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Revisiting the debates on "epistemicide": Insights from the South African school curriculum

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ABSTRACT

Epistemicide occurs when one knowledge is exalted at the expense of local or indigenous knowledge systems leading to the demise of such knowledge systems. In this article, I focus on how some conceptions and ways of incorporating indigenous knowledge systems seem to be entangled in the same misnomer to which they owe their existence (i.e. a mischaracterisation of indigenous knowledge systems leading to epistemicide in the school curriculum). Subsequently, I interrogate some examples from three curriculum statements of post-apartheid South African schools where there is a conspicuous attempt to include that which is presumed to be indigenous knowledge systems. I argue that such epistemologically unwarranted acts of integrating indigenous knowledge systems in the three post-apartheid curriculum statements unfortunately do not safeguard indigenous knowledge systems from epistemicide. In fact, the manner in which indigenous knowledge systems are integrated creates a false dichotomy and sense of identity. Bluntly put, the evident integration of indigenous knowledge systems as apparent theoretical knowledge fortifies epistemicide as opposed to alleviating it. Universally true knowledge about indigenous people and practices should therefore be included within the school curriculum to provide historical meaning to the content that is taught and instil a true sense of identity within the communities of indigenous people.

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Introduction

It is widely acknowledged that not all valuable knowledge(s) can be included in school curricula. Central to this process of knowledge selection, at least in most postcolonial states, is the concept of "epistemicide". Epistemicide refers to a systematic destruction of knowledges and sciences that are not in alignment with the dominant paradigm, which have traditionally been used to pursue a sovereign path of development (De Sousa Santos, 2005). According to Bennett (2007), epistemicide makes it possible for knowledges that are not situated within the realm of the dominant ideology to be relegated to zones of invisibility and complete deterioration. Given the historically evidenced

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forms of ferocious domination in the world, it is not unanticipated that epistemicide has taken place throughout the world. As a result, in many parts of the world, there is evidence of a robust rejection of systemic epistemicide (see Bennett, 2007; Masaka, 2018; Mukherjee, 2019; Tshaka, 2019; Zhao, 2020).

In line with contentions on epistemicide, recent decolonial deliberations have mostly questioned epistemic injustices, which have manifested in a multitude of ways (see Hayes et al., 2022; Ndofirepi & Gwaravanda, 2018; Sriprakash, 2022). It can then be argued that such critical accounts of modern epistemic hierarchies are driven by, amongst other reasons, the desire to quell epistemicide. In the African and South African education *milieu* in particular, Fataar and Subreenduth (2015) bemoan that the absence of "African-centred knowledges and discourses within the formal knowledge systems of schools and universities on the African continent is the contrived manifestation of abyssal epistemology" (p. 110). Consequently, abyssal epistemology is responsible for epistemicide on the African continent (see Fataar & Subreenduth, 2015). As I will show by way of examples from three post-apartheid curriculum statements, the debates on indigenous knowledge systems seem to be conflating issues of social justice (i.e. epistemicide) with epistemological concerns (i.e. what counts as valid knowledge) (also see Horsthemke, 2013; 2022).

The concept of indigenous knowledge systems refers to, as I will later expand, skills and knowledges that belong to people of a certain community or geographic area (Odora-Hoppers, 2005). This article is structured as follows: First, I discuss the debates on indigenous knowledge systems in the context of traditional conceptions of that which counts as valid knowledge, and further outline some of the global debates on epistemicide. Then, I provide a synopsis of the history of curriculum change in South Africa. I also detail how I identified and analysed indigenous knowledge systems sections in the three curriculum statements, Furthermore, I extract examples of indigenous knowledge systems from the Revised National Curriculum Statement (RNCS) to make a case for a realist conception of theoretical knowledge. This will be followed by an extension of the realist argument for universally valid theoretical knowledge to examples of indigenous knowledge systems extracted from the National Curriculum Statement (NCS) and the Curriculum Assessment Policy Statement (CAPS). Last, I argue that the manner in which indigenous knowledge systems have been included in the post-apartheid curriculum statements fortifies epistemicide as opposed to alleviating it. Universally true knowledge about indigenous people and practices should therefore be included in the school curriculum in order to provide historical meaning to the content that is taught and to instil a true sense of identity within communities of indigenous people.

Knowledge in context: from traditional conceptions of knowledge to "epistemicide"

The advent of democracy in 1994 brought about, amongst other concerns, debates on the kind of knowledge that ought to be incorporated in curricula for South African schools. Understandably, the view of "epistemic justice" was and is still the locus of such epistemic deliberations. In this section, I provide an elucidation of the debates and conceptualisations of knowledge, indigenous knowledge systems, and epistemicide. I do not challenge the idea of including indigenous knowledge systems in school curricula, but

rather the manner in which they have been included. This article therefore contributes to the debates on how best to include indigenous knowledge systems in curricula for schools and the possible philosophical implications of not interrogating relative accounts of knowledge within the curriculum. A number of scholars, such as Khupe (2014), Makgoba (1997) and Ndlovu-Gatsheni (2017, 2018), have explicitly and implicitly called for the recognition of indigenous knowledge systems. Other intellectuals (e.g. Agrawal, 1995; Horsthemke, 2004, 2010) are yet to be convinced by the epistemological basis and plausibility of multiple ways of knowing premised on multiple "truths".

In the context of this article, it should be noted that the denunciation of the epistemological foundation of indigenous knowledge systems does not, as I will show, imply an outright rejection of different ways of knowing. Instead, it discards indigenous knowledge systems as theoretically, factually, or propositionally true knowledge systems. Before I outline some, arguably salient, deliberations on the epistemic grounds for indigenous knowledge systems further, it is of value to underscore the traditional delineation of knowledge, since this is the cradle of the said epistemological disputations. Knowledge has, for centuries, been conceived as justified true belief (Sosa, 1991). It can be observed from the three tenets of knowledge that, as generally agreed, knowledge is profoundly reinforced by truth. For this reason, many of the debates on the idea of indigenous knowledge systems are primarily located within the notion of truth as a basis for our knowledge of the world, for instance, the direct wrangle between Green (2008) and Horsthemke (2010) on the plausibility of relative propositional indigenous knowledge systems. Furthermore, Odora-Hoppers (2005, p. 2) defines indigenous knowledge systems as "the sum total of the knowledges and skills which people in a particular geographic area possess". In this sense, Odora-Hoppers seems to be suggesting that indigenous knowledge systems can exist beyond practical knowledge (i.e. skills). This view is arguably shared by most proponents of indigenous knowledge systems such as Green (2008) and Shizha (2013).

For Shizha (2013), the production of knowledge is dependent on power. This is because when it comes to knowledge that is relayed by school curricula, ideas, thoughts, ideologies and opinions are forced on those who are thought to be subordinates by the elite (Shizha, 2013). Moreover, Shizha (2013, p. 10) contended that, "deconstruction of colonial school curriculum requires rupturing the hegemonic structures of Western defined knowledge". Here, I note, Shizha is undeniably faced with a conceptual quagmire as he will have to accept that indigenous knowledge systems are valid, not because they are true or mandated by the external world, but because a powerful person within the indigenous community simply believes that something is the case even when it is not. As a result, Shizha is subjecting indigenous knowledge systems to the same colonial stereotypes, namely of them being a superstition, he claims to reject. Shizha (2013) also fails to distinguish between misuse of knowledge and its validity. The fact that powerful people or nations sometimes abuse knowledge has nothing to do with the validity of the knowledge in question. A different conception of "knowledge", which would enable indigenous knowledge systems to exist as theoretical knowledge, as Shizha seemingly suggests, would therefore mean that both truth and justification become relative.

When "knowledge" is no longer conceived as justified true belief (i.e. with truth being universal), it will become possible for people to claim that something is the case even when it is not. This could also make it possible for some scholars to deny the existence

of African history of ideas since knowledge claims will no longer be mandated by how things are in and of themselves, but by how we take them to be. For this reason, the view that what counts as valid knowledge is political (Shizha, 2013) is not correct. We do not come to believe that there is such a thing as the "external world" simply because a person with political power convinced us through political manipulation that such is the case. Our knowledge or conception of the world is mandated by how things exist independently of our thinking (see Heil, 1998). This is not to insinuate that our knowledge is forever "value-neutral" or that it cannot be used for pernicious political purposes. Nonetheless, to reduce knowledge to constructions or politics is emblematic of failure to separate beliefs about the world from knowledge where reality is as we think of it and not mandated by how the world is in and of itself. The inclusion of indigenous knowledge systems as propositional knowledge in school curricula cannot or will not, therefore, make them valid as I will show.

Drawing from Hospers's (1990) three categories of knowledge, namely knowledge *that* (factual, theoretical or propositional knowledge), knowledge *how* (practical knowledge), and knowledge *by acquaintance* (knowledge of people and places), Horsthemke (2004) argues that indigenous knowledge systems can only exist as practical knowledge given that how people do things differs from one place to another. The impetus for this view is the presumption that, unlike belief, "truth refers to what is the case, independently of what individuals believe, think or feel may be the case – independently of their interests and preferences, and even of public and general consensus" (Horsthemke, 2010, p. 330). On this basis, it is reasonable to suppose that the notion of indigenous knowledge systems becomes a myth when argued for as factual or propositional knowledge. Theoretical, factual or propositional knowledge cannot exist without truth, which is universal and independent of what we think or believe.

Notwithstanding the conceptual inadequacies, there is arguably evidence of what is assumed to be indigenous knowledge in the post-apartheid curriculum statements for South African schools. As Shizha sees it, (2013, p. 2), "it is through the implementation of IKs [indigenous knowledges] in schools that students, parents and communities can reclaim their voices in the process of educating the African child". Perhaps, the inclusion of indigenous knowledge systems in the post-apartheid school curriculum statements can be read as an attempt to quell epistemicide. This is also well encapsulated in the Physical Sciences CAPS that, "as society changes, some of that [indigenous] knowledge is being lost. People such as biologists, pharmacists and archaeologists are seeking it out and writing it down before it is gone" (Department of Basic Education [DBE] 2012a, p. 8).

As already stated, the debates on epistemicide are evident in many parts of the world. For instance, in Portugal, Bennett (2007) noted that epistemicide had thrived through, amongst other things, the sidelining of the Portuguese language within the mainstream academic space. Consequently, some linguistic expressions that are fundamental or better articulated by the Portuguese language are sometimes lost in translation. This is because English academic discourse has proved to be limited when it comes to capturing the unstructured post-modern reality linguistically. Despite this fact, English has dominated the academic realm and led to other knowledges being overlooked in the process of "epistemicide", which sometimes takes place through translation (Bennett, 2007). In the same vein, in the Chinese context, epistemicide has taken place through the distortion and objectification of the epistemology of the notion of *suyang,* which

has been reduced to competence as opposed to its original meaning, which maintains that *suyang* "encompasses 'pure, unpolished, or authentic' (*su*) and 'nurturing/bringing up' (*yang*)" (Zhao, 2020, p. 112). It can be extrapolated from this intellectual posture that, even if not exhaustive, epistemicide negatively affects how people of a specific geographic area or community come to coalesce with the "other" and the world. This is because pre-existing epistemic terrains are sometimes obliterated or rendered obsolete, as was observed during colonialism.

In other parts of the world (such as The Northern Andes in South America), there is a tendency to escape the order of the state through different developmental pathways, which seek to preserve indigenous knowledge systems and ways of being. Nonetheless, do Mar Castro Varela and Tamayo Rojas (2020) challenged this logic, using the South American context, in particular, The Northern Andes where they observed "a process of de-subalternisation, because the years of struggles against ongoing epistemicide and continuous marginalisation have been partly successfully articulated in the political arena" (p. 231). In summary, to escape the state is not always ideal in light of fighting epistemicide. Indigenous resistance goes beyond just reacting to colonial domination to creating alternative ways of being (do Mar Castro Varela & Tamayo Rojas, 2020). Furthermore, although the exploration of different ways of being somehow exposed the lingering violence of colonisation and expropriation, indigenous communities tend to be trapped in paradoxical situations (do Mar Castro Varela & Tamayo Rojas, 2020). This happens because, in addition to exploring alternative existential pathways, indigenous communities and activists simultaneously negotiate with the state "which shape ongoing subalternisation and prevent further decolonisation. But the critique of the state should not simply be enacted as state phobia" (do Mar Castro Varela & Tamayo Rojas, 2020, p. 236).

According to Mukherjee (2019), in the Indian context, epistemicide has, for example, taken place through indigo dye's traditional manner of cultivation being sidelined by the colonialists in favour of quicker and more "efficient" ways of extracting the dye which compromised quality. At times, epistemicide can therefore be embedded in the notion and practice of development, either through compulsion or deliberate neglect, by adopting policies that render certain practices or ways of doing things improper or not profitable (Mukherjee, 2019). In order to preserve indigenous knowledge systems from possible epistemicide, the post-apartheid South African government has endeavoured to include indigenous knowledge systems in different school subjects. In the next section, I provide a synopsis of the history of curriculum change in South Africa. I also detail how I identified and analysed indigenous knowledge systems sections in the three curriculum statements, Furthermore, I extract examples of indigenous knowledge systems from the Revised National Curriculum Statement (RNCS) to make a case for a realist conception of theoretical knowledge.

Indigenous knowledge and the post-apartheid curriculum: a realist account

In the context of the three post-apartheid curriculum statements (i.e. RNCS, NCS and CAPS), indigenous knowledge systems entail a false dichotomy and sense of identity which have been problematised elsewhere (see Luthfa, 2006). As mentioned hitherto,

the aim of this article is not to question the sociological and historical necessity of including indigenous knowledge systems in modern school curricula, but to show that the manner in which indigenous knowledge systems have been integrated within the South African school curriculum statements is symptomatic of what do Mar Castro Varela and Tamayo Rojas (2020) call a "double bind" (i.e. being trapped between wanting to be free from something and wanting to transform some parts of it in order to make it suitable for one's own interests and reality). In this case, the "double bind" is evident through the desire to be free from traditional conceptions of knowledge, being and power, but at the same time wanting to transform theoretical knowledge and curriculum through integration of indigenous knowledge systems as theoretical knowledge.

In terms of the curriculum trajectory and transformation in South Africa, it is not surprising that the country has grappled with ways in which the post-apartheid education can impart knowledge, skills, values, and attitudes in order to forge a common identity, which addresses the principles of democracy. The history of curriculum change in South Africa is far more complex than can be captured here. This is because much of the curriculum changes have coincided with broader political changes, both in South Africa and across the world.

During the period of transition to democracy, the curricula, known as Curriculum Model for South Africa (CUMSA) (1991), which were created for White schools were extended to Black schools (Hoadley, 2010). The period of transition was perhaps partially marked by "hope" for a non-racial society. Consequently, the interim curricula "were cleansed of racial stereotypes and offensive language" (Hoadley, 2010, p. 137). In 1995, the South African government started a process of curriculum change (Van Wyk & Higgs, 2011). The aim of such a remarkable initiative was to devise an education that would be in alignment with the ideology of democracy; this is because, prior to the democratic dispensation, education was geared towards racial and ethnic divisions. Therefore, there was separate schooling premised on the idea of separate development, which was supported by the state through racially divisive laws, policies and interventions.

In 1997, the post-apartheid government introduced Curriculum 2005 (C2005). According to Hoadley (2010), the introduction of C2005 was shaped by a number of factors. For instance, locally, people's education through the fusion of education and training played a great role, while global conceptions of curriculum (and broader education) such as Outcome-Based-Education (OBE) and competency-based curricula also influenced the thinking around C2005 (Hoadley 2010). The integration approach was explicitly emphasised and thought to be important in the realisation of democratic education (Hoadley, 2010). This was in line with broader socio-political changes where the rejection of essentialism, through consociationalism, meant that people were allowed to define themselves to avoid reinforcing past differences (Lijphart, 1998). As a result, Jansen (2002) argued that "the making of education policy in South Africa is best described as a struggle for the achievement of a broad political symbolism that would mark the shift from apartheid to post-apartheid society" (p. 200). This is because there seemed to be no evidence of policymaking that would lead to real changes within the education sector (Jansen, 2002). Efforts to build a non-racial society led to the debates on the inclusion of, amongst other epistemic postures, indigenous knowledge systems in education in order to fulfil the democratic idea of inclusion (Hoadley, 2010). It is clear then that, in addition to the

desire to quell epistemicide, one of the initial aims for the inclusion of indigenous knowledge systems in the school curriculum was to enforce epistemic "inclusion"; this was supposed to somehow be in tune with the idea of democracy.

After experiencing challenges, some of which were regarded as stifling, with OBE (i.e. C2005), the NCS 2002 was introduced (Gumede & Biyase, 2016). These changes were followed by an investigation by an appointed Ministerial Committee, which recommended that, among other changes, the curriculum be revised to make it accessible to teachers (Gumede & Biyase, 2016). Therefore, "amendments were, then, effected in the National Curriculum Statement (NCS) 2002, culminating to the Revised National Curriculum [RNCS]" (Gumede & Biyase, 2016, p. 70). In this paper, the RNCS encompasses curriculum statements for Grades R–9 while the NCS is mostly comprised of curriculum statements for Grades 10–12. This was eventually followed by CAPS in 2011 (see Kennedy & Robinson, 2023). Furthermore, post-apartheid curriculum planners espoused the view that the curriculum itself is embedded in contingent needs and interests since –

> [C]urricula are not only constraints on our actions. They make some things possible to learn that most of us would find impossible to learn without them; at the same time, they set limits on what is possible to learn in schools or other educational institutions (Young, 2014, p. 7).

A curriculum is therefore not objective in its epistemic composition. Instead, it epitomises already "accepted" scientific views (Sivesind et al., 2016). In this article, I do not dwell much on the history of curriculum change in South Africa since I aim not to challenge the historical or sociological necessity of indigenous knowledge systems, but to focus on the epistemological implications of the content of such changes. What then is a defining feature of indigenous knowledge systems in the three post-apartheid curriculum statements? The Social Sciences curriculum statement indicates that "the rich heritage of indigenous knowledge found within the diverse/multicultural society we live in has worth and must be emphasised" (Department of Education [DoE], 2003a, p. 22). It can be deduced then that it is under the said precept (i.e. the view that indigenous communities have their own knowledge systems) that there are fragments of the assumed indigenous knowledge systems in the said post-apartheid curriculum statements. It would have been possible to interpret such extracts as mere demonstrations that ideas emerge from different contexts or can be found in most cultures. This, I concede, would have been acceptable. But the Physical Sciences CAPS denotes:

> [O]ur forebears … had theories about cause and effect too, and understood many of the relationships in the environment where they lived. These sets of knowledge, each woven into the history and place of people, are known as indigenous knowledge systems (DBE, 2012a, p. 8).

It follows that the examples that will be interrogated can be taken to be considered indigenous knowledge systems in a propositional or theoretical sense (e.g. theories about cause and effect). What underpins the inclusion of indigenous knowledge systems in the three post-apartheid curriculum statements is the specificity in terms of the group and culture to which the said indigenous knowledge systems belong and, at times, the use of such terms as "indigenous traditional medicine". Moreover, such terms also informed the selection of documents in a sense that they provided the basis for identifying indigenous knowledge sections and/or topics. I applied epistemological realism (as

developed through the debates on the traditional definition of knowledge and indigenous knowledge systems) as an analytical tool in order to distinguish the basis on which such examples can be considered knowledge and the epistemic category to which they belong (i.e. theoretical or practical knowledge). Furthermore, sections of indigenous knowledge systems were also identified in line with how they are conceived in the Physical Sciences CAPS where it is highlighted that "indigenous knowledge includes knowledge about agriculture and food production, pastoral practices and animal production, forestry, plant classification, medicinal plants, management of biodiversity, food preservation, management of soil and water, iron smelting, brewing, making dwellings and understanding astronomy" (DBE, 2012a, p. 8).

In the context of the three post-apartheid curriculum statements, I aim to disentangle indigenous knowledge systems epistemically, and also broaden the argument on what should constitute indigenous knowledge systems and ways in which such knowledge can be protected from "epistemicide", as I will later clarify. It is in light of the stated subtleties (i.e. mischaracterisation of indigenous knowledge systems and integration of such knowledge systems as propositional knowledge) that this section focuses on how the RNCS conceived and incorporated indigenous knowledge systems within Natural Sciences, Technology and Social Sciences. I deliberately chose to focus on the three RNCS subjects which are subjects that were taught from Grades 4 to 9. The reason behind this is to show how indigenous knowledge systems were included within different curriculum statements and also within different subjects (i.e. consistency of how indigenous knowledge systems were conceptualised across the three curricula). Against this background, I now turn to indigenous knowledge systems in the RNCS. Although I do not cover all subjects, different aspects (e.g. numerical, theoretical, and practical facets), which are evident in most subjects, will be taken into account in this

Table 1. Indigenous knowledge systems in RNCS subjects.

Subject	Component of indigenous knowledge systems in the RNCS
Social Sciences	• The Social Sciences curriculum states, "this learning area emphasises the construction of knowledge by encouraging learners to ask questions and to find answers about society and the environment in which they live, at the same time developing the principle of social justice" (DoE, 2003a, p. 22). • In both Social Sciences (History) and Natural Sciences, the curriculum encouraged the teaching of indigenous medicine by looking at the history of health care that was available in ancient African societies.
Natural Sciences	• Within the Natural Sciences, the inclusion of indigenous knowledge systems is encouraged. It is clearly stated, "most learners within South African classrooms think in terms of more than one worldview … [thus] ignoring these different worldviews and the challenges they bring with them, would probably make science teaching and learning more difficult than it should be" (Department of Education [DoE], 2003b, p. 31). • The learners were also expected to comprehend science and technological knowledge in the context of history and indigenous knowledge (DoE, 2003b, p. 43). In doing this, they needed to articulate the similarities in the challenges and solutions in their own and other societies in the past, present, and future.
Technology	• Learners were expected to compare modern ways of generating electricity with traditional ways of producing electricity (DoE, 2003c, p. 48). • Learners also had to engage with "Indigenous Technology and Culture, impact of Technology and Biases in Technology" (DoE, 2003c, p. 47).

section and also in the subsequent section. The table below summarises some of the ideas that were considered part of indigenous knowledge systems in the RNCS (Table 1).

In the case of Natural Sciences as evident in the table, I argue that it is possible for curriculum planners to include African traditional knowledge, such as African traditional medicine (Horsthemke, 2004). Nonetheless, it is not possible to include indigenous knowledge systems as alternative facts. The fact that learners have different worldviews, as it is claimed in the RNCS, has nothing to do with factually true knowledge being relative or indigenous. It is possible for learners to hold different views about the world since their thinking about the world may not be grounded in evidence except in the case of practical knowledge or skills. Even in instances where such views are true and are in contrast to each other, truth or theoretical knowledge does not become relative or a mere construct (Hospers, 1990). Furthermore, Horsthemke (2017, pp. 6–7) draws this distinction by contending, "for anything to be called science, it necessarily involves reference to laws or regularities, observation, description, explanation, prediction, and testable hypotheses. If it does not meet these criteria, it is not science, strictly speaking". It is regrettable then that science, unlike technology, as we will see, cannot be reduced to skills or knowing *how*. Consequently, science or scientific knowledge – since it is made up of facts – is therefore universally valid. To be specific, science transcends context.

On the other hand, when it comes to technology, the RNCS ostensibly expected learners to engage with what was thought to be indigenous technology (DoE, 2003c). According to Cross and McCormick (1986), the best way to differentiate between science and technology is through the two categories of knowledge; namely knowing *that* and knowing *how*, which are also evident in the work of Hospers (1990). As a result, Cross and McCormick (1986) are of the view that knowing *that* is a much more explicit form of knowledge than practical knowledge and can be classified in terms of particular rules. This means that knowing *that* as an abstract or theoretical form of knowledge can be categorised.

As explained thus far, knowing *how* is thought to be an implicit form of knowledge that is heavily underpinned by practicality. One can know *how* to do something, but (in some instances) lack the necessary theory that shapes such activity. Accordingly, Cross and McCormick (1986) postulated, "the activity of science is directed by knowing that; towards error-free explanation, towards scientific 'truth'" (p. 31). For Cross and McCormick (1986), Technology is part of the category of knowing *how*. Technology becomes a product of how human beings practically manoeuvre around their own environment. In this regard, it can be said that indigenous technology does exist. I maintain, however, that the theoretical conceptualisation and inclusion of indigenous technology in the school curriculum cannot be considered indigenous knowledge in a propositional sense unless learners are expected to engage practically with the notion of indigenous technology. Even so, the RNCS (DoE, 2003c) only required learners to engage theoretically with the idea of indigenous technology. For example, learners were expected to make a comparison between modern and traditional ways of producing electricity. It thus follows then that the idea of indigenous technology in the context of the RNCS (DoE, 2003c) cannot be considered indigenous knowledge since it was mainly concerned with factual or theoretical knowledge about ways in which indigenous people or communities developed their own technologies. Learners were therefore taught universally valid factual knowledge, which was about technologies that were used by indigenous

people. Furthermore, technological impact and biases, as shown in the table, cannot be transculturally understood if knowledge is relative.

In terms of how indigenous knowledge systems are included in the Social Sciences (DoE, 2003a) curriculum, the RNCS assumed the view that knowledge is constructed. I presume that it is upon such postulation that the RNCS included what was thought to be indigenous knowledge as an alternative worldview. For instance, it is stipulated in the Social Sciences curriculum that teachers and learners need to look at health care that was in existence in ancient African societies (DoE, 2003a). This is by no means indigenous knowledge (in either the factual or practical sense). In other words, it cannot even be categorised under African traditional knowledge (indigenous knowledge *how*). This is factually true knowledge, and if it is true, it cannot be true only to indigenous people or communities. Most of the knowledge that is thought to be indigenous knowledge within the Social Sciences curriculum (DoE, 2003a) falls either into the category of knowledge *how* or it becomes factual knowledge about indigenous people or practices rather than facts that are true only to indigenous people. In line with Hospers's (1990) three categories of knowledge (i.e. knowledge *that*, knowledge *how*, and knowledge *by acquaintance*), what can be considered indigenous knowledge (to a very limited extent) in the RNCS Social Sciences curriculum is the exploration of the history of traditional healing and indigenous medicine and indigenous environmental practices (this is not to say that these ideas are unproblematic). Of course, indigenous people have their own ways through which they use indigenous herbs or medicine in order to heal whatever health issues they faced or continue to face. Nonetheless, even the so-called practical knowledge is not totally excluded from propositional knowledge or knowing *that*. It is for this reason that it is difficult (although I believe it is possible in rare instances) to know how to use something without knowing what it is (knowledge *that*) (see Horsthemke, 2004).

Indigenous Knowledge Systems in NCS and CAPS: A prevalent conceptual enigma

As put forward in the previous section, the idea that indigenous knowledge systems can exist as propositionally, factually and/or theoretically true knowledge is difficult to sustain. It is also evident in both NCS and CAPS (mainly for Grade 10–12 subjects) that what is thought to be factually true indigenous knowledge is actually universally true knowledge about indigenous people, communities, and practices. Furthermore, the only time when the notion of indigenous knowledge becomes plausible is when it is meant in practical terms. In some cases, indigenous people are the only ones who know *how* to apply such knowledge. In the context of the NCS Physical Sciences curriculum (DoE, 2003d), there is evidence of the assumed distinction between scientific knowledge and indigenous knowledge systems. It is against this presumption that learners were tasked to show the relationship between the two seemingly different knowledge systems.

It is further stated in the NCS Physical Sciences curriculum (DoE, 2003d) that learners will be considered to have acquired the necessary skills to compare the two "knowledge systems" when they are able to use scientific knowledge in order to explain the importance of traditional practices. This is an interesting angle, since it identifies indigenous knowledge as being in tune with traditional practices. On the other hand, after

competently completing the Grade 12 Physical Sciences syllabus, learners were expected to be able to "apply scientific knowledge in everyday life contexts, analyse and evaluate scientific knowledge and indigenous knowledge system claims by indicating the correlation among them, and explain the acceptance of different claims" (DoE, 2003d, p. 65). By implication, learners were asked to compare what can be considered theoretical knowledge with practical knowledge. I note, however, that, asking learners to compare and explain requires strong propositions, which must therefore be true. This shows that theoretically true indigenous knowledge systems are nigh-unfeasible and cognitively misleading.

Furthermore, in terms of how Physical Sciences should be integrated with indigenous knowledge in the CAPS (DBE, 2012a), it is articulated that, when learners are exploring food additives and preservation, they are expected to contrast such knowledge with indigenous ways of food preservation. Moreover, it is also posited that learners are expected to be taught that indigenous people were the first people to make fire by making use of friction (DBE, 2012a). The exploration of different ways to preserve food simply speaks to practical knowledge. As stated previously, the conflation of factual knowledge about indigenous people with indigenous knowledge is epistemically problematic. For example, the view that indigenous people were the first to make fire is implied to be indigenous knowledge. This is a historical conjecture and if proven to be true, it would defeat the idea of relative truth since its validity will have to transcend context. I now turn to discuss the possibility of ethnomathematics. For Horsthemke (2006, pp. 18–19):

> [T]he idea of "culturally specific knowledge" makes sense only with regard to practical knowledge or "mathematical practices" – but not when it is taken to refer to theoretical (mathematical) knowledge. Theoretical, factual or propositional knowledge cannot be culturally specific. Neither can truth. Mathematical truths hold transculturally.

In this exposition, it is noticeable that the case for a relative form of mathematics is difficult to defend since truth in itself is universal or transcultural. When it comes to NCS Mathematics, ethnomathematics or the supposed indigenous knowledge of mathematics is endorsed and it "also stresses that Mathematics originated in cultures other than the *Greek* and that it continued to be developed to sophistication by many societies other than the European" (DoE, 2003e, p. 62). Horsthemke (2006) does not deny the existence of mathematical practices and beliefs in different societies, which can arguably be relative to that context. A notable example of such practices is evident in the NCS Mathematics curriculum (DoE, 2003e, p. 62) through the following:

- Mathematics is assumed to be embedded in some cultural *artefacts* used and experienced by indigenous people.
- The murals of the Ndebele, the rhythm of the drums of the Venda people, *Vedic art*, and the *beadwork* of the Zulu people.

It follows then that there is no evidence of ethnomathematics in the propositional or theoretical sense in the NCS. This might be due to the fact that truth is not relative and, consequently, propositional, or theoretical knowledge cannot be relative. For instance, the NCS Mathematics curriculum (DoE, 2003e) also claims that mathematics did not originate only in Greece, but that it also comes from other cultures. Of course, this argument

misses the point, because the argument against ethnomathematics is not about the origins of mathematics or mathematical practices; rather, it is about the sense in which mathematics can be relative or universal. When it comes to Art subjects, the Music curriculum in the CAPS (DBE, 2012b) encourages the teaching of indigenous African instruments, indigenous music theatre, and performances as evident in indigenous music genres. Additionally, teachers are encouraged to teach the history of indigenous African music and its composers. Moreover, the Visual Arts curriculum in the NCS (DoE, 2003f) encourages learners to be taught African art, indigenous art forms and African tribal art (including Ndebele architecture and wall decoration). This, I note, is theoretical knowledge about indigenous African music and artistic practices. The only time such artistic practices are relative is only when they are meant in a practical sense (i.e. when learners are given practical tasks to perform). This line of thought is also reflected in the NCS curriculum for Life Orientation (DoE, 2003g) where it is clearly stated that learners should be taught about the origins and practices of indigenous belief systems in South Africa and indigenous games as part of playground skills. In theoretical or propositional terms, the existence of such indigenous music, art, belief systems and games depends on transcultural truth.

It is clear from the analysis thus far that, despite the controversies engulfing the notion of indigenous knowledge systems, the South African government – in particular, the post-apartheid DBE – took the initiative to include indigenous knowledge systems in the three curriculum statements. In brief, what emanates from the analysis of the three curriculum statements that have been implemented in post-apartheid South Africa is that indigenous knowledge systems have to some extent been included in all three of the curriculum statements. I agree with the inclusion of indigenous knowledge as practical knowledge in subjects such as Music, Visual Arts and other subjects as I have indicated throughout this article. Nonetheless, on the basis of the discussed conceptual incongruences, I reject the manner in which the notion of indigenous knowledge has been approached in the post-apartheid South African school curriculum statements. The motivation for rejecting the notion of indigenous knowledge as it is portrayed in the three curriculum statements is as follows:

- The way indigenous knowledge systems have been integrated into the three curriculum statements is arguably problematic, since it implies a false dichotomy (i.e. it gives the impression that there is such a thing as factual or propositional knowledge, which is either indigenous or Western).
- Moreover, the manner in which indigenous knowledge systems have been included in the three curriculum statements somehow creates a false sense of identity (see Luthfa, 2006), i.e. it makes indigenous and non-indigenous learners think that factual knowledge about indigenous people and societies is indigenous knowledge. As a result, indigenous learners may feel that they somehow have propositional knowledge that is true and forms part of their own identities.

Indigenous knowledge and the school curriculum: a realist rejoinder on "epistemicide"

In his monograph, *The struggle for meaning: Reflections on philosophy, culture and democracy in Africa*, Hountondji (2002) provides reasons why ethnophilosophy should not be considered philosophy. He does this by making use of Husserl's notion of first-order *hyle* (or matter) and the *morphe* (or form), which is the second order. Husserl's notion of *hyle* refers to the "nonintentional" or "primary" aspect of the mind, the level of thought in which perceptual content or sensory information is established (see Ochieng, 2010). By implication, this can then be considered the first layer of thought since it requires a direct connection with the external world. On the other hand, Husserl's idea of a *morphe* refers to the layer of the mind, which links the raw experience of the first layer of thought, which is the *hyle,* with objective reality (see Ochieng, 2010). Furthermore, Hountondji (2002) is of the view that the *hyle* "expresses our primordial interlacing with the world, and the initial complicity that conditions any later distance that might be observed" (p. 24). He further maintains that the *hyle* "expresses this place of silence where, before any enunciation and verbal expression, the configurations of our relation to the world and to others are sketched out" (p. 24). It is against this backdrop that Hountondji (2002) criticises the view that African philosophy is another form of implicit philosophy for failing to differentiate between the aforementioned layers of thought.

Hountondji (1996, p. 47) argues, "if we accept that no science can exist historically without an explicit discourse … then we must also find absurd the idea of a collective, immutable and definitive 'philosophy', abstracted from history and progress". In line with this view, Hountondji (1996) contends that Africans, like all human beings, possess the ability to think abstractly. The reason for this view is that, according to Hountondji (2002), Husserl proved that there is a universal architectonic embodiment of consciousness. The presumption that Africans could not think as individuals outside their "communal" way of seeing reality was implied in the arguments often made by ethnophilosophers and to some extent undermined the universal nature of individual human consciousness, which is necessary for philosophising. The idea that indigenous knowledge systems exist as theoretically or propositionally true knowledge systems is explicitly embedded in the manner in which it has been included in three of the post-apartheid curriculum statements. This is surely done to mitigate the colonial stereotypes, which presumed that indigenous people were incapable of abstract thinking or producing knowledge of their own.

As is evident in Hountondji's (1996, 2002) work, indigenous people are more than capable of abstract thinking and producing their own knowledge. However, I argue that the integration of indigenous knowledge systems as propositionally true knowledge or worldviews does more harm than good. In simple terms, the integration of indigenous knowledge systems as propositional knowledge erases the contribution of indigenous people to the so-called universally valid knowledge while allowing the very same propositional knowledge to swallow up the soul of indigenous knowledge systems under the pretence that they exist as theoretically true knowledge systems. For instance, in the case of Africans being the first ones to make fire as articulated in the Physical Sciences, if that is true and at the same time, truth and knowledge are relative to the knower, would that not make such a knowledge claim impossible to justify to the satisfaction of

everyone? I therefore argue that the inclusion of indigenous knowledge systems as factually true knowledge actually leads to epistemicide as opposed to alleviating it.

According to De Sousa Santos (2005, p. xviii), "in the name of modern science, many alternative knowledges and sciences have been destroyed, and the social groups that used these systems to support their autonomous paths of development have been humiliated". For De Sousa Santos (2005), epistemicide has taken place in order for imperial powers to disenfranchise different social groups of any resistance. Viewed this way, the notion of cognitive justice is thought to be concomitant with the recognition of different knowledge systems. As stated previously, in the case of the three post-apartheid curriculum statements, there is a false dichotomy, which leads to a false sense of identity under the guise of factually true indigenous knowledge systems. For this reason, I argue for the centring of universal truth in the production of what is considered to be knowledge *that* or factual knowledge, which seeks to delineate the identities and histories of indigenous people. The question of who should produce knowledge about Africa, Africans or for Africa has been and still is the subject of debate (see Hountondji, 1997). However, in this article, I am not concerned with such debate. Instead, I am concerned with the truth that drives such knowledge about indigenous people and/or communities. This is because if it is not true, then it cannot be considered knowledge even if it is produced by the indigenous people themselves. Consequently, the curriculum should include indigenous practical knowledge and factually true knowledge about indigenous people, practices and/or communities.

In the post-colonial era, the formerly colonised did not believe that political decolonisation occurred concomitantly with freedom from the multifaceted bonds of colonisation. The focus was therefore broadened to include other forms of decolonisation, such as "epistemic decolonisation". It was, and is still, believed by the proponents of "epistemic decolonisation" that political decolonisation is only one of many forms of decolonisation. Hence, I acknowledge that the reproach of what is assumed to be theoretical indigenous knowledge systems finds itself at the centre of being accused of reinforcing colonial stereotypes about indigenous people (i.e. people who are unable to reason, think or theorise). This is because the rebuffing of theoretically, factually and/or propositionally true indigenous knowledge systems is thought to be tantamount to denying indigenous people's ability to possess propositional knowledge, which is recognised by Hospers (1990) as being the only knowledge that is solely evident in human beings.

In reality, most indigenous people imparted indigenous practical knowledge through oral transfer, and such oral transfer was beyond just theorising about the nature of practical activities. It involved storytelling and other ways of conducting business. At, for instance, Bokoni, "trade with the outside world was often accompanied by exposure to new ideas and methods practiced by the Arabs, Portuguese, and other middlemen" (Delius & Schirmer, 2014, p. 14). This demonstrates that indigenous people are just like any other group of people capable of theorising. The assumption that indigenous people were only capable of engaging in practical knowledge and not theorisation would, by default, be a prejudiced presumption. I therefore maintain that oral transfer is one amongst many other possible ways used by early indigenous people to produce universally valid theories about the external world. This is not to assume an ethnophilosophical approach where thinking becomes implicit, but to acknowledge that there was

some form of thinking in the precolonial era, which took many forms and varied in strength.

For Horsthemke, if that which is thought to be "indigenous scientific knowledge" in a propositional or theoretical sense meets the necessary criteria, which is "belief, evidential adequacy, and truth. [and] If it does, it is relevantly similar and, indeed, equal to 'non-indigenous' knowledge in a particular area or field" (2021, p. 178). In a way, this is fundamental in illustrating the fact that, in cases where indigenous people have contributed to the so-called "universal knowledge", their theoretical contribution should simply be taken as universal knowledge. Some traditional practices are simply practical realisations of how indigenous people interpreted universal knowledge in line with their values and realities. In other words, precolonial African societies were not completely defined by intellectual inertia. It is for this reason that the case of Bokoni shows "terraced settlements [which] represent a significant example of agricultural innovation and one that was unique in pre-colonial South Africa" (Delius et al., 2012, p. 409). Such pre-colonial agricultural innovation signifies critical thinking and careful observation of the external world. Even if these theories were not written but were only transferred orally, there was some form of explanation regarding indigenous practical knowledge and such explanations (i.e. theoretical knowledge about indigenous practices or communities) ought to be considered part of universally valid scientific knowledge. It is worth noting that I do not, however, advocate for a wholly indigenous education. In fact, I only advocate for practical indigenous knowledge systems in so far as they can provide historical meaning and mitigate colonial stereotypes. Beyond that, all good education should enable students to transcend context, tradition, and identity politics.

Conclusion

In this article, I considered the debates on what counts as valid knowledge in the context of indigenous knowledge systems, and briefly outlined salient arguments on the notion of epistemicide. I also looked at several examples of what is thought to be indigenous knowledge in different curriculum statements, namely, the RNCS, the NCS, and the CAPS. What is thought to be propositional indigenous knowledge systems is universally true factual knowledge about indigenous people. On this basis, I argued that such epistemic misrepresentation could lead to a false dichotomy and sense of identity. The integration of the so-called "indigenous knowledge systems" into the school curriculum therefore needs to be rethought. In essence, indigenous knowledge systems can only make practical sense and not theoretical sense. I also showed how the emphasis on indigenous knowledge systems as factual knowledge could be self-detrimental and might lead to epistemicide. Moreover, I argued for a new realist rejoinder on epistemicide, which does not seek to devalue the contribution made by indigenous people. Given that indigenous knowledge systems cannot exist as theoretical or factual knowledge, I then considered universally true factual knowledge that is rooted in true identities of indigenous people, practices and communities. In other words, instead of reflecting on factually, propositionally or theoretically true indigenous knowledge systems, I argued that universally true knowledge about indigenous people, practices and communities should be included within the school curriculum to provide historical meaning to the content that is taught. Moreover, such knowledge should be included in order to instil a true sense of identity within the communities of

indigenous people. I further opined that all good education should enable students to transcend tradition, context and identity politics.

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