

# How epistemic injustice in the global health arena undermines public health care delivery in Africa

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*The international response to the West Africa Ebola crisis in 2014/15 illustrates the impact of documental injustice, whereby a disproportionately high level of error and substandard analysis is tolerated in theory and descriptive content when the subject is Africans' chronic contagions and avoidable fatalities. Correlatively, misimpressions and popular stereotypes about African public health continue to proliferate in the global arena, because inequitable silencing and exclusion of scientific peers, on the basis of their professional location, prevent revision of the global discourse by those best placed to provide corrections. This mutual reinforcement of epistemic injustices in the worldwide discourse and practice of applied medical sciences underlies the chronic morbidity and high fatality rates suffered disproportionately by Africans, despite the billions of dollars invested to alleviate the imbalance of the global disease burden. The international response to the West Africa Ebola crisis in 2014/15 is cited as a case in point.*

**Key words:** West African 2014 Ebola crisis, AIDS in Africa, documental injustice, epistemic injustice, exclusion, expertise, silencing, scientific peers, testimonial injustice.

## **§1. Identifying shortfalls in medical theory and practice as global injustices**

The labels *epistemic injustice*, *testimonial injustice*, and *hermeneutical hegemony* have inspired a valuable spike of controversy among social epistemologists since Miranda Fricker's ground-breaking exposure of the indefensible discrimination that defeats some individuals' attempts at knowledge transfer in competitive, hierarchical societies [1-17]. Elizabeth Anderson's prescient application of these notions to institutions and formalized social arrangements has been particularly inspirational for the analysis offered here [18-21]. Throughout this paper, I apply these labels in ways that diverge from their initial use, and I coin another: *documental injustice*. By way of introduction I will set out and defend these innovations in usage which extend somewhat beyond their previous treatments in the philosophical literature. My purpose is to illuminate an evident knowledge handicap comprised of the interdependence between two sorts of epistemic transgression; I call this handicap an injustice in light of its negative consequences for the health and life expectancy of people in economically disadvantaged regions of the world. In this introduction I will spell out how lapses in best scientific practice [22] (reflected in the descriptive and theoretical *content* of popular and specialist medical publications<sup>1</sup>) mutually reinforce the routine violation of professional standards (reflected in the *process* of conducting epidemiological studies and public health services) in resource-poor communities under the auspices of

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<sup>1</sup> Inaccurate 'Fact Sheets' are regularly displayed on official websites of the most prestigious global health organizations including the UN World Health Organization (WHO), US Centers for Disease Control and Prevention (CDC), Médecins sans Frontières (MSF). Noteworthy is the percentage of papers whose reported findings have been challenged, but appear in journals whose editors-in-chief occasionally resign and 'go public' about interference and coercion in their review process by pharmaceutical companies whose advertising patronage these journals' publishers depend upon, e.g. most notable for retraction and promotion is Elsevier publishing; among journals: *The Lancet*, *British Medical Journal*, *New England Journal of Medicine*, *Science* and *Nature* are notoriously sensitive to non-epistemic bias.

leading global health institutions [23].<sup>2</sup> Systemic and routine failures to honour basic codes of medical conduct and scientific rigour manifest most often, and most understandably, under severely compromising conditions of extreme uncertainty in regions where logistics and infrastructure are at their worst. Since these conditions prevail in the world's poorest economies, it is assumed in the upper echelons of global health management that people living in those regions will be disproportionately disadvantaged as a norm.<sup>3</sup> Before showing examples of the interplay just described, I have to consider objections to regarding it as an *injustice* if a delivery of medical services across continents fails in its humanitarian purpose, no matter how profound that failure might be for the intended beneficiaries. In brief: the source of the injustice lies in the disproportionate measure of avoidable harm done to people living in economically dislocated economies which is due to the disproportionate tolerance for error and substandard practice in the production of medical knowledge about "distant" countries "to promote the wellbeing of . . . remote . . . peoples elsewhere" [24, p.591].

To demonstrate the degree to which avoidable lapses of scientific rigour are tolerated because they occur with reference to severely compromised economic communities, I review in section §2 features of the international response to the West Africa Ebola crisis of 2014-2015 [28]. Severe problems in health care delivery persist in West Africa partly because in the global arena, any substantive critique or correction is disregarded if it challenges standardized posits about the causes of chronic illness in economically deprived regions. Since it is tacitly assumed that Africa is effectively devoid of reliable and decisive scientific authority, those experts best placed to check the accuracy of Fact Sheets and presuppositions of preliminary communications and exploratory research are discredited by virtue of their being situated professionally in regions of the world deemed epistemically inadequate and medically inept.

This mythology prevails despite the demographic that nearly eighty percent of imported medical personnel in the UK and USA since 2000 derives from specialists trained in Ethiopia, Ghana, Kenya, Nigeria, and South Africa [26].<sup>4</sup> Nevertheless the pretence is maintained that Africans require *foreign* technical expertise, initiative, and wherewithal to command and control epidemic management both during crisis alerts and in quiet periods of preventative research and product development. It is a commonplace that only a grade P5 laboratory and a repository with maximal capabilities can maintain serum from recent and local survivors to develop maximally effective vaccines in the shortest possible time. Yet there is no such facility in the ECOWAS<sup>5</sup> region. The most advanced laboratory in West Africa is of grade P3, maintained in Ghana's Noguchi Memorial Institute for Medical Research (NMIMR)—but this is suitable only for packing and sending samples away for further research and development overseas.<sup>6</sup> This arrangement results in chronically poor

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<sup>2</sup> When providing emergency medical attention and aftercare, best practice as recognised internationally includes respecting the dignity of patients in frightening circumstances and protecting their rights to informed consent when involved in experimental trials [23].

<sup>3</sup> I focus on recent events in West Africa only as a case in point. Comparably dubious scenarios have occurred in Haiti and currently transpire in Brazil [25].

<sup>4</sup> *The Guardian UK* newspaper: "Figures show extent of NHS reliance on foreign nationals," January 26, 2014. <http://www.theguardian.com/society/2014/jan/26/nhs-foreign-nationals-immigration-health-service>. In the last five years the demand for African-trained expertise has increased. UK's National Health Service requested in 2014 special concessions of the UK Home Office for leniency toward immigration applicants seeking employment in the health sector.

<sup>5</sup> Economic Community of West African States

<sup>6</sup> For stressing this point I am indebted to Prof. Isabella A. Quakyi, Department of Biological, Environmental & Occupational Health Sciences, School of Public Health, College of Health Sciences, Univ. of Ghana, as well as to Prof. Kwadwo Koram, Director of the Noguchi Memorial Institute of Medical Research, Univ. Ghana. Others making the same point include Prof. K. Ampofo, Head of Virology Dept. Noguchi Memorial Institute for

management of basic research specimens; and the inefficiency incurs severe penalties for those handling an outbreak when supplies shipped from a distance are delayed and stockpiles are miscalculated [27]. Consequently, the emergency demand for more expensive and less efficient foreign products and surveillance at a distance is perpetuated, which in turn ratifies the demand for greater flows of funding to enable research. Ninety percent of global funding continues to be allocated to non-African research institutes where pharmaceutical development is focused on just ten percent of the world's diseases; while roughly ninety percent of the world's diseases afflict populations in Africa [26].

Foreigners rather than Africans are entrusted with the role of interpreting Africans' public health and pharmaceutical needs. In 2008, the United Nations' World Health Assembly [29] deemed it appropriate that multinational drug manufacturers' marketing specialists should decide which of their shelved products to repurpose as 'essential medicines' for Africans.<sup>7</sup> These facts depict a broader phenomenon that I refer to as *hermeneutical hegemony* in the global health arena. Again, application of this notion to intercultural affairs veers from Fricker's seminal reference to "gaps" and "structural identity prejudices in the collective human resources of a community" [3, p.155] as these affect marginalized "individuals' capacity to understand [and articulate] their personal experiences of social reality" [1, p.208; 2, pp.99-100; 4; 5; 6 et passim]. *Hermeneutical hegemony* is employed here to refer to the source of a more mainstream concern to protect the normative resources of scientific communities from co-optation by vested interests and extramural agendas. This issue is neither new nor peculiar to the negative effects of globalisation for post-colonial societies [28].<sup>8</sup> Contemporary philosophers of science lament about various threats to the dexterity of unfettered scientific inquiry in all fields [32-33, p.187; 34-39] and about the fashionable demotion of expert scientific opinion as sufficient warrant for belief [36; 37, p.188].

But these champions of epistemic autonomy regard the threats to scientific standards of evidence-based belief as *external* to scientific communities, imposed by self-interested governments [32, p.786; 37, p.187; 39, pp.220, 227], or by irrationally driven populist movements [32, 33, 34, 37-39], or by the profit-driven exploits of industry [40-42]. The considerations assembled here suggest that this is naïve. The complex *process* of medical knowledge production as a global endeavour can no longer be segregated from its published *content* (contra Resnik [39, p.235]). This is because the medical sciences are now so interdependent with the *modus operandi* of profit-motivated institutions [46] for their very existence in the global arena, that commodification of results and creation of product-demand in affluent publics have become constitutive factors determining research goals and criteria

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Medical Research, and Dr. J.A.M. Brandful, specialist in mapping HIV genetic strain developments and former Head of Virology, NMIMR. Prof. S. Chima MD, LLM (head of the Program of Bio & Research Ethics and Medical Law, College of Health Sciences, University of KwaZulu Natal) concurs that the lack of infrastructure for vaccine research within the continent is a major shortfall in delivering both long term prophylactic care and reactive treatment for fatal contagions.

<sup>7</sup> Commensurate with the post-2015 Sustainable Millennium Development Goals, the 60<sup>th</sup> World Health Assembly approved the Global Strategy and Plan of Action [29, p. 67]. The United Nations interpreted this resolution narrowly as calling for greater cost-efficiency in the manufacture and marketing of prescriptive drugs to better fulfil increasingly urgent demands—demands which are defined and rendered 'increasingly urgent' through the research results of medical knowledge producers, whose capacity, livelihood and research funding depend upon enriching the profit margins of the drug manufacturers.

<sup>8</sup> It was the prescient logical empiricist Otto Neurath, core member of the Vienna Circle [30], who condemned the tyranny of insular specialization and the obscurity it causes, resenting the restrictions imposed on insight by the shackles of expertise through "delimited terms such as 'religion', 'art', 'science', 'law',"—which categories themselves become "interwoven into the total social process" [31, pp.345, 352].

for theory adjudication.<sup>9</sup> This is a huge topic; here I address only the silencing of relevant experts whose perspective is incommensurate with sound principles of market expansion and product development. In section §3 I conclude by briefly describing an incident in Ghana during the aftermath of the 2014-2015 Ebola outbreak, which illustrates a commission of *testimonial injustice* only if the use of this label is permitted again to deviate from its original interpersonal applications by social epistemologists [3, 6-9, 11, 12-17].

Usually the systemic, ‘instituted’ [10] prejudice which results in pre-empting African-based expertise from assuming any authoritative impact in the global health arena cannot be traced to any specifiable individual’s prejudicial attitude as its source. And in the direction of its morally relevant effects within contemporary post-colonial social settings, depreciation of a professional scientist’s credibility would not count as significant on the grounds that it undermined that individual’s sense of self-worth “as a knower” or “as a person” [2, pp.97-98; 3, p.59; 8, p.128]. The harmful impact of undervaluing well-established, locally recognised medical professionals based in Africa stretches beyond personal injury or constitutional infringement; it is widely lamented, and blamed for contributing to Africa’s medical brain drain. When an accomplished scientist’s determination is scuppered and his or her commitment is defeated in the face of undue disregard, it is indeed recognised as a great tragedy. But it would not count as an injustice. In the intercultural dynamics of the global health arena, testimonial injustice is more clearly recognised using a wider consequentialist lens, as will be applied in section §2.

Two disclaimers are advisable to avoid evoking a fallacy of false dilemma. The fact that scientific norms of best practice are profoundly and differentially perverted in some intercultural contexts, does not diminish the fact that foreign fiscal support remains crucial to quality public health care delivery in several African states. Much depends upon who controls the use of the funding.<sup>10</sup> Secondly, the health of citizens in affluent countries is likewise undermined by violations of the principles constituting best scientific practice committed by these same multinational research and manufacturing consortia [40, 41, 42, 51, 53, 54].<sup>11</sup> This

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<sup>9</sup> For example, violation of Koch’s postulates [43, 44] or of the Bradford Hill criteria for identifying the causative agent of a disease [45] are subjects of widespread controversy concerning the recently declared Ebola viral disease (EVD)-defining symptoms—see section §2.

<sup>10</sup> The Global Fund, the Christian Health Association of Ghana, USAID, CARE, General Electric Corporation, and other foreign donors continue to be crucial to the Ghana Health Service in paying medical staff, providing regular school feeding programmes, equipping hospitals, and subsidizing prescription drugs for the public. Former programmes of home nurse visits used to be funded similarly until international conventions required that mass immunization exercises and hospital centered primary care abort these quantitatively productive community outreach health services [27]. I am grateful to Dr. Deborah Atobrah, Hospital Administration Unit, University of Ghana Business School, for stressing this point at the College of Humanities International Conference, June 19, 2015, University of Ghana, in discussion of “Practical impacts of intercultural epistemic injustice upon Africans’ health,” in *Multidisciplinary Perspectives on Transformation in Africa*, edited by Peter Quartey *et al.* Accra: Sub Saharan Press (forthcoming). Unresolved historical contestation between state and private charities’ control over public health budgeting continues to complicate the impact of donor funding in Ghana, as discussed in “The Collaboration Agenda between Public and Non-Profit Health Organisations,” as analysed by hospital management researchers F.A. Adzei, K.A. Domfeh and E.K. Sakyi. Presented at the College of Humanities International Conference, June 19, 2015, University of Ghana. Major donors for post war reconstruction of public health care systems in Uganda have been Action-Aid, Save the Children, UNICEF, UNAID, UNDEP, and Redd-Barna [52]. The history of successes in public health care programming in Ghana, and post-war Ugandan experiences from the 1990s onward through the late twentieth century are instructive as they contrast so starkly with the manner in which foreign investment was employed more recently in war torn Guinea, Liberia and Sierra Leone; see Rull, Kickbusch and Lauer [27].

<sup>11</sup> Graphic examples include the history of cover-ups by the US National Academy of Sciences, the US National Institutes of Health’s Office of Scientific Integrity and the US Institute of Medicine [51, pp. 365-555; 53], the 2003 SARS outbreak in Toronto, Canada [54], and most recently the entanglement of the World Health Organization in the controversy over the pathogenesis of birth defects occurring since 2015 in Brazil [25, 55].

suggests that it matters around the world, not just to Africans, whether integrity of the scientific enterprise survives the external pressure to compromise with non-epistemic goals [32, 33, 34]. And this is true in many professional walks of life. According to representatives of the most highly revered health care agencies in the world (the medical charity Médecins sans Frontières, for example) the misfortunes that occur in the course of dealing with health crises in Africa are attributable to the failure of African governments to comply with global health authorities, to crippling local incapacities, to cross-border problems of logistics [27], and to the ravages of nature's own wily pathogens. What's prejudice got to do with it?

Someone who rejects the application of 'epistemic injustice' to major shortcomings of the global health arena, might query further: How is the large scale suffering and wanton death tolls incurred by a virulent outbreak morally different from the horror of thousands caught in a tsunami or earthquake? On this view, it seems to border on the incoherent to regard such consummately bad luck as an *injustice*. Even if affluent citizens of rich societies could do better in responding to the health crises besetting their counterparts in poor countries, what warrants labelling any one of them guilty of committing an injustice if they do not? Where high death tolls are preventable in fact, surely attributable blame belongs to the governments that fail their own citizens in other ways as well. On the other hand, the failure of sovereign powers to provide medical assistance to their citizens in distress may well count as injustice, since health rights are inscribed in many national constitutions.<sup>12</sup> If health rights also constitute part of formally ratified international treaties, then perhaps in some derivative sense it is also a failure in the carriage of justice when a state breaks its covenant to respond to another's call for medical help on behalf of citizens, especially in response to a health crisis that is framed as an escalating threat to global security. Still it remains obscure why these violations of domestic and international trust should be labelled *epistemic*.<sup>13</sup>

As the examples in section §2 will show, the injuries committed in the global health arena are *epistemic* because they involve published content and standardized research practice in basic and applied health sciences which perpetuate falsehoods about the epidemiology and pathogeneses that proliferate in Africa. These falsehoods camouflage the conditions actually responsible for maintaining high rates of chronic illness and preventable fatalities in the region. When falsehoods about what is wrong and how to fix it are issued from the global health arena, resources are diverted from productive policies, thereby causing disproportionate harm to people in marginalized regions regarded as "remote" from within the global health arena.

Of course, a false claim C may not be able to cause disproportionate harm to anyone in particular solely in virtue of its being false; for C's being false might result from its radically failing to refer, in which case whoever is likeliest to be harmed by the propagation of C would not be specifiable by reading off from C's propositional content [56, pp.43-51].<sup>14</sup> Rather, disproportionate harm may accrue to the populations featured as the intended referents of the falsehood C, because C is routinely promulgated under the aegis of authorized knowledge institutions, without opportunity of correction or retraction from

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<sup>12</sup> The rights to health and food security are declared in the United Nations' Universal Declaration of Human Rights (1948) Article 25.1, and in the UN International Covenant on Economic Social and Cultural Rights (1976) Article 12.1. The Republic of Ghana's 1992 Constitution Chapter Five.

<sup>13</sup> Many thanks are due to the blind reviewers of a previous draft who pressed these two concerns and initiated other improvements.

<sup>14</sup> As a crude illustration: Arguably, the Boehringer-Ingelheim pharmaceutical company that produced the toxic drug Nevirapine© can never be held legally responsible to future generations of the particular Zulu community disproportionately suffering the drug's anticipated adverse side effects, when they make a claim for compensation by identifying themselves as the direct descendants of uNkulunkulu—if there is in fact no such ancestor from whom anyone can claim descendancy.

scientific peers whose perspectives are discredited because of their location. Thus the commission of a *documental injustice* may be the result of a “credibility excess” [57] as much as from its dual “credibility deficit” [2, 6, 7]. Since it is warranted to believe C on the basis of C’s being promulgated by trusted scientific authorities [57-61], and since policies which do no good (or do more harm than good) may be adopted as applications of theories endorsed by leading medical institutions, a ‘credibility excess’ allocated to legitimate authority can itself be the source of unwitting epistemic injustice. This happens when the scope of accredited authority systematically excludes those independent experts who happen to have the greatest pertinent opinions and access to crucial evidence given their marginalised locations.<sup>15</sup>

Here is a quick example to clarify this point: To many impartial expert witnesses informed of situations on the ground in Africa, the purported need for a diarrhoea vaccine is laughable. Rather, what is needed with unequivocal urgency is safe drinking water.<sup>16</sup> In Ghana, for example, apart from the fact that no single cholera or diarrhoea vaccine injection will last a lifetime, channelling billions of research dollars into the discovery and delivery of affordable, mass marketable vaccines will severely impede both short and long term solutions to chronic water-borne contagions including cholera. Ghana’s historically notorious sanitation crisis requires a root and branch reaction to the endemic faecal contamination of drinking water, by generalizing piped water into all homes, enforcing of existing construction code statutes to ensure universal availability of residential toilets, investing in municipal sewerage, drainage and sanitation systems, and otherwise eradicating the dangers of rampant open defecation whereby faecal matter seeps into streams through rain run-off every wet season. Rolling out a national cholera or diarrhoea vaccination programme is likely to defeat fiscal support for any immediate or comprehensive solution to the pandemic crisis of water-borne fatalities due to infected public water supplies [27].<sup>17</sup>

Nevertheless, a US taxpayer will be warranted in his conviction that diarrheal vaccine research is essential to fight against the major killer of Ghanaians under five years old, in accord with advertising promulgated ubiquitously—in scientific press releases, leading bioethics journals, census reports, periodic country surveillance reports, education campaigns, Fact Sheets posted on official internet websites, government-issued statements on posters, banners, billboards, T-shirts, and public advertising jingles—funded by the Global Alliance for Vaccines and Immunisation (GAVI) in collaboration with the World Health Organization, and unanimously endorsed by leading authorities in the global health arena whose operations are funded in large measure by GAVI [17, 32, 36, 37, 38].

To appreciate the resilience of disinformation promulgated in this way, it is helpful to follow Brogaard [62] by distinguishing the everyday “*factive*” sense of knowledge from knowledge identified in its “*objectual*” sense.<sup>18</sup> Critical and impartial probing is an

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<sup>15</sup> Scientific peer exclusion also robs indigenous African medicinal experts of their intellectual property rights, when their localised knowledge of plant biodiversity contributes to the development of life-saving drugs. Here again, the injustice goes beyond denying patent inclusion to the collaborating experts, extending to the inaccessibility of these drugs to the people from whose community derives both the expertise and the germ plasm essential to the pharmaceutical’s synthesis. See Addae-Mensah [49].

<sup>16</sup> Quoting here Christian Fiala PhD, MD and OB/GYN specialist based in Vienna, whose experience spans several decades as a GP in Tanzanian and Ugandan field clinics and public hospitals.

<sup>17</sup> Dr. Phyllis Mary Antwi, former lecturer at the School of Public Health, University of Ghana, now Honorary Secretary of the Faculty of Public Health in the Ghana College of Doctors and Surgeons, in conversation November 2015, University of Ghana.

<sup>18</sup> Someone who can recite from memory every facet of the table setting at the Lord’s Supper depicted by da Vinci, or who wins first prize for detailing the exploits of Harry Potter, has extensive knowledge of their subject in the *objectual* sense. An epidemiologist who excels in using PCR test results to diagnose a viral infection, when the existence of the virus thus identified has never been established independently, e.g. by isolation in

uneliminable element in the acquisition of *factive* expertise, as emphasized by Christopher Hookway [14]. In contrast, *objectual* expertise is parochial and insular in its procedures, deflecting the challenge of critical inquirers by discrediting them as “insufficiently committed to truth oriented inquiry” [38, p.243]. In distinguishing different sorts of experts’ claims to *know*, I submit these reflections merely as a sociological observation albeit an important one; it should not be confused as a constitutive point about the nature of knowledge (contra e.g. Levy [37, p.182]).<sup>19</sup> Borrowing from Ernest Nagel [50, p.695]: “the assertion that a [scientific community] exhibits bias assumes that there is a distinction between biased and unbiased thinking, and that the bias can be identified.”

One general consequence of dismissing scientific peers based upon their geographic location or their independent standpoint is the suppression of epistemic diversity. Philip Kitcher and others have stressed that diversity is crucial for the pursuit of factive knowledge [33, pp.71-72 ff; 34; 47, p.135], as Amartya Sen recognised it to be crucial for the pursuit of justice [48].

## §2 The International Response to the Ebola Outbreak of West Africa 2014/15

The persistent disregard for medical expertise and public health authority based in West Africa reached an unprecedented peak in 2014, when the United States president deployed American soldiers to Liberia in order to control the populations during an epidemic. Liberia’s Ministry of Health top officials made no such request for US occupation, and had no prior knowledge of whether the troops deployed would be coming with any medical expertise in handling public health problems of major concern in Liberia apart from Ebola.<sup>20</sup>

From the very outset it is important to appreciate how difficult it is to diagnose Ebola responsibly as a pathogen. In this brief compass I do not take up objections that have been raised by technical experts about the way original samples were handled by researchers reporting discovery of an Ebola virus in humans in Zaire during the 1970s and the 1990s, and about the substandard quality of electro-microscopic illustrations published by those researchers in *The Lancet* [63, 64, 65, 66, 67] as portraying in humans the presence of Ebola among a family of filoviruses.<sup>21</sup> While the sufficiency of evidence that Ebola exists in manqué monkeys is uncontested, the published claims about discovering Ebola in humans in the 1970s rest on very thin evidence. Ebola’s very definition changed over the decades from Ebola Haemorrhagic Fever (EHF) eventually to the Ebola Virus Disease (EVD) that reached crisis proportions in 2014.<sup>22</sup> In a study of forty-four Ebola patients conducted in Sierra Leone in 2014 [68], only one patient had bleeding recorded as a symptom.<sup>23</sup> But internal and external bleeding is really the only phenomenal identifying feature to link the chronic illness

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human blood or tissue of anyone presenting the associated symptoms, arguably is an expert in this objectual sense. See Kary Mullis, the Nobel-awarded creator of the PCR technique quoted by Serge Lang [51, p. 613-617, 619 *et passim*].

<sup>19</sup> I am grateful to Prof. Timothy Williamson for emphatically stressing this point.

<sup>20</sup> *BBC World Service News* October 5, 2014.

<sup>21</sup> I am grateful to Dr. David Rasnick, biochemist, pharmaceutical bio-technologist specialising in protease inhibitors and cancer researcher, for his evaluation of these studies, interviewed on *How Positive Are You* episode no. 89. Available at <https://itunes.apple.com/us/podcast/how-positive-are-you-podcast/id457859350?mt=2> and in correspondence, November 2015.

<sup>22</sup> For “human experimentation trials to be approved . . . a dangerous epidemic . . . [is] required by the UN WHO Ethics Committee.” Peter Piot, Professor of Global Health and Director of the London School of Hygiene and Tropical Medicine, interviewed on *HardTalk BBC Worldservice*, October 6, 2014.

<sup>23</sup> The misleading conflation of the two different definitions was critical in the global health arena’s determination of policy in 2014, reporting from a United Nations hearing: “Health Care Worker Pleads With UN: Help Ebola Victims Dying ‘Horrible, Undignified Death’.” Posted by Abby Haglage, September 19, 2014 on *The Daily Beast*. Accessed June 15, 2016 at <http://www.thedailybeast.com/articles/2014/09/18/health-care-worker-pleads-with-un-to-help-ebola-victims-dying-horrible-undignified-death.html>

and high mortality rates in West Africa in 2014-2015 with former outbreaks of violent deaths in former Zaire, Congo and Uganda in previous decades.

Physicians, microbiologists, molecular virologists and epidemiologists have different diagnostic standards. Basic and exploratory medical researchers are at liberty to reserve their verdict and to employ very stringent criteria to achieve high levels of precision in identifying a pathogen. In contrast, given conditions of extreme uncertainty, epidemiologists are trained to err on the side of precaution in order to protect a general public, when identifying virulent pathogens as early as possible, even though their early symptoms are usually non-specific.<sup>24</sup> Nevertheless, the PCR methodology demonstrating an Ebola epidemic reaching crisis proportions in West Africa was controversial even among epidemiologists. A three-year study in Gabon involving nearly 5,000 healthy individuals [69] established the utter unreliability of the tests that were used throughout the 2014-2015 outbreak to confirm suspected cases of Ebola. According to the WHO, as of November 2015 at the end of the outbreak, a reliable test for diagnosing Ebola was still unknown and remained a focus of intense collaborative exploration. In the interim, tens of thousands of people in Guinea failed to receive malaria treatment because of capricious, *ad hoc* diagnoses of Ebola based on sheer location. For instance, malarial symptoms are indiscernible from the early symptoms of Ebola, according to the latest clinical diagnosis employed in 2014. Malaria is still known as a chief killer of infants and toddlers under five years old in Africa [71, 72]. The numbers of people seeking treatment at outpatient clinics dropped by nearly 42%; and during the foreign occupation the numbers seeking care for suspected malaria dropped by almost 70% [73]. People needing treatment for a range of illnesses were compelled to avoid clinic visits for months after the crisis was declared over, due to the prevailing fear of arbitrary abduction by health practitioners operating under martial law, with the backing of a foreign military presence. Schools, markets, mosques and country borders were shut down in Guinea, Liberia and Sierra Leone, possibly under false pretences.<sup>25</sup> This is evidence of *documental injustice* resulting in poor practice in the delivery of public health care, insofar as falsehoods are promulgated about a region.

In contrast, the keenness to avoid raising false alarms and upsetting the daily routines of a vulnerable and nervous population is of paramount importance in the United States, for instance, where accusations of negligence and irresponsibility quickly escalate to litigious proportions. Over the peak period of Ebola anxiety in 2014, the mayor of New York was at pains to repeatedly reassure his public with the truth, which is that the only people ever actually at risk of contracting Ebola are medical practitioners who may contact bodily fluids while handling acutely ill patients.<sup>26</sup> In ordinary public venues, the infection rate of measles is five times greater than Ebola, and influenza spreads twice as fast as Ebola.

However, disinformation about Ebola in West Africa was hardly a local affair, and cannot be attributed accurately to high rates of African illiteracy or naïveté, nor to the inefficiency of local African governments to inform their publics. Consider for example the

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<sup>24</sup> I am grateful to Prof. Kwadwo Koram, Director of the Noguchi Memorial Institute for Medical Research for discussion of PCR diagnostics and his long history of epidemic forecasting in Ghana. In conversation June and November 2015, NMIMR, University of Ghana, Legon.

<sup>25</sup> Nor can Ebola misdiagnoses be attributed to ineptitude or inadequate infrastructure in the affected West African countries. At the Royal Free Hospital in Scotland, a nurse returned from Sierra Leone was quarantined because she was diagnosed with a relapse of Ebola, only for the diagnosis to be corrected after one week and changed to meningitis. October 21, 2015. BBC *World Service* news, accessed June 15, 2016 at <http://www.bbc.com/news/uk-34595887>

<sup>26</sup> NBC news post: New York Mayor Bill de Blasio Rides Subway to Stem Ebola Fears. October 24, 2014. Accessed June 20, 2016 at <http://www.nbcnews.com/storyline/ebola-virus-outbreak/new-york-mayor-bill-de-blasio-rides-subway-stem-ebola-n233336>.



final quarter of 2014 weekly record of Ebola cases and Ebola related deaths released to Reuters and Associated Press by the US Centre for Diseases Control and Immunization (CDC) and by the World Health Organisation (WHO).<sup>27</sup> For the first week in October, 3,769 cases were reported from Liberia. But even in retrospect neither the CDC nor WHO are prepared to offer a breakdown of how many of these deaths were male, or how many were children under twelve years, or how many patients in the same locations died of malaria or tuberculosis or diabetic shock, pneumonia, typhoid, gastro-enteritis or malnutrition-related diseases over the same period. Yet these diseases are indiscernible from early non-specific symptoms of Ebola as defined for the 2014 outbreak: headache or mild fever, dizzy spells, cough, nausea, bloodshot or sore eyes, rash, or body aches.

How West African Ebola figures were derived depends upon where and how you look. Since the serum test procedures so frequently yielded false results, the main question doctors considered in diagnosis was whether and how recently the patient presenting was in—or had exposure to anyone in—Sierra Leone, Guinea or Liberia.”<sup>28</sup> In Liberia, as in many African societies, unless there is a forensic imperative, autopsies are verbal. So the number of fatalities due to Ebola was often determined by the deceased’s status in the community, as testified by respected elders, priests, funeral organisers, relatives, neighbours, and traditional family heads. PCR tests<sup>29</sup> are non-specific and take many days before results return from laboratory to clinics, if ever. When a patient died before test results were returned, death was recorded as Ebola-related. In Sierra Leone’s capital, the reported number of Ebola cases spiked in October 2014 with the arrival of new surveillance kits distributed for public use: mobile phones were distributed around the capital city with a toll free number 117. These call-ins were tabulated by the Ebola Surveillance Unit of the Ministry of Health every night and these constituted the data inputs for predicted Ebola trajectories issued from Geneva. By October 16, 2014, just prior to the United States army troop deployment to Liberia, the WHO predicted publicly that by the end of 2014, the number of new Ebola cases could reach 5,000 to 10,000 per week. The CDC released its predictions through Associated Press and Reuters that by mid-January 2015 there would be almost 1.4 million cases of Ebola through West Africa. When such projections later proved absurd, these errors were never accounted for nor retracted. For the affected populations, of course, the consequences of failing to offset erroneous hyperbolic predictions are devastating. And without a comprehensive picture there is really no way to assess the main causes of death in Guinea, Liberia or Sierra Leone over 2014-2015, nor the extent to which Ebola posed the global threat that populations in G-8 countries were made to fear.

It can be argued that the international Ebola response destroyed many more people than the virus itself was known officially to infect [28]. Ordinary citizens’ lives were threatened not from the risk of contracting Ebola but from the risk of exposure to specious stigmatization and the forced abductions.

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<sup>27</sup> As reported by US State Department Deputy Ebola Coordinator and Crisis Operations Manager Anthony Banbury commenting on Ebola Response for the *BBC Worldservice News Update* October 16, 2014.

<sup>28</sup> Dr. Bruce Hirsch, North Shore University Hospital in Manhasset New York “How Do Doctors Test for Ebola?” interview by Tanya Lewis, *Live Science* Oct 3, 2014, [www.livescience.com/48141-how-doctors-test-for-ebola.html](http://www.livescience.com/48141-how-doctors-test-for-ebola.html). This warning was issued by the *American Journal of Tropical Medicine and Hygiene* “New study finds malaria, typhoid – not Ebola – biggest health threat for travellers to tropics,” released January 16, 2013 by AAAS online at *Eurekalert*, the global source for science news. [http://www.eurekalert.org/pub\\_releases/2013-01/bc-nsf011413.php](http://www.eurekalert.org/pub_releases/2013-01/bc-nsf011413.php).

<sup>29</sup> Polymerase Chain Reaction is a technique used in molecular genetics which amplifies a specified segment of DNA but its use in diagnosis is inconclusive in the absence of definitively isolating in living blood or tissue the pathogen whose presence can be only inferentially associated with the protein segment undergoing PCR magnification, according to Kari Mullis, 1993 Nobel recipient for creation of the PCR technique.

To prevent such undermining effects on primary health care delivery in the circumstances, Ebola tests would never be administered in the United States until typhoid, diabetic shock, and malaria had been definitely ruled out. But in West Africa typhoid and malaria are endemic; so one is unlikely to find any adult who is not carrying antibodies for typhus or who is not carrying some level of malarial parasites. Thus diagnostic uncertainties prevail in the tropics. A further source of mayhem and distrust in Guinea was caused in October 2014 by an outbreak of acute fulminating Meningococcal Septicemia, resulting from mistaken use of overheated vials in a meningitis inoculation campaign organised by the US Centre for Diseases Control.<sup>30</sup> Since the CDC's error was not publicized, the violent symptoms were alleged to be caused by Ebola. Such avoidable, detrimental effects resulting from mismanagement by foreign agencies would never be tolerated in a G-8 country without a major political and diplomatic meltdown.

African medical professionals breaking rank with foreign command and control structure risked exposure in the media to castigating rhetoric and charges of wanton indiscipline and ignobility. In October 2014, a team of local junior staff doctors in Freetown took the moral initiative in a strike action at the height of the emergency Ebola response. They were vilified and castigated repeatedly for their irrationally selfish petulance by news commentators on the BBC World Service. Subsequently a spokesman for Sierra Leone's Ministry of Health divulged the reason for the strike: it was in response to the long-awaited opening of a UK-funded Ebola treatment centre on the outskirts of Freetown. From the outset, admission into this clinic was banned to everyone requiring its services except for British expatriates. When pressured by the doctors' dramatic protest, the government rescinded this policy, and the doctors went immediately back to their emergency duties. The physicians in this situation were responsible for correcting a bizarre throwback to colonial policy: It is only fifty years since the conventional Western medical care networks in Anglophone West Africa were reserved for colonial administrators and their immediate subordinates [74], and no Ghanaian could be promoted higher than a Senior Medical Officer. It is only thirty years since the destructive effects of Bretton-Woods' austerity cutbacks further undermined African governments' delivery of social services including primary medical care. Deriding these doctors as capriciously selfish and undisciplined rather than morally scrupulous and courageous, is another example of what I mean by *hermeneutical hegemony*. In this case the derision yielded an intercultural *testimonial injustice* in the revised sense I introduced in section §1. The injury is not merely personal; to deprive a post-colonial society of the moral high ground and the respect accorded to ethically conscientious medical professionals in G8 societies is not only to humiliate and denigrate the doctors themselves; it insults the dignity of the entire community.

Lest there be any doubt about the accountability or qualifications of the international agents content to participate knowingly at this level of inaccuracy and disregard for verifiability and public's rights to protection from arbitrary arrest and seizure, here is a truncated list of the partners who convened on December 12, 2014, in response to the World Health Organisation's call for "Ebola diagnostics [since] the efforts to contain the Ebola outbreaks in West Africa [were] hampered by cumbersome, slow, complex and costly diagnostic tests" [75]: four executive officials of different units of Médecins Sans Frontières, ten senior representatives of the World Health Organisation based around Europe and in Liberia, immunologists and top medical experts in a range of related disciplines representing

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<sup>30</sup> The symptoms of Meningococcal Septicemia, also called Waterhouse-Friderichsen syndrome, include vomiting, diarrhoea, extensive purpura, cyanosis, tonic-clonic convulsions, circulatory collapse, usually with haemorrhage into the adrenal glands. <http://investmentwatchblog.com/exposed-ebola-outbreak-in-africa-coincides-with-massive-cdc-meningitis-vaccine-campaign/>. Accessed November 15, 2015.

the Foundation for Innovative New Diagnostics, Fondation Mérieux, Public Health Focal Point, World Bank, US Naval Medical Research Center, US Army Medical Research Institute for Infectious Diseases, US Department of Defense, US Federal Drug Administration, US National Institutes of Health (NIH)/National Institutes of Allergies and Infectious Diseases (NIAID)/Department of Health and Human Services (DHHS), Institut Pasteur, UNICEF, Bill and Melinda Gates Foundation, Swiss Agency for Development and Cooperation, UK National Institute for Biological Standards and Control (NIBSC), Public Health Agency of Canada, among others (See [27, 75] for the full list of participants).

In light of such a cavalry of high profile expertise, the pervasively arbitrary statistics, the haphazard data collection and inadequate means of diagnosis which were tolerated throughout the 2014 global response to ‘Ebola’ in West Africa is nothing short of astonishing. But institutionalised disregard for scientific rigour in the global health arena’s procedures and reporting in Africa is not restricted to emergency situations. I conclude by recounting briefly an example of silencing local expertise that occurred after the West Africa Ebola crisis was declared by the WHO to be over.

### **§3. Delegitimising independent African scientific inquiry in the aftermath of Ebola**

Because the following episode transpired months after the foreign management of the West African Ebola outbreak had packed up and left the region, it illustrates *testimonial injustice* as a climate rather than a one-off episode, a status quo wherein local African scientific authority is publicly ridiculed, discredited and thereby silenced, even when prevailing conditions provide no justification for wanton disregard for professional courtesy or for rule of law. Under contract with GlaxoSmithKline and the US National Institutes of Health, and with the eventual approval of the World Health Organization (see footnote 32), mass experimentation of a new vaccine involving healthy humans had commenced months before in Ghana without pursuing prior statutory approval by the local Food and Drug Advisory. Alarm was first raised by nursing students who were inducted as volunteers without the opportunity of providing informed consent. Worrying rumors scampered into news headlines about the potential dangers of the vector method used, known as the chimpanzee adenovirus type 3 (ChAd3) whose safety in previously published studies was drawn into question [76, 77]. An independent body of public health practitioners and researchers with the relevant expertise took up their statutory advisory role for the Ghana government on behalf of public interest in technical matters of immunological detail [78]. A political furore arose, during which the credibility, motivation, responsibility and sanity of the local technical team of scientists were challenged. The GSK|NIH initiative disappeared during the hiatus created by the Ghanaian Parliament’s debating the issue, but not because laws had been broken and public safety put at possible risk, but because in the meantime GlaxoSmithKline had completed its Phase II Trials by collecting the required quota of 30,000 samples from other West African countries.

The hermeneutic hegemony displayed here, in virtue of which recognized African scientific authority gets discounted routinely, contributes crucially to a very lucrative practical arrangement in the global economy: Drugs are repurposed and declared “essential” [29] for Africa at the discretion of manufacturing innovators themselves,<sup>31</sup> endorsed by their partners in research, information dissemination, whose existence depends upon funding by the very manufacturers whose activities they are designed to monitor.<sup>32</sup>

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<sup>31</sup> The excessive focus on essential drugs and technical innovations, in pursuit relieving the global disease burden from the global South has been addressed by Anup Shah [79].

<sup>32</sup> For example, in March 2014 GlaxoSmithKline in collaboration with the US National Institutes of Health had received a rejection from the World Health Organization’s Ethics Committee of their application to begin human experimental (Phase II) Ebola vaccine trials in West Africa—quoting Peter Piot, Director of the London

Immediately after this public humiliation of local scientific expertise in Ghana, the World Health Organization sent its Deputy Director-General based in Geneva, to visit his country of birth for a public appearance at his alma mater, the University of Ghana. On November 25, 2015 he ceremoniously addressed elected government officials, senior academics, medical students, and faculty including his own former classmates, peer researchers and public health authorities, as well as the principal investigators involved in the halted vaccine trials. To this august professional audience, the WHO Deputy-Director presented a slide show recounting the elementary history of successful vaccines at a level of simplicity appropriate for school children. His jocular tone throughout might have cost him his job in the global North. But for a Ghanaian occupying among the highest profile postings at the helm of the global health arena, qualifications include not only conscientious scientific accomplishment but preparedness to execute a casual dismissal of independent and highly qualified expert scrutineers within Africa. The WHO emissary reframed his scientific peers' formally organised technical inquiry as symptomatic of a general failure to control "social and psychological issues" in the "management of vaccine anxiety."<sup>33</sup> With a reassuring smile, he tutored his scientific peers at home not to critically question international research consortia practicing medical experiments in Sub Saharan Africa, but rather to comply unhesitatingly with foreign agendas, to cooperate with the global health authority by indoctrinating the local public to do the same, and to understand that their professional responsibility is to accept uncritically the top-down control over in-country public health management.

This anecdote illustrates the pressures borne by internationally recognised African scientists and medical administrators to abide by their assigned roles in the global knowledge economy, to avoid becoming targets themselves of public humiliation and dismissal. Once inducted and recognised as a scientific peer in the global arena, the job of African experts is to enable foreigners to employ African populations and terrains with maximal efficiency in pursuit of their chosen global agendas, whether that is to expand commercial markets, or to enhance powerful brand images worldwide, or to rehearse military command and control operations in bio-warfare [80, 81]. The independent experts whose queries and concerns were neutralised through ridicule had carried out principles of best scientific practice [22] by raising pertinent questions and initiating a well-informed probe into the safety and efficacy of a dubious procedure. Their exercise of autonomy was discredited because their expertise, given their location, disclosed the epistemic advantage of African-based researchers and practitioners in the pursuit of medical knowledge. It is this advantage which poses a threat to the lucrative 'objectual' knowledge campaign and development agenda that depend upon deflecting efforts to realise equitable health care delivery worldwide. Unless medical experts speak from perspectives that reinforce and ratify status quo assumptions and priorities shared by global think tanks and vested foreign parties, their dissenting opinions are prone to be discredited as superstitious, suspect, attention seeking, ill-informed or otherwise unreliable [38]. This indefensible subordination of professionals identified by their standpoint or their region of operation constitutes the sort of *testimonial injustice* occurrent in a climate of what Dotson calls "epistemic oppression" [11, 12].

## **Conclusion**

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School of Tropical Medicine and Hygiene interviewed on *HardTalk* BBC Worldservice, October 6, 2014. Public relations management of media attention subsequently exposed the global arena to wildly escalating figures of an Ebola outbreak, whereupon the WHO was broadly castigated and staged a high profile *mea culpa* as damage control, reiterating its retraction of the refusal to allow trials, leaving the initial schedule for Phase II Vaccine Trials only minimally delayed.

<sup>33</sup> Dr. Anarfi Asamoah-Baah, "Vaccines and Public Anxiety," Alumni Lecture series, University of Ghana, Great Hall, Legon, November 25, 2015.

The exclusion of scientific peers on the grounds of their geographic location is unjust because it defeats the opportunity to correct gross error. Lucrative ignorance about Africa is sustained globally through top-down management of information and increasing control of African populations via the current centralised organisation of ‘global health’ initiatives. But this is a dangerous road to travel. In the coming generation, major public health threats to coastal populations on every continent are expected to arise not from bio-terrorist attacks but from escalating percentages of unemployment, a widening gap between rich and poor,<sup>34</sup> and mass migrations to coastal cities by refugees of flood, drought and desertification. None of these concerns can be addressed with the tunnel vision approach to problem solving typified by current applications of global funding for bacterial and viral genetics research.

To overcome the various forms of epistemic transgression illustrated here anecdotally requires reconsidering: (i) the overall impact of centralising medical knowledge production and its applications into monopolies run as international consortia, as well as (ii) the complicity of African academics and government officials in protecting their affiliation with elite research cartels by perpetuating the suppression of independent African peer expertise; and lastly (iii) the superior advantage enjoyed by Africa-based medical practitioners and researchers, provided by their professional location, for leading the global movement to invest equitably in health care worldwide.

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Dar es Salaam  
June 2017

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### **Commentary on “How epistemic injustice in the global health arena undermines public health care delivery in Africa”<sup>35</sup>**

by Joan Shenton – MA Oxon  
Director, Meditel Productions  
Founder & Administrator, Immunity Resource Foundation

Helen Lauer’s examples illustrating “disregard of local African scientific authority” led me to recall and draw parallels between her descriptions of pervasive epistemic injustice throughout the Ebola situation in West Africa through 2014-2015 and my personal experiences across Africa twenty five years earlier - during the period of hysteria that surrounded the feared AIDS pandemic. The purpose of these comparisons is to lend the weight of historical perspective (and documentation) to our claim that the tyranny of *objectual* expertise undermines public health care delivery in Africa.

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<sup>34</sup> The Organization for Economic Cooperation and Development (OECD) represented by its head of Structure Policy Analysis Division Giuseppe Nicoletti, anticipates by 2030 the ratio between top to bottom level incomes will increase by thirty percent, with the top one percent of earners in the USA commanding thirty percent of the national income while fifty percent claims six percent. Interviewed on Business Daily, *BBC World Service* August 6, 2014, accessed at [http://downloads.bbc.co.uk/podcasts/worldservice/bizdaily/bizdaily\\_20140806-1108b.mp3](http://downloads.bbc.co.uk/podcasts/worldservice/bizdaily/bizdaily_20140806-1108b.mp3).

<sup>35</sup> Lauer, H. 2016. *How Epistemic injustice in the global health arena undermines public health care delivery in Africa*, p.1 unpublished manuscript.

In 1992 I travelled across Africa with a production team before returning to film our documentary for Channel 4 *AIDS and Africa*.<sup>36</sup> I was keen to discover whether Africa really was in the grip of an infectious epidemic of AIDS or whether the figures that were being circulated by the World Health Organisation, the Medical Research Council and the Centers for Disease Control were greatly inflated extrapolations from “HIV” antibody tests taken at several maternity clinics.<sup>37</sup>

I selected countries where most foreign aid money had been granted for AIDS research - Kenya, Uganda, Tanzania, Cameroon and Cote d’Ivoire -where, in misguided attempts to control what was feared would develop into an AIDS pandemic across Africa, we encountered examples of gross interference from international organisations which insulted and demoralised national academics, scientists and medical specialists and adversely affected public health care delivery.

Our first stop was Kampala, Uganda – Old Mulago Hospital at Makerere University Hospital. Here we met one of Uganda’s leading tuberculosis specialist Dr Martin Okot Nwang. He was angry about the plight of his patients at the TB centre. He told me that a group of researchers from an American university had swooped into his wards, taken blood samples from his patients and flown the samples out of the country. The blood was then tested for “HIV” and the patients that tested antibody positive were moved out of the hospital’s TB wards and into AIDS wards where their TB regime was terminated and they were given powerful antivirals instead. Many of these patients died.

Another of Dr Okot-Nwang’s concerns was the way TB and AIDS statistics were being wrongly reported. He told us that TB is a disease that occurs where there is poverty, malnutrition and lack of medicines. Conditions rife in Uganda at the time.

It is well-known that people with TB can test positive on the HIV Elisa test leading to inflated HIV+ figures in Africa. In addition the WHO’s Bangui clinical case definition had decreed in 1985<sup>38</sup> that you could be called an AIDS case without an HIV test if you had a combination of symptoms like a dry cough and fever for a month.

VIDEO clip – DR OKOT NWANG, UGANDA (00.40”)

*“A patient who has TB and is HIV positive would appear exactly the same as a patient who has TB and is HIV negative. Clinically both patients would present with prolonged fever. Both patients would present with loss of weight, marked loss of weight actually, and both patients would present with prolonged cough and in both cases the cough could equally be productive. Now therefore clinically I cannot differentiate between the two. Even when I compare the blood results I may find some similarities between the two groups.”<sup>39</sup>*

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<sup>36</sup> *AIDS and Africa*, Documentary, Dispatches Channel 4, UK, 1993, programme transcript, p 11.

Transcript can be downloaded from Immunity Resource Foundation <http://www.immunity.org.uk/wp-content/uploads/2013/06/AIDS-AND-AFRICA-Script.pdf> ifr@immunity.org.uk

Documentary free download at <http://www.immunity.org.uk/videos/>

<sup>37</sup> Interview with Dr Christian Fiala by Dr Rodney Richards

<http://www.weeklydig.com/dig/content/3593.aspx>.

See also “Dirty tricks over AIDS figures” Christian Fiala, *New African*, April 1998, also at <http://www.virusmyth.com/aids/hiv/chrfricks.htm>

<sup>38</sup> WHO case definitions for AIDS surveillance in adults and adolescents. *Wkly Epidemiol Rec.* 1994 Sep 16; 69(37): 273–5. <http://davidcrowe.ca/SciHealthEnv/papers/338-WHO%20AIDS%20Defn%201994.pdf>

<sup>39</sup> *AIDS and Africa*, documentary transcript, pp12-13, op.cit.

In the past only extra-pulmonary TB, not TB of the lung (pulmonary TB), was classified as a disease that qualified as AIDS by the US Centers for Disease Control, but pulmonary TB was added to their list in January 1993. I put this to Dr Okot-Nwang. He simply laughed and said:

VIDEO clip – DR OKOT NWANG, KAMPALA, UGANDA (00.16”)

*“I think if they include pulmonary tuberculosis as an AIDS-defining case then all the TBs in Africa – almost all the TBs in Africa – will be AIDS”.*<sup>40</sup>

As we travelled through Uganda’s Rakai District we met people in the towns and villages who were highly skeptical about the way numbers for AIDS were being inflated, people like Badru Ssemanda, an official in the town of Kyotera.

VIDEO clip – BADRU SSEMANDA, KYOTERA, UGANDA (00.19”)

*“People are trying to make a way of living out of this. They think that if they publicise it and they exaggerate it they might win sympathy from the international community and will get aid, or rather get assistance. We need assistance but not through bluffing that people are dying at a rate that is not true”.*<sup>41</sup>

In the paper Lauer describes the way epistemic injury, inflicted in the form of published content in the global health arena, has perpetuated “. . . falsehoods about the epidemiology and pathogeneses that proliferate in Africa.”<sup>42</sup>

In 1991 Professor Roy Anderson, of Imperial College London, committed major epistemic injury with disastrous consequences in the continent of Africa. In a paper published in Nature called “The spread of HIV-1 in Africa: sexual contact patterns and the predicted demographic impact of AIDS.”<sup>43</sup> Anderson predicted an AIDS pandemic that would lead to a decrease in the population and political disturbances in the continent of Africa.

These predictions from Anderson and also from the World Health Organisation’s global programme on AIDS, based on estimates, were subsequently proven false. There has been a steady rise in population across Africa, and any political disturbances have certainly not been the result of de-population.

However, the effect of those false predictions was highly damaging to the continent of Africa. Money flooded in from aid agencies like the UK Overseas Development Agency, the MRC, the European Community, WHO, UDAID, the NIH, the Centers for Disease Control and an increasing number of non-governmental organisations, but only to set up testing laboratories, distribute condoms or produce sex education programmes, not to address the obvious health problems such as lack of clean water and poor sanitation. This is what Dr James Makumbi, Uganda’s Health minister, said to us in 1992,

VIDEO clip – DR JAMES MAKUMBI, MINISTER OF HEALTH, UGANDA (00.53”)

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<sup>40</sup> *AIDS and Africa*, documentary transcript, p13, op.cit

<sup>41</sup> *AIDS and Africa*, documentary transcript, p4, op.cit

<sup>42</sup> Lauer, H. 2016. *How Epistemic injustice in the global health arena undermines public health care delivery in Africa*. p5, op.cit

<sup>43</sup> R.M.Anderson, *The spread of HIV-1 in Africa: sexual contact patterns and the predicted demographic impact of AIDS*, *Nature*, vol.352, 15 August 1991; R.M. Anderson, Lecture, Imperial College, London, ‘The AIDS Pandemic’, 3 November 1992.

*“We have more than 700 non-governmental organisations operating in the field of AIDS in Uganda. This raises a lot of concerns, because a few of them are doing a very good job, but a good number of them – my ministry is not aware of what they are actually doing and there is no way of evaluating them.*

Unfortunately a good number of them do rush in, collect data and go away with it, and the next we hear about it is when it is being printed in journals, and we have not had any input and some of this work has been done in very limited areas, not reflecting the rest of the country.”<sup>44</sup> Lauer writes that documental and epistemic injustice happen when “the scope of accredited authority systematically excludes those independent experts who happen to have the greatest pertinent opinions and access to crucial evidence given their marginalised locations.”<sup>45</sup>

By the mid-1980s it became widely accepted that AIDS originated in Africa. So-called experts in the West like Dr Kevin de Cock from London’s the Institute of Hygiene and Tropical Medicine set the ball rolling by suggesting that AIDS was an ‘old disease from Africa’.<sup>46</sup> Then Robert Gallo and Max Essex put forward the monkey hypothesis – that an African green monkey virus jumped species infecting humans and subsequently spread through the world.<sup>47</sup>

Anthony Pinching at St Mary’s Hospital, London threw in the notion that people in central Africa had a genetic predisposition to infection with HIV.<sup>48</sup> Later on Cambridge researcher Abraham Karpas drew attention to an obscure anthropological work in which the author claimed that it was a local custom near the shores of Lake Victoria for men and women to inoculate themselves in the loins with monkey blood as an aphrodisiac.<sup>49</sup> As late as 1991 Roy Anderson and Imperial College, London was still stating “The AIDS virus almost certainly evolved in Africa”.<sup>50</sup>

These theories had no basis in science. They were pieces of pure speculation from the ‘keepers of wisdom’. Pinching admitted in the *The Lancet* that his theory was based on erroneous data<sup>51</sup> and the above theories have been debunked by several epidemiological studies<sup>52 53</sup> but they did untold damage to Africa and its people.

Two books written by Africans that fit into Lauer’s definition of experts with “discredited perspectives” from “marginalised locations” have covered this territory well, tackling both scientific issues and the racist attitudes involved in the association of AIDS with Africa – *What is AIDS?* by Dr Felix Konotey-Ahulu<sup>54</sup> and *AIDS, Africa and Racism* by Richard and Rosalind Chirimuuta.<sup>55</sup>

## VIDEO INSERT 5 – RICHARD CHIRIMUUTA, AUTHOR

<sup>44</sup> *AIDS and Africa*, documentary transcript, p. 41, op.cit

<sup>45</sup> Lauer, H. 2016. *How Epistemic injustice in the global health arena undermines public health care delivery in Africa*. p6, op.cit

<sup>46</sup> Kevin de Cock, *British Medical Journal*, vol. 289, 1984, pp. 306-8.

<sup>47</sup> Robert Gallo, *Virus Hunting: AIDS, Cancer and the Human Retrovirus*, A New Republic Book, Basic Books (Harper Collins), 1991, pp. 226-8.

<sup>48</sup> L-J.Eales, J.M. Parkin and A.J. Pinching, *The Lancet*, vol. 1, 2 May 1987, pp. 999-1002.

<sup>49</sup> Jad Adams, *AIDS: the HIV Myth*, Macmillan, 1989, p. 179.

<sup>50</sup> R.M. Anderson and Robert May, ‘Understanding the AIDS Pandemic’, *Scientific American*, May 1992

<sup>51</sup> L-J.Eales, K. E. Nye and A.J. Pinching. *The Lancet*, vol. 1, 1988, p. 936.

<sup>52</sup> Alan Cantwell, *New African*, October 1994, and. G. Hunsmann, *British Medical Journal*, Vol. 293, 27 September 1986.

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<sup>54</sup> Dr Felix Konoty-Ahulu, *What is AIDS?*, Tetteh-A’Demeno Co., Watford, England 1989

<sup>55</sup> Richard and Rosalind Chirimuuta, *AIDS, Africa and Racism*, Free Association Books, London 1989.



“There were many, many examples but one example is that Africans gave their children dead monkeys to play with as toys and there was all this nonsense about how much more promiscuous Africans were than any other humans. I could go on and on. That Africans believe that the only cure for AIDS was to sleep with virgins and this is why AIDS was so widespread in Africa. Most of them were all based on racism or racist preconceptions of Africans. The allegations that Africans were more promiscuous than the rest of the human race were unfounded. They didn’t make any sense scientifically. In fact when they sent teams of researchers, sociologists and anthropologists to Africa, they were amazed that Africans were actually much more conservative in their sexual practices.”<sup>56</sup>

One expert from the West who raised his voice in protest about the terribly misguided theories concerning African sexual practices and AIDS is Charles Gesheker, Professor of African History at California State University, Chico. Gesheker has written extensively on the subject. In 1994 in *New African Magazine* he wrote:

Perpetuating the myth of an ‘African AIDS epidemic’ caused by sexual promiscuity deepens African dependency on infusions of Western aid for diagnostic tests, high-tech sterilisation equipment, medical personnel and drug therapies.<sup>57</sup>

At the Oakland, California meeting of dissident aids scientists and journalists in 2009, Gesheker said,

VIDEO clip – PROF CHARLES GESHEKTER, CALIFORNIA STATE UNIVERSITY, CHICO (00.17”)

*“The HIV/AIDS orthodoxy in Africa depends on a behaviour modification paradigm, or a promiscuity paradigm wedded to obsessions about poor black peoples’ sexual behaviour while down playing the political economy of poverty sickness and disease. Their statistical sophistry, data manipulation and voodoo maths enrage me.”*

The stigma attached to an HIV positive test result was devastating.

Lucy was an orphan living in the Kagera region of Tanzania. We met her through Philippe Krynen, director of a French charity called Partage. Lucy was one of Philippe’s trainees when she became ill with repeated infections and over lost twenty pounds in weight. She had tested HIV positive on an unconfirmed screening test and was living in a small hut in her village. Philippe and his wife Evelyne decided to support Lucy and help her regain her position in the community. They moved her out of her small hut and built a new house for her.

VIDEO clip – PHILIPPE KRYNEN – KAGERA, TANZANIA (00.39”)

*“And slowly four or five months later Lucy started to recover, to put on weight. Supplemented with vitamins, supplemented with food and with a better salary. And because she had put on weight again and she had been freed of skin diseases, her friends started to look at her differently. Not putting her on one side and not afraid of her. Because they started*

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<sup>56</sup> *AIDS and Africa*, documentary transcript, p 27, op.cit.

<sup>57</sup> Charles Gesheker, *New African*, October 1994

*to question if she really had AIDS or not. It's very seldom that you see people who have been stigmatised with AIDS, who are not dying a few months later.*"<sup>58</sup>

Lauer points to ". . . the complicity of African academics and government officials in protecting their affiliation with elite research cartels by perpetuating the suppression of independent African peer expertise."<sup>59</sup>

Perhaps one of the greatest injustices, caused by the said complicity, has been the suppression of the views of former President Thabo Mbeki in South Africa. He began to look into the dubious figures surrounding HIV and AIDS and the dubious claims made by pharmaceutical companies and global health organisations about the efficacy of anti-retroviral drugs. As Anita Allen, journalist and writer in Johannesburg said, "He walked the walk" and acquainted himself with the views of dissident scientists like Peter Duesberg, David Rasnick, Eleni Eleopulos and Valendar Turner.

Mbeki was concerned that the science behind the infectious hypothesis for AIDS could be mistaken and he was deeply concerned that unproven anti-retroviral drugs might be used in South Africa and cause harm to pregnant HIV positive women.

I was fortunate enough to be granted an interview with Thabo Mbeki in the year 2000. We then mounted a report for "Carte Blanche", M-Net South Africa's flagship current affairs programme and the programme was transmitted across Africa but no TV channel in the West would broadcast it. Mbeki was being accused in the press and media of withholding "life-saving" drugs from pregnant women.

Trials in South Africa with the antiviral drug Nevirapine were the subject of discussion at the time.

VIDEO clip – PRESIDENT THABO MBEKI - SOUTH AFRICA (01.02")

*"Well because lots of questions had been raised around the question of the toxicity of the drug - it was very serious. We have a responsibility as a government to determine matters of public health, and therefore we can take decisions - we have to take decisions that impact directly on human beings. And it seems to me that where doubts have been raised - questions have been raised around these toxicity questions - and the efficacy of these - AZT and other drugs, that it was necessary again to go into these matters, because it wouldn't sit easily on one's conscience to discover that you had been warned that there could be danger and nevertheless you went ahead and said, despite the danger, let's dispense these drugs."*<sup>60</sup>

Mbeki was treated appallingly. His critics included those working for the Medical Research Council in South Africa. One of the most virulent critics was the Guardian Newspaper's science correspondent Steve Connor. The London Guardian and its sister paper in Johannesburg were unrelenting in their vilification of Mbeki.

Mbeki describes the prevailing atmosphere thus:

VIDEO clip – PRESIDENT THABO MBEKI, SOUTH AFRICA (01.12")

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<sup>58</sup> *AIDS and Africa*, documentary transcript, pp. 33-34, op.cit.

<sup>59</sup> Lauer, H. 2016. *How Epistemic injustice in the global health arena undermines public health care delivery in Africa*, p. 12.

<sup>60</sup> "Search for Solutions – the Great AIDS Debate", *Carte Blanche*, M-Net South Africa, documentary transcript, <http://www.immunity.org.uk/wp-content/uploads/2013/06/SEARCH-FOR-SOLUTIONS-transcript.pdf>

*“I get the sense that, as I was saying earlier, that we’ve all of us been educated into one school of thought, and really I am not surprised at all that you would find, I’m quite sure an overwhelming majority of scientists in this field, in this culture, people would hold a particular point of view because that is all they were exposed to. This other point of view, which is, I think part of what is frightening, this alternative point of view, in a sense has been blacked out. It must not be heard, must not be seen. I mean that’s a demand now. Why is Thabo Mbeki talking to discredited scientists? Giving them legitimacy? It’s a very worrying thing that anybody can say today - in today’s world - that there is a point of view that is prohibited. That’s banned. That they’re heretics who must be burnt at the stake. And it’s all said in the name of science and health - it can’t be right.”<sup>61</sup>*

It is my view that Mbeki lost his presidency because he challenged the international collusion between global health organisations, the press, medical and scientific journals and politicians who supported the notion of an infectious AIDS pandemic based on flawed science. Then, when President Bill Clinton joined forces with the pharmaceutical industry and the Mandela Foundation to make available low-priced anti-retrovirals across Africa, Mbeki didn’t stand a chance. He was mocked and ridiculed, even accused of genocide and in the end persuaded to resign from the African National Council. The damage done by willful and self-interested groups operating under the guise of global expertise is immeasurable. Dr Christian Fiala, specialist in obstetrics and gynaecology from Vienna who worked in maternity clinic in Africa says,

VIDEO clip – DR CHRISTIAN FIALA, VIENNA, AUSTRIA (00.40”)

*“So this is just another proof that what has taken place in Africa is just relabelling of pre-existing old mostly preventable diseases which most of them are poverty related. So the real scandal in AIDS in Africa is that the West, instead of investing in overcoming poverty, investing to help people to lead better lives and get healthier – so instead of doing this very sensible approach – the West tries to sell toxic drugs and useless HIV tests.”*

In conclusion, the transgressions committed by *objectual* expertise, as Lauer describes it, that were demonstrated during the Ebola crisis in West Africa are the same negligent dismissals that were endured across Africa during the AIDS panic. Epistemic injustice causes plague terror. It can be argued that this plays nicely and into the hands of those whose agenda it is to control the growth of populations and of those who wish to increase the profits of pharmaceutical companies by attracting research funding in order to produce meaningless tests that require the administration of highly toxic medication.

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<sup>61</sup> “Search for Solutions – the Great AIDS Debate”, *Carte Blanche*, M-Net South Africa, documentary transcript, <http://www.immunity.org.uk/wp-content/uploads/2013/06/SEARCH-FOR-SOLUTIONS-transcript.pdf>

## References

1. Fricker, M. 1999. Epistemic oppression and epistemic privilege. *Canadian Journal of Philosophy* Supplement 25: 191-210.
2. Fricker, M. 2006. Powerlessness and social interpretation. *Episteme* 3(1-2): 96-108.
3. Fricker, M. 2007. *Epistemic injustice: power and the ethics of knowing*. London: Oxford University Press.
4. Fricker, M. 2013. Epistemic justice as a condition of political freedom. *Synthese* 190: 1317-1332.
5. Fricker, M. 2013. How is hermeneutical injustice related to ‘White ignorance’? *Social Epistemology Review and Reply Collective* 2(8): 49-53.
6. Fricker, M. 2015 (preprint ms). Epistemic injustice and the preservation of ignorance. In *The Epistemic Dimensions of Ignorance*. Eds. R. Peels and M. Blaauw. Cambridge: Cambridge University Press, (forthcoming November 2016).
7. Medina, J. 2012. Hermeneutic injustice and polyphonic contextualism: Social silences and shared hermeneutical responsibilities. *Social Epistemology* 26(2): 201-220.
8. Alcoff, M. 2010. Epistemic Identities. *Episteme* 7(2): 128-137.
9. Coady, D. 2010. Two Types of Epistemic Injustice. *Episteme* 7(2): 101-113.
10. Code, L. 2004. The Power of Ignorance. *Philosophical Papers*. July. 33(3): 291-308.
11. Dotson, K. 2011. Tracking epistemic violence, tracking practices of silencing. *Hypatia*. 26(2): 236-257.
12. Dotson, K. 2014. Conceptualising epistemic oppression. *Social Epistemology* 28(2): 1-24. doi: 10.1080/02691728.2013.782585.
13. Hawley, K. 2010. Knowing how and epistemic injustice. *Logos & Episteme* II(4): 507-514.
14. Hookway, C. 2010. Some varieties of epistemic injustice: Reflections on Fricker. *Episteme* 7: 151-163.
15. Maitra, I. 2010. The Nature of Epistemic Injustice. Critical Notice. *Philosophical Books*. October. 51(4): 195-211.
16. Mason, R. 2011. Two Kinds of Unknowing. *Hypatia* 26: 294-307.
17. Riley, Evan. 2016. Fricker’s testimonial injustice: A difficulty. Prepared for 2014 Annual Meeting of the Ohio Philosophical Association. Winter 2014. Unpublished manuscript. Accessed March 2, 2016 at <http://philosophy.kent.edu/OPA2/section/2014-annual-meeting-program>
18. Anderson, E. 1995. Knowledge, Human Interests, and Objectivity in Feminist Epistemology. *Philosophical Topics* 23(2): 27-58.
19. Anderson, E. 2006. The Epistemology of Democracy. *Episteme* 3(1-2): 239-261.
20. Anderson, E. 2010. *The Imperative of Integration*. Princeton, NJ: Princeton University Press.
21. Anderson, E. 2012. Epistemic justice as a virtue of social institutions. *Social Epistemology* 26(2): 163-173.
22. The Netherlands Code of Conduct for Good Scientific Practice. 2012. Association of Universities of the Netherlands. Accessed June 10, 2016 at

[http://www.vsnu.nl/files/documenten/Domeinen/Onderzoek/The\\_Netherlands\\_Code\\_of\\_Conduct\\_for\\_Scientific\\_Practice\\_2012.pdf](http://www.vsnu.nl/files/documenten/Domeinen/Onderzoek/The_Netherlands_Code_of_Conduct_for_Scientific_Practice_2012.pdf)

23. World Health Organisation. 2004. Report of the WHO Expert Consultation on Outbreak Communications held in Singapore, 21–23 September. Accessed June 15, 2016 at [http://www.who.int/csr/resources/publications/WHO\\_CDS\\_2005\\_32web.pdf](http://www.who.int/csr/resources/publications/WHO_CDS_2005_32web.pdf)
24. Friedman, M. 2000. Educating for World Citizenship. *Ethics* 110(3): 586-601.
25. Bernish, C. 2016. Zika outbreak epicentre in same area where GM mosquitos were released in 2015. Updated February 4. The Antimedia website. Accessed May 15 at <http://theantimedia.org/zika-outbreak-epicenter-in-same-area-where-gm-mosquitoes-were-released-in-2015/>
26. Akosa, A.B. 2013. Thinking forward, moving forward: planning the future of Ghana’s health care delivery. In *HIVM 612: Ethical Issues in HIV and AIDS Management, Course Reader*, ed. H. Lauer, 365-407. Accra: University of Ghana.
27. Rull, M., I. Kickbusch and H. Lauer. 2016. Policy Debate | International Responses to Global Epidemics: Ebola and Beyond. *International Development Policy | Revue internationale de politique de développement* [Online] Accessed June 15 at <http://poldev.revues.org/2178>; DOI: 10.4000/poldev.2178
28. World Bank. 2014. *The Economic Impact of the 2014 Ebola Epidemic: Short- and Medium-Term Estimates for West Africa*. Washington DC: World Bank. doi: 10.1596/978-1-4648-0438-0. Creative Commons Attribution CC BY 3. IGO.
29. Velasquez, G. 2014. The right to health and medicines: the case of recent multilateral negotiations on public health, innovation and intellectual property. *Developing world bioethics* 14(2): 67-74.
30. Ayer, A.J. 1959. Editor’s Introduction. *Logical Positivism*. NY: Free Press, 3-28.
31. Neurath, O. 1973 (1931). Empirical sociology. In *Empiricism and Sociology* (Eds.) M. Neurath and R.S. Cohen, Dordrecht: Reidel.
32. Gelfert, A. 2013. Coverage reliability, epistemic dependence and the problem of rumour-based belief. *Philosophia* 41: 763-786
33. Kitcher, P. 1993. *The Advancement of Science*. Oxford: Oxford University Press.
34. Kitcher, P. 2008. Science, religion, and democracy. *Episteme* 5(1): 5-18.
35. Kitcher, P. 2011 (draft) How ignorant? Let me count the ways. Agnotology Conference, University of Bielefeld. May 31.
36. Lehrer, K. 1977. Social information. *The Monist* 60(4): 473-487.
37. Levy, N. 2007. Radically socialized knowledge and conspiracy. *Episteme* 4(2) 181-192.
38. Navin, M. 2013. Competing epistemic spaces: how social epistemology helps explain and evaluate vaccine denialism. *Social Theory and Practice* 39(2): 241-264.
39. Resnik, D.B. 2008. Scientific autonomy and public oversight. *Episteme* 5(2): 220-238.
40. Elliott, C. 2010. *White Coat Black Hat: Adventures on the dark side of medicine*. Boston: Beacon Press.
41. Gøtzsche, P. 2013. *Deadly medicines and organized crime: How big pharma has corrupted healthcare*. London: Radcliffe.

42. Healy, D. 2012. *Pharmageddon*. Berkeley: University of California Press.
43. Duesberg, P. 1988. HIV is not the Cause of AIDS. *Science* 241 (4865) July 29: 514-517.
44. Duesberg, P.H., D. Mandrioli, A. McCormack, J.M. Nicholson, D. Rasnick, C. Fiala, C. Koehnlein, H.H. Bauer, and M. Ruggiero. 2011. AIDS since 1984: No evidence for a new, potentially lethal epidemic – not even in Africa. *Italian Journal of Anatomy and Embryology* 116(1): 181-200.
45. Evans, A.S. 1978. Causation and disease: a chronological journey. The Thomas Parran Lecture. *American Journal of Epidemiology* 108(4) October: 249–258.
46. Bauer, H.H. 2012. *Dogmatism in Science and Medicine*. London: MacFarland.
47. Rolin, K. 2006. The bias paradox in feminist standpoint epistemology. *Episteme* 3(1-2): 125-136.
48. Sen, A. 2009. *The Idea of Justice*. London: Penguin.
49. Addae-Mensah, I. 2012. The protection of African intellectual property and plant biodiversity. In *Reclaiming the Human Sciences and Humanities through African Perspectives*. (Eds.) H. Lauer and K. Anyidoho. Accra: Sub Saharan Press, 152-163.
50. Nagel, E. 1953. The logic of historical analysis. In *Readings in the Philosophy of Science* (Eds.) H. Feigl and M. Brodbeck. NY: Appleton-Century-Crofts, 688-700.
51. Lang, S. 1998. *Challenges*. New York: Springer.
52. Lauer, H. 2006. Cashing in on shame: how the popular ‘tradition vs. modernity’ dualism contributes to the ‘HIV/AIDS crisis’ in Africa,” *Review of Radical Political Economics* 38(1): 90-138.
53. Shenton, J. 2015. *Positively False: Exposing the Myths about HIV and AIDS*. London: I.B. Tauris.
54. Crowe, D. n.d. manuscript. SARS–Severe Acute Respiratory Syndrome or Steroid And Ribavirin Scandal? *The Virus Myth* Chapter Four (forthcoming).
55. Bowater, D. 2016. Zika virus: Brazil dismisses link between larvicide and microcephaly. *UK Daily Telegraph*, Accessed June 19 at <http://www.telegraph.co.uk/news/worldnews/zika/12157747/Zika-virus-Brazil-dismisses-link-between-larvicide-and-microcephaly.html>
56. Wolfram, S. 1989. *Philosophical Logic: An introduction*. London: Routledge.
57. Medina, J. 2011. The relevance of credibility excess in a proportional view of epistemic injustice: Differential authority and the social imaginary. *Social Epistemology*. 25(1): 15-35.
58. Hardwig, J. 1985. Social Information. *Journal of Philosophy* 82(7): 335-349.
59. Almassi, B. 2007. Experts, evidence and epistemic independence. *Spontaneous Generations* 1(1): 58-66.
60. Gelfert, A. 2014. *A critical introduction to testimony*. London: Bloomsbury Academic.
61. Grasswick, H.E. 2010. Scientific and lay communities: Earning epistemic trust through knowledge sharing. *Synthese* 177: 387-409.
62. Brogaard, B. 2016 (pre-pub ms.) Ignorance and incompetence: linguistic considerations. In *The Epistemic Dimensions of Ignorance*. Cambridge: Cambridge University Press, forthcoming. Accessed April 27 at:

<https://docs.google.com/document/d/1RINX2tl2yqbWgYbGVfaG-GyNMFv00serGoJhOdbj9FFc/edit>

63. Johnson, E.D. et al. 1977. Isolation and partial characterization of a new virus causing acute haemorrhagic fever in Zaire. *The Lancet* March 12: 569-571.
64. Johnson, E.D., J.P. Gonzalez, and A. Georges. 1993. Haemorrhagic fever virus activity in equatorial Africa: distribution and prevalence of filovirus reactive antibody in the Central African Republic. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 87: 530-535.
65. Bowen, E.T.W., G.Lloyd, W.J. Harris, G.S. Platt, A. Baskerville, E.E. Vella. Viral haemorrhagic fever in Southern Sudan and Northern Zaire. *The Lancet*. March 12: 571-572.
66. Le Guenno, P.F. et al. 1995. Isolation and partial characterization of a new strain of Ebola virus. *The Lancet* 345. May 20: 1271-1274.
67. Pattyn, S., G. Van Der Groen, W.Jacob, P. Piot, G. Courteille. 1977. Isolation and partial characterisation of a new virus causing acute hemorrhagic fever in Zaire. *The Lancet*. March 12: 573-574.
68. Schieffelin, J.S., J.G. Shaffer, A. Goba, et al. 2014. Clinical Illness and Outcomes in Patients with Ebola in Sierra Leone. *The New England Journal of Medicine*. October 29. DOI: 10.1056/NEJMoa1411680.
69. Becquart, P., N. Wauquier, T. Mahlakolov, et al. 2010. High prevalence of both humoral and cellular immunity to Zaire ebolavirus among rural populations in Gabon. *PLoS ONE*. February 9. DOI: 10.1371/journal.pone.0009126.
70. Friedman, M. 2000. Educating for World Citizenship. *Ethics* 110(3): 586-601.
71. World Health Organization. 2014. *World Health Statistics 2014* NLM WA 900.1. [http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/112738/1/9789240692671_eng.pdf).
72. UNICEF. 2000. *Situation Analysis of Children and Women in Ghana*. Accra: Government of Ghana and United Nations Children's Fund.
73. Boseley, S. 2015. *The Guardian UK*. Health editorial. June 24. <http://www.theguardian.com/society/2015/jun/24/thousands-of-guinea-malaria-cases-go-untreated-amid-ebola-fears>.
74. Addae, S. 1996. *Evolution of Modern Medicine in a Developing Country Ghana 1880-1960*. Edinburgh: Durham.
75. World Health Organization. 2014. Urgently needed: rapid, sensitive, safe & simple Ebola diagnostic tests. Joint WHO/FIND meeting on Diagnostics and Ebola Control Geneva, Switzerland 12 December. [http://www.who.int/medicines/ebola-treatment/meetings/2015-0123\\_EbolaDxMtg\\_reportDec2014\\_Final.pdf](http://www.who.int/medicines/ebola-treatment/meetings/2015-0123_EbolaDxMtg_reportDec2014_Final.pdf)
76. Quershi, H., G. Meritxell, L. Fritts, M.B. McChesney, M. Robert-Guroff and C.J. Miller. 2014. Infection with host-range mutant adenovirus 5 suppresses innate immunity and induces systemic CD4+ T cell activation in Rhesus Macaques. *PLoS ONE* 9(9): e106004. doi:10.1371/journal.pone. 0106004.
77. Thaci, B., I.V. Ulasov, E.A. Wainwright, M.S. Lesniak. 2011. The challenge for gene therapy: innate immune response to adenoviruses. *Oncotarget* 2(3): 113-121.

78. Ghana Academy of Arts and Sciences. 2015. Press statement: On Proposed Phase II Clinical Trial of a Vaccine for Ebola Virus Disease in Ghana. Issued by the Honorary Secretary, GAAS, #1 CSIR Close, Liberation Link, Accra. June 12<sup>th</sup>.
79. Shah, A. 2000. Pharmaceutical corporations and medical research. May 12. Accessed March 2015 at <http://www.globalissues.org/article/52/pharmaceutical-corporations-and-medical-research>
80. Elbe, S. 2010. *Security and Global Health: toward the medicalization of insecurity*. Cambridge: Polity Press.
81. Elbe, S. 2012. Bodies as battlefields: the medicalization of insecurity. *International Political Sociology* 6(3): 320-322.