

# Academic dependency

A postcolonial critique of  
global health collaborations in oncology

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## Abstract

The vast majority of cancer cases worldwide are diagnosed in low- and middle-income countries (LMICs) each year. However, much of our knowledge about cancer is produced in the United States and Europe. This is in spite of a growing number of collaborative initiatives in oncology between institutions in the West and their counterparts in LMICs. In the same manner as global health, global oncology adopts notions of pluralism and equity. However, countries with limited resources that are unable to attend to their own health problems exhibit characteristics of academic dependency, which include a reliance on Western research agendas and priorities. Postcolonial countries are particularly susceptible to academic dependency due to a number of factors such as language barriers, a sense of intellectual inferiority, persistent orientalist stereotypes, and the ‘exoticization’ of locally produced knowledge. Additionally, the ability to conduct independent research is severely impeded by the undemocratic priorities of postcolonial governments.

## Keywords

oncology, global health, collaboration, postcolonialism, dependency

## Introduction

Prior to the 1960s, the care of patients diagnosed with cancer was the domain of internal medicine, surgery, and radiation therapy. It was not until chemotherapy emerged as a valid therapeutic option through clinical trial testing that medical oncology as a distinct discipline was born (Krishnan 2009). Since then, shifting discourses and competing interests, not least those brought about by commodification of science, have continuously redefined the field of cancer medicine (de Oliveira 2013).

Despite fierce institutional opposition, oncology was quickly isolated from other medical specialties with the establishment of dedicated cancer centers (Nathan and Benz 2001). In 1969, Tunisia and Egypt were among the first countries worldwide to create comprehensive cancer centers that provide cancer care and research across a wide array of subspecializations.

Yet, despite being early adopters of the new discipline and although an estimated two-thirds of cancer cases worldwide each year are diagnosed in low-income countries (Hayes 2017), much of our knowledge about cancer is produced in the United States and Europe (Paraje, Sadana, and Karam 2005). This is in spite of an expanding number of collaborative initiatives across the field between institutions in the West and their counterparts in postcolonial countries.

As a medical oncologist at the National Cancer Institute in Egypt and an adjunct assistant professor at the University of Texas, MD Anderson Cancer Center, I participate in multicenter international cancer research collaborations. In addition, my role as an official coordinator for Egypt involves working in close cooperation with the Global Academic Program at MD Anderson to develop and encourage collaborations in oncology between the two institutions. I also serve on the editorial board of the *Journal of Global Oncology*, published by the American Society of Clinical Oncology. My aim in this article is to reflect on the dynamics of scientific collaboration in the relatively new field of cancer medicine with a special focus on a specific type of collaboration between institutions in the West and their counterparts in postcolonial countries. Although I use examples from my own experience in Egypt, the discussion presented here applies more broadly to the challenges facing postcolonial countries that participate in global oncology collaborations. In particular, I would like to focus on the elements that prevent postcolonial countries from breaking a cycle of academic dependency. Among the characteristics of academic dependency is the inability to initiate and conduct science at a global level, a reliance on foreign aid, and a dependence on Western research agendas and priorities (Alatas 2003).

This postcolonial critique of global health collaborations traces the cultural legacy of colonialism by examining issues of power, politics, economics, and language and how they continue to hinder the success of these collaborations. I argue that oncology functions as a scientific discipline and therefore retains the capability to ‘characterize, classify, specialize; distribute along a scale, around a norm, hierarchize individuals in relation to one another and, if necessary, disqualify and invalidate’ (Foucault 1977, 223).

## Beyond independence

Egypt was at the heart of the postcolonial struggle and played a key leadership role in the founding of the nonaligned movement (Tignor 2011). Although Egypt was the first country in Africa to achieve formal independence in 1922, it wasn’t until 1956 that it was able to break free from British occupation. When in July of that year, President Gamal Abdel Nasser, frustrated by the American refusal to fund his Aswan Dam project, announced the nationalization of the Suez Canal, the armies of Britain, France, and Israel invaded Egypt with the aim of restoring ownership of the canal that had been described as the ‘lifeblood of the Empire’ (Louis 1984). Under immense international pressure the invading armies were forced to back down, marking an end to British and French colonial influence and hastening the process of decolonization throughout the world (Smith 2016).

Domestically, Nasser’s Arab socialist economic policies, which became known as Nasserism, continued to fund ambitious national projects such as Egypt’s public health system, including the Egyptian National Cancer Institute (Hassouna and Abou Ali 1996). Intriguingly, after Nasser’s death, the Egyptian National Cancer Institute was selected to become the first project to benefit from the newly released US aid, which had previously been denied to Nasser and sparked the Suez crisis (Hoogstraten 2005). The emergence of scientific collaboration from the center of the postcolonial struggle is demonstrative of the overlap between power, politics, and knowledge production.

Dr. Barth Hoogstraten (2005), the founding chairman of one of the earliest clinical trial collaborative groups in the United States, the South West Oncology Group (SWOG), describes in his memoir how he was summoned by the US State Department to approve Egypt’s application to join his group. Egypt’s membership would allow the newly formed cancer institute to contribute to cutting-edge cancer research by offering participating oncologists the opportunity to enroll Egyptian patients in SWOG trials.

Hoogstraten’s account offers a rare insight into his encounters with his Egyptian counterparts and the US ambassador. ‘If I approve the request, I must make one thing perfectly clear. I’ll decide who will attend the SWOG meetings’, he informed the dean of the

Egyptian National Cancer Institute, Dr. Mohamed El-Sebai (Hoogstraten 2005, 138). Subsequently, after SWOG accepted Egypt as a new member, a newly appointed Egyptian dean changed the list of participants, but Hoogstraten stood his ground. Later, when the US ambassador tried to intervene on behalf of the Egyptian side, there was a standoff: 'Doctor, you are interfering with State Department business', warned the ambassador, 'And you, Mr. Ambassador, are interfering with SWOG business', Hoogstraten responded. Hoogstraten goes on to acknowledge that he had to lie to the US ambassador to get his way (Hoogstraten 2005, 138).

## Global initiatives

Science was not always collaborative. Most of the early modern scientific discoveries in physics and chemistry were the works of single authors or institutions. The disciplining of knowledge and the subsequent institutionalization and systematization of the various academic fields was followed by the emergence of collaborative research. For the purpose of this article, I use the term 'scientific collaboration' to refer to a commitment between members of discrete research institutions to share resources towards any number of identical objectives that result in the production of knowledge (Thistlethwaite, Jackson, and Moran 2013). These collaborations may form part of broader institution-wide partnerships or cooperative ventures that are centered around an 'intersection of common goals' (Marinez-Moyano 2006). In oncology, the establishment of clinical trial cooperative groups such as SWOG was commissioned by the US National Cancer Institute and the European Union and has been fundamental in providing large-scale clinical trial data.

More recently, however, there has been an upsurge in collaborations initiated by influential institutions in the West that seek opportunities with 'global partners' (Crane 2013). The objectives and dynamics of global collaborations differ from the more traditional forms of collaboration, in that there is often an awareness of inequality by both parties. Conscious of this inequality and the historical lack of trust towards Western health initiatives (Tilley 2016), global health has been careful to espouse notions of equality and inclusion (Koplan et al. 2009). However, despite insistence that the term 'global' refers to scope and not location, the vast majority of global health initiatives are headed by Western universities (Merson and Page 2009). As such, the ability to initiate and conduct science at a global level is a manifestation of dominance. For countries with limited resources that are unable to attend to their own health problems, participation in global collaborations puts them on the receiving end and these participants cannot be considered engaged in science at a global scope.

Oncology has been slow to jump on the ‘Global Health’ bandwagon, which continues to be dominated by infectious diseases and maternal and child health (Koplan et al. 2009; Fouad 2014). Global collaborations in oncology have been spearheaded by a number of influential cancer centers and national programs in the United States and have adopted similar notions of pluralism and equity (Mika 2016). In the same manner as global health, global oncology links enlightened self-interest with an altruistic call to integrate ‘developing countries’ into the expansive global network of information and commodity exchange (King 2002). However, in doing so, global oncology perpetuates a universalized discipline and presents its approach, taxonomy, priorities, and means of knowledge production and distribution as the only way to conduct cancer medicine.

## The postcolonial dimension

European colonialism has had a destructive and lasting legacy on many of its former colonies. The exploitation and subordination of the colonies was to subsequently render them dependent on the metropole. Upon gaining independence, many of these countries undertook a path towards ‘modernization’, which for the most part was synonymous with Europeanization or Westernization (Chew and Lauderdale 2010).

In the context of scientific collaborations, the modernization narrative perpetuates a model in which scientific knowledge spreads by linear diffusion from the West, which resides at an imaginary center while all others reside in the periphery (Von Gizycki 1973). Ultimately the modernization narrative has the effect of shifting the responsibility for successful ‘development’ onto the postcolonial subject rather than addressing structural challenges, such as unfair terms of cooperation and technological transformations in the means of production (Sumberg, Mader, and Flynn 2016).

Moreover, the pervasive force of colonial ideology resulted in colonial subjects that had internalized the belief in an inherent Western intellectual superiority, and, in turn, their own inferiority. This phenomenon persists in postcolonial countries under a variety of terms, such as ‘colonial mentality’, or ‘عقدة الخواجة’, which translates into ‘the foreigner complex’ or ‘cultural inferiority complex’, and describes a conviction that anything Western is good and anything local is bad. This is recognized as having palpable economic and political ramifications, and no doubt scientific ones. On the other hand, Orientalist stereotypes remain prevalent in the West and continue to influence perceptions of competence, transparency, and data accuracy of many postcolonial scientists.

Today in many parts of Africa, the language in which oncology is taught and practiced is communicated along colonial lines despite the establishment of English as the universal

language of science (van Weijen 2012). This entails additional effort on the part of scientists who come from Francophone countries for example, should they wish to publish globally recognized work. But even for fluent English speakers from postcolonial countries, the playing field is far from level (see also Boum this issue). For knowledge produced in postcolonial countries to be published in influential journals it must contribute to Western research agendas, Western problem areas, and reflect Western standards of excellence. On the other hand, if the knowledge produced does not meet Western demands it is not denied but frequently ‘exoticized’, isolated and presented as relevant only within its own geographical and cultural setting (Lillis and Curry 2010, 141). This would explain in part the recent trend in English-language ‘global’ offshoots of renowned oncology journals. Ultimately, the most damaging effect of this is that the science performed in postcolonial countries takes its cues from the West rather than addressing local priorities. For example, rather than being grounded in local objectives, a large proportion of published doctoral dissertations in Egypt employ scientific mimicry, a detrimental process, whereby novel scientific discoveries published in the West are ‘localized’ or confirmed with local patients. In most cases, these studies will bear very little impact on local clinical practice.

A postcolonial analysis is also concerned with the political and economic collapse in newly independent states, and the rise of postcolonial dictatorships and the tacit support they receive from the West in view of shared financial and political interests (Nkrumah 1968). For the postcolonial scientist, science doesn’t occur in a vacuum and is often performed within a political environment that prioritizes political loyalty over competence. This greatly impedes capacity building in postcolonial countries by making it more difficult for budding scientists to pursue successful careers based on merit or effort alone. Moreover, institutional leadership appointments that are based on loyalty can be detrimental to the quality of research produced. Perhaps a dramatic example of this incompetence occurred in Egypt recently, with the publicized announcement of the breakthrough development of what was dubbed a ‘Complete Cure Device’, that cured both viral hepatitis C and HIV, much to the shock of the local scientific community (Abdelaziz and Abedine 2014). The press conference was led by Major General Ibrahim Abdel-Atti, who had been appointed as head of the Cancer Treatment and Screening Center, and was subsequently found to be wholly unqualified for his position.

In addition, ill-informed concerns about national security directly impede scientific discovery and data sharing in some postcolonial countries, while the conduct of first-in-human (phase I) clinical trials are prohibited in others (Public Eye et al. 2016). In Egypt, where half of the international drug trials are cancer related, sending tissue or blood samples abroad requires obtaining approvals from several agencies including Egypt’s homeland security agency. This incurs significant delays and adversely affects the participation of Egyptian researchers in

international trials that require evaluation by a central laboratory or when advanced laboratory equipment is not available in Egypt. Moreover, international research funds are closely monitored by security agencies, and the activities of nongovernmental research organizations are severely restricted.

## Science as an endless frontier

Rather than viewing the production of knowledge as simply a benevolent exercise in the pursuit of truth, French philosopher Michel Foucault linked knowledge production to disciplinary power within a given epoch. In his view, power was a producer of reality, not merely a means of repression, censorship, or exclusion (Foucault 1977).

Foucault also criticized the linear model of scientific accumulation and instead saw science as emanating from various discursive formations that exist as a historical *a priori* and ‘defines the conditions of possibility for all knowledge’ within a particular epoch. He referred to these discursive preconditions as ‘*épistèmes*’ or, as he explains, ‘the *épistème* is the “apparatus”, which makes possible the separation, not of the true from the false, but of what may from what may not be characterized as scientific’ (Foucault 1980, 197). Several *épistèmes* that stem from different power/knowledge systems may coexist and interact at the same time.

By approaching science from a critical perspective, we are able to trace a variety of *épistèmes* that are relevant to understanding the power dynamics within global oncology collaborations today. In the wake of the Second World War, the perception that the Allied victory was linked to the technological superiority of US military has had a persisting legacy in shaping American commitment to scientific research. Vannevar Bush, who was in charge of US military research and development during the war, proposed a state of perpetual mobilization of American society in the pursuit of scientific superiority and dictated the enduring terms between science, the government, and the military (Zachary 1999). In his report to President Truman, ‘Science, the Endless Frontier’, Bush laid the blueprint for the large-scale government funding of university-based research which is directly responsible for the leadership status in cancer research that the United States enjoys today (Walter, Saunders, and Putney 1985, Walter and King 1977, Institute of Medicine National Academy of Sciences 1989). President Nixon’s National Cancer Act of 1971 laid the groundwork for the creation of more than sixty designated cancer centers across the United States under the National Cancer Institute’s Cancer Centre Program (National Cancer Institute 2015). Currently, many of these cancer centers have budgets larger than the budgets of entire governments in Africa, making collaborations with corresponding cancer centers in low-income countries incongruous from the start (NEPAD 2006).

The subsequent shift in the dominant economic model in the United States towards neoliberalism in the 1970s, with its promotion of privatization, deregulation, and free market economics, has steered science towards ‘innovationism’. This marks a significant departure from Bush’s emphasis on government patronage of science and has raised concerns among the scientific community (Ronald 2014). Market-driven innovationism restricts scientific enquiry to commercially viable discoveries with a particular emphasis on product novelty (de Oliveira 2013). Market-driven novelty is ingrained into the product life cycle and is essential for the developer to enjoy a patent-protected market monopoly (United States Patent and Trademark Office 2013). By linking science to profitability, innovation thrives in the more lucrative markets of the United States, Europe, and Japan, and is not a viable model to address the health priorities of less affluent countries.

Neoliberalism has been a powerful driver of globalization (Litonjua 2008), and has informed many of the discursive foundations of global health. In oncology, the growing alliance between industry and academia has been transformative. The emergence of translational research drove laboratory research towards clinically applicable, and ultimately ‘commercializable’, objectives rather than the unrestricted exploration of the mechanistic aspects of disease (Cambrosio et al. 2006; Goldstein and Brown 2012; Jogalekar 2012). In the rapidly changing field, cancer researchers from less affluent countries are finding it difficult to keep up with the rapid technological transformations in the means of knowledge production. As a result, collaborators from these countries are increasingly finding themselves relegated to the role of providing samples or testing new drugs in a global division of labor that produces science that will not benefit patients locally (Public Eye et al. 2016).

## Regimes of truth

Oncology as a discipline universalizes a positivist approach to medicine that follows a standardized approach to clinical practice, is communicated in English, and is published in Western journals. It is on these terms that partnerships are made.

The universalization of evidence-based medicine (EBM) is a particularly critical point for global oncology that warrants careful consideration. EBM is a standardized approach that links the practice of medicine to ‘state of the art’ empirical knowledge. More subtly it links clinical practice to the production of knowledge. In other words, oncologists in low-income countries who are unable to treat patients according to guidelines in the West often find themselves with data that is neither comparable to the scientific cannon nor publishable. In global collaborations between cancer institutions in low-income countries and those in the West, differences in treatment often lead to significant differences in patient survival and

make the analysis of pooled data extremely complicated. As a result, the postcolonial oncologist finds herself alienated from both the production of knowledge and the product of her labor. The science discussed at conferences, presented at grand rounds, and read in journals bears a diminishing impact on daily practice (Livingston 2012; Feierman 2011).

In addition, EBM is associated with the creation of a new type of intellectual, the Principal Investigator, who is a member of a clinical trial network, carries out clinical research, presents results at international conferences, and publishes scientific evidence that produces standardized clinical consensus guidelines. In this sense, EBM also determines which research questions can be asked, by whom, and who can speak for medicine.

Although research institutions in LMICs participate in global health collaborations with the goal of improving capacity and building a sustainable research infrastructure, in most cases the delivery of these objectives are not formulated in the collaboration proposal. As a result, global collaborations are mainly concerned with achieving short-term project objectives as completely and as efficiently as possible. This is far from easy in a low-capacity, low-technology setting and in many cases is overcome by ‘quick fixes’ that may be detrimental to the long-term goals of less affluent countries. For example, Crane (2011) describes how US universities establish parallel administrative systems in host countries in the form of shell nongovernmental organizations in order to bypass the tenacious institutional bureaucracy in African universities. This approach undermines capacity building by taking the easy route rather than partnering with African universities to rebuild their administrative infrastructure.

The rapid technological transformations in the West are challenging the status of oncology as a universalized discipline. Standardized treatment guidelines in the West are becoming less applicable in low-income settings. Similarly, the anatomical gaze in oncology is being replaced by a molecular gaze and changing the way that cancer is classified (Amin et al. 2017). The recent regulatory approval of the tumor site agnostic indication for the immune drug pembrolizumab is a case in point (U.S. Food and Drug Administration 2017). Traditionally, cancer is classified, and as a result, treated, based on its tissue of origin (for example, breast cancer, skin cancer, etc.). Tissue-agnostic drugs are a new class of cancer drugs that are used to treat cancer based on the presence of a molecular biomarker regardless of the tissue affected. Similarly, the upcoming edition of the American Joint Committee on Cancer staging manual, which is the standard cancer staging system worldwide, introduces a two-tier staging system in order to incorporate the use of advanced molecular biomarkers, which are not available in most parts of the world (Giuliano et al. 2017).

## Conclusion

In this article, I have sought to expose some of the power dynamics and conflicting interests at the root of academic dependency in global collaborations in the rapidly changing field of oncology. This has created a global division of labor whereby many collaborators from LMICs are relegated to the role of providing samples rather than contributing to the design and conduct of scientific projects. Postcolonial researchers face additional challenges in the form of language barriers, a sense of intellectual inferiority, persistent orientalist stereotypes, and the ‘exoticization’ of locally produced knowledge. More importantly, the ability to conduct independent research is severely impeded by the political priorities of undemocratic postcolonial governments that maintain close financial and political ties with the West.

Global oncology perpetuates a universalized discipline by integrating ‘developing countries’ into the global network of information and commodity exchange while maintaining control of the means of knowledge production and knowledge distribution. Moreover, the rapid technological transformations in the West are changing the way oncology is practiced and the way tumors are classified making it difficult for oncologists in non-Western countries to contribute equally to cancer research.

It is important that scientists in the West acknowledge these inequalities to avoid overlooking the interests of postcolonial researchers, which should drive collaborations with Western institutions. Rather than adopt scientific programs that are based on modernization, governments in postcolonial countries should focus on the creation of a system that insists on the applicability of research findings to local objectives. This system would encompass the local production, control, and delivery of knowledge and leverage local capacities with scientific programs that are driven by local priorities.

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