

As One Single Tribe: Thinking Globally and Locally

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Harold Freeman was born in 1930's Washington DC¹, during a period of racial injustice. His journey took him from the historically black Howard University for medical training, to Harlem, the heart of African American arts and culture, where he cut his teeth in his medical career as an oncologist¹. Dr Freeman's life's work focused on poverty and cancer in underserved African American communities, working to reduce disparities in access to care. It was at the Harlem Medical Center that he first came across many African Americans reporting to hospital with unusually advanced cancer. The horrors of what he saw moved him to write his seminal paper "Cancer in the Economically Disadvantaged"² which exposed the disparity in life expectancy between African Americans and Caucasian men, and drew attention to the vital importance of addressing non-biological contextual factors such as social determinants of disease in poor communities. Professor Freeman won the 2000 Lasker Public Service Awards³.

Freeman's story struck me because of how he was not afraid to allow his unique perspective to shape his scientific inquiry to better the lives of people. As I write this, the COVID-19 pandemic is sweeping across the world with no end in sight. I am sitting behind my desk in self-isolation, with the social media newsfeed bombarding my phone with recommendations about "social distancing" and "hand washing under running water". Yet, I cannot help but think of an article⁴ I read a few days back asking a sobering question: what will social distancing look like for millions of ordinary people across Africa? In Ghana where I come from, the average family lives in a single room and uses a public toilets, what would self-isolation look like here? For the head porter or street-side tomato seller who relies on a daily wage, what will an Italy-style total lockdown mean? This was my big take-away from Harold Freeman: in science, pay attention to the context, it matters. My second hero, Tu Youyou would agree. This is her remarkable story.

Also born in the 1930s but in Ningbo China⁶, Tu trained and worked as a Phyto-chemist at a time when the cultural revolution in China demonised scientists and intellectuals as being part of the "Nine Black Categories"⁷. She graduated from the Beijing Medical University School of Pharmacy in 1955 in pharmaceutical chemistry, followed by a 2.5-year training course in Chinese traditional medicine. To solve the problem of Malaria in southern China, Tu had the idea of combing through classical Chinese texts for potential herbal candidates⁸. She eventually found a recipe for malaria using the sweet wormwood plant ("Qinghao" in Chinese) in a 1,600-year-old text. After several failed attempts, Tu extracted Artemisinin, a powerful compound for treating Chloroquine-resistant Malaria in 1972. Thus, in spite of being a female scientist in turbulent days and having no postgraduate degree, Tu Youyou went on to win the 2011 Lasker-DeBakey Prize⁹ and the 2015 Nobel Peace Prize for Physiology or Medicine⁶.

An important lesson emerges for me. Because of her remarkable respect for both Western and ancient traditional Chinese treatments, Tu did not approach the problem with an "either/or" attitude, but with a "both/and" perspective. This is why she considered turning to ancient Chinese

texts for an answer but perfected the “recipes” with modern western phytochemical techniques. As a medical doctor in Ghana, I am well aware of the dangers posed to the health of people by charlatan prophets, witch doctors and snake oil salesmen at lorry parks. But, while acknowledging the potential for excesses of local remedies, could it be that a better approach to scientific enquiry in my context may be the “both/and” approach that Tu took? For example, in my research focused on executive functioning of children in Ghana, might it be useful to first undertake some qualitative (ethnographic) research to gain local conceptual insights that may unlock novel solutions in diagnosis and treatment?

The lessons that my two science heroes teach me can be summed up thus: value your unique perspective and do not be afraid to look at old problems a little differently. Our world is rapidly changing and becoming increasingly inter-connected. Thus, the nature of emerging threats will increasingly be global in nature, requiring scientific talent from different regions of the world working cooperatively yet thinking uniquely. As I journey on my career as a clinician scientist, I imagine Professor Freeman urging me to think about local context-specific determinants, and Professor Tu gently encouraging me to examine potential local solutions. They would tell me to “think globally... but act locally”.

“Now more than ever, the illusions of our divisions threaten our very existence. But in times of crises... We must find a way to look after one another, as if we were one single tribe”.

King T'Challa, post-credit scene in *Black Panther* (2018).

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