# Is there Evidence of Viewpoint Discrimination Against Academic Research from the Global South? Implications for Global Justice, Institutionalized Racism, and Global Inequalities in Healthcare


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**Abstract**

It has been suggested that the ultimate function of academic research is not simply publication in arcane journals, but to assist in rebuilding our social realities. Therefore, free access to information is could be considered a basic human right in the current information age. Mutual exchange of scientific knowledge between developed and developing countries maybe essential for reducing global health inequalities and improving human development index (HDI). For instance, free exchange of biomedical research information could be of enormous benefit in bridging the 10/90 gap, whereby 90% of global research funding is directed towards finding cures for diseases affecting 10% of human populations. However, recent scientometric analysis of worldwide publications revealed that researchers from developing countries produced approximately 10% of global academic publications, while those from Europe, North America, and China, produce over 80% of scientific publications. This skewed publication data maybe attributed not only to resource constraints in developing countries, but other factors like institutionalized racism, bias against diseases of poverty, Mathew effect, and poor representation of developing country researchers in editorial/advisory boards of high impact international scientific journals. This paper interrogates the evidence for such discriminatory practices, from the perspectives of viewpoint discrimination, global justice, and human rights. Minimizing such putative limitations on free speech may require improved diversity of journal editorial/advisory boards, better acknowledgment of joint technology innovations, and other affirmative actions, thereby assisting in closing the information gap, curtail global health inequities, and improve overall global human development index.

**Keywords:** Africa, bibliographic negligence, citation amnesia, developing countries, discrimination, free speech, global south, human development index, implicit bias, Mathew effect, systemic and institutionalized racism, viewpoint discrimination.

## Introduction

It has been argued that information is the fuel of the academy (Doherty 2007). That the 'knowledge society', which emerged at the end of the 20th century, has become the new catchphrase in political, economic circles, and scientific research, which has now influenced almost every aspect of modern social life (Benatar and Vaughan, 2008). According to a UNESCO (2007) report, science and technology are critical to Africa's economic prosperity, including matters such as food security, disease control, access to clean water, and environmental sustainability (Adams et al., 2010). However, recent scientometric evidence suggest that the gap in scientific publications between lower and middle-income countries (LMICs) and high-income developed countries (HDCs) continues to widen (Paraje et al., 2005; Pouris and Pouris, 2009; Xie et al., 2014). While reasons for this paucity of research publications from LMICS are complex and not easily explained, the decreasing proportion of scientific knowledge and innovations from LMICs, especially from Sub-Saharan African countries (SSA), are obvious, by contrast to gains by more developed countries (Tijssen, 2007; Pouris and Pouris, 2009; Xie et al., 2014). Further, it is estimated that advances in scientific knowledge, may lead to increases of up to a third in the gross domestic product (GDP) of any country (May, 1997; Vaughan, 2008). Such observable differences underlie ongoing calls, to improve research capacities and collaboration between countries in the global north and south, intensify equitable resarch partnerships, increase public funding for research including innovative strategies, to address national and regional health priorities (Smith, 2002; Volmink and Dare, 2005; Chima, 2006; Salager-Meyer, 2008). In addition to other efforts to increase visibility of research generated by LMICs (Paraje et al., 2005; Pouris and Pouris 2009; UNESCO, 2007).

Further, it has been argued that access to science, and equitable share of its benefits, maybe considered a universal human right, similar to rights to safe clean drinking water, justice, or

even life (Piotrowski, 2012). Such statutory rights to science and scientific information are accorded by international instruments such as the (International Covenant on Economic, Social and Cultural Rights [ICESCR] 1966; Piotrowski, 2012; Mann et al., 2018). Whereby, it is stated in Article (15)1(b) of the ICESCR (1966) that, “everyone has the right to enjoy the benefits of scientific progress and its applications”. Therefore, the need for universal access to scientific information, and rights to it, are important concepts, especially when coupled with the need for balanced global human development, in such areas as agriculture, healthcare, and telecommunications (Piotrowski, 2012; Mann et al. 2018). Accordingly:

> [T]he existence of this right is important for researchers and society. [Because] it adds a legal and moral dimension to a range of fundamental issues, including scientific freedom, funding, and policy, as well as access to data, materials and knowledge (Mann et al., 2018: 10820).

The term ‘global south’ has been used to differentiate and refer to countries and communities that have been excluded from the mainstream of economic, social and communication development. In terms of global geopolitics, these countries may be regarded as recipients of economic and technical largesse from more developed countries (Tomaselli, 2015). The terminology ‘global south’ generally encompasses most countries in Africa, Latin America, the Caribbean, and many Asian countries excluding Japan, China, Singapore, and South Korea (Xie et al., 2014; Samazan, 2019). According to statistical projections, by the end of this century, a third of the world's population will be Africans (United Nations Department of Economic and Social Affairs [DESA] 2015; World Population History, 2019). Therefore, science and technological innovations, including access to scientific information, are critical for Africa’s development, and the rest of the world. According to one commentator, "Africa's development has been lagging behind the rest of the world because of, among other things, inadequate science and technology, including research and development" (Tatalovic, 2012).

Others have suggested that "the situation has been worsened by the lure of talented African scientists to better, and more lucrative positions and institutions overseas" (Tatalovic, 2012), through emigration and brain drain caused by various push and pull factors (Yusekdog, 2019; Calto, 2012; Kok et al., 2006; Tiemoko, 2004; Black et al., 2003). It has been suggested that the problem for Africa as a whole, as previously seen in China and India, maybe due to a "hemorrhage of talent" (Adams et al., 2010). Because many of the best students from African and other developing countries tend to obtain their higher degrees at the best universities in Europe, Asia and North America (Calto, 2012). Unfortunately, fewer return to their countries of origin. Thus, while the African diaspora provides a powerful intellectual input to research achievements elsewhere, they return fewer benefits to African countries. This maybe partly due to the chronic lack of investment in facilities for research and teaching in their home countries, a deficit, which ought to be remedied (Adams et al., 2010; Calto, 2012; Yusekdog, 2019).

Recent scientometric analysis of worldwide scientific publications (2000-2004), appear to confirm these observations, revealing that African researchers produced only 1.8% of global scholarly publications, while India and Latin America generated 2.4% and 3.5% respectively. By contrast, researchers from the European Union and USA produced 38.8% and 33.6% of global scientific publications respectively (MacGregor, 2008; Pouris and Pouris, 2009). Another 10-year study from 1992-2001, on worldwide health-related journal article publications relating showed that North American researchers (USA & Canada), produced about 41% of global publications. In addition, European and Scandinavian countries produced about (27%), Asia-Japan, China, and Korea (10%), Australia (2%), India (1.16%), Brazil (0.73%); while the rest of the world including African countries generated on 9.32% of publications (Paraje et al., 2005). More recent data have indicated a gradual global shift and increase in numbers of science technology, and engineering (STEM) publications from

previously disadvantaged countries especially China (Calto, 2012; Xie et al., 2014; Samazan, 2019), as shown in Figure 1. Further, there has been an apparent increase in publications from previously disadvantaged countries such as Brazil, India, and Turkey, (CNRS 2018; Grosetti et al., 2013; Adams, et al., 2010), as shown in Figure 2. Nevertheless, while some scientometric data appear to suggest an increase in the number of scientific publications originating from some African countries such as South Africa, Nigeria, and others (Uthman and Uthman, 2007; Pouris and Pouris 2009), as illustrated in Figures 3 and 4. This marginal increase, which is ascribed to local policy initiatives (Jacobs, 2001; Alabi, 1989; Jacobs and Ingwersen, 2000), does not appear to fully reflect, the low rate of academic research publications from SSA and other LMICs (Adams, et al., 2010, Paraje et al., 2005). Furthermore, it has been suggested, that a recent 30-years spurt in research publications from Brazil, may have occurred at the expense of quality, and without having any real impact on improving the socio-economic needs of the country (Helene and Ribeiro, 2011, Sciedev.net, 2011). Prompting one critic to observe that "the ultimate purpose of research at a university is not publish in esoteric journals, but to rebuild our social reality" (Kugler, 2011).

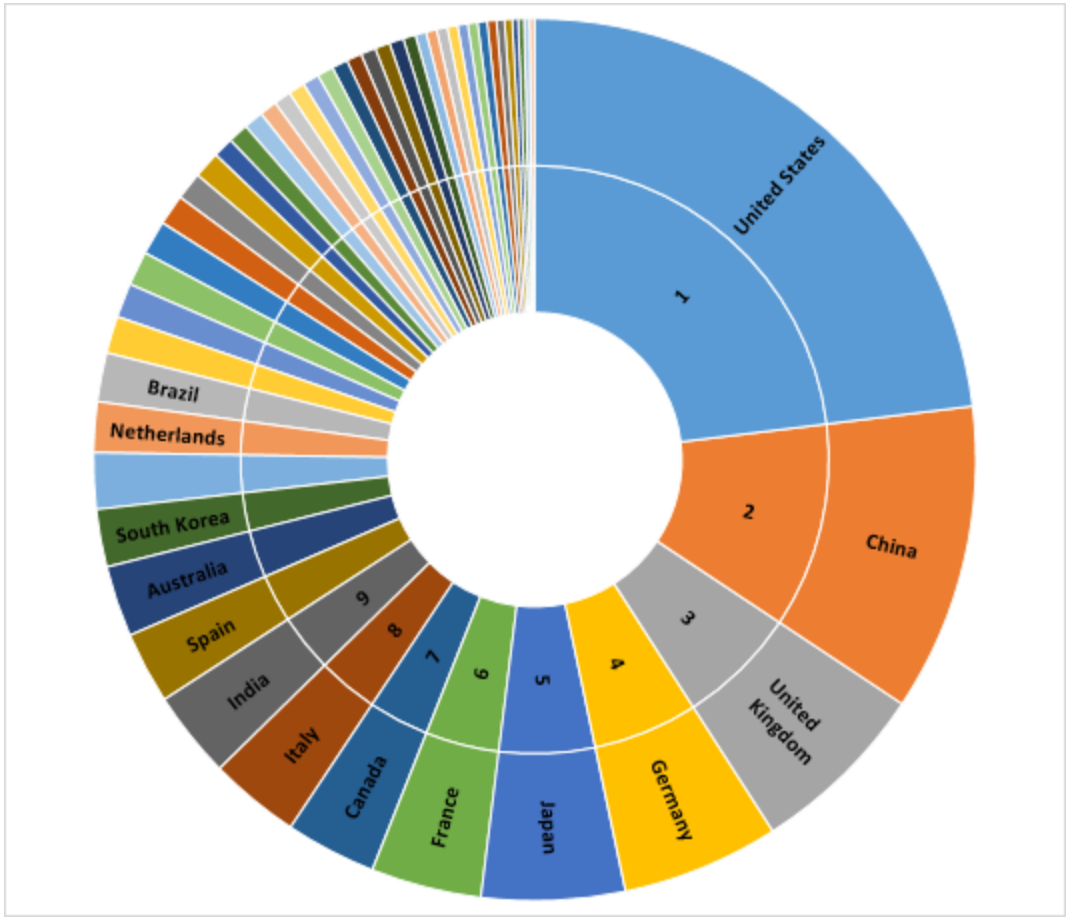


**Figure 1:** Global publication data-all subject areas-1996-2018 (Adapted from Scimago, 2019 https://www.scimagojr.com/countryrank.php)

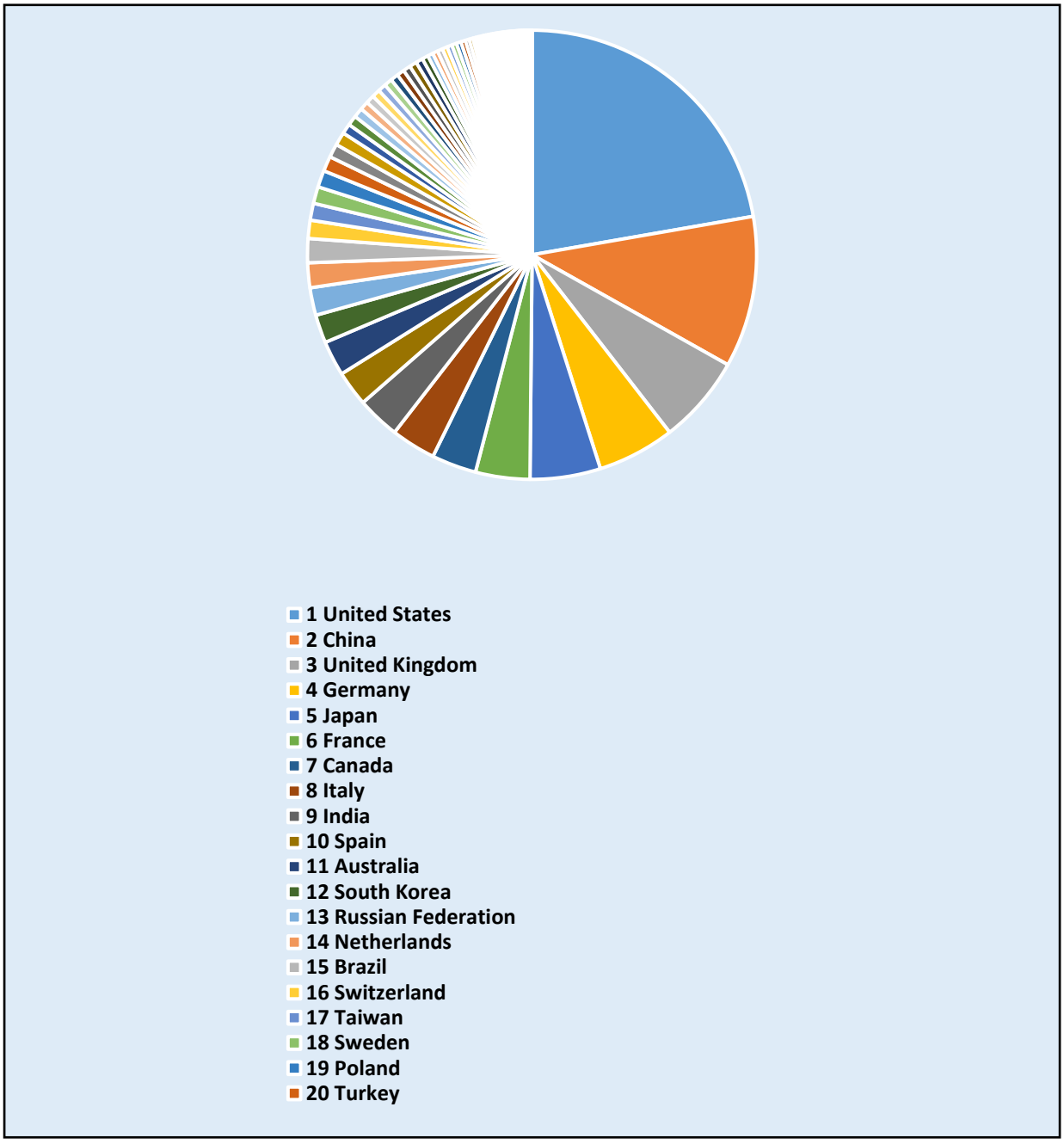


**Figure 2:** Global publication data, Top 20 Countries-All subject areas 1996-2018 (Scimago, 2019)

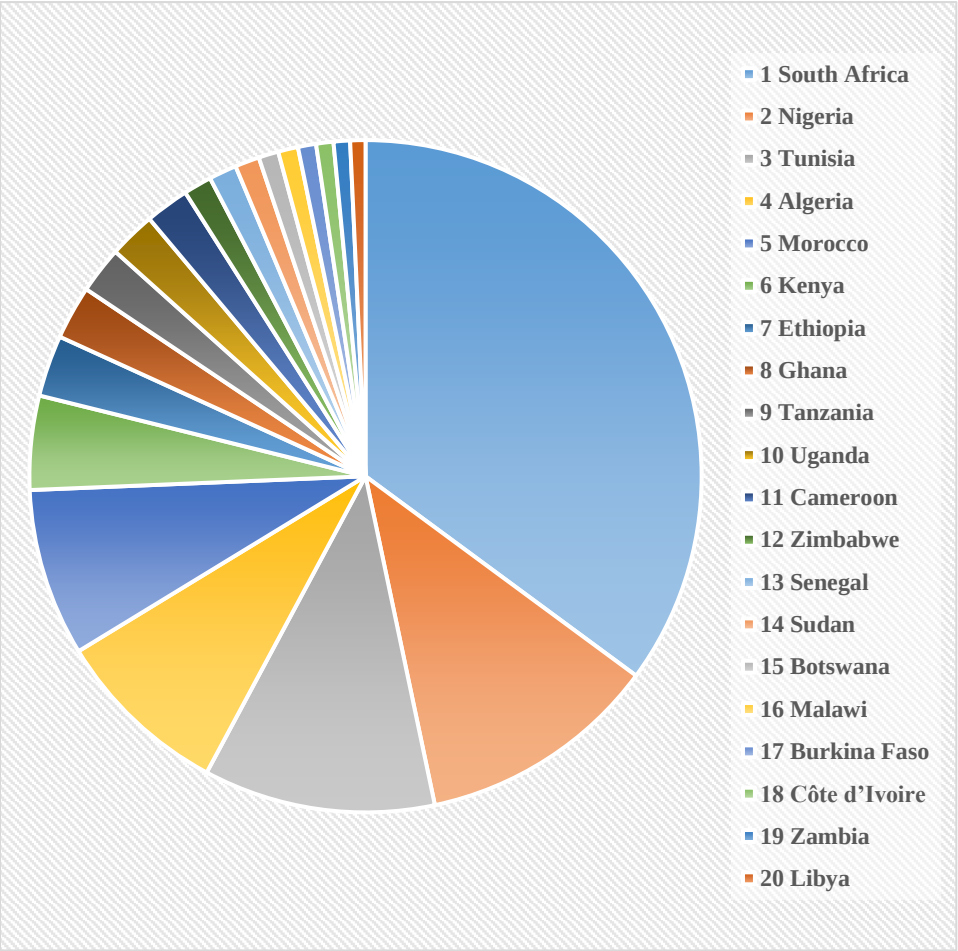


**Figure 3:** Top 20 publishing African Countries, all subject areas, 1996-2018 (Scimago, 2019)

***Note:*** The Scimago database used for analysis (2019), includes Egypt in the Middle East region. Hence, publications from Egypt are excluded from figures generated for Africa in this article.

## The paradox of viewpoint discrimination and global publication ethics

The poor volume of scientific publications emanating from countries of the 'global south', has been attributed not only to infrastructural/resource constraints in these countries, but also to factors such as systemic and institutionalized racism, bibliographic negligence, citation amnesia, and 'Mathew effect' (Merton, 1968; Horton, 2000; Gwer and others v KEMRI, 2013), in addition to apparent bias against diseases of poverty (Obuaya, 2002; Horton, 2003; Ridley, et al., 2006). Other forms of implicit bias have been alleged against leading international journals published in developed countries, against biomedical research

generated by authors from developing countries (Horton, 2000; Smith, 2002). Some commentators have suggested that there may also be a lack of transformation, in the local/regional nexus of South African publishing, due to privilege and other transformational challenges (Sithole, 2009; Le Roux, 2015). One critic of this lack of transformation in African and global publishing enterprise, has suggested that far from maintaining equality between the reviewer and reviewed, the current peer-review process in academic publishing, is dominated by scholars allied to Western models of knowledge production, who use their gateway or gatekeeper positions, to marginalise and discourage African schools of thought (Sithole, 2009). Some Western and African journal editors, when confronted regarding these observations or criticisms, appear to take exception to the term 'racism' as a cause of the alleged imbalance. Ascribing it instead to elitism, insularity, and regionalism (Gibbs, 1995; Horton, 2003; Pouris and Pouris, 2009), or lack of experience with the culture of rejection in academic publishing (Tomaselli, 2015). Some examples of discriminatory practices in scholarly publishing include lack of representation of scientists/researchers from developing countries on editorial/advisory boards of leading biomedical journals. For example, it was reported that only 5.1% of the editorial/advisory board members from 12 leading journals on tropical diseases were actually from countries with low HDI, while the majority (70.8%), were from countries with high HDI (Keiser, 2004). There has also been evidence of bias against publication of research about diseases of poverty as reported by Gibbs (1995), Obuaya (2002), and Horton (2003). The overall impact of such actions maybe the development of *'viewpoint discrimination'* against knowledge generated in African and other LMICs, which ultimately impacts on scientific wealth generated in the 'global south' (May, 1997; Paraje, et al., 2005; Vaughan, 2008). This may also contribute to the persistently low HDI in many LMICs, and their inability to achieve the UN millennium and sustainable development goals (United Nations, 2015a, 2015b).

**So, what exactly is viewpoint discrimination?**

Any regulation that commits' viewpoint discrimination' maybe described as one that "attacks a particular individual's or group's message, as opposed to the mode in which that message is conveyed" (Browne, 2012; Chima, et al., 2013). Prima facie, such regulations are considered unconstitutional and exemplify egregious forms of speech and content discrimination (Browne, 2012; Chima et al. 2013), based on the rights enshrined within the first amendment to the Constitution of the United States of America (U.S. Const. Am. 1). The first amendment prohibits the making of any law, which abridges freedom of speech, or infringes on freedom of the press, amongst other prohibited actions (U.S. Const. Am. 1). Thus, this amendment protects freedom of speech and provides the legal basis for barring laws based on viewpoint discrimination. In its ordinary application, neither a US state, nor federal government, may pass laws that effectively "silences" one side in a political or social debate. The US Supreme Court has frequently declared that the very core of the first amendment is that the government cannot regulate speech based on its content. For example, in the case of *Police Department of Chicago v Mosley* (1972), the Court held that, "above all else, the first amendment means that government has no power to restrict expression because of its message, its ideas, its subject matter, or its content" (Chemerinsky, 1999). Therefore, viewpoint discrimination occurs when a law specifically shows prejudice toward a particular point of view. Courts in the United States have consistently held such laws to be unconstitutional. Originally, this amendment applied only to laws enacted by the United States Congress. However, starting with the case of *Gitlow v New York* (1919), the US Supreme Court extended its application to include state and local governments. However, overtime, the Court has recognized a series of exceptions to provisions protecting the freedom of speech. For example, speech that involves incitement, false statements of fact, obscenity, child pornography, offensive speech, threats, and speech owned by others, are all exempt from first amendment protections. Commercial

advertising also receives diminished protection. These exceptions make the right to freedom of speech a limited one (Camp, 2005). Nevertheless, because of controversies surrounding acceptable exceptions to free speech, viewpoint discrimination related cases have represented a significant area of United States constitutional law since the 18th century (Fee, 2005).

**Some notable American case law on viewpoint discrimination**

Noteworthy examples of viewpoint discrimination in American jurisprudence include the case of *Rosenberger v University of Virginia* (1995). This typical viewpoint discrimination case, brought against an academic institution, involved both protection of the freedom of speech, and freedom of religious expression. In this case, Rosenberger and others sought reimbursement for publishing costs related to a religious literary journal just like any other student organization at the university. However, their institution, the University of Virginia refused this request, citing an institutional policy, which prohibited supporting religious or political organizations, since such support might hurt its tax-exempt status. The US Supreme Court, ruled against the university, arguing that to remain viewpoint neutral, the institution must provide equal access to general student body funds to all groups, whether social, religious, or otherwise, so they would have an equal opportunity to express their viewpoints. The Court held, in a 5-to-4 split decision, that the university's denial of funding to Rosenberger and his club, due to the content of their message, imposed a financial burden on their speech, which amounted to a form of 'viewpoint discrimination'. The Court also noted that no matter how scarce university publication funds might be, if the institution chose to promote speech at all, it must promote all forms of speech, equally. Furthermore, because the institution promoted past publications regardless of their religious content, the Court found the University's publication policy to be neutral toward religion and, therefore, not in violation of the first amendment clause (Rosenberger *v* University of Virginia, 1995).

Similarly, in *Lamb's Chapel v Center Moriches Union Free School District* (1993), a church wanted to show "family education" films in a school after school hours, whereas a few other non-profit organizations had already provided "educational film" sessions at the school. However, the school district refused this request, arguing that the films were too "church-related." Again, the United States Supreme Court, in unanimous decision, ruled against the school district, holding that allowing some "educational/family films" with a particular viewpoint from one organization, but not for another organization because it had a "religious" point of view, amounted to viewpoint discrimination. While non-public schools are permitted under New York state law to restrict access to their premises based on subject matter, or speaker identity, such restrictions must be reasonable and 'viewpoint neutral'. Where being viewpoint neutral means that the government cannot regulate speech based on the ideology of the message (Sabrin, 1993; Chemerinsky, 1999). In this case, the Court argued that the district's restrictions were neither reasonable nor viewpoint neutral, since it allowed the presentation of other views about family values and child rearing - except those which were presented from a religious viewpoint. Furthermore, a grant of permission to Lamb's Chapel to use the district's premises would not have amounted to an establishment of religion. Because showing of the proposed films would be neither school-sponsored, during school hours, nor closed to the public (Lamb's Chapel *v* Center Moriches Union Free, 1993). Based on the above landmark and similar judgments, American legal scholars tend to advocate that where any abrogation of free speech is unavoidable, it must generally remain 'viewpoint neutral' (Post, 2008). The practical effects of viewpoint discrimination on the general dissemination of information include the problem that promotion of a particular point of view at the expense of others, may create an active force of public persuasion. In other words, by picking one side of an argument or viewpoint, and prohibiting expression of any other, those in power generally increase the chance that undecided citizens will adopt the preferred

viewpoint, and this may influence public opinion and policy. Putting it another way, when established thinking on a particular issue, is presented favorably to the public, and then left to hang in the air unchallenged. People might just assume that proposition true, because no critical or opposing viewpoints are allowed. Moreover, it has been suggested that when a point of view bears the official imprimatur of those in power, some may take that fact in itself as proof of the idea's legitimacy (Walker, 2000; New York Times, 2020). As opined in another notable American court case, "It is not merely the sporadic abuse of power by the censor but the pervasive threat inherent in its very existence that constitutes the danger to freedom of discussion" (Thornhill *v* Alabama, 1940). Finally, it has been argued that, "Nothing is more inconsistent with freedom of speech than for the government to use its awesome power to advance some views and suppress or disfavor others" (Chemerinsky, 1999).

**The concept of global justice**

Global justice is a relatively recent area of focus in political philosophy arising from concerns that unfairness in the distribution of goods and services negatively impacts on vulnerable individuals in society. Therefore, global justice today refers to a need to recognize that decisions taken in individual national or international jurisdictions, may span out of their local, national, or regional boundaries, and are oftentimes guided by outside influences; yet, at the same time they raise challenges that are both global and local. Fallouts from the ongoing global Covid-19 pandemic provide a recent example of the importance of global justice and how it impacts on global inequalities in healthcare (Fisher and Bubola 2020; Euro Healthnet, 2020; Chima, 2014; Chima, 2020). Scholars and proponents of global justice, seek to answer such questions by recommending solutions that reflect common values as well as being guided by different dynamics (Brock, 2017; Pogge, 1994). Thus, global justice maybe described as both an aspiration and a concept, which has a number of key legal elements

within. As an aspirational concept, it depicts a society in which political deficits and economic gaps are universal, therefore greater fairness, equality of opportunity, and stronger checks on power, whether political or economic are encouraged or envisaged (Andreangeli, 2013). The concept of global justice arose from alternative evaluations of the global economic and social order through new lenses which:

> [F]ocuses attention on how today's massive incidence of [structural] violence, and severe poverty, and the huge excesses of mortality and morbidity they cause, might be avoided not merely through better government behavior, domestically and internationally, but also, and much more effectively, through global institutional reforms that would, among other things, elevate such government behaviour by modifying the options governments have and the incentives they face (Pogge, 2011; Andreangeli, 2013; Chima, et al., 2013).

These new re-examinations of relationships between peoples as postulated by Rawls in *Law of Peoples* (1999), tend to show according to Pogge (2008), that the global institutional order is unfair because it enriches elites in both rich and poor countries and perpetuates the oppression and impoverishment of the vulnerable and less affluent majority. According to Rawls (1999), there is a 'duty to assist other peoples living under unfavourable conditions that prevent them having a just or decent political or social regime' (Rawls, 1999:37). Consequently, a number of issues that sustain poverty or exacerbate people's vulnerability to disease because of poverty ought to be of ethical concern to society in general (Benatar and Brock, 2011). Based on this view, many of the health inequalities that exist globally are ones that ought to be of concern since they satisfy such criteria, including the current system of intellectual property rights (Brock, 2017). Therefore, how to allocate responsibilities for improving such situations should be one of the areas of concern for global justice (Ng and Ruger 2014; Pogge, 2008; Brock, 2017). Thus, global justice theorists do not primarily seek to define justice between states or nations. Rather, they try to drill down through state barriers

or protections and inquire about what justice among human beings ought to be. Therefore, global justice inquiries take individual human beings to be of primary concern and seek to give an account of what fairness among such agents involve. In such ways, a problem becomes a global justice problem when "institutions, practices, policies, and activities in one or more states could bring about a benefit or reduction in harm to those residents in another state" (Brock, 2017). Hence, a problem is one of global justice when either the problems affect individual residents in more than one state, or where such problems cannot be resolved without their participation and co-operation. For such problems to be considered genuinely global rather than regional, they should therefore affect more than one region or part of the world (Brock, 2017).

**Global ethics, human rights and global health**

It has been suggested that since the advent of globalization, global ethics in healthcare has received theoretical attention through their introduction and emphasis in documents such as the Universal Declaration on Bioethics and Human Rights (UNESCO, 2005), and the (ICESR, 1966). The latter asserts in Art.12, that human beings have the right to the "highest attainable standard of health" (United Nations Economic and Social Council, 2000), as well as the right to "a standard of living adequate for-health and well-being" (Universal Declaration of Human Rights [UDHR] 1948). It has been argued that:

> [H]human rights perspective has several advantages as an approach to global health. Theoretically, a rights-based approach imposes obligations on states rather than requesting discretionary charity from individuals and states. Depending on how human rights are defined, the rights approach can go beyond health care to cover all determinants of health (Ng and Ruger, 2014:1359).

Furthermore, it has been suggested that despite any shortcomings, human rights as the "lingua franca of the international community", is a salient perspective for thinking about

global justice and health (Baker, 2001: 250; Ng and Ruger, 2014). One can therefore conclude this brief analysis regarding the concept of global justice and global health ethics by paraphrasing Ng and Ruger (2014), who suggested that:

> [B]ecause global health has typically dealt with populations that are vulnerable as a result of poverty, lack of education, lack of social status, lack of political control, and so on, a main concern in global health ethics is the power disparity between rich, developed world actors and the people of developing countries, from which arises the need to ensure that the latter are not harmed or exploited by the former. The disparity between rich and poor becomes highly visible in the context of health resources availability and access, and it is in evidence in the dearth of medical research conducted in developing countries (Ng and Ruger, 2014:1360; see also Chima, 2006, 2007).

**So, what is generally considered as discrimination?**

According to Connolly (2004):

> We need to consider the concept of discrimination and its relationship with the concept of equality […] While the first and most obvious meaning of discrimination emphasises hostility or prejudice, it is necessary to use a wider definition, adopted because, first, the evidence shows that adverse treatment, or adverse effect, frequently occur in the absence of prejudice or hostility and secondly, it is difficult to define or prove prejudice or hostility (Connolly, 2004: 82-83).

In addition, Rutherglen (1985) refers to 'discrimination' in its ordinary usage, as a process of noticing or marking a difference, often for evaluative purposes (Rutherglen, 1995: 127). Such as in stigmatization of individuals with HIV/AIDS (Famoroti, et al., 2013), or the sex testing of female athletes for evaluative purposes (Padawer, 2016). Rutherglen further argues that common synonyms for the verb, 'discriminate' are, to 'distinguish', and 'differentiate', which

denotes recognizing, discerning or identifying differences. He concludes therefore that all discrimination is intentional, in the sense that anyone who discriminates acts on grounds for that discriminatory action. For example, it is conceptually impossible to discriminate because of race, without taking race into account (Rutherglen, 1995: 127-128; see also Connolly, 2004: 83-84). Sunstein (1991) argues against the theory of civil rights law that has often identified 'discrimination' with prejudice, and defines an act as discriminatory when caused by prejudice, concluding:

> [I] understand discrimination to include a decision to treat a black person or a woman differently from a white person or a man, regardless of the motivation [...] One who claims discrimination does not seek the prevention of certain irrational acts, but asks instead for the elimination in places large and small, of something like a caste system (Sunstein, 1991: 752-753, 770-771; see also Connolly, 2004: 83, 86).

Wasserstrom (1977) argues further that the primary evil of schemes such as systems of racial segregation was that they designedly and effectively mark off all black persons as degraded, dirty, less than fully developed persons, who are unfit for full membership, in the political, social and moral community (Wasserstrom, 1977: 591-593; see also Connolly, 2004: 86). Thus, any system of discrimination creates a *systemic disadvantage*, where:

> A systemic disadvantage is one that operates along standard and predictable lines, in multiple important spheres of life, and that applies in realms like education, freedom from private and public violence, wealth, political representation, and political influence, all of which go to basic participation as a citizen in a democratic society (Sunstein, 1991,770-771; see also Connolly, 2004: 87).

Accordingly, it has been argued from a liberal perspective that:

> It matters whether we classify some social event, circumstance or practice as an 'injustice' or as 'harm'. The harm principle operates to implicate individual members of society.

> Citizens maybe held personally responsible for those harms, which take place under their control, and may be subject to enforced treatment of some kind in the light of their personal blameworthiness. By contrast, the injustices of a distribution are attributed to no one but to society as whole (Gardner, 1989: 2-8, see also Connolly, 2004: 85).

Consequently, it has been suggested that we should generally pursue a culture in which the value of personal autonomy is understood to be the core value (Raz, 1986; cited by Connolly, 2004: 88; see also Chima, 2009). 'Since the value of personal autonomy requires a culture of toleration and competitive pluralism. One of the reasons for precluding certain institutional structures in our society such as *institutionalised racism or discrimination*, is that they fail to contribute to the ideals of toleration and competitive pluralism' (Connolly, 2004: 88-89; see also Raz, 1986).

*Equal opportunity and fair share*

It has been proposed that concepts of discrimination and disadvantage are intimately linked with concepts of equality (Connolly, 2004: 92-93). Therefore, one can examine the idea of equality from two distinct perspectives, classified as 'equal opportunity' or 'fair share' (Mayhew, 1968; Rawls, 1972; Connolly, 2004: 92-99). In its ideal form, 'equal opportunity' accepts that discrimination has been eliminated when all formal and deliberate barriers against 'the discriminated' have been dismantled. Its concern stops with determining whether racial factors have caused an individual to suffer adverse treatment. On the other hand, the 'fair-share' approach is concerned only with equality of result, measured in terms of proportionality. This leads to the logical argument of adopting quotas as a remedy once a finding of discrimination has been made (Mayhew, 1968: 59-74; 2004: 92-99). These two approaches derive from distinct and sometimes conflicting philosophical foundations. Equality of treatment is inherent in the feeling of fundamental human connectedness as

illustrated by the African *Ubuntu* philosophy which argues that "a person is a person through other persons" (Munyaka and Mothlabi 2009: 63-68) or "I am because we are, and because we are, therefore I am", *sumus ergo sum* (Mbiti 1969; Chima, 2015a, 2018a). The fair-share approach is a recent and more complex concept arising out of ill-treatment of socially distinct groups. In such cases, justice maybe seen as collective where it is considered wrong for ill-treated groups to have proportionally less of whatever it is, that is valued. The fair-share approach may therefore be described as 'a patterned distribution' or philosophical norm, which while not being socialist or egalitarian in nature, requires that judgments be made about the relative just deserts of different groups (Rawls, 1971). As such, it appears incompatible with the free market capitalist Western-derived rugged individualism of the 19th century to the present (Nozick, 1974: 155-164; Chima 2015a). Moreover, equal opportunity implies that people should be treated as individuals in the sense of having the opportunity to compete on equal terms for the goods which society has to offer, based on a level playing field. Nonetheless, it has been suggested that relying on equal opportunity alone provides no guarantee that in practice, the available goods will be shared proportionately between protected groups and the rest. Equality of outcome on the other hand implies an equitable division of economic goods between different groups in society. Some have argued that current laws do not go far enough in correcting perceived wrongs, because equal opportunity presupposes a world inhabited by autonomous individuals making individual choices. Which choices may differ along gender lines resulting in very different distribution of jobs or other goods equally between men and women as an example. Lacey (1987) argues that the "equal opportunity principle is inadequate to criticise and transform a world in which the distribution of goods is structured along gender lines" (Lacey, 1987: 413-417; see also Connolly, 2004: 92-99), or between the haves and the have-nots (Rawls, 1971). O'Donovan and Szyszczak (1988) have argued that:

> Equality of opportunity is only credible if there is an equal starting point [...] in discussions of anti-discrimination legislation, it is often assumed that once barriers to competition are removed, those who have historically been discriminated against will show their prowess and compete equally. However, this conception of equality is limited, for it abstracts persons from their unequal situations and puts them in a competition in which their prior inequality and its effects are ignored (O'Donovan and Szyszczak, 1988: 4-5; see also Connolly, 2004: 96-97).

It has been observed that 'equal opportunity' requires not merely that there should be no exclusion from access, on grounds other than those appropriate or rational for the goods in question. Nonetheless, that the grounds considered appropriate for such goods and services, should themselves be such that people from all sections of society have an equal chance of satisfying them (Connolly, 2004: 95-97; Rawls, 1971). Therefore, equal opportunity as an ideal, requires fair, rational, and appropriate competition for goods and benefits. This means that competitors must have an equal starting point. It goes much further than lowering barriers to education, services, and the labour market. However, one of the problems identified with achieving genuine equal opportunity, is the issue of compensation remedy. It has been argued that since the legal model of equal opportunity is based on offering compensation to victims of wrongdoing. Due to the close association between compensation and anti-discrimination law, defendants tend to resist all attempts to have themselves classified this way. Thereby hindering the growth of 'legal' settlements, which may have the potential to improve the position of disadvantaged groups (Connolly, 2004: 96-97).

*Recognition of differences, group rights, and competitive pluralism*

It has also been argued that an anti-discrimination approach, which is based solely on equality of results, maybe theoretically and practically unachievable, as this would have to apply to different races and genders, or other discriminated groups, over a whole basket of

economic goods and services. Given that, the redistribution of wealth is conceptually different from relief from poverty. It could become unclear, why some groups ought to be entitled to relief more than others are. Therefore, it has been suggested that far more could be achieved by an approach based on a convergence of pluralistic philosophies, which argues that equality can better be attained if appropriate recognition is given to factors, which render formal equality inadequate or ineffective. Accordingly, O'Donovan and Szyszczak (1988) suggested that, if treatment as an equal implies respect for others, avoidance of stereotypes and viewing the world from another's point of view, or acceptance of, "the otherness of the other" (Chima, 2015a). Competitive pluralism would go further than equal treatment because it allows for differences in persons, their situations and their needs. When viewed this way, equality does not mean giving or receiving the same treatment, but rather giving or receiving equal concern or opportunities. Therefore, competitive pluralism would go further than equal treatment, because it allows dissimilarities between groups to be considered, in the distribution/redistribution of economic goods and services. This point of view suggests that for equality to be more effective, the law must take account of differences between groups that affect their capacity for equal competition in the marketplace ((O'Donovan and Szyszczak, 1988: 7-9; see also Connolly, 2004: 99-104). Nevertheless, it has been suggested that a more serious problem for the notion of 'group rights' seems to be the diversity of individual and group identities. Putting it another way, people in any social world are members of a number of different communities and groups, who suffer or enjoy a number of overlapping and interacting identities and opportunities, or lack thereof. Thus, one cannot assume any kind of shared identity of interest among members of a group just because of shared oppression. Nor can we assume that racial oppression will have the same impact on experiences, consciousness, and life-chances of all members of that group. For example, those African-Americans or Black South Africans who hold an opposing view to the

majority, that there is no racism or systematic discrimination in America, or as a consequence of apartheid in South Africa, either because they have escaped its direct impact, have found a place at the dining table, or for any other reason. A recognition of this kind of diversity, and plurality of oppression experiences and interests seems to accompany a prospective nightmare of explosion of overlapping groups, defined along different interest lines, all competing with other groups and within themselves for invariably scarce resources (Chima, 2011a: 222-234), or the changes necessary to dismantle their specific disadvantages. This maybe exemplified by the folkloristic metaphor of 'crabs in a barrel' syndrome (Miller, 2015; Wilder, 2015: 185). The practical and conceptual difficulties raised by the diversity of social oppression and the consequent fragmentation of group identity cannot therefore be underestimated (Lacey, 1992: 106-108,114-120; see also Connolly, 2004: 103-104). Therefore, it has been suggested that concepts such as equality of opportunity and equality of results are only a means to an end. What is essential for anyone concerned with the economic and social position of disadvantaged groups is that the law should never be seen as the only way forward for tackling global inequalities (Connolly, 2004: 104).

**So, is there evidence of viewpoint discrimination in international academic publishing?**

Some commentators have suggested that evidence of discriminatory practices in international scholarly publishing; include lack of representation of scientists and researchers from developing countries on the editorial/advisory boards of leading international journals (Horton, 2000); and bias against publication of research relating to diseases of poverty (Obuaya, 2002; Horton 2003). For example, one study on the composition of editorial/advisory boards membership of major English language journals in Anaesthesia, Emergency Medicine and Critical Care, found that the editorial and advisory board members where overwhelmingly skewed in favour of developed countries, with a preponderance of 74% for Anaesthesia journal editors, and over 75% for Emergency Medicine & Critical Care

editors (Boldt and Malleck, 2000). The authors concluded that developing countries played a significantly less influential role, even when journals characterized themselves as "international journals" (Boldt and Malleck, 2000). Similarly, in another study on editorial boards of psychiatry journals, the authors reported that 'the rest of the world' including South America, Eastern Europe, Africa, and Asia, accounted for only 6% of total publications in six leading psychiatry journals from 1996-1998. The authors concluded that this lack of international representation on the editorial boards of such journals could adversely affect the dissemination of knowledge generated in LMICs regarding mental health (Saxena et al., 2003). Other observers have complained about the impact of 'scientific colonialism' and 'safari research'. Where scientific colonialism denotes continued colonial and scientific imperialism in science, with affluent countries persisting in dominance of less developed countries (Volmink and Dare, 2005; Salager-Meyer, 2008). Safari research on the other hand refers to the practice whereby research materials obtained from LMICs, are transported to developed countries for analysis, and later reported with developing country researchers merely serving as co-authors, or acknowledged as sample providers, or given 'token' recognition in published papers (Acosta-Cazares et al., 2000; Chima and Mamdoo, 2011b).

**Potential and real impacts of viewpoint discrimination on developing countries research: bias, discrimination, and 'lost science'**

In a study which evaluated research productivity and the scientific wealth of nations based on a14-years analysis (1981-1994) derived from the ISI publications databases, which included 8.4 million papers and 72 million citations. The authors demonstrated that the top 15 countries, ranked by contribution of their scientists to the world's total number of publications in science, technology, engineering, and medicine (STEM), accounted for 81.3% of global scientific publications. More importantly, the top seven published countries represented the world's seven wealthiest (G7) nations. In this case, the USA was dominant;

publishing around 35% of global science, UK was second, while 15 countries of the European Union (EU) produced 32% of all papers (May, 1977; Paraje et al., 2005). While recent scientometric data suggests that the landscape of global scientific publications maybe changing, with China and some previously disadvantaged countries being more productive (Xie et al., 2014; Samazan, 2019). Similar improvements have not been observed in all developing countries (Grosetti et al., 2013; CNRS 2018; Scimago, 2019), particularly African countries with low HDI, as illustrated in Figures 2, 4 and 5.

Commenting on this issue of 'lost science' from the third world, Gibbs (1995) noted:

> Mainstream science, viewed through the astigmatic lens of the most influential journals, gives a coloured picture of the world...The near invisibility of less developed nations may reflect the economics and biases of science publishing as much as the actual quality of Third World research (Gibbs 1995: 92).

Similarly, one Mexican editor interviewed for that article by Gibbs (1995), lamented discriminatory practices and bias against third world research when he observed that:

> Our editorial board was selected by choosing the 13 highest-cited biomedical scientists in Mexico [...]. Why are we held to such a high standard when new American journals, announcing in Science or Nature that their first issue will be appearing in six months, can advertise that they will be indexed in the Science Citation Index (Gibbs, 1995: 93).

While the above observations may have improved in recent times with the expansion of the science citation index (Grosetti et al., 2013; Xie et al., 2018), and development of other regional databases such as the Scientific Electronic Library Online (SCIELO, 2019) database from Brazil, as well the African Journals Online (AJOL, 2019) for peer-reviewed developing countries research. The problem of poor visibility of scientific communication from countries of the global south seems to persist. As observed by one US court judgment, "It is not merely the sporadic abuse of power by the censor, but the pervasive threat inherent in its very existence, that constitutes the danger to

freedom of expression" (Thornhill *v* Alabama, 1940). Furthermore, it has been argued that when a crowd of unwilling listeners, is allowed to censor unwanted speech for a specific group, it begins to appear indistinguishable in effect from a direct restriction based on 'viewpoint' or subject matter (Fee, 2005). More importantly, it has been reasoned that, "it is vital that developing countries communicate their research to one another" (Horton, 2000; Volmink and Dare, 2005). It has been pointed out that the reduced visibility of developing countries research publications may reflect not only the economics and biases of global academic publishing, as well as the actual quality of third world research (Gibbs, 1995). According to Gibbs (1995), since Western research libraries mostly acquire journals with high impact factors, they generally do not subscribe to journals outside the magic circle of citation analysis. He therefore concluded that we might be experiencing a vicious cycle of a self-perpetuating closed system of reviews and citations. Therefore, the approximately 2% participation in international scientific discourse allowed by Western indexing services to third world research, is simply too little to account for the scientific output of approximately 80 percent of the world's researchers (Gibbs, 1995). One could further suggest that the excessive cost of journal subscriptions, coupled with the high cost of publishing in high impact, including 'open access' journals, mostly published in developed countries, has the tendency to exclude most researchers from LMICs with low HDI, from access to quality research or global dissemination of research generated in developing countries (Taylor 2012; Piotrowski, 2012; Lundh et al., 2012). This is particularly true in fields such as medical sciences, where diseases are no respecters of frontiers, especially in the era of globalization (Valadier, 2001), exemplified by the ongoing Covid-19 pandemic (Fisher and Bubola 2020; Chima, 2020). Valuable information on neglected tropical diseases (Drugs for Neglected Diseases Working Group, 2001), as well as unique information on topics such as tropical biodiversity and traditional medicine, are likely better covered in scientific research from

developing countries and their local journals (Alabi, 1989; Jacobs and Ingwersen, 2000; Jacobs, 2001; Tijssen, 2007; Piotrowski, 2012, Tangwa et al., 2019). The top 20 countries publishing on medicine in the Africa region are shown in Figure 4.

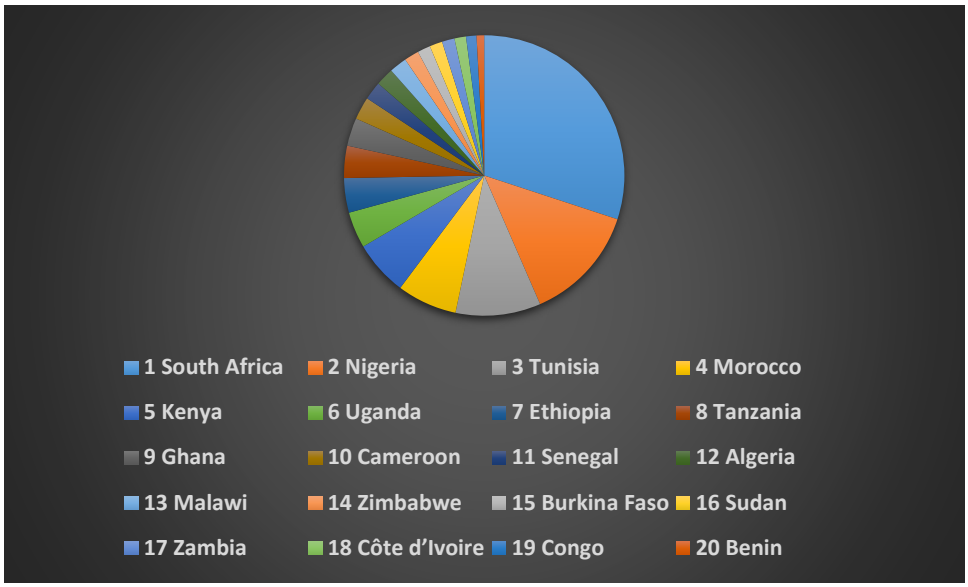


**Figure 4:** Top 20 publishing countries in Medicine Africa region, 1996-2018, excluding Egypt, (Scimago 2019) as noted above.

## *Bias against diseases of poverty*

In a 2001 study on the frequency of research articles relevant to diseases of poverty in the world's leading biomedical journals, Obuaya (2002) reported a very low percentage of articles related to diseases affecting the poor. He concluded that since international-journals control the global dissemination of biomedical information, they have a responsibility to ensure that they provide qualitative information at a reasonable cost (Obuaya 2002; Horton 2003; Taylor, 2012; Lundh et al., 2012). Moreover, the invisibility to which mainstream science publishing condemns most developing countries research, thwarts efforts by poorer countries to strengthen their individual science journals (Smith, 2002; Volmink and Dare, 2005; Salager-Meyer, 2008; Piotrowski, 2012). It further inhibits the vital importance of

developing countries being able to communicate their research findings among themselves and to other scientists around the world. For example, findings on cholera, yellow fever, Ebola, Lassa fever, Zika virus, and other emerging viruses and diseases are useful for prevention and public health control and planning in this age of globalization and increased human migration (Chima, et al., 1999, 2000, 2014, 2020; Valadier, 2001; Tangwa, et al. 2019; Huang, et al., 2020; WHO, 2020). Some observers have suggested that it is unethical not to have a mechanism, for developing countries researchers to share ideas and interact fully with the international biomedical community (Gibbs 1995, Obuaya 2002; Horton 2003; Taylor, 2012; Lundh et al., 2012). This lack of adequate opportunities for dissemination of scientific knowledge from LMICs, may also have contributed to phenomenon of "lost science from the third world" Gibbs (1995). In addition, one can argue that excessive costs and difficulties experienced by developing country researchers, in publishing their research in mainstream international journals, may have contributed to emergence and persistence of predatory journals, which are subconsciously designed to prey on the vulnerabilities of emerging developing country researchers seeking some international validation of their scientific contributions (Demir, 2018; Tella, 2020).

**Misrepresentation of information regarding healthcare in developing countries**

One of the inherent dangers of 'viewpoint discrimination' as earlier argued in this treatise, is that information, even those that are of questionable veracity, when reported by authoritative sources without being appropriately interrogated, may otherwise become accepted as truth. One example of such misrepresentation of healthcare information relating to LMICs, was a widely publicized report about unsafe abortions in SSA in an authoritative biomedical journal. In that article, the authors inadvertently created the impression that 'unsafe abortions' only occur in LMICs with restrictive abortion laws (Sedgh, et al., 2012; Chima, 2018b), particularly in countries of West and Central Africa sub-region. This erroneous conclusion

derived from a quasi-legal WHO definition of abortion, which defined 'unsafe abortion' as, "any procedure terminating an unintended pregnancy carried out either by persons lacking the necessary skills, or in an environment that does not conform to minimal medical standards or both" (WHO, 2011; Sedgh et al., 2012). This definition of abortion, presupposes that any termination of pregnancy done outside the boundaries of law, are likely to be unsafe, even when performed by healthcare professionals (HCPs) with appropriate qualifications (Harrison, 2009). The authors of the controversial article interpreted this to mean that "unsafe abortions" would include all abortions done in countries with highly restrictive laws, or those that do not meet legal requirements in countries with less restrictive laws (WHO, 2011, Sedgh, et al., 2012, Chima, 2018b). Conversely, 'safe abortions' where classified as those that meet legal requirements, especially in countries with liberal laws. The implications of such an assumption, was that abortions performed in countries with liberal laws (mostly developed countries), were automatically classified as 'safe', even where such procedures resulted in severe complications or injury to the patients. Whereas abortions in LMICs with more restrictive laws, even when performed by qualified HCPs, were automatically classified as 'unsafe'. This led to an erroneous conclusion that majority of abortions performed SSA countries with restrictive abortion laws are automatically "unsafe", ultimately arriving at flawed statistics on the prevalence of 'unsafe' abortions in Africa (Muchova, 2012). These types of 'errors of unawareness' (Chima, 2011a: 158-170), and inadvertent misrepresentation of facts, regarding healthcare in LMICs, reinforce negative perceptions regarding healthcare and scientific knowledge from LMICs, and are both a consequence and evidence of 'viewpoint discrimination' against biomedical research originating in developing countries.

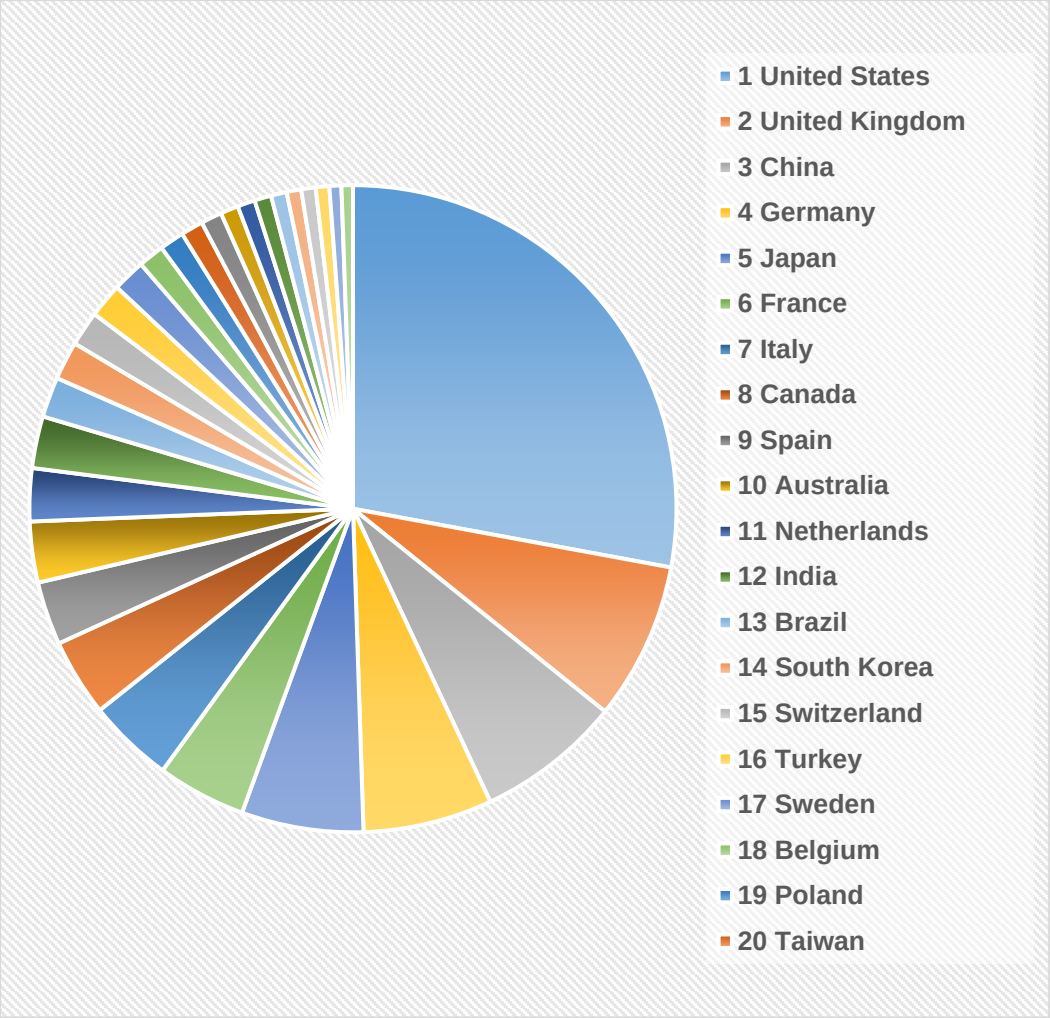


**Figure 5.** Global publication data in Medicine, Top 20 Countries, 1996-2018, (Scimago, 2019)

## A case study of discrimination, Mathew effect, and institutionalized racism, in developing country research

The phenomenon of discrimination in scholarly publishing, institutionalized racism, Mathew effect, bibliographic negligence, and other elements of disregard for research originating in developing countries were aptly illustrated by the Kenyan case of *Dr. Samson Gwer & 5 others v Kenya Medical Research Institute (KEMRI) & 3 others*, 2013.

**Facts of the case:** In this case, six Kenyan scientists approached a High Court of Kenya pursuant to relevant articles of the Constitution of Kenya (2010), via a petition filed in December 2011. The first respondent was KEMRI; the second, the Kenyan Ministry of Public Health and Sanitation, and a third was the Attorney General of Kenya. In their petition, the applicants filed the following claims against the respondents:

A. Racial Discrimination

The applicants specifically pleaded under paragraph 4 of their petition that the respondents treated the petitioners with inequality based on their race, contrary to Article 27(4) of the Constitution of Kenya with respect to:

i. Awarding of international jobs,

ii. Awarding grants from the Wellcome Trust based on requirements for funding that tend to bar candidates without demonstrable connections to the European Economic Area (EEA).

iii. That Caucasian expatriates from the European union, were more likely to be supported to apply for grants from Kenya Welcome Trust Research Programme (KWTRP); while there was no clear policy to do this for equally or more qualified local black scientists;

iv. Unequal distribution of senior scientific positions

v. Unequal pay for equal work;

vi. Insignificant high impact publications;

vii. Prejudice/condescension against local African workers.

viii. Lack of commitment to racial equality or a policy to ensure racial equality.

The applicants based their complaints in part on Article 27(4) of the Constitution of Kenya (2010), which reads that, “the state shall not discriminate directly or indirectly against any person on any ground including race...”

B. Right to intellectual property:

Secondly, the applicants specifically pleaded that the respondents routinely violated the petitioner’s rights under Article 40(1) of the Constitution of Kenya (2010), by taking away the petitioner’s right to intellectual property resulting in the respondents, and their servant and employees and students, taking credit for the work and scientific innovation of the petitioners based on mechanisms referred to as:

i. Disregard syndrome

ii. Mathew effect (discovery credit inadvertently reassigned from the original discoverer for a better-known researcher (Merton, 1968).

iii. Misappropriation of the work of local scientists to benefit expatriate scientists.

iv. Frequent unfair administrative action;

v. Inability to veto adverse decisions by the scientific team leader;

vi. Redeployment and chastisement through mail…on the account of raising these grievances.

The petitioners concluded that the overall impact of such conduct exposed the petitioners to; inhuman and degrading treatment in violation of Article 28 of the Kenyan Constitution (2010) by:

ii. Taking away the petitioners’ dignity under Article 29 of the Constitution,

iii. Subjected the petitioners to modern day slavery in violation of Article 30 of the Constitution

The petitioners cited in support of their claims:

a. The international convention on Civil and Political Rights (ICCPR, 1966) to which Kenya is a state party

b. The convention against torture and other cruel inhuman or degrading treatment or punishment to which Kenya is a state party, where Article 2 (1) provides that a state party shall take effective legislative, administrative, judicial or other measures to prevent acts of torture in any territory under its jurisdiction.

c. The African Charter on Human and People's Rights (1986), to which Kenya is a state party. Where Article 5 provides that, every individual shall have the right to the respect of the dignity inherent in a human being. Article 9 of this charter also provides that, every individual shall have the right to receive information and to express and disseminate his opinions within the law, while article 14 further guarantees right to property, which may only be encroached in accordance with the provisions of appropriate laws (African Charter on Human and People's Rights, 1986).

C. Citation plagiarism:

The petitioners further complained of incidents of 'citation plagiarism', described as willful or negligent failure to credit other or prior discoverers, to give an improper impression of priority. It was submitted that this behavior was also referred to as 'citation amnesia', 'disregard syndrome' and 'bibliographic negligence'. The petitioners submitted that this was the most rampant scientific misconduct by the respondent against the petitioners and other African researchers at KEMRI.

**Judgment:** In its judgment, the Kenya Industrial Court observed that Article 27(1) of the Kenya Constitution states, "every, person is equal before the law and has the right to equal protection and equal benefit of the laws." Whereas clause 27(4) reads:

> The state shall not discriminate directly or indirectly against any person on any ground, including race, sex, pregnancy, marital status, health status, ethnic or social origin, colour, age, disability, religion, conscience, belief, culture, dress, language or birth.

The Court further noted that section 27(5) of the Constitution reads, "a person shall not discriminate directly or, indirectly against another, person on any of the grounds specified or, contemplated in clause (4)." The Court further averred that whereas clause 4 deals with discrimination by the state, clause 5 specifically prohibits discrimination by any person directly or indirectly against another person. The Court therefore held that this distinction was important for purposes of this case because the pleadings and submissions point to discriminatory policy prescribed under an international sponsorship programme, rather than government policy per se. The impugned criteria for funding for research fellows and postdoctoral training fellowships were "open to individuals with a relevant connection to the EEA…." This criterion was said to be the primary basis for underfunding local researchers, leading to allegations of racial discrimination, scientific misconduct, and misappropriation of intellectual property rights, amongst other consequences. It was therefore submitted by counsel for the petitioners that the discrimination and inequality meted against the petitioners by the respondent, thus amounted to *institutional racism* defined as:

(i) Differential treatment on the basis of race that disadvantages a racial group, or
(ii) Treatment on the basis of inadequately justifiable actions, other than race, that disadvantage a racial group.

The Court agreed, that given the differential outcomes along racial faults as depicted in the affidavits of the petitioners and the annexures set therein, the KEMRI/WTRP exemplified *institutional racism*. Further, deliberate attempts by institutional leaders to inhibit calls for re-examination of institutional policies and practices that promote racial discrimination, and responding with repression, indicated individual culpability by the respondent and its senior

officials, thereby promoting racial discrimination and inequality. The Court further held that since Article 29 of the Kenyan Constitution (2010), provides that the constitution must be interpreted in a manner that promotes its purposes, values, and principles, advances the rule of law, human rights and fundamental freedoms. The Court noted that whereas KEMRI as an employer is a public institution, the funding under the KEMRI/WTRP emanated from external donors. These external donors attached specific terms and conditions to the grant and administration of the WTRP, which terms and conditions became subject of grievances by the petitioners. Nonetheless, the Court found in favour of the petitioners, stating that:

> The first respondent as a state employer is bound by the Constitution to protect the right of the petitioners and not allow a policy that appropriates their intellectual property as has been ably demonstrated by the petitioners herein, contrary to Article 40(1) of the Constitution.

The Court therefore ordered that the petitioners be compensated for the said constitutional violation, in the sum of 5 Million Kenyan shillings (KES), each. And also ordered that the petitioners were entitled to access all the outcomes of their scientific research and to credits and benefits attached to the outcomes under Articles 35 and 40 of the Constitution (Nzomo, 2014).

## Moral and ethical dilemmas regarding poor acknowledgment of academic research from the global south

As noted above, when some western journal editors were confronted with evidence of bias and institutionalised racism in global academic research. Many fiercely challenged the use of the word ‘racism’. Preferring instead terminologies such as ‘elitism’, ‘bias’, ‘insularity’, ‘nationalism’, and ‘regionalism’. The implication of racism was considered offensive and strident. However as explained by Horton (2000), the term ‘institutional racism’ as defined in

English law "*occurs when the policies and practices of an organisation result in different outcomes for people from different racial groups",* as illustrated by the case of *Gwer and others v KEMRI* (2013) above. Some journal editors defended their positions from a paternalistic point of view (Chima, 2006, 2009), by suggesting that 'very poor countries have much more to worry about than doing high-quality research' because according to one former editor "[…] there is no science there" (Gibbs 1995). Furthermore, a former chairman of the ISI argued that there was no scientific evidence of 'bias' in selection against third world journals for inclusion in previous indices. Basing his argument on the law of 'Scattering' also known as the 'Pareto effect', which says that, 80% of valuable knowledge can be obtained from 20% of publications. To illustrate this point, he argued that only about 1000 journals account for 70% of papers and 85% of all citations in the ISI index by 1995. Finally, some editors have suggested that those complaining about discrimination may need to become more acquainted with the practice of rejection in academic publishing. Further, that inexperienced researchers need to hone their craft in writing and publishing before making such allegations, and some aggrieved authors might be suffering from feelings of entitlement, and should rather get used to the idea of rejection during publishing (Tomaselli, 2015).

## *Is there evidence of discriminatory practices in regional African academic research and publishing?*

While evaluating the impact of viewpoint discrimination on academic research globally, it maybe pertinent to evaluate whether such phenomena are prevalent in locally published journals from relatively research active countries in Africa, like South Africa. Recent bibliometric data shows that 30% of publications and 88% of scientific patents from Africa originate in South Africa (Alabi, 1989; Jacobs and Ingwersen, 2001; Tijssen, 2007; Pouris and Pouris, 2009; Uthman and Uthman, 2009). The top 20 countries generating academic

publications in Africa in all subject areas are shown in figure 3. In the case of South Africa, a cursory analysis seems to suggest that majority of local publications/patents are produced by historically advantaged institutions and researchers. Similarly, the editorial/advisory boards of leading South African journals may show poor representation of Black African researchers in such editorial/advisory boards. This observation is not surprising, considering the lack of diversity in the historical apartheid academic research enterprise. For example, in a study conducted on the composition of research ethics committees (RECs) in South Africa by Moodley and Meyer (2007). The authors reported that all but three RECs were comprised of mostly white members (mean proportion white, 62%; range 10%-86%). The authors concluded that the composition of RECs in terms of gender and race did not meet current South African equity recommendations. In most instances, the lack of diversity on RECs could be attributed to the historical university faculty members, who were predominantly white males. The paucity of Black African faculty members at most health sciences faculties in South Africa, is one of the many consequences of South Africa's history of racial segregation, which impacted on the training of Black African students and scientists. Black Africans, in particular as classified under the apartheid system, had restricted entry into medical schools by a permit system in operation from 1959 to 1986. Twenty-six years after democracy, while South Africa has made political progress at national and international levels. On the other hand, health science research, and other economic determinants of progress, have lagged behind in achieving equity (Maphai, 1989; Moodley and Meyer, 2007). This may indicate resistance to change within the academy and other economic spheres of life in South Africa. Moodley and Meyer (2007) further suggested that diversity is an important consideration in South Africa, given the political history and asymmetrical power relationship between researchers (who are predominantly white), and research participants, who tend to be poor and vulnerable Black Africans (Moodley and Meyer, 2007; Chima, 2015b).

Furthermore, ‘variability in the operations and training needs of RECs maybe a reflection of apartheid-entrenched influences in tertiary education in South Africa’. While legislation now exists enforcing standardization of research review systems, minimal provisions have been made for increased resources and capacity development, especially to support historically disadvantaged institutions. The authors concluded that perpetuation of this legacy of apartheid represents a violation of the principles of justice and equity (Moodley and Meyer, 2007). If one considers that RECs are responsible for the approval of research projects including grant awards to South African scientists, one can speculate that there is a high possibility that there could be competitive advantage for ‘White’ researchers in approval of research proposals/grants, thus, their ability to conduct and publish scientific research papers both locally and internationally. Comparatively a competitive disadvantage may exist for ‘Black’ researchers and other previously disadvantaged groups and institutions. According to some observers, a similar situation maybe influencing the publishing enterprise in South Africa until the present times (Sithole 2009; Le Roux, 2015).

**Suggestions to assist in reversing negative impact of ‘viewpoint discrimination’ on academic research from developing countries**

The presence of different schools of thought regarding the presence or absence of discriminatory practices in global academic publishing presents a classic dilemma, which may need to be resolved by recognizing the impact of oppression, colonization, neo-colonialism, and poverty in countries of the global south Mayhew, 1968; Rodney, 1972; Chinweizu,1987; Sartre, 2001). To minimize ‘viewpoint discrimination’, ‘implicit bias’s and ‘institutionalized racism’, in the global academic publishing enterprise, a convergence of philosophies maybe required? For example, by combining ‘equal opportunity’, fair share’ and

'competitive pluralism'. As argued above, the overall impact of actions such as discrimination or institutionalized racism on the marginalized appears to be a competitive disadvantage, which cannot be simply eliminated by anti-discrimination legislation alone. According to O'Donovan and Szyszczak (1988):

> If treatment as an equal implies respect for others, avoidance of stereotypes and viewing the world from another's point of view, then pluralism would go further than equal treatment because it allows for differences in persons, their situations and their needs [...] In this guise equality does not mean giving or receiving the same treatment, but rather giving or receiving *equal concern* [...] Pluralism goes further than equal treatment because it allows the dissimilarities between groups to be taken into consideration in the redistribution of economic goods and services. (O'Donovan and Szyszczak, 1988: 7-9; see also Connolly, 2004: 95-99).

In furtherance of this view, Scalia J, opined in *R.A.V v City of St. Paul* (1992), that 'when one side of a debate, is allowed to fight freestyle, while the other is required to follow Marquis of Queensbury rules, the contest becomes fundamentally unfair and impairs the competition of ideas on its merits' (Chima et al., 2013). Others have suggested that 'scientific discovery and technological development have been the basis for building civilizations and global economies. Therefore, scientific talent has a long history of migrating from one country to another in search of like-minded collaborators, better infrastructural support, or public acceptance (Calto, 2012). Perhaps, there is need to allow free migration of scientific talent across different regions of the world and more North/South collaborations (Black et al., 2003, Tiemoko, 2004; Kok et al., 2006). Furthermore, to minimize implicit bias, international scientific publications may require affirmative actions (Maphai, 1989), such as improving diversity of editorial/advisory board membership, more North-South collaborations, and a conscious effort to allocate some percentage of publication space in leading international journals to reporting knowledge generated from LMICs. Further, it has been suggested that

scientists in each country or region should be encouraged to gather whatever data needed to evaluate journals within their region, and provide such information to database publishers such as a prioritized list, which could be used to include more journals from developing countries in more prestigious databases, thereby improving visibility and sharing of knowledge generated from the global south. Furthermore, local citation indices could be compiled to facilitate such evaluations (Garfield, 1997). This may go a long way towards global dissemination of knowledge, closing the information gap, and improving HDI in countries of the global south.

## Concluding comments

It has been suggested that information is the fuel of the academy. That it is information which is created, shared, and used, that drives forward the teaching and research mission of academic institutions (Doherty, 2007). It has also been shown that the information advantage drives Western developed nations and advances global economies. According to Bell (1976), the time in which we are now immersed, the post-industrial era of the 21st century, is an information age, where he predicted a vastly different society that will rely on the "economics of information" or 'big data' rather than the 'economics of goods' (Bell 1976; Chima et al., 2015c). One can therefore suggest that free exchange of information and knowledge systems between developed and developing countries is essential for the development of better economies, health systems, and education, in order to improve the overall human development index in LMICs. Moreover, it has been argued that free exchange of biomedical research information, would be of enormous benefit in bridging the 10/90 anomaly, whereby 90% of global research funding is directed towards finding cures for diseases affecting only 10% of the global population (Drugs for Neglected Diseases Working Group, 2001; Horton 2000, 2003). However, there seems to be disagreements on how to

achieve this laudable goal. Some researchers from developing countries suggest that there is an inherent bias in the global scientific publishing enterprise, or even institutionalized racism, militating against the publication of science originating from the global south, leading to 'lost' knowledge from developing countries. Further, due to the high cost of publishing in high impact journals, and artificially high standards imposed on new and emerging journals, there is lack of inclusiveness into mainstream global scientific publishing. In other words, scientists from LMICs have less chance of having their studies published or made available to the rest of the world, thereby denying them requisite academic recognition and other intellectual benefits. On the other hand, some journal editors from more developed countries have denied the presence of institutionalized racism or discrimination. Arguing instead, that the quality of science produced by developing country researchers needs to improve, that they have an obligation to their audiences to maintain high standards, and that opening the doors of international scientific databases will not necessarily improve citations, or influence third world research, or scientific productivity. The difference in these two schools of thought presents a classic ethical dilemma, which needs to be resolved by recognizing the impact of oppression, institutionalized racism, colonization and poverty, on developing countries. We also have to recognize global interdependence due to globalization (Valadier, 2001), and the impact of global inequalities in healthcare, as demonstrated by the recent Covid-19 pandemic (Chima, 2020; Fisher and Bubola, 2020; Huang, et.al., 2020; New York Times, 2020; WHO, 2020). While acknowledging recent improvements in publication access, such as giving opportunities for researchers from least developed countries (LDCs), based on World Bank criteria (World Bank, 2018), to publish some research free or at reduced cost in many academic journals. Nevertheless, scientists from emerging middle-income-countries, such as, the top five publishing countries in Africa; South Africa, Nigeria, Algeria, Egypt, Tunisia, and Morocco, still have to pay the same fees as researchers from highly developed countries

(HDCs) of North America and Europe, in a background of limited research funding and resources. Such obvious obstacles and imbalances ought to be addressed and eliminated.

As discussed above, the main impact of actions such as, viewpoint discrimination, implicit bias, or institutionalize discrimination, on the marginalized, is an overall competitive disadvantage. which cannot be easily eliminated by anti-discrimination legislation. As demonstrated by the case of South Africa, 26 years post-apartheid, the core biomedical research infrastructure, is still controlled by those who were previously advantaged by the apartheid system (Moodley and Myer, 2007). It has been speculated that forces creating large differences between research publications and patent contributions Africa, maybe due to unfair international collaborations whereby, “international donors and collaborators may be prepared to work with their African colleagues when the output will in the public domain, but may refrain to do so when the output of the collaboration is proprietary knowledge” (Pouris and Pouris, 2009). Furthermore, it has been suggested that because innovation or patent take-off may require a minimum capability threshold in research, including high costs of patenting in USA and Europe. Exceptionalism is displayed by privileged or richer collaborators from the global north who exhibit “we don’t need to” syndrome, when it comes to sharing credit for scientific innovations. These have been suggested as other factors inhibiting growth of knowledge and innovation in countries of the global south (Pouris and Pouris, 2009). Finally, a number of developmental reports argue that “science, technology and innovation underpinned every one of the previous Millennium Development Goals” (UN Millennium Project, 2015a), and most likely the current sustainable development goals (UN SDGs, 2015b). Thus, science, technology and innovation have become global prerequisites for human development. In view of these observations, the new partnership for Africa’s economic development (NEPAD) proposed to "develop and adopt common sets of indicators

to benchmark our national and regional systems of innovation" (NEPAD 2003; MacGregor, 2008).

I have argued in this paper that subconscious or conscious exclusions or implicit bias against publication of academic research originating from LMICs/developing countries, by mainstream international publications is tantamount to a form of 'viewpoint discrimination' against third world research and knowledge. To reiterate the observation by Jackson J *CIO v Douds* (1950):

> Progress generally begins in scepticism about accepted truths, yet when scepticism cannot be expressed, re-examination of established ideas and consideration of new ones will probably never occur, under such circumstances intellectual contestation is fundamentally unfair and impairs the competition of ideas on merits (Walker, 2000).

Ultimately, "health inequalities among different social groups can be considered unjust when they result from unjust distribution in factors that are socially controllable that affect population health" (Daniels, 2011: 101).

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**Conflicts of Interest**

The author declares that there is no conflict of interest

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**References**

Acosta-Cazares, B et al. (2000). Scientific colonialism and safari research. *NetPrints Clinical & Health Research*. Available at http://clinmed.org/cgi/content/full/2000010008v1 (accessed 30 June 2019).

Adams J, King C and Hook D (2010) Global Research Report-Africa. *Evidence*. Leeds: Thomson Reuters.

African Journals Online (AJOL) (2019). The worlds' largest online library of peer-reviewed African published scholarly journals. Available at: https://www.ajol.info (accessed 30 April 2020).

Alabi GA (1989) The citation pattern of Nigerian scientists. *International Library Review* 21: 129-137.

American Communications Association vs Douds (1950) 339 U.S. 382.

Anon (1995) Clarifications and errata. *Scientific American*, October 10.

Anon (2020) What Covid-19 is teaching us about inequality and sustainability of our health systems. Euro Healthnet. Available at: https://eurohealthnet.eu/COCID-19 (accessed 30 April 2020).

Andreangeli A (2013) Global justice: what does it mean? An attempt to start answering… Available at: http://www.globaljusticeblog.ed.ac.uk/2013/02/01/global-justice-what-does-it-mean-an-attempt-to-start-answering/ (accessed 30 June 219).

Baker R (2001) Bioethics and human rights: A historical perspective. *Cambridge Quarterly of Healthcare Ethics* 10(3): 241-252.

Bell D (1976) *The Coming of the Post-Industrial Society: A Venture in Social Forecasting*. New York: Basic Books.

Benatar SR and Vaughan CL (2008) *South African Journal of Science* 104: 439-442.

Benatar S and Brock G (2011) *Global Health and Global Health Ethics*. Cambridge: Cambridge University Press.

Benjamin Gitlow v People of the State of New York (1919) 268 U.S. 652.

Black R et al. (2003) *Transnational Migration, Return and Development in West Africa. Final Research Report.* Transrede Research Project, Sussex Centre for Migration Research, University of Sussex, England.

Boldt J and Malleck W (2000) Composition of the editorial/advisory boards of major English-language anesthesia/critical care journals. *Acta Anaethesiologica Scandinavia* 44: 175-179.

Brock G (2017) Global Justice. In: *The Stanford Encyclopedia of Philosophy.* Zalta EN (ed) Available at: https://plato.stanford.edu/archives/spr2017/entries/justice-global/ (accessed 30 June 2019).

Browne, C. (2012). What is viewpoint discrimination? Available at: www.ehow.com/print/about_6497644_viewpoint-discrimination html (accessed 31 August 2013).

Calto D (2012) Encouraging brain migration: Countries with a healthy import and export of scientific talent lead the world in research and innovation. Available at: http://the-scientist.com/ (accessed 30 June 2019).

Camp JV (2005) First Amendment. Available at: http://csulb.edu/~jvancamp/freedom1.html (accessed 31 August 2013).

Chemerinsky E (1999) Court takes a narrow view of viewpoint discrimination. *TRIAL* 90: 35.

Chima, S.C. (2020). Ethical and legal dilemmas surrounding the Covid-19 pandemic and extremely drug resistant tuberculosis (XDR-TB) in South Africa: Public health *versus* individual rights. *Public Jurist* magazine, April issue 2020: Government and Laws Committee. Hong Kong University. Available at: http://www.hkuglc.org/government-and-laws-committee-hku-public-jurist (accessed 2 Jun 2020).

Chima SC et al. (1999) Progressive multifocal leukoencephalopathy and JC virus genotypes in West African patients with acquired immunodeficiency syndrome: A pathological and DNA sequence analysis of 4 cases. *Archives of Pathology and Laboratory Medicine* 123: 395-403.

Chima SC et al. (2000) Polyomavirus JC genotypes in an urban US population reflect the history of African origin and genetic admixture in modern African Americans. *Human Biology* 72(5): 837-850.

Chima SC (2006) Global medicine: Regulation of biomedical research in Africa. *BMJ* (332): 848-851.

Chima, SC (2007) Contemporary ethical issues and regulation of biomedical research in Africa. In: *A Gateway to Biomedical Research in Africa*. Mduluza T, Chima SC, and

Nsimba S (eds) New York: Nova Science Publishers, pp.19-38.

Chima SC (2009) Respect for autonomy as prima facie right: Overriding patient autonomy in medical practice. *Transactions: Journal of the Colleges of Medicine of South Africa (CMSA)* 53(1): 38-44.

Chima S C.(2011a) *A Primer on Medical Law Bioethics and Human Rights for African Scholars*. Durban, South Africa: Chimason Educational Books.

Chima SC and Mamdoo F (2011b) Ethical and regulatory issues surrounding umbilical cord blood banking in South Africa. *South African Journal of Bioethics and Law* 4 (2): 79-84.

Chima SC, Mduluza T and Kipkemboi J (2013) Viewpoint discrimination and contestation of ideas on its merits, leadership and organizational ethics: expanding the African bioethics agenda. *BMC Medical Ethics* 14 (Suppl 1)**:** S1.

Chima SC (2015a) Religion politics and ethics: Moral and ethical dilemmas facing faith-based organizations and Africa in the 21st century-implications for Nigeria in a season of anomie. *The Nigerian Journal of Clinical Practice* 18 (Suppl 1): S1-7.

Chima SC (2015b) 'Because I want to be informed-to be part of the decision making': Patients' insights on informed consent practices by healthcare professionals in South Africa. *The Nigerian Journal of Clinical Practice* 18 (Suppl 1): S46-56.

Chima SC, Nkwanyana NM and Esterhuizen TM (2015c) Impact of a short biostatistics course on knowledge and performance of postgraduate scholars: Implications for training of African doctors and biomedical researchers. *The Nigerian Journal of Clinical Practice* 18 (Suppl 1): S62-70.

Chima SC (2014) The importance of ethics to Africa in the 21st century. *Arab Health Magazine*, Issue 3 August 2014. Available at: http://arabhealthmagazine.com/the-importance-of-ethics-and-human-rights-to-africa-in-the-21st-century/ (accessed 31 August 2019).

Chima SC (2018a) *An investigation of informed consent in clinical practice in South Africa*. LLD Thesis, University of South Africa, Pretoria.

Chima SC (2018b) Legal and cross-cultural issues regarding the late termination of pregnancy: African perspectives. In: *The Ethics of Reproductive Genetics - Between Utility, Principles and Virtues*. Soniewicka M (ed) New York: Springer Nature, pp. 241-257.

Chinweizu (1987) *The West and the rest of us: White Predators, Black Slavers and the African Elite.* Lagos: Pero Press.

CNRS (2018). Scientific publishing: New global scientific landscape is shaping up. Available at: https://www.sciencedaily.com (accessed 31st August 2013).

Connolly M (2004) *Townshend-Smith on Discrimination Law: Text, Cases and Materials* (2nd ed). London: Cavendish Publishing Limited.

Constitution of the Republic of Kenya, 2010.

Constitution of the United States of America, Amendment 1. The US constitution online. Available at: http://www.usconstitution.net/cite.html (accessed 31 August 2013).

Daniels N (2011). International Health Inequalities and Global Justice: Towards a Middle Ground. In: Benatar S and Brock G (eds) *Global Health and Global Health Ethics.* Cambridge: Cambridge University Press, pp.97-107.

Demir SB (2018). Predatory journals: Who publishes in them and why? *Journal of Informetrics* 12: 1296-1311.

Doherty JJ (2007) No Shhing: Giving voice to the silenced: An essay in support of critical information literacy. *Library Philosophy and Practice* June: 1-8.

Dr. Samson Gwer & 5 others vs Kenya Medical Research Institute (KEMRI) & 3 others (2013). Petition No.21 in the Industrial Court of Kenya. Available at: https://ipkenya.files.wordpress.com/2014/07/gwer-v-kemri-judgment.pdf (accessed 31 August 2019)

Drugs for Neglected Diseases Working Group (2001). Fatal imbalance: The crisis in research and development for drugs for neglected diseases. Médecins sans Frontières access to essential medicines campaign and the drugs for neglected diseases working group. Geneva, Switzerland. Retrieved from https://www.msf.org/sites/msf.org/files/old-cms/source/access/2001/fatal/fatalshort.pdf (accessed 31 August 2019).

Famoroti TO, Fernandes L, and Chima SC (2013) Stigmatization of people living with HIV/AIDS by healthcare workers at a tertiary hospital in Kwazulu-Natal, South Africa: A cross-sectional descriptive study. *BMC Medical Ethics* 14 (Suppl 1): S6.

Fee J (2005) Speech discrimination. *Boston University Law Review* 85: 1103-1157.

Fisher M and Bubola E (2020) The Interpreter: As coronavirus deepens inequality, inequality worsens its spread. *The New York Times* 16 March. Available at: www.nytimes.com (accessed 30 April 2020).

Gardner J (1989) Liberals and unlawful discrimination. *Oxford Journal of Legal Studies* 9 (1): 1-22.

Garfield E (1997) A statistically valid definition of bias is needed to determine whether the Science Citation Index discriminates against third world journals. *Current Science* 73: 8.

Garfield E. (1996) The significant scientific literature appears in a small core of journals. *The Scientist* 10 (17): 13-16.

Global Forum for Health Research (2002) *The 10/90 Report on Health Research 2001-2002.* Geneva: Global Forum for Health Research.

Gibbs WW (1995) Lost science in the third world. *Scientific American* August: 92-99.

Grosetti M et al. (2013) Cities and the geographical deconcentration of scientific activity: A multilevel analysis of publications (1987-2007). *Urban Studies.* DOI: 10.1177/0042098013506047

Harrison DJ (2009) How many mothers die from unsafe abortion? Available at: https://www.mecatornet.com (accessed 31 August 2013).

Helene AF and Ribeiro PL (2011) Brazilian scientific production, financial support, established investigators and doctoral graduates. *Scientometrics*, 89: 677. Available at: https://doi.org/10.1007/s11192-011-0470-2 (accessed 31 August 2013).

Horton R (2000) North and South: Bridging the information gap. *The Lancet* 355: 2231-2236.

Horton R (2003) Medical journals: Evidence of bias against the diseases of poverty. *The Lancet* 361: 712-713.

Huang C et al. (2020) Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *The Lancet* 395: 497–506.

Jacobs D (2001) A bibliometric study of the publication patterns of scientists in South Africa 1992-96, with particular reference to status and funding. *Information Research* 6 (3):104. Available at: http://InformationR.net/6-2/paper104.html. (accessed 31 August 2019).

Jacobs D and Ingwersen P (2000) A bibliometric study of the publication patterns in the sciences of South African scholars 1981-96. *Scientometrics* 47: 5-93.

Keiser J et al. (2004) Representation of authors and editors from countries with different human development indexes in the leading literature on tropical medicine: survey of current evidence. *BMJ* 328: 1229-1232.

Kok P et al. (e) (2006) *Migration in South and Southern Africa: Dynamics and determinants*. Cape Town: HSRC Press.

Kugler H (2011) Brazil's high publication rate hides drop in quality. *SciDevnet.* Available at: https://www.scidev.net/global/publishing/news/brazil-s-high-publication-rate-hides-drop-in-quality-.html (accessed 31 August 2019).

Lacey, N. (1987). Legislation against sex discrimination: questions from a feminist perspective. *Journal of Law and Society*, 14, (4): 411-421.

Lacey N (1992) From individual to group. In: Hepple B and Szyszczak E (eds). *Discrimination: The Limits of Law*. London: Mansell, pp. 111-120.

Lamb's Chapel vs Center Moriches Union Free School District (1993) 508 U.S. 384.

Le Roux E (2015) Open minds and closed systems: An author profile of South Africa's university presses. *Critical Arts*, 29 (6): 746-765.

Lundh A, Hróbjartsson A and Gøtzsch PC (2012) Income from reprints creates a conflict of interests. *BMJ* 345: e4970.

MacGregor K (2008) Africa: Researchers lag in science and technology. *University World News-Africa edition.* Available at: www.universityworldnews.com (accessed 31 August 2019).

Mann PS et al. (2018) Opinion: Advocating for science progress as a human right. *Proceedings of the National Academy of Sciences* 115 (43):10820-10823.

Maphai VT (1989). Affirmative action in South Africa - genuine option? *Social Dynamics: A Journal of African studies* 15 (2): 1-24.

May RM (1997). The scientific wealth of nations. *Science* 275 (5301): 793-805.

Mayhew, L. H. (1968). *Law and Equal Opportunity: A Study of the Massachusetts Commission Against Discrimination.* Cambridge: Harvard University Press.

Merton RK (1968). The Matthew effect in science. *Science* 159 (3810): 56-63.

Mbiti J S (1969). *African religions and philosophy.* London: Heinemann.

Miller CD (2015) A phenomenological analysis of the crabs in the barrel syndrome. *Academy of Management Proceedings*. Available at: https://doi.10.5465/AMBPP.2015.13710abstract (accessed 31 August 2019).

Moodley K and Myer L (2007) Health research ethics committees in South Africa 12 years into democracy. *BMC Medical Ethics* 8:1. Doi: 10.1186/1472-6939-8-1.

Muchova L (2012) WHO/lancet paper inflates number of illegal abortions. *LifeNews.com* Available at: http://www.lifenews.com/2012/02/02/wholancet-paper-inflates-number-of-illegal-abortions/?pr=1 (accessed 31 August 2019).

Munyaka M and Mothlabi M (2009) Ubuntu and its socio-moral significance. In: MT Murove (ed) *African ethics: An Anthology of Comparative and Applied Ethics* Durban: University of KwaZulu-Natal Press, pp.63-84.

Ng NY and Ruger JP (2014) Global Justice In: Jennings B (ed) *Bioethics* 4th edn. Farmington Hills: Macmillan Reference.

Nozick R (1974) *Anarchy, State and Utopia*. Cambridge: Harvard University Press.

New Partnership for Africa's Development (2005) *Africa's Science and Technology Plan of Action.* NEPAD: African Union.

Nzomo V (2014) KEMRI ordered to pay researchers 30 million shillings for constitutional infringement of intellectual property rights. Available at: https://ipkenya.wordpress.com/2014/07/25/kemri-ordred-to-pay-researchers-30-million-shillings-for-constitutional-infringement-of-intellectual-property-rights/ (accessed 31 August 2019).

Obuaya C (2002) Reporting of research and health issues relevant to resource-poor countries in high-impact medical journals. *European Science Editing* 28 (3): 72-77.

O'Donovan K and Szyszczak E (1988) *Equality and Discrimination Law*. Oxford: Blackwell Publishing.

Padawer R (2016) The humiliating practice of sex-testing female athletes. *The New York Times*, 28 June. Available at: https://www.nytimes.com/2016/07/03/magazine/the-humiliating-practice-of-sex-testing-female-athletes.html (accessed 31 August 2019).

Paraje G, Sadana R and Karam G (2005) Increasing international gaps in health-related publications. *Science* 308 (5724): 959-960.

Piotrowski, J. (2012). Accessing science as a human right to development. *SciDev 26 September.* Available at: http://www.scidev.net/en/science-and-innovation-policy/linking-human-rights-science-and-development/ (accessed 31 August 2019).

Pogge T (2011) Global justice lecture. Available at: http://www.yale.edu/macmillan/globaljustice/docs/gjlecture.pdf (accessed 25 June 2019).

Pogge T (2008) What is global justice? *Revista de Economía Institucional* 10 (19): 99-114.

Pogge TW (1994) An Egalitarian law of Peoples. *Philosophy and Public Affairs* 23 (3):195-224.

Police Department of Chicago vs Mosley (1972) 408 U.S. 92, 95.

Post RC (2008) Viewpoint discrimination and commercial speech. *Loyola of Los Angeles Law Review* 41:169-180.

Pouris A and Pouris A (2009) The state of science and technology in Africa (2000-2004): A scientometric assessment. *Scientometrics* 79 (2): 297-309.

R. A. V. vs City of St. Paul (1992) 90-7675, 505 U.S. 377.

Rawls J (1971) *A Theory of Justice*. Oxford: Oxford University Press.

Rawls J (1999) *The Law of Peoples*. Cambridge: Harvard University Press.

Raz J (1986) *The Morality of Freedom*. Oxford: Oxford University Press.

Reuters (2020) Trump's COVID-19 disinfectant ideas horrify health experts. The New York Times. 27 April 27. Available at: www.nytimes.com (accessed April 30 2020).

Ridley DB, Grabowski HG and Moe JL (2006) Developing drugs for developing countries. *Health Affairs* 25 (2): 313-324.

Rodney W (1972) *How Europe underdeveloped Africa*. Harare: Zimbabwe Publishing House.

Rosenberger vs University of Virginia (1995) 515 U.S. 819 US Supreme Court.

Rutherglen G (1985) Discrimination and its discontents. *Virginia Law Review* (81): 117-147.

Sabrin A (1993) Thinking about content: Can it play an appropriate role in government funding of the arts? *Yale Law Journal* 1209 (102): 1227-1228.

Salager-Meyer F (2008) Scientific publishing in developing countries: Challenges for the future. *Journal of English for Academic Purposes* 7 (2): 121-132.

Samazan T (2019). Leaders in science and engineering publications over the last decade: China and US. Available at: https://www.scienceboard.net (accessed 30 April 2020)

Sartre J-P (2001) *Colonialism and Neocolonialism*. London: Routledge.

Saxena S et al. (2003). How international are the editorial boards of leading psychiatry journals? *The Lancet* 361: 609.

Scimago (2019). Available at: https://www.scimagojr.com/countryrank.php (accessed 31 August 2019).

Sedgh G et al. (2012). Induced abortion: Incidence and trends worldwide from 1995-2008. *The Lancet* 379 (9816): 625-632.

Scientific Electronic Library Online (SCIELO) (2019) Available at: https://www.scielo.org (accessed 31 August 2019).

Smith R (2002) Publishing research from developing countries. *Statistics in Medicine* 21 (19): 2869-2877.

Sithole P (2009) *Unequal Peers: The Politics of Discourse Management in the Social Sciences*. Pretoria: Africa Institute of South Africa.

Sunstein, C. R. (1991). Three civil rights fallacies. *California Law Review* 79: 751-774.

Tangwa GB et al. (2019) *Socio-Cultural Dimensions of Emerging Infectious Diseases in Africa-An Indigenous Response to Deadly Epidemics.* Cham: Springer Nature Switzerland AG.

Tatalovic M (2012) Lack of science capacity threatens Africa's development. SciDev.Net, 2 November. Available at: www.scidev.net/en/science-and-innovation-policy/african-science-

policy/news/lack-of-science- capacity-threatens-africa-s-development-.html (accessed 10 September 2019).

Taylor MP (2012) Academic publishers have become the enemies of science. *The Guardian Newspaper online* 16 January. Available at: www.guardian.co.uk (accessed 10 September 2019).

Kugler H (2011) Brazil's high publication rate 'hides drop in quality'. Available at: https://www.scidev.net (accessed 10 September 2019).

Tella A (2020) Nigerian academics patronizing predatory journals: Implications for scholarly communication. *Journal of Scholarly Publishing* 51(3): 182-196.

Thornhill vs Alabama (1940) 310 U.S. 88 (97).

Tiemoko R (2004) Migration, return and socioeconomic change in West Africa: The role of family. *Population Space and Place* 10:155-174.

Tijssen RJW (2007) Africa's contribution to the worldwide research literature: New analytical perspectives, trends, and performance indicators. *Scientometrics* 71 (2): 303-327.

Tomaselli K (2015). Practices in scholarly publishing: Making sense of rejection. *Critical Arts* 29 (6): 713-724.

UNESCO (2005). Universal Declaration on Bioethics and Human Rights. Adopted by UNESCO's General Conference on 19 October 2005. Available at: www.unesco.org (accessed 31 August 2019).

UNESCO (2007). Science in Africa. Available at: http://www.unesco.org/science (accessed 31 August 2019).

Uthman OA and Uthman MB (2007) Geography of Africa biomedical publications: An analysis of 1996– 2005 PubMed papers. *International Journal of Health Geographics* 6: 46, doi: 10.1186/1476-072X-6-46.

United Nations. (1948). Universal Declaration of Human Rights.

United Nations Department of Economic and Social Affairs. (2015). World Population Projected to reach 9.7billion by 2050 Available at: https://www.un.org (accessed 10 September 2019)

United Nations (2015a) *Millennium Development Goals Report*. Available at: https://www.un.org/millenniumgoals/2015_MDG_Report/pdf/MDG%202015%20rev%20(July%201).pdf (accessed 31 August 2019).

United Nations (2015b) Transforming our World: The 2030 Agenda for Sustainable Development. Resolution Adopted by the General Assembly on 25 September. Available at: https://undocs.org/A/RES/70/1(accessed 31 August 2019).

United Nations. (1966). International Covenant on Social, Economic and Cultural Rights (ISECR). Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XX1) of 16 December 1966, entry into force 3 January 1976, in accordance with article 27. Available at: https://www.ohchr.org (accessed 31 August 2019).

Valadier P (2001). La mondialisation et les cultures. *Études*11 505-515.

Volmink J and Dare L (2005) Addressing inequalities in research capacity in Africa. *BMJ* 331: 705-706.

Walker H (2000) Communication media and the first amendment: A viewpoint-neutral FCC is not too much to ask for. *Federal Communications Law Journal* 53: 5-26.

Wasserstrom RA (1977) Racism, sexism and preferential treatment: An approach to the topics. *UCLA Law Review* 24: 581-622.

Wilder LD (2015). *Son of Virginia: A Life in America's Political Arena*. Landham: Lyons Press.

World Bank (2018). Classifying Countries by Income. Available at: http://datatopics.worldbank.org/worl-development-indicators/stories/the-classification-of-countries-by-income.html (accessed 31 August 2019).

World Health Organization (2011). *Unsafe Abortions: Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2008* (6th ed) Geneva: WHO.

World Population History. (2019). Projecting Global population to 2050 and beyond. Available at: https://worldpopulationhistory.org (accessed 31 August 2019).

WHO. Novel coronavirus (2019-nCoV),2020. Available at: https://www. who. int/ docs/ default- source/ coronaviruses/ situation- reports/20200211- sitrep- 22- ncov.pdf? -sfvrsn= fb6d49b1_2 (accessed 30 April 2020)

Vaughan CL (2008) Alternatives to the publication subsidy for research funding. *South African Journal of Science* 104: 91-96.

Xie Y, Zhang C and Lai Q (2014) China's rise as a major contributor to science and technology. *Proceedings of the National Academy of Sciences* 111 (26): 9437-9442.

Yuksekdog Y (2019) *Doctors behind borders: The ethics of skilled worker emigration*. Doctoral thesis, Linköping University, Sweden.