"Whose Science?" AIDS, History, and Public Knowledge in South Africa

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Introduction

In April 2001, twenty-two year old South African Vuyiseka Dubula was diagnosed with HIV. Just two years into the first term of President Thabo Mbeki, an HIV diagnosis for a resident of Khayelitsha—one of the largest informal settlements in the country—was considered a death sentence. Vuyiseka was told that she had only a few years to live. A few months later, however, Vuyiseka discovered the Treatment Action Campaign (TAC), which had recently set up a branch in Khayelitsha to launch a support network for an HIV/AIDS treatment research study established there. Before long, Vuyiseka was promoted from a daily volunteer in Khayelitsha to TAC's National Literacy Coordinator, where she organized and distributed material on the biology of HIV and anti-retroviral medicines (ARVs). In 2008, only ten years after the founding of TAC, she ascended to its highest leadership role as General Secretary, instantly becoming a global symbol for one of the most prominent AIDS advocacy organizations in the world (Dubula, 2009).

Standing in front of the 5th Annual International AIDS Society conference in mid-July of 2009, amidst the recent global economic crisis, Vuyiseka conveyed a message concerning both science and politics, telling delegates that "HIV is not in recession" (Dubula, 2009, p. 3). Her spirited presence that night in Cape Town, in addition to the speed of her impressive accomplishments, brought up a range of important questions concerning the history of HIV/AIDS in South Africa: How did a young woman living with HIV come to lead the most powerful social movement in South Africa? How was an activist who had only recently received her college degree sharing the stage with a Nobel laureate and a former South African President? Who was this woman to tell scientists what was urgent and what was not? To put it simply, how had the HIV/AIDS epidemic in South Africa shaped and transformed local notions of history, science, and expertise?

In order to illustrate how science and politics manifest themselves within post-apartheid South Africa, and particularly within the context of South African HIV policy, this paper seeks to complete three objectives.

First, it places the national struggle against HIV/AIDS within the broader framework of the history of science and medicine in South Africa. Next, it describes how the South African state and civil society each responded to the HIV/AIDS epidemic. Finally, it describes how the rise of TAC against HIV/AIDS has specifically contributed to new notions of national citizenship.

Science & Medicine in South African History

Historical accounts of colonial medicine generally involve a series of claims linking the political aims of European colonizers with the intrusion of Western science and evidence-based medicine, with science as an essential instrument of the colonial project. Indeed, prominent historian of colonial medicine David Arnold asserts that "all modern medicine is engaged in a colonizing process," whereby professional European-based medicine claims superiority over indigenous healing traditions through its direct legitimization by the colonial state (1993, p. 9).[1] While research on South African indigenous healing systems shows how these existing bodies of knowledge "had a holistic approach to health and illness, an egalitarian nature in which knowledge was not the preserve of only specialists," and non-invasive methods of treatment, these systems were disrupted by the imposition of western biomedicine by the colonial state (Xaba, 2007, p. 323). Twisted conceptions of biomedical science not only gave self-worth and pride to the European actors within the colonial state, but also provided justification for the segregation of indigenous populations (Dubow, 2006).[2] The direct result of the introduction of Western biomedical science in South Africa was both the production of a dominant set of racialized biomedical practices and a growing separation between medical experts and the lay public.

As David Arnold notes, "science delineated the relationship of power and authority between rulers and ruled" under both colonialism and apartheid (1993, p. 2). Throughout early settler colonialism in South Africa, this divide between the white elite experts and the non-white public grew quickly and substantially. European settlers presented South Africa as a raw data source, and scientists seized this opportunity to use the country as a new site for the production of scientific knowledge. In so doing, scientific practice granted further legitimacy to European expert

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[1] This paper does not seek to disprove this theory. After all, medical discourses recovered from the archives reveal frequent attempts to declare the universality of Western scientific knowledge and apply this knowledge to the populations and environment found in Africa, often with the result of "creating and reproducing racial and gendered discourses of difference" (Marks, 1997, p. 210).

[2] Gilbert and Gilbert (2004) note that "there is evidence to suggest that in the second half of the 19th century Western-white healers did not treat traditional indigenous healing and healers with the disdain and arrogance apparent in later years…[but] this co-operation disappeared during the apartheid years due to a marked government bias towards western medicine" (p. 253).

scientists, whose classification systems noted and reinforced differences between themselves and their African subjects (Dubow, 1995). Scholars Zine Magubane and Saul Dubow draw upon this idea and demonstrate individually how the Western scientific discourse of tropical medicine, inextricably linked to Western scientific authority due to its foundation in the European metropole, gave South African settlers the power to construct—often, by themselves—an image of Africa as a new and foreign world to be used for their own purposes (Magubane, 2003; Dubow, 2006).

White-dominated colonial science had remarkable continuity under the Afrikaner-led apartheid government of the twentieth century, where Western biomedical science served as a unifying force for white rule. Furthermore, Western conceptions of science and human health underpinned the state's formidable public health apparatus. Anthony Butler and Didier Fassin note how concurrent public health measures before and under apartheid, such as the 1897 Public Health Act enacting the first legal segregation policy in South Africa, were used to justify racial separation and control the growth of the black population (2005; 2007). Despite international condemnation of brutal apartheid policies, the Afrikaner-led government still viewed its state-of-the-art science and medicine as evidence that South Africa ranked among the most advanced countries of the time (Dubow, 2006).[3]

The implications of this heavy faith and investment in Western scientific practices throughout South Africa are widespread. Once foreign settlers entered South Africa and moved into the interior of the region, their authority was mirrored by their accompanying scientific practices. As a result, Western science and notions of expertise became further entrenched in South African urban society (Dubow, 2006). Indigenous black populations were purposefully excluded from the institutions that produced this expertise, leading to an extreme imbalance in scientific education between the white and black populations in South Africa—a legacy that still exists today.[4] Today, the majority of scientific experts and medical practitioners in South Africa remain upper-class, white professionals, in stark contrast to the small number of black and non-white scientists and doctors (Dubow, 2006).

At the same time, as Saul Dubow writes, "western science can no longer be seen as an all-conquering set of truths, a definer of 'advanced' against more 'primitive' civilisations" (2006, vi). Accordingly, basic notions of *expertise* and the *public* in South Africa must be problematized. Even as Western science is prioritized by higher education and scientific research institutions in South Africa, perhaps due to the demands of the global economy, there are considerable state-led efforts to encourage

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[3] One important example is the first live human heart transplant, conducted in 1967 at the Groote Schuur Hospital in Cape Town (Dubow, 2006).

[4] As a recent *New York Times* report notes, South Africa's education system "is often failing the very children depending on it most to escape poverty" (Dugger, 2009, p. 1).

indigenous knowledge production, especially traditional healing practices. The intended outcome is a country of pluralistic medicine, where Western science is not considered superior to any other set of beliefs. Even as the post-apartheid era brings forth a shift in public knowledge, however, Western scientific knowledge production remains a white-controlled enterprise. This observation becomes extremely clear through the lens of the AIDS epidemic in South Africa.

The "Early Years" of AIDS in South Africa: 1981-1999

AIDS did not happen overnight in South Africa. Predominantly social and biomedical-driven accounts suggest that the HIV/AIDS epidemic occurred through a mixture of multiple sexual partnerships, poor labor conditions, and a lack of access to contraception (Nattrass, 2007). This paper argues, instead, that the epidemic was the result of historical and structural forces converging with the emergence of the HI virus in the beginning of the 1980s. Although few complete accounts of the history of HIV/AIDS in South Africa exist, the conditions under apartheid that enabled the spread of HIV can easily be drawn from Randall Packard's accounts of the political economy of disease in South Africa. In his texts *White Plague, Black Labour* and *The Making of a Tropical Disease,* Packard argues that the South African tuberculosis and malaria epidemics of the twentieth century were both "a product of a particularly pathological intersection of political, economic, and biological processes," with large culpability falling upon the apartheid state and its negligence of black populations, especially migrant workers, for several decades (1989, p. 19; 2007). The "hidden violence" of the apartheid state, as Shula Marks and Neil Andersson (1987) describe in detail, was in:

> …the decimation of the black population by preventable diseases of infancy; the systematic destruction of family life and human health under the migrant labour system; the inadequate protection of workers' lives and safety; the deep insecurity and violence of township life; and the humiliation and degradation forced upon the majority of the population as second class citizens. (p. 177)

These same conditions provided the foundation for HIV/AIDS in South Africa. As Marks concluded later, HIV/AIDS "was a pandemic *waiting to happen*" (2002, p. 17, emphasis mine).

Of course, this conclusion arrives only in hindsight. Even after the first case of HIV was diagnosed in South Africa in 1982, the spread of the virus was barely registered by health officials and the apartheid state took very limited action to protect its citizens (Nattrass, 2007). Wouters, Rensburg, and Meulemans (2010) concisely describe this initial response to HIV/AIDS as "neglect, coercion, and consequent stigmatization" (p.

174).[5] As the incidence of HIV/AIDS grew throughout the non-white South African populations, Afrikaner politicians began publicly celebrating the virus as a method to control the growth of the black population (Butler, 2005). Later, the political struggles and rising violence over control of the South African state effectively obscured the apparently minimal threat posed by HIV (Nattrass, 2007). The cruel irony of the new South African democracy was the emergence of a larger threat to the stability of the country: a full-blown AIDS epidemic.

By this point, there was little political support for HIV prevention and treatment measures. The first National AIDS Plan, agreed upon during the transitional period in 1992, was underfunded and caught up in bureaucracy despite the support of Nkosazana Dlamini-Zuma, the first post-apartheid Minister of Health (Gevisser, 2009). Similar to other social and economic policy measures enacted during this period, there was a significant divide between policy planning and implementation (Wouters, Rensburg, & Meulemans, 2010). The only major initiative carried out at this time was *Sarafina II*, an AIDS awareness play designed to tour the country. Yet, even that project was immediately criticized and abandoned by civil society actors after more than 14 million ZAR of government funds—an astronomical figure at the time—was spent for what was considered an ineffective and confusing production (Mackintosh, 2009). Ultimately, a severe lack of proper government infrastructure guaranteed that no other effective measures to counter the underlying causes of the HIV epidemic were initiated at this time (Wouters, Rensburg, & Meulemans, 2010).

Even if this lack of action appeared to signal "the demise of a shared vision for AIDS in this country," (Fassin, 2007, p. 40) it is important to note that there still had not been any South African challenges to the science supporting conventional understandings of AIDS causality. Unlike in America, where scientists such as Peter Duesberg notoriously criticized the scientific establishment over the orthodox claim that HIV was the direct cause for AIDS, South African scientists and leaders did not initially question the underlying scientific assumptions and expertise surrounding HIV and AIDS (Epstein, 1996; Mackintosh, 2009). However, with the opening up of new democratic space in South Africa by 1994, it was only a matter of time before the international AIDS dissident community entered into the national dialogue. Whereas the conformity of apartheid politics had merely privileged Western scientific knowledge, the post-apartheid era of democracy subsequently allowed for critical thinking around this paradigm of knowledge.

One of the first instances of questioning HIV as a cause of AIDS in South Africa was the national controversy over Virodene, a locally-produced pill, which its Afrikaner producers, Olga and 'Zigi' Visser,

[5] In addition, the global perception in the 1980s was that HIV/AIDS primarily affected homosexual men, a population mostly ignored or suppressed by the apartheid state (Mackintosh, 2009).

claimed was able to completely eliminate HIV and AIDS from the human body (Myburgh, 2009; Russell, 2009; Gevisser, 2009).

According to James Myburgh, Virodene was an attractive promise in the early post-apartheid era of 1995. As a medicine produced in South Africa, it was presented by the Vissers as an alternative medicine with the potential to "racially affirm the new government, and disprove once and for all Western stereotypes of black African capacity" (Myburgh, 2009, p. 4).[6] Expectations were raised within the Mandela government—especially with his Deputy President, Thabo Mbeki—and direct action was taken by the ANC to work around typical drug regulatory authorities in order to approve Virodene. Eventually, Virodene was revealed to be nothing but a mixture of industrial solvent produced by two lab technicians with no toxicological experience. This revelation left the ANC government embarrassed by its support of pseudo-science, but undeterred in its drive for its own cure to the HIV epidemic (Myburgh, 2009). The relationship between science and politics was undoubtedly being transformed.

Thabo Mbeki and "Denialism": 1999-2006

The history of (what is referred to as) Thabo Mbeki's involvement with AIDS "denialism" in South Africa requires some context; only an analysis of Mbeki as both President and as his own *public* allows for a more complete understanding of his rhetoric and actions in this narrative. As a figure literally born into the struggle due to his parents' heavy involvement in the ANC and South African Communist Party (SACP), Mbeki was primed for political involvement at an early age. Educated abroad in England and Russia, he worked for the ANC in exile as both a high-level operative and speechwriter. Mbeki thus served as a public intellectual figure within the ANC, earning higher positions of power as the struggle against apartheid intensified and respect for his intelligence grew (Gevisser, 2009). This was widely apparent during his reign as the Deputy President under Mandela from 1994 to 1999. During this period, he delivered several speeches that revealed his vision of a triumphant African Renaissance, a bold attempt to achieve "the total emancipation of our continent from the social, political, and economic legacy of colonialism and apartheid as well as to reclaim our history, identity, and traditions" (Mbeki, 2006, p. 3). In his speeches, Mbeki sought a common link with other African nations that shared the brutal violence of colonialism; this bond would enable a powerful unity among nations to transcend the limits placed upon the continent from the West. For Mbeki, AIDS was a global threat to the future of Africa, but one that had to be confronted with a uniquely African solution (Posel, 2008, p. 20).

[6] It is also possible that Virodene's appeal was in direct response to the 1995 Rugby World Cup, where South Africa's win on the global stage provided a form of "racial affirmation" for the new government.

The following events of President Mbeki's history have now been told and retold, as if to cement some inconceivable fact of history into a collective memory.[7] Mbeki's first year as President involved e-mail contact with prominent AIDS dissidents Peter Duesberg, David Rasnick, and Anthony Brink, out of which emerged his personal understanding that the HI virus did not lead to AIDS. Though repeatedly discredited by prominent AIDS scientists over the past two decades, the dissident arguments spoke to Mbeki's need to problematize the largely biomedical understanding of HIV/AIDS dominant at the time (Epstein, 1996; Posel, 2008).

Following this series of communications, Mbeki articulated a multi-faceted argument through both private letters to current heads of state and public speeches against orthodox AIDS science, all in line with his vision of the African Renaissance. First, he joined AIDS dissidents in rallying against the idea that HIV was the sole cause of AIDS and that ARVs were more harmful than beneficial to individuals living with HIV/AIDS (Posel, 2008). Second, he argued that Western theories and histories of HIV—in which he perceived a largely homosexually-transmitted trend—were not applicable to the heterosexual epidemic recorded throughout the African continent (Mackintosh, 2009; Posel, 2008). Third, he viewed the racialized HIV prevalence and discourse as the result of structural causes, not a strictly biomedical narrative (Mackintosh, 2009). These three arguments were completely in line with the overall discourse of the ANC and its partners in the anti-apartheid struggle; as Anthony Butler (2005) notes, the "history of apartheid division, exile, and racist science predisposed numerous powerful and rational decision-makers to doubt the benevolence and coherence" of a purely biomedical explanation for the spread of HIV/AIDS (p. 612).

Thus, through his background as a public intellectual within the anti-apartheid struggle and his following self-education in dissident AIDS science, Mbeki had developed an extreme distrust of the Western scientific establishment. With the assistance of his loyal Minister of Health, Manto Tshabalala-Msimang, Mbeki set up the Presidential AIDS Advisory Panel in 2000 to discuss the supposed complications of AIDS science (Nattrass, 2007). With 37 members, including Peter Duesberg, the panel comprised roughly equal amounts of scientific experts and AIDS dissidents. Through the creation of this panel and his public statements, Mbeki effectively re-politicized AIDS science in a South African context, using his position of political and social authority to present an image of disorder within this specific area of Western science (Nattrass, 2007; Cherry, 2009; Posel, 2008). Among other ramifications, one contentious result of this engagement with discussion (rather than policy) was the

[7] Again, I do not mean to provide an authoritative account of Mbeki's rhetoric. Rather, my description of his "denialism" allows for an informed discussion of how scientific authority was challenged by one form of the "public" within South Africa.

state's refusal to distribute life-saving treatment for South Africans living with HIV and AIDS (Nattrass, 2007).

The clear, immediate result of Mbeki's questioning of scientific authority was the opening up of a public space that attracted a variety of local individuals and organizations with the same critical questions. Mbeki found a close ally with South African lawyer Anthony Brink, who openly characterized the pharmaceutical industry and its products (especially ARVs) as a distributor of poison; Brink later received the support of both Mbeki and Mbeki's own personal doctor, Dr. Sam Mhlongo of the Medical University of South Africa, to launch the Treatment Information Group, his own advocacy coalition. Another notable individual within this movement was Dr. Matthias Rath, a German doctor and businessman, who established his own alternative medicine operations in the Khayelitsha township. In 2005, these two figures joined forces when Dr. Rath employed Anthony Brink to bring together science-critical organizations into his fold, including the Traditional Healers' Organisation (THO), the South African National Civic Organisation (SANCO), and the National Association of People Living with AIDS (Napwa) (Cullinan, 2009).

The question remains, then: why did this public debate over AIDS science resonate with both South African politicians and portions of the greater public? Certainly, Mbeki's own critique of scientific authority—as contextualized within his own understanding of South African history—may have been significantly boosted by the social authority afforded to him by his status as one of the ANC elite figures. His arguments certainly provided an alternative intellectual framework that was grounded in the anti-apartheid struggle. Furthermore, this firm distrust of Western science could have had some roots in the evident global backlash against scientific authority and expertise, as described by Ulrich Beck's account of the emerging "risk society" (Beck, 1992, p. 1). However, the popularity of Dr. Rath's alternative medicine scheme in the Khayelitsha township probably had more to do with local concerns about national political authority rather than its strong connection to the Mbeki government (Colvin & Robins, 2009). As mentioned before, Dr. Rath's close collaboration with local-level civic organizations in the townships allowed him simultaneous access to the highest and lowest levels of political control. In the post-apartheid era, according to Colvin and Robins, civic organizations such as SANCO have grown increasingly discontented with the centralization of political power by the ANC government; Dr. Rath apparently tapped into this disaffection with political authority by framing his critique of Western science within the powerful community sentiments (2009). Thus, the public questioning of scientific authority was also inextricably tied to larger societal concerns about South African society and politics. Clearly, the emerging relationship between science and politics in post-apartheid South Africa was not only increasingly convoluted, but subject to reshaping in the public sphere.

TAC and "Responsibilised Citizenship": 1999-2006

The simultaneous public backlash against Mbeki's public efforts to debunk Western scientific authority was quick and widespread in South Africa. Most notably, anti-apartheid and gay rights activist Zackie Achmat enlisted a group of friends to protest for increased HIV/AIDS treatment on Human Rights Day, December 1, 1998; this protest evolved into one of the most prominent AIDS advocacy social movements in the world, the Treatment Action Campaign (Mackintosh, 2009; Robins, 2008).[8] TAC's dual message was clear from the start: there was a need to follow the global biomedical understanding of HIV/AIDS science and to provide antiretrovirals (ARVs) at no cost to South African citizens living with HIV (as per the liberal requirements of the South African Constitution addressing rights to health). As Steven Robins (2008) concisely summarizes, TAC "drew on arguments about rights and responsibilities and moral and scientific truth in their responses to what they claimed was President Mbeki's AIDS denial" (p. 101). Through organizing mass grassroots mobilization, claiming the moral high ground, and teaching basic scientific literacy to those affected by the HIV/AIDS epidemic, TAC enlisted the support of thousands of citizens from all sectors and communities for protests. At the end of the day, TAC empowered individuals living with HIV or AIDS to become effective advocates for the treatment that they needed (Robins, 2008).

In thinking through the success of TAC in galvanizing significant civil society action, it is important to recognize the origins of its defining characteristics. Notably, two of its perceived major strengths, its mass mobilization capacity and pursuit of the moral high ground, link TAC directly to the anti-apartheid struggle of South Africa (R. Hodes, personal communication, August 4, 2009; Fassin, 2007). The utilization of *toyi-toyi* dancing during protests, the adaptation of "struggle songs," and the practice of politicizing funerals to garner public attention to the cause—among many other protest tactics—reveal the extent to which the political culture of the past is brought forward for the purposes of the present (R. Hodes, personal communication, August 4, 2009; Robins, 2008). While many of these mobilization strategies are linked to the United Democratic Front (UDF), the prominent anti-apartheid organization which brought together members from across the racial, ethnic and class spectrums, TAC also has explicit links to the strategies of the dominant South African political party, the ANC (Fassin 2007). The most important link is the common pursuit of the moral high ground (Colvin & Robins, 2009). As

[8] In pushing for TAC's status as one the most successful AIDS advocacy movements, I also recognize the global context in which it emerged. Not only did TAC build upon the foundation of the American AIDS movement (Epstein, 1996), but also Brazilian AIDS activists who "forced the government to draft two additional legal articles that would allow compulsory licensing of patented drugs in a public health crisis" (Biehl, 2004, p. 115).

TAC founder Zackie Achmat claims, morality is both a basic organizational principle and an important resource used to appeal to diverse constituencies in South Africa. Similar to how the ANC has viewed its moral underpinnings as crucial to its struggle for a just society, TAC strongly believes in the capacity of a common morality to persuade citizens to join its fight for HIV/AIDS treatment access (R. Hodes, personal communication, August 4, 2009).

Another major strength of TAC has been its science-positive approach and its concurrent production of necessary expertise. From its inception, TAC has strongly advocated for modern scientific approaches to HIV/AIDS treatment, especially the wide distribution of ARVs, earning global praise for TAC for its upholding of scientific truth. As Helen Schneider (2002) notes, a notable feature of this AIDS activism is "its ability to obtain and transmit expert knowledge about scientific and policy developments," especially through its middle class base in various South African professional communities (p. 158). TAC has always collaborated with partners with diverse forms of expertise; for example, TAC has utilized the legal knowledge of the AIDS Law Project (ALP) for its court cases against the government. At the same time, TAC has engendered its own unique form of lay expertise among its membership. Through TAC's longstanding Treatment Literacy programs, distributed across the country in order to provide citizens the most accurate information about HIV/AIDS prevention and treatment, citizens living with HIV/AIDS are empowered to discuss AIDS science with authority and also understand the specific benefits and disadvantages of each form of HIV/AIDS treatment (Robins, 2005). In addition, citizens provide TAC with the lay interpretations of HIV/AIDS and an understanding of basic barriers to local health care (Robins, 2005). This feature signaled a gradual reframing of scientific authority to pockets of South Africa, whereby the public no longer views scientific knowledge as exclusively for elite, educated professionals but also for broader public understanding.

Attached to this scientific literacy program is the notion of *responsibilised citizenship*, specifically engendered by TAC through its liberal, rights-based discourse (Robins, 2008). As Robins notes, TAC produces and promotes this "responsibilised citizenship" in South Africa "whereby 'targets' of HIV prevention/treatment programs are required to develop new ways of being responsible in their sexual lives, diets, lifestyles, and adherence to treatment regimes and medical check-ups" (von Lieres & Robins, 2008, p. 55). This phenomenon is not restricted to South Africa. Largely as a result of the globalization of HIV/AIDS, community-based AIDS treatment organizations across the world have increasingly drawn on similar practices of personal responsibility and self-help; in turn, these practices shape new forms of health citizenship, characterized by political claims and demands from the state (Robins, 2008). The role of science within politics has begun to take on several new dimensions.

Battles over Boundaries

Through national legal victories that provided affordable ARV treatment for citizens, first for pregnant mothers and later for all citizens living with HIV, TAC gained crucial national and international support for its cause (Posel, 2008). The court case over access to PMTCT (Prevention of Mother-to-Child Treatment) programs, which forced the government to provide proper anti-HIV medication to pregnant women living with HIV, is still cited by TAC members as one of its defining victories (R. Hodes, personal communication, August 4, 2009). Additionally, the victory "showed the significance of constitutional court cases as a formal channel for strengthening civil society [and of] combining formal litigation with protest" (Makino, 2009, p. 122). Later, TAC challenged Dr. Rath in the same court system after uncovering his sham, anti-science operations in Khayelitsha. Although Dr. Rath claimed that his self-produced vitamins provided a cure for HIV/AIDS, TAC's legal challenge on account of false advertising was successful, further advancing the legitimacy of TAC in the eyes of the public (Cullinan, 2008).

Even with these legal victories, TAC still faced an enormous challenge from the stubborn national government. However, it is important to note that this challenge did not take the form of an explicit battle between state and civil society. Rather, Zackie Achmat and his TAC associates were careful to avoid labeling themselves as enemies of the state (Makino, 2009). TAC's heated discourse was instead aimed directly at whom they viewed as the "denialists" and sponsors of pseudo-science: President Mbeki and Minister Tshabalala-Msimang (Robins, 2005). Furthermore, TAC explicitly advanced an agenda of "strategic and critical engagement" with the state in which it alternately supported the government (in a lawsuit against international pharmaceutical companies) and critiqued its inability to implement important HIV/AIDS treatment policies (such as the PMTCT and ARV programs) (Robins, 2002). TAC's actions against the state began to indicate a battle not just over science but also over the boundaries of citizenship.

The lack of any clear, direct communication between the state and the civil society during this era signaled another clear fact: as Anthony Butler (2005) explicates, the two sets of actors were pursuing two separate, if co-existing, intellectual paradigms concerning AIDS treatment. While TAC followed a "biomedical-mobilisation" paradigm that stressed its pro-science, pro-activism position, President Mebki enlisted a "historical-sociological" paradigm that recalled the South African past. As evidenced by his public and private rhetoric, in addition to an ANC-sponsored document linked directly to Mbeki, *Castro Hlongwane* [9], Mbeki

[9] As Steven Robins describes: "*Castro Hlongwane* reads as an African nationalist defence of the AIDS dissident position in the face of what its authors claimed was a racist representation of AIDS as a 'black disease' associated with… the inability of Africans to

functioned within a worldview in which the past lived within the present. As mentioned before, his rhetoric was undoubtedly inspired by his understanding of the violent history of colonial and apartheid biomedicine, (Fassin, 2007; Mbali, 2004). Since the biomedical science dominating AIDS research (and championed by TAC) did not move beyond racist depictions of Africans, Mbeki had sought and inhabited an alternate "public" space for his ideas within the dissident science.

Evidence from this struggle indicates that TAC was not interested in producing a battle against the state; indeed, TAC was more interested in engaging the state. In the early years of the post-apartheid era, after all, it was both rare and bad-mannered to criticize the same government that had successfully led the anti-apartheid struggle. As the ANC government made a marked shift toward neoliberal economic strategies that left civil society out in the cold, however, organizations and social movements found themselves more willing to speak out against its policies (Makino, 2009). Throughout this time, TAC mostly avoided direct criticism of the ANC government. Rather, TAC voiced concerns through formal channels such as the National Economic Development and Labour Council (NEDLAC), a participatory structure designed by the ANC government to promote public participation, and later the South African National AIDS Council (SANAC) (Makino, 2009).

In looking back on this timeline, it is easy to think of TAC as the winner in a supposed battle with the ANC government over HIV policy, underpinned by scientific authority. This David versus Goliath narrative, popularized especially by the media, is not exactly a fair conclusion; any simplistic account masks the complex debates concerning science and politics. Rather, I argue that what TAC has achieved is not a victory within any "science wars" but a reshaping of South African notions of political citizenship and scientific authority. As mentioned before, TAC popularized a discourse surrounding "responsibilised citizenship" in which South Africans became more responsible for their everyday lifestyle choices, especially regarding health (Robins, 2008). Furthermore, scientific authority in South Africa had been reasserted and reshaped by TAC's lay members through their continued display and performance of scientific expertise through formal and institutional channels (Richey, 2008).

A Restructuring of the Struggle?: 2006-Present

Despite the incredible response of civil society to the HIV policy debacle, constant government approval or support of science-critical efforts remained in place. Even in 2006, Minister of Health Manto Tshabalala-Msimang appeared at the International AIDS Conference in Toronto with a government-sponsored display of vegetables and vegetable products, including garlic, beetroot, and olive oil—the result of a close relationship

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control their sexual appetites" (2004, p. 660).

with Dutch citizen Tine van der Maas, who existed within the same science-critical network as Brink and Dr. Rath (Posel, 2008; Cullinan, 2008). Prompted by critical comments of the ANC government's lack of scientific support from Stephen Lewis, the United Nation's Special Envoy for AIDS in Africa at the time, Tshabalala-Msimang famously responded with the question: "Whose science?" (Posel, 2008). Although Mbeki and Tshabalala-Msimang no longer made frequent, incendiary comments in public regarding HIV/AIDS treatment after 2001, Tshabalala-Msimang continued to frame her rhetoric in ways that explicitly avoided and disparaged scientific authority (Mbali, 2004; Posel, 2008).

Toward the end of 2007, significant changes in the struggle against HIV/AIDS in South Africa began to emerge. Both Mbeki and Tshabalala-Msimang, widely recognized as having caused untold damage to the discourse surrounding the HIV/AIDS epidemic, were no longer visible in public discussions—even if their questions about science and politics had remained unanswered. By 2008, they were almost completely removed from public life altogether, having been forced out of office by an ANC in crisis—and, by the end of 2009, Tshablala-Msimang had passed away from extended illness. Although their presence remains felt, TAC and its supporters have made large steps toward reversing the government's prior actions. Through significant pressure from civil society, the South African National AIDS Council was completely restructured in early 2007, allowing high-level civil society representation to affect HIV/AIDS policy. Around the same time, TAC underwent its own restructuring, with former General Secretary Zackie Achmat leaving his position in order to make way for Vuyiseka Dubula and a new generation of TAC activists. Even with new, significant cooperation with the ANC administration of Jacob Zuma and other national AIDS-related organizations, TAC continues to lead civil society initiatives for AIDS advocacy.

One of the most remarkable aspects of the current situation, of course, is the presence of a different attitude toward scientific discourse within South Africa. Instead of state ownership and the protection of scientific knowledge, the strongest advocates of scientific knowledge are now civil society organizations and actors. This enormous shift is fundamentally tied to the rise of "responsibilised citizenship," which itself is closely related to the notions of "biological citizenship" (Petryna, 2004; Rose & Novas 2005) and "therapeutic citizenship" (Nguyen, 2005). These concepts all describe the illness-based movements through which citizens attain lifesaving medical treatment in developing countries. In these movements, citizens are expected to refashion themselves "on the basis of one's biomedical conditions and responsibilities, worked out in the context of local moral economies" (Nguyen, 2005, p. 142). Among others, TAC's activists have closely reproduced this set of relations in South Africa, adopting the existing strategies of successful political and social movements (from South Africa and abroad) in order to redraw the boundaries of citizenship and guarantee access to HIV/AIDS treatment.

With this drive toward accepting the claims of Western scientific knowledge comes a partial reorientation away from traditional knowledge systems. As this paper reflects, traditional healing knowledge in South African communities has been marginalized by the state in recent centuries in favor of Western science. This legacy has played out clearly in the national struggle against HIV/AIDS. While President Mbeki and his administration pushed for a relativist position on traditional knowledge systems, attempting to give it equal status in the fight against HIV/AIDS, TAC and its allies have argued that this relativist position undermines attempts to implement the most effective, scientifically-based HIV/AIDS interventions (Robins, 2008). This is not to say that TAC ignores indigenous belief systems. Indeed, TAC has approached traditional healers for assistance, but "has done so explicitly within a paradigm that privileges science" (Nattrass, 2007, p. 181). The result is an approach to health that portrays indigenous beliefs as peripheral to science; the consequence may be pushing indigenous populations even further to the edge of national politics.

Conclusion

The heart of this paper is the complex relationship between politics and science in South Africa. As discussed, the unique political history of South Africa—from the pre-colonial period to the current, post-apartheid era—has dramatically shaped public engagement with western biomedical science; the constructed boundaries between the white and non-white populations during each political period have kept scientific knowledge production to this day almost entirely within the domain of white populations. Still, with the emergence of the liberal democratic state in 1994, new possibilities for citizen engagement with science have become available. Most notably, President Thabo Mbeki publicly challenged the authority of HIV/AIDS science after his own private self-education, prompting a global outcry that gave rise to the South African-based Treatment Action Campaign. In turn, TAC promoted scientific literacy throughout the South African public and, through a series of legal victories and mobilization campaigns, publicly re-privileged the claims of Western biomedicine. This narrative reveals how the full democratization of South Africa has brought about a new series of questions regarding the democratization of science and the manner in which citizens can productively engage with scientific authority. Furthermore, it reveals that as lay citizens privilege the claims of Western science, indigenous knowledge systems may continue to be relegated to a secondary, marginal status.

With regard to the future of the relationship between science and politics, I argue that while science remains permanently embedded within politics, the two domains will also continue to shape and secure each other's respective boundaries. I argue that this specific science-politics relationship, as shaped by the state and civil society, will be reproduced

and reinforced by future HIV policy measures in South Africa. After all, the South African AIDS policymaking forum—from its initial days under the repressive apartheid government to its contemporary manifestation, the relatively democratic South African National AIDS Council—has operated as an inherently politicized public space through which explicitly political agendas (often under the guise of scientific authority) are acted upon. Thus, the ultimate impact of the science-politics relationship is that political and scientific agendas will remain indivisible, with neither domain able to separate itself from the context of the other domain.

The primary challenge that remains for South African civil society, particularly HIV activists within TAC, is the ability to successfully navigate this science-politics relationship in a way that enhances HIV policy without excluding any South African citizen. As Steven Robins (2008) notes, "it remains to be seen what degree… TAC will be able to extend their social mobilisation and treatment access campaigns to other contexts," especially the rural homelands of indigenous populations (p. 126). Given the new demands of "responsibilised citizenship," South African citizens must continue to fight for increased public participation in existing and future debates around science and politics.

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