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[Translation in Setswana]

# The Taung Child then and now: Commemorating its centenary in a postcolonial age

The story of the Taung Child discovery is almost legend in palaeoanthropology. In it, Raymond Dart acquires a block of calcified sediment, painstakingly removes the fossil skull from the matrix, and publishes his description of the new species *Australopithecus africanus* in the journal *Nature*<sup>1</sup>, only to be rebuffed by the international scientific community, but ultimately vindicated decades later following subsequent discoveries in Africa and the debunking of the Piltdown forgery<sup>2–4</sup>. Dart is portrayed as prescient, and as elevating the importance of Africa in the narrative of human origins.<sup>5</sup> But is this a biased and simplified narrative? This history played out over a period marked by colonialism, racism, racial segregation, and, ultimately, the implementation of apartheid, making the history of human origins research intimately intertwined with the prevalent socio-political landscape. Viewed against this backdrop, and with a contemporary lens, the figure of Dart, and palaeoanthropology on the African continent more broadly, is more complex and worthy of reflection.

In this special issue, published exactly 100 years after Dart's original publication, we bring together a group of African researchers and international collaborators to offer our perspective on the science, history, and legacy of palaeoanthropology in South Africa and beyond. We are particularly interested in exploring how the history of the discovery of early hominins in South Africa, as it played out in a colonial context, impacted the scientific field of palaeoanthropology. Did it promote or limit scientific enquiry? In what ways? What were its cultural effects, and how do they play out in our current context a century later? How might we work to decolonise the discipline and its narratives?

Our decision to mark the Taung centenary by publishing this collection of articles in an open access South African journal, and to centre the voices of South African researchers, was a deliberate one. Too often, African palaeoanthropological heritage is the domain of international teams, with little meaningful collaboration from local African researchers – a phenomenon increasingly being recognised as “helicopter science”.<sup>6–8</sup> The paucity of diverse Global South perspectives has done a disservice to the field, and has led to the perpetuation of colonial legacies and practices, while at the same time rendering much of what is going on invisible internationally, as it is not the lived experience of the researchers being centred. In this light, our goal is to celebrate the remarkable science that the discovery of *A. africanus* enabled, but also to probe disciplinary legacies viewed through a critical lens that challenges us to do science better.

## The making of Dart's legacy

Two articles in this special issue critically engage with Dart's legacy and how it has been shaped and narrated by him and others. Kuljian reflects on Raymond Dart's legacy, how it was shaped and protected by figures such as Phillip Tobias, and burnished by biographers. The author reviews how Dart's telling of the story of the fossil obscured the roles of some while promoting a “one man one fossil” myth. The author then considers scholars who critically reflected on Dart's legacy, which included problematic practices of scientific racism and colonial influences, and shares findings from the Dart papers at the University of the Witwatersrand Archives, ultimately demonstrating that Dart's legacy is more complicated and problematic than generally appreciated. Kuljian argues that Dart's painful legacy of scientific racism must stand alongside his better-known legacy as the describer of the Taung Child skull.

Ackermann et al. focus on the “explorer” myth, an integral part of Western mentality for more than two centuries, and consider how this colonial idea has shaped aspects of African palaeoanthropology. They interrogate the mythology around Dart, and show how the discovery and reporting of Dart's work on the Taung Child fossil was situated and storied within this explorer narrative. They then expand to consider African palaeoanthropology more broadly, and argue that these outdated concepts have played a role in determining which scientific outcomes are valued and which are not. This is especially true for fieldwork practices, which continue to embody the explorer myth's deeply problematic colonial ideals of Western, masculine, moral and cultural superiority. Finally, the authors propose disciplinary changes to help move us all forward in a manner that creates a more equitable and accessible future for African palaeoanthropology.

## Fossil morphology, biology and ecology

Other contributions consider the Taung Child fossil itself and its legacies. Beaudet et al. focus on the Taung Child endocast and its influence on the study of hominin brain evolution and the growth of the field of palaeoneurology. They expand their assessment to the impact of the well-preserved South African fossil record of crania and natural endocasts on our understanding of brain evolution, and review methodological and analytical innovations. They contextualise this within a discussion of current practices and digital data sharing, while also considering ethical issues related to studies of recent human brains as hominin comparators. Schroeder et al. use the jumping point of the discovery of the Taung Child skull to reflect on the importance of, and focus on, skull collecting in palaeoanthropology, contextualised within the history of ‘physical’ anthropology and its goals of scientific racism. They demonstrate how this has skewed the comparative collections housed in South African museums (although this pattern is seen worldwide), affected species hypodigms, and impacted the discipline more broadly. They argue that an overemphasis on skulls and brain size has biased our understanding of human evolution and has been detrimental by contributing to ideas of human exceptionalism.

Two articles look at dental enamel and what it can tell us about hominin biology and ecology. Lee-Thorp and Sponheimer provide an overview of the various analytical tools, stable light and radiogenic isotopes, and trace element biogeochemistry, as well as the macro- and microscope morphology, used mainly on fossil tooth enamel to investigate hominin dietary and mobility patterns, contextualising this within the pioneering emergence and growth of these research fields in South Africa. The authors challenge Dart's hypothesis that meat-eating played an important role in early hominin diets, and their evolution, showing that the carbon isotope and trace element signatures point to an under-recognised reliance on plant foods; they earmark this role of plants in hominin diets an important direction for future research. South Africa continues to be well positioned at the forefront of new methods for understanding early hominins. Madupe et al. explore the exciting new field of palaeoproteomics, as applied to study fossil hominin and faunal tooth enamel, and demonstrate its potential for illuminating the sex and evolutionary relationships of early hominins. As an example, they demonstrate that proteins are preserved in an *A. africanus* tooth from Sterkfontein, indicating that it is a male individual. They argue that South Africa's exceptionally well-preserved hominin fossils promise new knowledge production as this subdiscipline develops, but also highlight the need to invest in resources and capacity development to achieve this.

## Geological and palaeoenvironmental contexts

The context of the fossils has also long been a subject of interest. Weij et al. review the geology, dating and taphonomy of the UNESCO Cradle of Humankind World Heritage Site caves. They look at the role of mining at Taung and the Gauteng Cradle, and how the removal of the speleothem and tufa (known colloquially and historically as 'lime') led to the discovery of fossils at both localities but was not only destructive but also part of a segregated, colonial and apartheid-driven context. In an echo of Ackermann et al., Weij et al. argue that the credit for the discovery of the fossils and the excavation of the sites is disproportionately allocated and that black miners and excavators are virtually erased from the narratives surrounding the fossil sites. They end with a look at current and future areas of geological and palaeoenvironmental research and the recent success in establishing world-class local dating facilities, a message also picked up on by Lee-Thorp and Sponheimer and Madupe et al.

Zooming out from the fossil cave sites, Khosa et al. look at the last 135 years of landscape evolution in South Africa and offer both a review and critical reflection. Dart hypothesised that the landscape and backdrop to the newly described *A. africanus* was a stable dry climate, an idea which Khosa et al. suggest is threaded through the following decades of research and underpins the older models of landscape evolution. They then critique the 'African land surface' model and argue that, while this was a product of its time, it is also a product of outdated colonial thinking in which 'Africa' is treated as a homogeneous, unknowable single entity. They provide a snapshot bibliometric look at the "who of landscape evolution", from which it becomes clear that this research has been dominated by foreign, white academics; building local capacity and training more African researchers is a way to address this imbalance.

## Beyond palaeoanthropology: Community and practice

The final set of contributions looks outside the field of palaeoanthropology and considers broader impacts on community, museum practice, and palaeosciences more generally. Tawane et al. provide a unique view of the Taung Child discovery from within. The lead author's background as both a palaeoanthropologist and also someone who grew up in the Taung Municipality provides a position from which the meaning of the Taung Child discovery to the community around the locality of discovery can be probed. A century after the discovery of the iconic fossil, the authors argue that there is little, if any, reason for the local community to celebrate the Taung Child discovery. They suggest that more should be done in this locality with enduring socio-economic problems, not only to give back to the community but also to build trust and foster a sense of belonging.

What is the role of the museum? How are museums addressing unethical legacies? Black et al. reflect on these key questions in their piece focusing on the development of heritage management in South Africa over the past century. They engage with both the legislative and ethical frameworks of the present and discuss how these inform the protection of heritage today. By highlighting key objectives in contemporary heritage management – such as repatriation, community engagement, and public science education – Black et al. offer a depiction of the complex challenges faced in these spaces as they look to the future. Finally, Kgottleng et al. explore the state of affairs of palaeoscience research in southern Africa a century after the milestone discovery at Taung from a policy perspective, as well as that of social cohesion. Their contribution underscores the deeply colonial and largely socially unresponsive research that characterised much of the last century and calls for reforms that promise more equitable and meaningfully inclusive research in the subregion and further afield.

## Outside perspective

The special issue articles are prefaced by a front section contribution from the outside. Focusing mainly on Kenya, Mbua provides a perspective on how the Taung Child discovery stimulated palaeoanthropological research in an Eastern African context, highlighting the subsequent redoubling of systematic field and laboratory research across Kenya, Tanzania and Ethiopia. The author then goes on to show that much of the spectacular hominin and palaeontological discoveries in the region were dominated by a few actors, all of Western European descent and predominantly men. While acknowledging encouraging efforts to train African professional palaeoanthropologists over the past decades, Mbua concludes by highlighting the need for better capacity building of African heritage institutions.

## Towards a decolonised palaeoanthropology

We have made an effort with this special issue to acknowledge and discuss both the Taung discovery and the research which followed in the setting in which it was undertaken, which was, until 1994, colonial and then apartheid. We make this point deliberately, as science is not an entirely empirical, somehow neutral and pure, endeavour, but instead is deeply embedded in the context and society in which it is produced. As such, we need to view the last 100 years of palaeoanthropological work within its historical and cultural context, reflect on this as a community, and make decisions on how we want our field to develop into the future. There are some key themes that repeatedly run through these special issue contributions that speak to the legacy of colonialism as it impacts palaeoanthropology. We believe they can guide this reflection and realignment of practice in order to decolonise palaeoanthropology.

The colonial framework in which most palaeoanthropological research in South Africa took place enabled the exclusion of almost everyone except a few. Marginalisation and erasure of voices repeatedly emerges as a theme in this special issue. This is particularly true for Indigenous voices, and the legacy of this today is reflected in the paucity of African researchers in palaeoanthropology who are first authors on prominent research or leading international research teams, compared to the number of white international researchers.<sup>8</sup> Much has also been written on the role of diversity in both business and academic research – the so-called 'business case' for diversity<sup>9,10</sup>, which presents a compelling case that more diverse teams produce better, more creative and innovative work. This can be taken further in academia, as argued by Burt et al.<sup>11</sup>, that, as a sector, we have an additional ethical obligation to work towards making our disciplines more diverse, given the exclusionary nature of science and research. Both cases are applicable to palaeoanthropology; more diverse teams will produce better future work, and as a discipline, we need to actively address this.

A correlated aspect of the colonial framework is the dominance of Western male viewpoints, and this theme threads through almost all the work presented here. While our field has been very productive over the last 100 years and a huge volume of papers has been published, the credit, both in academia and society, has overwhelmingly been accrued by this one demographic, to the exclusion of women and people of colour. This pattern is, however, changing. We sought to add some

redress to these imbalances of whose voice is centred and whose is erased through the authorship of this special issue, with high levels of representation by women and Africans (and African women), and call for a more considered and equitable approach to the inclusion of African researchers, technicians, and excavators in the future: in workshops and seminars, on professional bodies, as collaborators and knowledge creators, and in authorship practices.

Another key theme which emerges from this special issue is both the value of and the need for excellent local laboratory facilities in which to undertake research based on the fossils and deposits associated with them. Increased investment in local laboratory facilities and capacity development can facilitate a shift towards local work on the content being led by Africans, and increase pan-African collaboration, dismantling the currently common practice of African researchers instead being drawn into separate existing international networks. As Ackermann et al. discuss, it is important for international funding bodies to increase investment within African palaeoanthropology to facilitate this internal growth and local collaborative networks, thereby breaking down the legacy of colonialism. It is also essential for our local funding bodies, especially the National Research Foundation – which has drastically cut budget allocation to the African Origins Programme in recent years – to more substantially invest in research on our precious fossil heritage, a national asset. We cannot grow local research capacity without this support.

Finally, the colonial legacies discussed above also manifest in a lack of social responsiveness, a theme that emerges across a number of papers featured in this special issue but which is most thoroughly addressed in the writings of Tawane et al., Kgotleng et al., and Black et al. Academic social responsiveness is also referred to as engaged scholarship, where academics engage with non-academic constituencies, using their professional expertise for a public purpose or benefit. In order to create a truly decolonised palaeoanthropology, researchers need to understand that there is value in engaging outside of academia, not merely for the unidirectional dissemination of knowledge, but to enrich communities and co-create a scholarship that is more nuanced, ethical and relevant. We call for researchers to take on board socially responsive practice, and for institutions to hold researchers to higher standards of practice as we enter the next century of palaeoanthropological research and discovery in Africa.

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