his view that the 'threat' of alien species is exaggerated, have criticised him for making unqualified assertions and lacking scientific evidence for his claims (see Simberloff 2015). A much

more specific example of how the native/alien debate plays out in terms of conservation issues and perceptions and labelling of species, can be seen in Gibbs et al.'s consideration of Australia as 'camel country', a reminder that the answer to Anderson's question is not as straightforward as we may have thought.

- Davis, M. (2009) *Invasion Biology.*
- Davis, M. *et al.* (2011) 'Don't judge species on their origins', *Nature*. 474: 153–154.
- Gibbs, L *et al.* (2015) 'Camel country: Assemblage, belonging and scale in invasive species geographies', *Geoforum*. 58: 56–67.
- Invasive Species Specialist Group (IUCN): http://www.issg.org/pdf/rebuttal.pdf
- Lambertini, *et al*. (2011) Invasives: a major conservation threat, *Science.* vol. 333: 404-405.
- Simberloff, D. (2015) 'Book review: Where do camels belong?' *Biological Invasions*. 17: 1927-1929.
- Vince, G. (2011) 'Embracing invasives', *Science*. 331: 1383-1384.

Blockchain Chicken Farm: and Other Stories of Tech in China's Countryside

Xiaowei Wang
2020, Farrar, Straus and Giroux

In their thought-provoking and controversial book, "Blockchain Chicken Farm: And Other Stories of Tech in China's Countryside," Xiaowei Wang dives into the intriguing intersection between technology and rural life in China. Wang presents a vivid exploration of the impact of digital advancements on traditional farming practices and uncovers the complex consequences that arise when new technologies collide with age-old traditions. Through a series of captivating stories, the author sheds light on the innovative ways in which blockchain, e-commerce, and artificial intelligence are reshaping the agricultural landscape. However, it is precisely this convergence of technology and rural life that renders the book so curious, as Wang critically examines the potential social, economic, and environmental repercussions that emerge from these developments.

At the heart of the controversy lies Wang's incisive analysis of the consequences of technology on rural communities. By delving into the stories of blockchain-tracked chickens, livestreamed pig farming, and e-commerce platforms connecting farmers directly with urban consumers, the author explores how technological innovations disrupt traditional power dynamics and social structures. Wang investigates the implications of these changes, revealing the economic inequalities that arise and the potential erosion of community and cultural practices. By questioning the sustainability and long-term viability of these new technological approaches, "Blockchain Chicken Farm" challenges the prevailing narrative of progress and calls for a critical examination of the costs and benefits associated with the tech-driven transformation of agriculture.