# DECOLONISING TEACHING IN BIOLOGY

A STAFF GUIDE

BY THE STEP DECOLONISING BIOLOGY TEAM

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# Background

This document attempts to provide a guide for teaching staff in the School of Biology, University of St Andrews, who wish to engage with decolonising the curriculum. It contains information, suggestions, illustrative examples and links to further information for staff to consider when designing and updating their modules. It is intended as a starting point rather than a comprehensive report or set of immediate solutions. The guide was produced by a team of University of St Andrews undergraduate students as part of the 2021 Summer Teams Enterprise Programme (STEP).

#### Background

What is decolonizing the curriculum?

The colonisation of most of the world by European superpowers is widely regarded as a past evil, but its effects last into the present. Colonisation entailed not just many centuries of the economic and political exploitation of indigenous peoples but also the destruction of cultures, languages and knowledge bases. Histories were rewritten to present colonial powers as the source of wisdom and justify a self-proclaimed superiority. Decolonisation is centred around the removal and/or undoing of the lasting effects of colonialism. Decolonising curricula entails re-evaluating existing methods of teaching and learning in the context of imperialism and racism (1,2). There is no doubt that colonialism has had a large impact on academia, as the global history of Western empires has led to a limitation on what and how universities teach (3). Contemporary efforts to decolonise the curriculum seek to address these historical biases through revising teaching materials and practises.

While it is rapidly becoming a buzzword in conversations regarding diversity, decolonisation goes beyond widening access and diversity initiatives. True decolonisation involves confronting how imperialism, colonialism and racism have shaped our world and ways of thinking, as well as working to undo those effects. In terms of UK higher education at large, as well as Biology at St Andrews specifically, this means we must acknowledge the whiteness, Western bias and Eurocentrism of our teaching and reflect on its implications. Science in the UK is a product of the greater trend of European scientific enlightenment, which directly contributed to and benefited from European imperialism (4).

# Background

#### Why decolonize?

Universities strive for accuracy and objectivity in science teaching, and hence many academics regard acknowledging and redressing historical biases through decolonisation of the curriculum to be of intrinsic value to their field. However, decolonization also entails recognition that educational institutions can be profoundly exclusory to subsections of society who may be sensitive to and alienated by such biases. A colonial curriculum is not only inaccurate but, by virtue of its exclusionary and depreciatory tendencies, inadvertently discourages many marginalised peoples from engaging with it. Decolonisation is based on the premise that educational systems cannot reach their full potential unless individuals from all ethnic backgrounds can benefit equally from the opportunities they afford.

Ideally, decolonisation would be undertaken at both an institutional level and individual level. In the latter case, educators are encouraged not only to revise their teaching materials but also to consider whether and how colonialism has impacted their own knowledge and habits of thought (1). Decolonization is often not a quick fix, and may require extensive reading and self-reflection. The desire to see decolonization should not be interpreted as criticism of existing teaching. To the extent that curricula reflect colonial values, these are typically the product of longstanding and cryptic structural and institutionalised biases rather than the prejudices of individual educators. This report aims to provide staff within the School of Biology with resources in the form of a guide to best practices in decolonised teaching, examples of adding colonial context to content, a glossary of key terms they might encounter if they wish to continue looking into decolonising academia, as well as a suggested list of further reading for those interested in diving deeper into decolonial work.



# Best Practices

The following section presents a selection of best practices for the decolonisation of curriculum inspired by existing decolonisation guides produced by other universities in the UK (listed in reference section). These are merely suggestions and should not be regarded as an exhaustive list. Instead, the following practices may serve as a starting point for staff who wish to develop or revise a particular module.



The suggested best practices are grouped into four categories: Acknowledge, Critically Examine & Challenge, Include, and Avoid.

# Acknowledge

- You don't need to be a person of colour to engage in decolonisation. Educators may wish to acknowledge the role that universities staff and students play in understanding the world through a community lens. The same holds for other academic institutions and resources, such as journals, textbooks and the naming of prestigious chairs and prizes. Applying a decolonial approach to teaching involves encouraging everyone in academia to cultivate an attitude of openmindedness.
- **Biology is neither objective nor apolitical.** (5) There is subjectivity in the types of questions academics choose to pursue, in deciding what information to include and exclude, and how to interpret results in research. Educators may wish to acknowledge the critical role of history, philosophy and social sciences in understanding the wider picture.
- Decolonising teaching means acknowledging that any knowledge could and should be open to question and challenge. (6) While it may be tempting to present a positive spin on the history of a field and on the contributions of its founders, also acknowledging negative impacts, biases and prejudices is crucial to making education truly inclusive.
- Colonialism has played a historical role in perpetuating structural racism in Biology, and vice-versa. The contemporary concept of race, which categorizes people into groups based on physical characteristics like skin colour and facial features, is a social construct that was adopted partly to justify and reinforce colonial values. Prominent biologists played a central role in developing and promoting scientific racism. Educators may wish to acknowledge the role of biologists in promulgating these views, as well as the often subtle racial biases that persist in both scientific research and society today. While contemporary biologists agree that the concept of 'race' has no biological validity when applied to humans, the field is partly responsibility for the existence of an erroneous conception of race in society. Contemporary biologists have an important role to play in educating the public on this issue.
- Decolonisation should be a long-term process of constant, ongoing discussion and reflection. (1) Decolonising isn't something that can happen overnight it involves prolonged and continuous engagement with the faculty, colleagues, and students to develop the curriculum further. For example, educators may wish to keep an open space in the course to teach around decolonising topics identified by students of that year. (8)

# Critically Examine & Challenge

- Challenge the Western bias of the curriculum. The majority of research and scholarly writing included within the curriculum is produced by authors at institutions in the Global North. Yet relevant research is also being conducted in the Global South and ideally this diversity would be reflected in the curriculum, including in lecture material, tutorials and reading lists.
- Recognize the legitimacy of bringing questions of ethnicity, gender, class, sexual orientation and disability to the fore. (6) Multiple aspects of identity interact and influence people's lived reality. These perspectives are not only valid educational material, but also help to make the topic of study more inclusive. Conversely, the failure to address these issues explicitly may leave minority groups feeling Biology is not for them.
- Critically examine the case studies included in teaching materials and consider whether they are "fully reflective of the variable experiences that people with different identities may have of the same phenomena." (6)
- Ask critical questions about the research included within the lectures: Who is regarded as a researcher and why? Who pays for the research? Who benefits from the research? Who does and who doesn't get credit for the research? Are the conclusions justified, or reflective of bias, prejudice or self-interest? (7)
- Challenge the notion of published academic papers as the only "authoritative" source of information.(4) There are concerns that Western scientific journals may be biased towards research produced in the Global North. Researchers from the Global South face other structural barriers which hinder publishing their research in these journals, for example the requirement to have the article edited by a native English speaker. Conversely, legitimate scientific journals in the Global South can be poorly valued by Western scientists. Including a range sources will help facilitate the inclusion of a diverse range of voices in the curriculum.
- **Examine how the material is delivered.** Consideration of pedagogical style, as well as the teaching content, is important. Educators might like to consider reading about pedagogical methods related to decoloniality, especially if they plan to address potentially painful topics. (8)

# Include

- Integrate history, culture, and sociopolitical context into Biology teaching. Science sets out to be objective, but objectivity is only possible with examination and interrogation of how the relevant knowledge was shaped by the context in which it arose. (6) Understanding of where, why and how the knowledge was developed can be instructive. Educators might like to reflect on whether key scientific theories, concepts, or knowledge forms are embedded in a set of assumptions, and whether students from minority backgrounds will share those assumptions.
- Incorporate diverse perspectives and entry points. Much of the content taught describes the contributions of white men to science. Educators are encouraged to seek out and include work by other scientists and non-Western research groups. (5) Including such materials helps students from minority backgrounds to feel like they could contribute to the field.
- Encourage a critical approach to scientific literacy. For example, include discussions about papers concerned with anti-racism and decolonisation within your discipline. (8) Encourage students to self-examine their own implicit biases and to challenge them.

# Avoid

- Avoid uncritically putting scientists on a pedestal. While it is true that scientists such as Ronald Fisher and Konrad Lorenz made significant contributions to their fields, they also held harmful, racist views an important fact which is often absent from Biology lectures. In some instances, the prejudicial views go far beyond the values of their time. The glorification of racists can be extremely alienating to those groups who were targeted by that racism, and can give the impression that offensive views are being casually dismissed, or even endorsed. Decolonising the curriculum will require us to interrogate the wider worldviews held by those we consider to be "key figures" in science. (5)
- Avoid narratives and images which might reproduce harmful stereotypes. For example presenting Africans as starving or Europeans as "white saviours" will likely be offensive to some students. (5)
  - Avoid the language of "founding fathers". This might create a false impression that they were the first to conduct research within their field, when in reality other scientists had already been doing research in that area but received little recognition for their work. For example, Niko Tinbergen and Konrad Lorenz are often referred to as the "fathers of ethology" even though African American Charles Henry Turner conducted pioneering studies of animal behaviour in the early 1900s. (9,10)

When preparing teaching material consider the following:

- How Western-centric is the work presented?
- Are there any biologists from non-Western, Global South or marginalised groups with important but neglected research in these areas?
- Does leaving out these voices risk marginalising some students?
- Has a balanced history of the field that honestly acknowledges negative (e.g. racist) as well as positive impacts been presented?
- Teaching material including a diverse range of sources and scientists alone does not decolonise teaching

# Case Studies

### **Objectives**

- For illustration, we briefly present three case studies, highlighting the kind of issues that might be raised in teaching modules. The case studies aim to:
- Outline key areas that deserve particular attention (here we focus on Evolutionary Biology and Genetics, Conservation, and Medical Research),
  - 2. Identify the impacts colonialism had on these topics,
  - 3. Suggest possible ways to integrate a decolonial framework into these areas of study.
- We hope to identify specific ways in which educators can adopt a decolonial framework to their teaching in the areas outlined here, with the same approach potentially applicable to other topics in Biology.

### When choosing case studies consider the following:

- Is there an important historical, cultural or socio-political background to this case study?
- Does the presentation include non-Western or Global South points of view?
- Are case studies showing negative outcomes of western science as well documented as examples praising western science?
- Are you explicitly highlighting colonialism and racism where present?



#### Introduction

To understand the full impact of evolutionary and genetic theories it is necessary to provide context by acknowledging the prejudices of the people who developed bodies of science. Colonial values played a substantial role in the development of these fields, generally at the expense of minority groups. It is helpful to include overlooked contributions from minority groups.

#### Acknowledging racism

Early evolutionary biology and genetic theories are riddled with racist, imperialistic, and colonialist values. One of the most prominent examples of the interconnection of these values with academic biology is the field of eugenics. Eugenics, founded by Francis Galton, is the idea that 'undesirable characteristics' should be bred out of society and the 'races' kept 'pure'. The idea led to a prominent international movement culminating in the imposition of constraints on immigration, marriage, breeding and the enforced sterilization of particular peoples in most of Europe and North America. Eugenics was strongly supported by many leading evolutionary biologists, including Galton, Karl Pearson, Ronald Fisher, Hermann Muller, and Julien Huxley, and much statistical and evolutionary theory was developed as attempts to prove or justify eugenics arguments. Prominent evolutionists were the leaders of the eugenics movement, active through publishing books, lobbying governments, or public speaking on this topic, as well as creating and editing journals dedicated to eugenics, or creating new departments with prestigious chairs in eugenics.

#### **Francis Galton**

• In his book, Hereditary Genius, Galton stated that "the average intellectual standard of the Negro race is some two grades below our own", arguing that this difference was inborn and ineradicable. (11)

#### **Karl Pearson**

 Pearson founded a department of eugenics at University College London. He also created and edited a scientific journal called The Annals of Eugenics (which later changed its name to the Journal of Human Genetics). His study of Jewish immigrant children claimed to find that Jewish children were less intelligent than non-Jewish children and that his intelligence did not have an environmental correlation. (12)

#### **Ronald Fisher**

• In his book, The Genetical Theory of Natural Selection, Fisher dedicates five chapters to eugenics, describing people of colour as 'barbarians' and suggesting that inter-breeding between races could lead to the degradation of society. Yet this book is considered a 'classic' in the field of evolutionary biology and remains on many undergraduate and graduate reading lists. (13)

Today we recognize these conclusions as scientifically unfounded, yet these scientists presented themselves as merely disseminating "factual information". Much statistical and evolutionary biological theory was originally devised partly to support these racist arguments. (12) Many scientists who actively promoted eugenics made foundational contributions to their field, and some are treated as 'heroes' because of this, with buildings, rooms, professorships and prestigious prizes named after them. However, their racist values can alienate students of colour and put them off the field.

#### An Inclusive Curriculum

There are many scientists who do not fall into the white, western male bracket, whose contributions to evolutionary biology and genetics are frequently overlooked. Below are just two examples (there are many more!) of scientists that made tremendous contributions to theories we still use in biology today, but who are rarely taught about, and whose papers are typically not on undergraduate reading lists.

#### Nettie Stevens

Nettie Stevens (1861 - 1912) was an American geneticist who discovered an individual's sex is determined by chromosomes. She became interested in sex determination and, through studying mealworms, discovered that reproductive cells fertilized by sperm carrying a Y chromosome became male, whilst those fertilized by sperm carrying an X chromosome became female.

She played a crucial role in the development of modern genetics, providing critical support for Mendelian theory.

She researched sex determination for many years despite never holding a formal university position, receiving inadequate recognition for her contribution. (15)

#### Ernest Everett Just

Ernest Everett Just (1883 – 1941) was a prominent African American biologist who conducted pioneering research into the fertilization process, early development and the role of the cell cortex in development, inheritance and evolution. As an African American scientist, he struggled to find work at a major American University, and was forced to work for other scientists. He did find work at the Marine Biological Lab in Woods Hole, MA, Anton Dohrn in Naples, Italy, and Kaiser Wilhelm Institute in Berlin, Germany.

Despite publishing over 50 papers and two books, entitled "Basic Methods for Experiments on the Marine Eggs" (1939) and the "The Biology of the Cell Surface" (1939), Just's progressive research was largely ignored. (16)

Contextualizing the development of prominent theorems, including acknowledging scientists' prejudices and personal agendas, and questioning ideas that are or were perceived as fact, is important to decolonising the biology curriculum. Conversely, the failure to contextualize this work, or to acknowledge 'embarrassing' episodes in the history of the field, may be viewed as implicit endorsement of racist values.

# Conservation

There's a pervasive idea that conversation is best undertaken by governments and NGOs – an idea in opposition to the land management technique deployed by many indigenous cultures for hundreds of years. Contemporary Western views of conservation commonly promote the idea of nature as separate from humans, with human activities seen as in conflict with or destroying nature. (17) However, from the perspective of many indigenous people, humans can live in harmony with nature and are a part of it.

There is a concern that the very concept of conservation may construct a moral high ground, with conservationists seen as people saving the planet, with little awareness of the impacts that their work has on marginalised or indigenous peoples. It is important for educational institutions to raise these complex issues if conservation scientists are aware of this concern, so as to not unknowingly uphold colonialist power structures.(18)

#### Recognizing colonialism as a cause of ecological change

The cause of some aspects of the Anthropocene (the current geological epoch where humans have an overwhelming impact on the environment) can be traced directly back to the onset of European colonialism. With the beginning of enterprises such as cotton and sugar plantations and imposition of other agrarian systems, commercial fishing and whaling and fur outposts, as well as the introduction of invasive species, colonialism triggered dramatic change and an overall loss in biodiversity, in many landscapes. (19)

#### Impact on indigenous peoples

The creation of protected areas, such as national parks, can impose restrictions on the farming and hunting practices of indigenous people, often making it difficult for them to live in these areas, and in some cases even leading to their eviction. (20) One example is seen in the Kahuzi-Biega National Park in DR Congo, where local people were forcibly removed without warning. (21) The communities that have been moved do not have access to the resources they need to survive and have been barred from their sacred sites.

# Conservation

Conversely, a decolonised model of conservation recognizes the role and interests of people that have been custodians of these environments for millennia and are likely to be those that can help most in the future. Indigenous people contribute significantly to biodiversity, often due to not using monocultures found commonly in western agriculture. (22) Examples of this include traditional bush burning practices in Australia, and the restoration of native plant species and shellfish populations in the US. (23)

#### **Colonial roots to the concept of the Anthropocene**

Conceptions of the 'Anthropocene' may inadvertently draw on colonial attitudes by portraying some societies as more advanced than others, and exploiting skewed Western narratives of progress and civilization. One common perspective is that the Anthropocene arose due to the progression of human societies, the culmination of which is the western notion of a democratic nation state. This industrialised nation state is then viewed as the main culprit of the changes that cause climate change.

George Perkins Marsh, a renowned American conservationist, called for the "diffusion" of the knowledge of "advanced" peoples to other "classes" of people (18), which raises obvious concerns with its framing of societies as undeveloped and seemingly calling for intellectual colonialism.

There is the additional concern that developed countries may use conservation as a political tool to slow the industrial development of other countries, or justify Western interests and policies.

# Medical Sciences

Medical science has also been used to uphold colonialist power structures and perpetuate institutionalised racism. (24) With the importance of healthcare to society, and the power that industries such as pharmaceuticals wield in society, it is important that students are conscious of these power relations and their impact on traditionally under-served groups. Even today, discriminatory social arrangements related to healthcare are being encoded into laws, policies and norms that unduly privilege or benefit some social groups while harming others. Decolonizing the medical curriculum will help broaden thinking about drivers and treatment of disease.

#### **Tuskegee Syphilis study**

One of the most scandalous historical examples of racism in Medical science is the Tuskegee syphilis experiment, which was carried out by the United States Public Health Service across four decades (1932 - 1972). This is a notorious example of racial abuse by scientists who used African American subjects to investigate the effects of failing to treat syphilis. The study deliberately withheld treatment for syphilis from its exclusively Black subjects, who were even prevented from being treated elsewhere. Like many diseases, research has subsequently established that the higher prevalence of syphilis shown among African Americans was not due to 'racial' or anatomical differences, but due to a reduced access to healthcare and other socioeconomic disadvantages. (25)

#### **Racism during the COVID-19 pandemic**

The effects of institutionalised racism continue into the present. Throughout the COVID-19 pandemic it has been shown that COVID-19 disproportionately affects people of colour and other marginalised communities, who suffer higher rates of severe disease and death. This appears not to be a result of any biological difference in these groups but due to their socioeconomic circumstances, and to differential access to hospital services such as intensive care. (26) There are other racist issues surrounding this virus. For instance, at the beginning of the pandemic the virus was often labelled as the 'Wuhan Virus' or the 'Chinese Virus'. This not only unfairly scapegoated East Asians as responsible for the disease, but also led to East Asians facing increased discrimination, recrimination and racial violence. A similar concern relates to the geographical nomenclature of COVID-19 variants.

# Medical Sciences

There have also been recent headlines such as 'Why don't Africans have the disease?', which betrays an offensive disbelief that the Global North could be handling the pandemic worse than the Global South. This stance not only presents the Global South negatively, with media focusing on the assumed failure, but limits the opportunity to learn from other peoples. There were also suggestions of Africa being used as a location to trial COVID-19 vaccines. It is important for biology students to be aware of the racist patterns that underly the research and reporting of diseases. (27)

#### BiDil as an example of colonialism in pharmaceuticals

Scientific racism is a longstanding tradition in which biology is abused to 'prove' the existence of racial differences in order to maintain existing social hierarchies and justify making large profits. A modern example is provided by the

pharmaceutical industry's targeted marketing of drugs to minorities, such as in the case of BiDil. This is a drug that was approved by the FDA to be marketed as the appropriate drug for a specific race. BiDil combines two generic drugs for congestive heart failure, long recognized as benefiting patients with heart failure, irrespective of the patients' race or ethnicity. (28) Experts worry that the use of 'race' as a crude and misleading marker for underlying biological difference will leave many individuals being treated with drugs that don't work well for them. The exploitation of race to distinguish which patients are more suited to use a drug benefits pharmaceutical companies which commercial success. but encourages neglect of the social reasons which lead to African Americans being twice as likely to develop congestive heart failure.

#### Quick changes

- Include a diverse range of scientists and case studies in teaching materials
- Present information from non Western sources
- Acknowledge the political nature of science when teaching

#### Long term changes

- Examine the impact of coloniality within your specific research field
- Examine the impact of coloniality within your methods of teaching
- Keep open space for conversations about these issues
- Encourage students to think critically about the presented information
- Be sensitive to the exclusionary impact of the glorification of racist scientists and wary of putting scientists on pedestals.

### GLOSSARY OF KEY TERMS

#### **BAME**

Stands for 'Black, Asian and Minority Ethnic' communities. The term that British Government and HE institutes use by default. In other places often used interchangeably with 'BME' (Black and Minority Ethnic), 'POC' (People of Colour), 'BIPOC' (Black, Indigenous, and People of Colour) and ethnic minority. These terms and many others all highlight different sides of the same struggle, and there is a never-ending discussion about which is best to use. (29)

BAME is used by different ethnic groups to fight back against discrimination. Its broadness is its greatest advantage and its biggest flaw at the same time. While allowing different communities to fight back collectively, therefore making a stronger point, it tends to neglect the diversity of the communities it is supposed to represent, both in culture and in lived experience of oppression. (29)

#### **Coloniality**

A concept that refers to the way in which colonial legacies impact cultural and social systems as well as knowledge and its production. (30)

Colonisation mostly refers to the occupation of a territory or country by another country or territory, by military force. The coloniser can appear to have humanitarian reasons (e.g. fighting for human rights, spreading culture etc.) but colonisation almost always happens out of want for more political or industrial power.

Coloniality is the power-structure that is built in colonised territories, to help the coloniser keep its power over the area. In many places, universities were instituted as part of this system, teaching Eurocentric views. Coloniality is not gone just because the occupation ceases to be present, since coloniality is the system itself that is left behind (30)

#### **Decoloniality**

A movement that seeks to move away from Eurocentrism, by focusing on 'alternative', non-Eurocentric ways of knowing (30). On a broader level, decoloniality is the process of dismantling colonialist power in all forms. (31) Decoloniality can mean the changing of flags or symbols, to represent the communities instead of their oppressors. It can involve changing curricula or laws, to humanise those previously dehumanised. It can mean celebrating cultures and religions instead of presenting them as backwards. It is nations and peoples reclaiming their heritage and identities (31).

### GLOSSARY OF KEY TERMS

#### **Global South & Global North**

Phrases that usually refer to Asia, Africa, and South America as Global South, and to Europe, North America, and Australia as Global North. It broadly defines the Global North as culturally, politically, and economically more developed/superior (30).

What is referred to today as Global South, has been labelled as 'Third Word' and 'developing countries' in the past. This view has roots in colonialism, as presenting the colonised communities as inferior and the colonisers' culture as superior acted as justification for enforcing the colonisers' culture, and more generally the colonial rule (30).

#### Neocolonialism

The control of less-developed countries by developed countries through indirect means (32).

Neocolonialism has been broadly understood as a further development of capitalism that enables capitalist powers (both nations and corporations) to dominate subject nations through the operations of international capitalism rather than by means of direct rule (32).

#### Orientalism

A term used to describe the stereotypical depiction of Eastern (Global South) cultures by Western (Global North) artists (31).

Presenting everything foreign as inferior has become a practice during the 'Age of Exploration', and its effects can be traced to today. Presenting colonised countries as inferior justified their exploitation. An example from modern days would be presenting the whole African continent as starving (30).

#### Race

The idea that the human species is divided into distinct groups based on inherited physical and behavioural differences (32).

Genetic studies in the late 20th century refuted the existence of biogenetically distinct races, and scholars now argue that "races" are cultural inventions reflecting specific attitudes and beliefs that were imposed on different populations in the wake of western European conquests beginning in the 15th century.

### GLOSSARY OF KEY TERMS

#### Racism

Racism is broadly understood as forms of discrimination and/or disadvantage accruing from processes of racialisation, i.e. not just interpersonal forms of racial violence and verbal abuse (33).

#### Reparations/Reparative Justice

The process of making amends of injustices and human rights violations of the past (30)

In the context of coloniality, most of the crimes and human right violations were not owned up to by the people who committed them. Therefore, as these injustices come to light again, it is the present generations' duty to not sweep them under the rug as their predecessors did but provide justice. For example, reparatory justice can be changing hurtful imagery in logos, or examining whether the people who our buildings are named after were good people (30)

#### Structural and Institutional racism

Structural racism is understood as the patterned production of hierarchical entitlements and life-chances between racially identified groups, based on forms of social control. These are often reproduced in public institutions such as the criminal justice system, the health system and education (33)

#### White Privilege

"An absence of the negative consequences of racism" (31). White privilege is present, in everyday understanding, when a person doesn't have to worry about race. There are terms, for example 'People of Colour' that can imply that 'White' is not a colour, since 'People of Colour' refers to all non-white people. Therefore these terms can contribute to white privilege by distancing the issue of racism from White people (29)

### FURTHER READING Books

- Adams 1996 A Tortured People: The Politics of Colonization
- Arday J & Mirza HS 2018 Dismantling Race in Higher Education.
- Battiste 2013 Decolonizing Education: Nourishing the Learning Spirit
- Brown Pellum K 2019 Black women in science.
- Davis 1971 If They Come in the Morning
- Eddo-Lodge R 2017. Why I'm no longer talking to white people about race.
- Hooks 1987 Ain't I a Woman
- Kimmerer 2013 Braiding Sweetgrass
- Rodney 1972 How Europe Underdeveloped Africa

### FURTHER READING Books

- Saini A 2019 Superior
- Skloot R 2010 The immortal life of Henrietta Lacks
- Smith L 1999 Decolonizing Methodologies
- Williams M & Amalemba M 2013 Black scientists and inventors in the UK

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- Dei 2000 Rethinking the Role of Indigenous Knowledges in the Academy
- Lorde 1984 The Master's Tools Will Never Dismantle the Master's House
- Pilkington A 2011. Institutional racism in the Academy.
- Walia 2012 Decolonizing Together: Moving Beyond a Politics of Solidarity Toward a Practice of Decolonization

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