

By Shannon James and Rose Meadows



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We would personally like to thank you for all your support!

Shannon James

Through this project, I was keen to learn about how the colonial legacy has impacted geosciences as a student studying the course. Historical colonialism and imperialism have casually been brought up by friends who study at the UCL Department of Archaeology and Geography. I was aware of the controversy surrounding this topic, however, through this research, I was only more convinced of the importance of understanding the colonial legacy and its apparent links to geoscience, as I hope you'll agree after read

Rose Meadows

I am an MSc Geoscience student with a background in Geography. What drove me to create this zine is how global a study the Earth Sciences are and yet its neglect of the very history it's built upon, one of neocolonial, colonial, and imperial legacies that continue to shape the subject. The aim of this project was to explore the hidden and imbedded colonial legacies that linger within our science and put forward some suggestions for the future of our subject. I predominantly fall under and am informed by

It is very easy to see our colonial past as just that, a thing of the past. Colonialism: the acquiring of political control over another country, occupying it, and exploiting it economically¹. Despite this the colonial is embodied in material culture, our institutions of education, our political, social, and development policy, ongoing trade, and our archives and collections. Connections across space (e.g., contemporary imperialism) and across time (e.g., colonial histories) are made invisible, so although it is not perhaps less obvious and tangible than during the beginning of colonial and imperial conquest, it is no less crucial, it impacts not just political, economic, and individual life but our education system, as you will see within this zine. We will explore areas needed to undergo decolonisation within the Earth Sciences, although this is also applicable to wider subjects and audiences too. Our research highlights that ongoing systematic practices are impacting sciences and the quality of scientific research and collaboration. Therefore, it is not only of ethical and moral importance,

'scientific' explanation for Western and European supremacy ^{5, 6,}
^{7.} Charles Darwin's later research on *The Descent of Man, and Selection in Relation to Sex* (1881) concluded race was merely superficial, and that a lack of civilization was the cause of savagery ^{8.} Although known for his love of finches and groundbreaking theories on evolution the impact he had on race theory at the time is less well known. This impeded on evolutionary and social theory, in particular imperial policy at the time, and was later used to justify eugenics for fascist governments during the 20th century ^{9.} His research also required lots of exploration, this too being an imperialist import with its root linking to the Age of Exploration¹⁰

The accomplishments of these great scientists are in their own regard

process driven by ‘**anthropogenic**’, meaning originating from human behaviours, fossil fuel emissions ¹⁴. The West is considered the main perpetrator of these, colonialism, and the beginning of meteorological studies ¹⁵. To improve trade and imperial power global climate emissions calling into question the ethics of a term like ‘**anthropogenic**’, some scientists and philosophers have advised its use is problematic placing the blame on humanity as a whole ¹⁶. Mahoney and Enfield (2018) carry out a comprehensive review of the link between British imperialism systems were explored, often being destructive and far from ethical practices ¹⁷. An example mentioned within the paper highlights Australia as an example whereby this occurred, it was assumed to have a climate matching that of the UK, as a result mass crop failures occurred ⁴. Again, in the 17th century misunderstanding native environments led to dense vegetation in North America being deforested to help make it temperate like Britain ⁴.

Annual Review of Anthropology 41

Wiley Interdisciplinary Reviews: Climate Change 9

Environment and Planning D: Society and Space 38

Environment and Planning D: Society and Space 25



The history of fieldwork is far from glamorous, with links to the slave trade and oppression³². **GeoContext** is a website aimed at decolonising the geoscience curriculum. It was designed by a group of American scientists, and they link some of geoscience’s most prominent figures to a darker colonial past. They have created slides explaining the links between Matthew Fontaine Maury’s investigation of trade winds, “Scientist of the seas” by Maury, to his pro-slavery advocacy during the 19th Century in “The Amazonian Republic”. This points to the long history of oppression that allowed early Western-led science to develop.

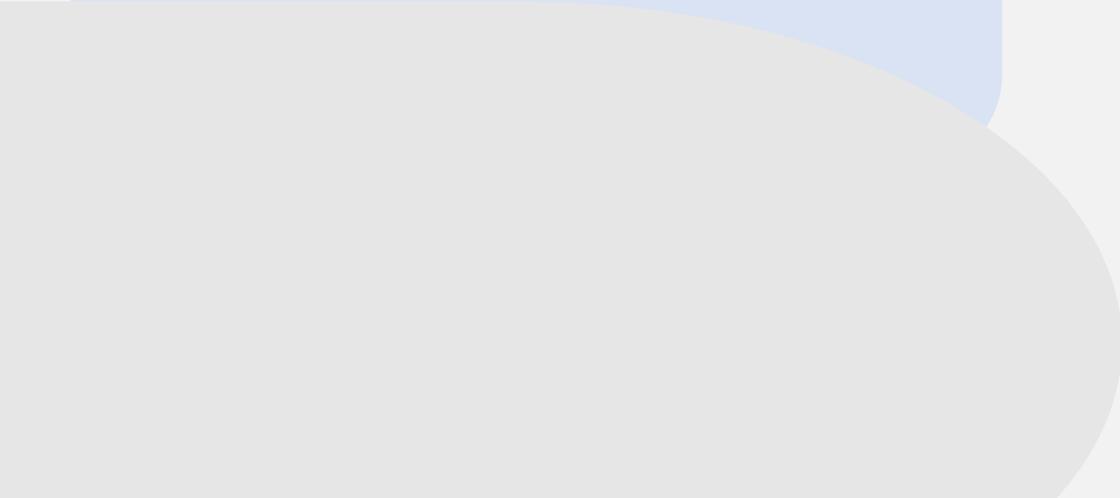
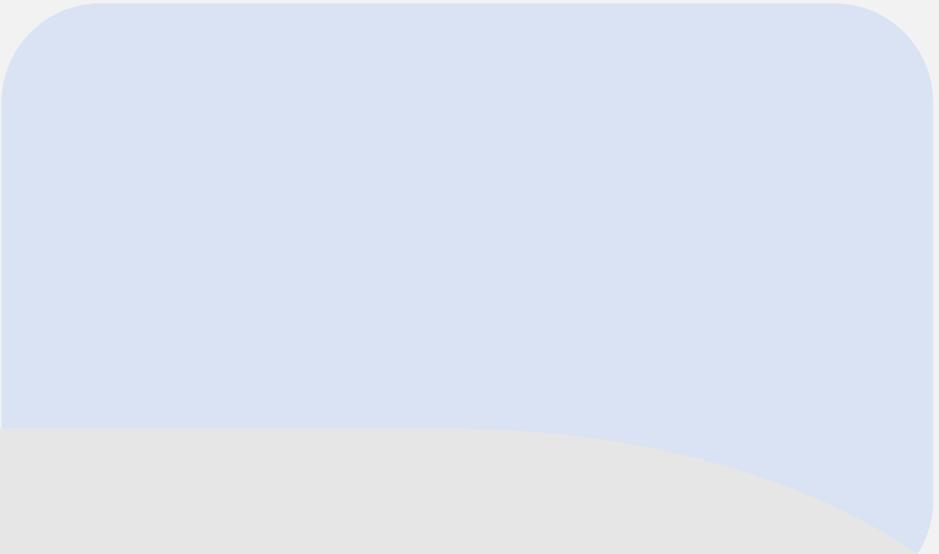
There are many examples of hunting and capture in colonial countries that led to the extinction of a species. For example, the Quagga was hunted to extinction by European settlers in South Africa³³. The passenger dove was also hunted to extinction in North America at a

record-breaking pace.

A great example of collaborative and ethical fieldwork was published in an article by The Atlantic (Yan, 2021)⁴¹. It tells the story of Cheryl Knott, an American anthropologist, who worked closely with locals in Borneo. Throughout her time there, she managed to get funding to pay her local collaborators for their assistance and inspire the community to take an interest in her research on Orangutans in Borneo. During the pandemic, Knott's movements were restricted; luckily her locally trained colleagues were able to take over field data collection and continue her work!

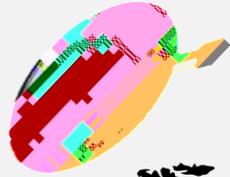
The Atlantic

When it comes to science, colonisation has resulted in the construction of a



world come to countries like mine, do research and leave without any investment in human capacity or infrastructure.....it creates a dependency on external expertise and cripples local conservation efforts.."44. He then goes on to talk about [parachute science](#), saying: "if we acknowledged that working anywhere other than our home country is a privilege and not a right, and if we all looked to learn and share equally and were equally equipped to do research based on the needs on the ground, then we would be better off".

Perhaps you imagine a scientist working in a lab, a field scientist mapping an outcrop, collecting data, or a scientist coding at their computer all day. All these are geoscientists working today, across the globe!⁴⁶. Challenging what some might consider a traditional image of a geoscientist is important in promoting inclusivity.



You might not be surprised to know that a colonial legacy has shaped the traditional image of an Earth Scientist⁴⁷. Many explorers were pro-slavery such as Henry De La Beche who created the first geological map of Jamaica. This concept addresses the fact that much of the history of science is credited to European settlers and explorers. In the 17th to 20th-century scientific discoveries & developments, that have contributed to modern science, do not always acknowledge the contributions of natives as well as their mistreatment.

Studies by Carbon Brief⁵⁰ have shown that there is a lack of diversity and inclusivity within climate research. Published figures from the report show that ‘The percentage of authors from the top 100 most-cited climate science papers during 2016-2020...’ from Europe and North America



A paper written in 2021 by Dolors Armenteras⁵¹ about guidelines for healthy global scientific collaborations received much agreement from the global south about the imbalances felt during the collaboration, she explains in an interview with Carbon

Brief, that a lack of funding and facilities puts them in an undesirable position. Scientists in the global south such as Dr. Quan-Hoang Vuong a researcher at Phenikaa University in Vietnam believe that countries that have been facing the severe consequences of climate change should be able to contribute more.

We understand that what we have discussed within this Zine is just but a fraction of the wider colonial and imperial legacy in our sciences. Below are some resources we came across that you might find useful for exploring this topic further.

- i. [GEO CONTEXT](https://geo-context.github.io/) – a social and political context but Geo science education:
<https://geo-context.github.io/>
A free resource aimed at giving a clear social and political context for Geo science education
- ii. [Paleosynthesis workshop series DDCP – Diversity Dynamics and Crises in Paleontology](https://www.paleosynthesis.nat.fau.de/index.php/ddcp/)
<https://www.paleosynthesis.nat.fau.de/index.php/ddcp/>
- iii. [Racism. A history, part 2: "Fatal Impact 2"](#) (digital)
This video explores racism, the colonial domination of Africa and social Darwinism, particularly of interest to those who want to explore imlorwho3imedc

THANK YOU