American Foundations in Public Health: Ascension of Soft Power and Free Markets in China and India

Tiasangla Longkumer
Centre of Social Medicine and Community Health
Jawaharlal Nehru University

Abstract

This thesis explores the historical origins and influential role exerted by the Rockefeller, Ford, and Gates foundation in the continuities and discontinuities of American philanthropy's global development of public health from the early 20th century to the present. With a focus on China and India, two countries that have been crucial areas of American philanthropic interest in Asia since the beginning of the 20th century, this study attempts to examine focused public health programs and institutions established by the three foundations to explain how Rockefeller Foundation (RF), Ford Foundation (FF), and Bill and Melinda Gates Foundation (BMGF) over the course of decades have conceptualized and influenced public health development in China and India. The central focus of this thesis aims to draw out the contrast of American philanthropic involvement in public health between China and India since the early 20th century starting with the Rockefeller Foundation (RF) into the era of the Cold War with Ford Foundation (FF) involvement and finally with the entry of the Bill and Melinda Gates Foundation (BMGF) in the contemporary times. For the sake of comparison this thesis implores Duara's idea of 'Convergent Comparison' placing the American influence of Institutionalizing 'Scientific Medicine' as the point of comparison between the two countries.

The thesis further elucidates how RF, FF, and GFs influential roles over the course of decades have been derived from their unique ability to advance knowledge structures both within a global and local context. Since the beginning of the twentieth century, American Foundations have been actively engaged with China and India's Public health institutions, and programs. These institutions and programs were designed to accommodate the public health needs of the Chinese and Indian state where they sought to catalyze change. Drawing upon the Gramscian idea of 'Cultural Hegemony' and Joseph Nye's concept of 'Soft Power' this study broadly looks at the differences in the scope, nature, and depth of engagement of the RF, FF, and BMGF with a focus on health institutions and programs in China and India from the early 20th century to contemporary times. Using archival resources, secondary literature, and key informant interviews, this study traces the RF, FF, and BMGF historical development in China and India, the world of its philanthropic giving, its impact on knowledge construction, social policies, and the agenda it sought to fulfill.

Many scholars have contributed to the rich body of literature already existent in the study of American philanthropy's influence and impact on public health in Asia. Their analyses range from complimentary to critical of the role of American philanthropists. However, many of these works have been restricted in geographical space and time. Most studies either focus on China or India, or only one foundation within a given time frame. A study of the role and influence of American philanthropy in public health and its continuities through an interdisciplinary lens by placing China-India in a single investigative framework is an area rarely explored in scholarships. By cutting across disciplinary boundaries like history of science, public health, medical humanities and social medicine, this study tries to connect and compare China and India through the lens of American Foundation's philanthropic activities and their significant impact on public health development in China and India.

Being two of the most populous countries in the world with an ability to contribute to the larger research in public health, a study of the influential role of RF, FF and BMGF helps us better understand how public health governance driven by private philanthropy play an important role in shaping knowledge production in health and medicine, and the ideological and institutional implications of this knowledge production in the framing of public health policies.

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Usually, acknowledgment is the very last thing one writes in their PhDs. It is a bittersweet moment tinged with the satisfaction of completion and the sadness of ending, of letting go, at least for the moment. The years of one's Ph.D. is veritably a world of its own-a world that we breathed and lived through joys and sorrows, through journeys—across continents in this case—accompanied by so many untold stories and touched by so many brilliant minds all along the way. How does one acknowledge that immense world and the diverse people who shaped it in just a few hundred words? This is, therefore, an admission to the fact that although many more remain unnamed than the few who find a mention here, this Ph.D. would not have been possible without any of them.

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CENTRE OF SOCIAL MEDICINE AND COMMUNITY HEALTHSCHOOL OF SOCIAL SCIENCES
JAWAHARLAL NEHRU UNIVERSITY
NEW DELHI – 110067

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Declaration

The thesis entitled "**American Foundations in Public Health: Ascension of Soft Power and Free Markets in China and India**" is submitted for the award of the Degree of Doctor of Philosophy of Jawaharlal Nehru University. This thesis has not been submitted previously for the award of any other degree of this or any other University and is my original work.

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We recommend this thesis be placed before the examiners for evaluation for the award ofthe degree of doctor of Philosophy.

Rama.V.Baru

Dr. Rama Baru
Supervisor

Rajib Dasgupta

Prof. Rajib Dasgupta
Chairperson

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List of Abbreviations

ABCFM	American Board of Commissioners for Foreign Missions
ACWF	All-China Women's Federation
AIDS	Acquired immunodeficiency syndrome
AIIHPH	All India Institute of Public Health and Hygiene
AIIMS	All India Institute of Medical Sciences
AMA	American Medical Association
AMC	Advanced Market Commitments
ANMs	Auxiliary Nurse Midwives
ASHAs	Accredited Social Health Activists
AWWS	Anganwadi workers
BMGF	Bill and Melinda Gates Foundation
CBOs	community-based organizations
CDC	Disease Control and Prevention
CEO	Chief Executive Officer
CGD	Centre of Global Development
CMB	China Medical Board
CNBG	China National Biotec Group
COS	Charity Organization Societies
CSTM	Calcutta School of Tropical Medicine
DOTS	Directly Observed Treatment
DPT	Diphtheria, Pertussis, Tetanus
DTRC	Demographic Training and Research Centre
ECOSOC	United Nations Economic and Social Council
FF	Ford foundation
FWCW	Fourth World Conference on Women
GAIN	Global Alliance for Improved Nutrition
GAVI	Global Alliance for Vaccines and Immunizations
GHDDI	Global Health Drug Discovery Institute
GND	Great Neglected Diseases of Mankind
GF	Gates Foundation
GFATM	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GOI	Government of India
HIV	human immunodeficiency virus
HPV	Human papillomavirus
ICPD	International Conference on Population and Development
IDA	International Development Assistance
IHD	International Health Division
IHB	International Health Board
IMS	Indian Medical Service
IPPF	International Planned Parenthood Federation

IRFA	Indian Research Fund Association
IUD	Intra Uterine Device
IYCF	infant and young child feeding
JE	Japanese encephalitis
KAP	Knowledge, Attitude, and Practice
KMT	Kuomintang
LF	lymphatic filariasis
LHNO	League of Nations Health Organization
MDR-TB	Multiple Drug Resistant Tuberculosis
XDR	Extra Drug Resistant
MNT	Maternal and Neo-natal Tetanus
MoC	Memorandum of Cooperation
NACO	National Aids Control Organisation
NGO	Non-Governmental Organisation
NHFPC	National Health and Family Planning Commission of China
NIC	National Intelligence Council
NIFP	National Institute of Family Planning
NIHAE	National Institute for Health Administration and Education
ODA	official development assistance
OECD	Organization for Economic and Co-operation and Development
PATH	Program for Appropriate Technology in Health
PHC	Primary Health Centre
PM	Prime Minister
PPP	Public-Private Partnership
PUMC	Peking Union Medical College
RBF	Rockefeller Brother's Fund
RF	Rockefeller Foundation
RIMR	Rockefeller Institute of Medical Research
RMNCHN	Reproductive, Maternal, Newborn, Child Health, and Nutrition
RSC	Rockefeller Sanitary Commission
SFPC	State Family Planning Commission
TB	tuberculosis
UCO	Uncinariasis Commission to the Orient
UEBHI	urban employee basic health insurance
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNFPA	United Nations Population Fund
UP	Uttar Pradesh
UP TSU	Uttar Pradesh Technical Support Unit
URBHI	urban resident basic health insurance
USAID	United States Agency for International Development
VL	visceral leishmaniasis
WFMS	Woman's Foreign Missionary Society
WHO	World Health Organization
WWII	World War II

YMCA	Young Men's Christian Association

Introduction

American Foundations and Health Philanthropy in China and India: Continuities and Exits

The interest shown by the American Foundations in China and India is well acknowledged. From agriculture to education to health, these foundations have been actively involved in 'National Development' in their words. This investment in public health was started by forming the "Sanitary Commission for the Eradication of Hookworm disease" in 1910 by the Rockefeller Foundation (RF). The Ford Foundation (FF) followed by investing in family planning programs. The Rockefeller international health division and even the Ford Foundation branched out from their headquarters in the United States across international borders. However, in the recent time, the Bill and Melinda Gates Foundation (BMGF) has resumed the role of the RF and FF of the earlier decade. BMGF dwarfs both Rockefeller and Ford in terms of funding and exerting influence on public health (McCoy et al., 2009; Cueto, 2008; Birn & Fee, 2013; Levich, 2014). The entry of the BMGF in China and India signifies the influential role of American philanthropy in contemporary times and signifies the transition of traditional charity from philanthropy to philanthrocapitalism.[1]

Health philanthropy in China and India was initiated by the Rockefeller Foundation, followed by Ford, and now the Gates Foundation. Although there were other partners in global health reform, notably private businesses, universities, and religious missionaries, none of them individually could match the breadth and complexity of projects led by RF, FF, and GF in public health. All three foundations arose at a particular point in the history of public health initiated by the wealthiest and most driven capitalist of the day. Their large endowments would come from their parent businesses – Stanford Oil, Ford Motors, and Microsoft. Each business faced public

[1] RF's efforts in medicine were part of the "new American movement – Scientific Philanthropy" propounded by Andrew Carnegie. This movement urged the rich to divert their wealth to "societal good by supporting organized social investments rather than haphazard forms of charity" or traditional charity. The RF, emboldened by Progressive Era reforms, sought to create an apparatus based on scientific research to develop public health. However, in the recent decade, with the onset of the BMGF as a global player in public health, philanthropic giving has increased in scale and scope. Today's philanthropy takes up the challenge to direct the paths of the governments to do better. It`s not about charity, but they drive social change. Giving in the new philanthropic practice of the 21st century is becoming governance. Compared to their predecessors, today`s philanthrocapitalists differ in their extent of charity, their goals, and their pursuit of business rhetoric in their philanthropy.

scrutiny for its monopolistic practices and has been equally subjected to skepticism regarding its philanthropic motives. Though founded in very different historical contexts, RF, FF, and BMGF were established, led by the vision of wealthy moguls framed within the culture of American capitalism. All three foundations have equally devoted a considerable amount of their wealth to bolster public health development in many countries (Stevenson, 2014).

In the first decade of the twentieth century, the RF supported science-based innovations by projecting a narrow and medicalized understanding of diseases. It sought to establish international health cooperation and shape "the principles, practices, and key institutions of international health" (Birn, 2014). The precise temporal context in which the RF was formed presented a unique chance for the foundation—to obtain legitimacy in the nascent field of public health. The creation of the FF took place two decades after the establishment of the RF. In the immediate aftermath of World War II, coinciding with the growth of the FF, the scattered priorities and projects of foundations coalesced into a more focused agenda where population growth of the newly independent nations of China and India was figured as an important area of concern. With the onset of the Cold War, global health reform and modernization became a shared mission (Kelly, 2013). The birth of BMGF happened when global health was facing a crisis with the resurgence of infectious diseases and pandemics. BMGF sought to embody market-based philanthropy to healthcare. Often known as ''philanthrocapitalism,'' this approach is based on the supposition that the application of a market-based model to social issues will bring about a positive social outcome (Stevenson, 2014).

Although the three foundations share a similar approach to public health concerns and population control, there are considerable differences between them. First, the RF's credibility streamed primarily from its long history of engaging with developing science and technology capacity building in the public sector. It emphasized developing programs and providing advanced training programs in public health. The FF owing to the needs of the Cold War era, had focused most of its philanthropic funding on population control strategies in China and India. Thirty years before the FF ventured into the population field, it was the RF that had initially initiated philanthropic funding in the population sector. Although the RF was cognizant of the transitioning context in the population field, its approach preserved its major early features, prioritizing "research and technological interventions" in fertility control. It continued to uphold its neo-

Malthusian perception and viewed rising fertility as a critical social concern that demanded philanthropic attention. Hence, RF philanthropy could not thrive in the reproductive health era. FF though it shared a similar neo-Malthusian approach to the population issue in the initial years of its philanthropy, unlike the RF, Ford abandoned its original approach and directed its funding toward reproductive health. Taking a diversion from the approach it had shared with the RF, the FF began to minimize its funding in population control while leaning its focus toward women's health. These new transitions deterred the population control movement and fostered the age of Reproductive Health (Elkind, 2015). Moving away from the earlier RF approach in public health, the BMGF has shown increasing interest in developing science-enabled programs in global health. However, its focus has been more on "target-oriented end-points and silver bullets" rather than investing in building human resources training (Stevenson, 2014). "The RF was instrumental in establishing the centrality of public health to economic development, nation-building, scientific diffusion, and capitalism while institutionalizing lasting patterns of health cooperation. The BMGF, while reliant on the public sector to deliver many of its technology-focused programs, appears largely indifferent to the survival of public in public health" (Birn, 2014).

RF, FF, and BMGF in China and India

China and India have both been at the core of American philanthropy since the beginning of modern institutional philanthropy. Before the involvement of private philanthropic foundations in both countries, such charitable giving was significantly linked to the missionary movement, which prized public health by establishing hospitals as an important medium for their evangelistic endeavor. Medical philanthropy was recognized as a potent tool for gaining acceptance and grounding a foothold in the local communities of both countries (Xiulan and Lu, 2014). Many of China and India's public health legacies were founded by such charities. With the expansion of colonial powers, the missionary movement formed a strong network in the form of the London Missionary Society (LMS) and the American Board. Eventually, it became an integral component and primary source of medical work in both societies. The decades-long efforts by medical missionaries in public health paved the way for the work of major foreign philanthropic foundations like the RF. One of the first major American foundations to enter China and India's public health, the RF was initially motivated by religious inclinations, and missionary-supported

healthcare institutions in both countries frequently became important partners for the RF to further its soft power agenda. (Ibid). Taking a diversion from the nineteenth century missionary lens of viewing China, the RF placed its confidence in its understanding of Christianity and the growing sect of American science. The entry of the RF signaled a shift from sermonizing to souls to sermonizing to the bodies. RF's philanthropic engagement played an instrumental role in shifting the focus from a charity based on religious impulse to more secular goals like medical research and education. The goal of the RF eventually became to develop scientific medicine in the spirit of the Christian religion (Buttrick, 1915; Memorandum, n.d). At the same time, American science had begun to advance in the study of the etiology of diseases which minimized the role of spirituality in medicine. Hence, the RF's primary standard would inculcate not just the protestant ethic but also scientific temper. The foundation's religious impulse married well with its philanthropic endeavor. Scientific medicine thus became an excellent vehicle to consolidate its soft power (Baick, 2004).

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Like the Protestant missionaries that preceded them, the RF would venture into China and India's public health, taking with them the scientific tools and know-how to civilize and modernize the local populations. The early efforts of the RF reflected the same evangelical spirit integrated with a concern for the broad and long-term needs of the United States economy. The RF led the way in the application of scientific philanthropy abroad. "It would be in the arena of public health that the RF would establish its grandiose visions, not just to solve problems, but to establish permanent state and private institutions devoted to social engineering" (Kelly, 2013, p. 38). The concept of unrestricted scientific exchange that emerged during the 20th century was intended to promote science across national boundaries (Chakrabarti, 2017). American philanthropic engagement through the RF in China and India aimed to introduce the gospel of 'Scientific Medicine' in the Orient. With unrelenting trust in the ability of the scientific method and its approach to public health and the belief that empirical science forms the most authoritative worldview to the exclusion of other perspectives, the RF became one of the most important agencies that developed scientific medicine in China and India in the early 20th century. Thus, advancing this idea of scientific medicine dominated the RF's philanthropy institutional agenda.

In the 1950s, the RF partnered with a new philanthropic entity in overseas philanthropy, and together, they aimed to expand global reform efforts to an unprecedented level. While the era of the RF was more directed towards the advancement of pure science, in the second half, shaded by Cold War, the focus of the FF was inclined toward developing social sciences and arts both in the US and internationally. "The science focus arguably led to the Green Revolution, and the social

sciences work led to the post-war development boom, and the rapid expansion of area studies and international development programs across elite US universities." (Kilby, 2021, p. 13).[2] By the 1960s, FF had become one of the largest philanthropic entities surpassing Rockefeller and Carnegie in its disposition of funds for international development. The availability of such greater funds inevitably cast the FF in a wider role abroad than that played by its predecessors (Ashley, 1971).

By the mid 20th century, the RF had already established itself as an important player in global public health reform with its programs spanned across China and India.[3] Hence, when Ford stepped foot in China and India with its population control agenda, American philanthropy had already established its legitimacy through the decade-long activities of the RF. The entry of the FF in China and India depicts the continuities of American philanthropy's exertion of soft power from RF to the FF. When the RF entered the philanthropic arena, foreign aid was considered nullified by the rapid population growth in developing countries. Thus, fertility control was seen as necessary for economic and social development. This revival of Malthus' ideas portrayed disease-control activities in developing countries as counterproductive because they decreased the mortality rate leading to a rise in the number of poor people and an increase in their life spans (Cueto, 2019). The RF's interest in population works thus began in the era dominated by the birth control movement supported by the zeal to legalize access to contraception. "Thus, Rockefeller's interests and priorities were for the most part compatible with those of the eugenics and birth control movements in the 1920s" (Elkind, 2015, p. 49).

The decade after the Second World War, led by an escalating Cold War and followed by new population predictions, developed fears and anxieties about rising population, especially in the global south (Caldwell and Caldwell, 1986). Ford's involvement in population control

[2] The RF had experienced marked success in public health at home and abroad, however, their early attempts at venturing into social sciences did not prove to be fruitful. This neglect had much to do with Gates unyielding belief in privileging of the hard sciences and a distrust in the social sciences. The progressive era revealed the need of imbibing social sciences to reform society. Hence, though it would never be their priority, the Foundation would begin to give more attention to the social sciences during the depression years (Kelly, 2013, p. 43).

[3] "The Foundation has long been a pioneer in global health, leading its own campaigns to eradicate hookworm disease (1909-1914), malaria (1915), and yellow fever (1920s-1950s), and funding research into vaccine development. These public health initiatives were replicated by World Health Organization to launch the eradication campaigns including against smallpox in 1966" (The Rockefeller Foundation Partners in Global Health, 2022).

coincided with the birth of the family planning era, where India figured as one of the first countries for early foundation activity. The population field of that time adhered to Ford's goal of averting communist expansion and upholding global economic and political stability.[4] The continuing conflict between the United States and the Soviet Union created a competing vision to influence the newly independent nations of Asia and Europe. In the midst of this tussle, "the FF served as the non-governmental beacon of western institutional modernity encompassing the free market and democratic alternative to the Soviet communist one" (Damle, 2014, p. 9). The Ford officials believed that soft power strategies would reap more benefits than coercive hard power. "Instead of using military force, threats, or political and economic sanctions, they thought that their culture and society had characteristics that were superior and universally attractive, and that suppressed peoples would gradually change their societies accordingly if only they were exposed to them" (Stensrud, 2014, p. 112). Ford's population program thus served as a soft power strategy of American philanthropy of the era.

Influenced by the views and activities of Rockefeller's work in the population field, FF directed its major activity to lower fertility growth in the Indian sub-continent. However, by the early 1990s, the foundation "abandoned its original approach and became an influential early supporter of the Reproductive Health movement," where China figured as an important field area. (Anderson, n.d; Elkind, 2015, p. 51).[5] This transition of the foundation "from population control to reproductive health" was directed by two major factors – 'disruptions experienced in Ford's population policy programs both within the United States and abroad'[6] accompanied by a major

[4] The FF emerged as a major philanthropic foundation in the post-war era which coincided with the advent of Cold War between the Soviet bloc and the United States. The architects of the foundation thus placed a high priority on the pursuit of peace. The foundation officials believed that poverty caused instability and a rise in radical ideologies, which were a threat to democracies around the world. Consequently, the Ford Foundation decided to support the development programs of governments, especially in nascent democracies like India, in the 1950s (Damle, 2014; Stensrud, 2014)

[5] The Reproductive Health movement of the early 1990s included women's health rights advocates active in health, human rights, development, environment, and population. This movement's proponents "critiqued the population science field and its approach to family planning. In the 1970s and 1980s, Ford was highly influenced by the Reproductive Health movement" (Elkind, 2015, p. 102).

[6] Ford supported Family Planning Foundation (FPF) in Louisiana which was highly acclaimed by FF's high official McGeorge Bundy was caught in a major corruption scandal. Dr. Joseph Beasley, founder of the FPF was accused of using the grants from FF fraudulently. Following the disruption in domestic issues, Ford's program also began to face setbacks in India. Accused of exercising undue influence in the India FPP and inclination towards Pakistan in the 1971 war between India and Pakistan, American foreign experts from Ford and USAID were expelled in the 1970s. The 1970s was, therefore, a decade when the FF had to move back from its population control activities in the Indian subcontinent (Wooster, 2004).

setback in an ideological tussle with a new generation of women's rights activists who were advocating for reproductive rights. These new reproductive rights advocates contended that FP proponents direct themselves more on demographic dictates that "positioned women's bodies as mechanisms for achieving global economic and political goals" (Elkind, 2015, p. 5). Hence, "when the Reproductive Health movement coalesced in the early 1990s, it called for women's rights, not demographic goals, to be the foundation of population policies and family planning programs" (Ibid). Ford thus reduced its funding in the population policies by the 1980s while diverting most of its resources to aiding the reproductive health movement. "Demonstrating the foundation's distance from its Family Planning roots, the new program's primary concerns included the social, economic, and cultural factors that affect reproductive health" (Ford Foundation, 1992, p. 102). The entry of the FF further strengthened the belief in American science to further its philanthropic goal. FF's funding in population health in both countries was deeply rooted in the Malthusian argument and called for the advancement of 'Science and technology to address the overpopulation issue in China and India.

Furthering their agenda of developing 'Scientific Medicine' by advancing the growth of science and technology in health and medicine, the entry of BMGF in the 21st century signifies the American philanthropy's institutional agenda of the 20th century in contemporary times. Positioning itself as a global health player, a powerful one, BMGF has become an agenda-setter in health. Heavily reliant on science and technology, the foundation's investment in R & D is one of the largest in the world. In both countries, they aim to address public health issues by harnessing advances in science and technology "through the innovation and application of health technologies encompassing both treatment (via diagnostic tools and drug development partnerships) and prevention (through, for example, vaccines and microbicides)" (Birn, 2014, p. 27).

Building on the ideas of 'Soft Power' and 'Cultural Hegemony' framed within the context of 'Convergent Comparison,' this thesis thus looks at the changing nature of engagements over the decade, the patterns of change, the established institutions, and the programs formulated in public health. American Foundations has been actively engaged with China and India in Public health since historical times, setting institutions and formulating various programs. However, the priorities have been different in both countries. As significant members of the American power

elite, RF, FF, and BMGF are extensions of the country's corporate giants of the late nineteenth and early twentieth centuries, instilled with the "scientific spirit of the progressive era." Rockefeller's philanthropy first led the scientific philanthropy movement in China and India in the early twentieth century, followed by Ford in the 1950s India and 1980s China. The BMGF, following its predecessors, entered this culture of scientific giving in the early 2000 and continues till today.

The RF owes its considerable financial resources to the nineteenth-century boom in American capitalism. "In 1913, oil tycoon John D. Rockefeller chartered the charitable trust, endowed with $100 million in capital transferred from Standard Oil stocks" (Tournès, 2022). The RF ushered large foundations with increasingly huge endowments onto the national and international stage. "As the only health agency truly operating internationally until the founding of the WHO in 1948, it helped to shape global public health to a greater extent than any other organization of its day" (The Rockefeller Foundation and philanthropy for social change, 2017). The RF's scientific philanthropy framework was then followed by the FF and, more recently, the BMGF marking its dominance in global public health policymaking (Tournès, 2022).

All three foundations' involvement in public health cut across various aspects ranging from "ideas, theory, research, professional training, practice, implementation, organization to institution-building" and has marked considerable influence in building public health concepts and practice. All these aspects of public health covered by the three foundations act as agents of American Soft Power, playing a significant role in building and embedding American hegemony. As Ikenberry notes, "Hegemonic control emerges when foreign elites buy into the [potential] hegemon's vision of international order and accept it as their own." (Palmer, 2012, p. 14). Such persuasion is conducted by "direct contact with elites in these states, including contact via diplomatic channels, cultural exchanges, and foreign study" (Ibid). All three foundations have equally depended on Chinese and Indian elite networks to further their philanthropic agenda in public health. The historical experience of RF and FF's efforts in developing international public health finds its contemporary expression in various programs and policies initiated by the BMGF in the recent decade.

This study details a contrasting analysis between these two countries, investigating the historical role of the American Philanthropic Foundation in public health and exploring the extent of their influence in formulating public health policies and the ideology that informs it. The priorities in public health and the strategies they planned to achieve the set target. Informed by all these inquiries, this study compares the behavior of RF, FF, and GF in China and India, representing different historical and socio-political contexts in Asia. This study will focus on the engagements of these foundations in two major areas of Public Health- Institutions and Public Health Programmes.

Methodology

A combination of historical, theoretical, and comparative approaches was employed to explore the central question of the thesis, which explores the contrast of RF, FF, and BMGF's influential role in public health development in China and India. This study is qualitative in approach, given its emphasis on tracing the historical trajectory of American philanthropic involvement in public health in China and India. Archival research and in-depth interviews of key informants are adopted as the primary method of data analysis.

Comparative Framework: Convergent Comparison in China-India Studies

This thesis adopts Prasenjit Duara's "Convergent Comparison" as a comparative research methodology to analyze the contrasting features of RF, FF, and GF's philanthropy's influential role in China and India's public health. This method weaves elements of comparison and connections in China-India studies (Sen, 2021, p. 378). This concept values the world of ideas and its ability to transcend geographical and spatial boundaries and the importance of the institutions and networks through which these ideas circulate. "Convergent Comparison and its method of interweaving connections and comparisons, also known as the symbiotic method of analysis, combines comparative and connective frameworks with analyses that are not confined by geographical, temporal, or sometimes even disciplinary borders. Such frameworks are important because the intertwined nature of comparison and connections exists at multiple levels" (Ibid).

Duara also forwards that "the method of convergent comparison could be applied to many pairings or a range of societies as long as they have certain comparable dimensions or institutions, and as long as the circulatory force impacts them" (Duara, 2020, p. 842). He also implies that "comparative histories can illuminate deeper connections at the level of generative causal mechanisms or conjunction of multiple causal mechanisms that are not necessarily expressed at the surface level. Examining various local, national, and regional patterns allows us to assess the degree to which they converge or diverge in response to the same causal mechanisms revealing the interactive dynamics of society" (Ibid).

The institutional goal of RF, FF, and GF, which called for 'advancement of scientific medicine and use of science and technology' from the early 20th century to contemporary times – becomes the point of convergent comparison between China and India in this study (Duara, 2020). The RF, FF, and GF, three major American philanthropic foundations with significant investment in public health having a stake in forming and reforming public health concepts, followed the same framework of 'Scientific Medicine' to advance its goal in China and India. All three foundations successfully used American science ideologies to guide their engagements at multiple levels. Modeled on the theories of natural sciences, scientific medicine draws its principles and ideas from the Pasteurian and Kochian school of thought, which speaks to the 19th-century reductionist idea of 'Germ Theory.' With focused public health programs and institutions as thematic linkages, this study frames the ideas of science and scientific medicine as the comparator, demonstrating the multidimensionality of convergent comparison. The three foundations systematically applied science centred policy, making them a conduit for the transnational circulation of ideas, practices, and organizational models.

Theoretical Framework: Joseph Nye's 'Soft Power' and Antonio Gramsci's 'Cultural Hegemony'

The indispensable role of private elite organizations like the RF, FF, and GF in the transformation and transition of public health in China and India from the early 20th century to the contemporary times is the central objective of this study. Framing the 'development of scientific medicine and advancement of technology' by the RF, FF, and BMGF on the idea of 'Convergent

Comparison', this thesis implores 'Cultural Hegemony' and 'Soft Power' as its theoretical framework. The development of scientific medicine and technology which is the point of convergent comparison between the two countries, acts as agencies of 'Soft Power' exerted by all three foundations by which they exercise their 'Hegemony' in China and India. Positioning on the framework of scientific medicine and technology as the comparator, this thesis exudes the RF, FF, and GF as influential conduits of modern public health development in China and India. The thesis argues this development of modern public health as an important element of soft power which further becomes an agency through which the foundations exercise their hegemony in health and medicine.

American hegemony was neither attempted nor constructed only on coercive hard power. Armored with a humanitarian outlook, the three foundations aimed to invest in ideas and "put knowledge to work" to reform society, economy, and politics in China and India. "Pragmatic and utilitarian, elitist and technocratic in outlook, they championed generating positivistic 'scientific' knowledge that would be of practical use to policymakers, urban planners, and state-builders" (Palmer, 2012, p. 3). The foundations also actively fostered "attractive power-knowledge networks that radiated intellectual influence and attracted some of the most creative minds" (Ibid). Placing high confidence in their scientific knowledge, the foundations believed public health to be a "vehicle of progress if managed by an enlightened group of elites that could guide humanity to use it rationally," the three Foundations "aimed to establish a hegemony of science through various areas of scientific intervention and innovations" (Tournes, 2022). In the early 20th century, RF's financial power had made them a leading player in the world of international science. Through their philanthropic involvement in public health in China and India, the foundation acted as a face of American Soft Power, played a decisive role in shaping and constructing public health concepts and policies, and in the process, marked its hegemonic position in the global south. "Their pro-active networking placed them at the center of a galaxy of stakeholders involved in constructing and using scientific knowledge, exerting their domination" (Ibid).

Cultural Hegemony, according to Gramsci, "is the domination of a culturally diverse society by the ruling class who manipulate the culture of that society, the beliefs, explanations, perceptions, and values" so that their ruling class world view becomes the world view of the

majority of the people at large. The dominant ideology defines the social, political, economic, and status quo as natural, inevitable, perpetual, and beneficial for everyone. It can also be defined as the geopolitical method of indirect imperial dominance in which the hegemon state rules the subordinate states by the threat of intervention and applied means of power rather than by direct military force that as invasion and occupation (McGoey, 2015). Cultural hegemony also depicts the construction and dissemination of knowledge and the political incorporation of scholarship, the fundamental processes of elite power. Gramsci perceived large-scale giving as an economic strategy, one rendered all the more powerful for appearing apolitical. Philanthropy, he asserted, is a way for elites to pursue and legitimate their actions, ensuring the viability of economic and foreign policy interests abroad. "Gramsci`s insights resonate with a common popular belief that philanthropists often have tacit ulterior motives for giving, from earning the tax write-off, to accumulating political favors, to advocating corporate or governmental economic interests in the foreign region" (McGoey, 2015, p. 49). Gramsci offers the idea of 'Organic Intellectuals'- "thinkers who are connected with the dominant class, for example, within the universities, or the church, mass media, political parties- to develop, elaborate, and disseminate dominant ideas, values, and norms and to make "natural," "commonsensical," and psychologically satisfying to the whole society what are, in reality, ideas that principally support the ruling class" (Parmar, 2012, p. 23).

Since the end of the Cold war, globalization has become globalizing American life and culture. America has risen to be the most powerful country advocating for a free market in the global economy. This type of power does not rest only on coercion but attraction, not push but pull. This is not only hard military power but soft, attractive power that America has exercised since the cold war. In a simple understanding, soft power is an indirect way of getting what we want, not through coercion but attraction. "It`s getting others to want the outcomes we wish to co-opt rather than coerce them. Soft power rests on the ability to shape the preferences of others" (Nye, 2012). This idea of attraction can manifest in different forms – in personality, culture, political values, institutions, and policies that are seen as having legitimate moral authority. The proponents of this ideology believe soft power or co-optive strategies to be more useful than coercive hard power. "Instead of using military force, threats, or political and economic sanctions, they thought that their culture and society had characteristics that were superior and universally

attractive, and that suppressed peoples would gradually change their societies accordingly if only they were exposed to them" (Colin, 2014, p. 112).

One stark evidence of the beginning of the modern era of globalization is the influx of new wealth primarily concentrated in the United States, informed by neoliberal ideology. Neoliberalism from the beginning has played a crucial role in restoring 'Class Power,' which has relied on the reconstruction of the power of the economic elites. It has, over the years, re-established the conditions conducive for capital accumulation. In a neoliberal world, the market plays the most crucial role. It is ideologically depicted as the fundamental way to foster innovation driven by competition. When the market is given immense power, it consolidates monopoly power. With this ideology adhering to the world economy, taxes in the corporate sector were dramatically reduced from 70 to 28 percent, which has been recorded as the most significant tax cut in history. With such high tax cuts, the corporations could secure their monopoly power reaching its tentacles to all sectors. Advocates of neoliberalism favor governance by experts and elites. Wealth creation here implies a large wealth accumulation in the hands of few individuals or elites. The implementation of neoliberal policies in the late 1970s increased the share of the national income of the top 1 percent in the US to about 15 percent by the end of the century (Ibid). On the other hand, change in this system relies heavily on the coercive nature of competition which creates aspiration and market "for new products, production methods, and organizational forms." This drive to create or innovate new products is so profoundly "embedded in entrepreneurial common sense that it becomes a fetish belief that there is a technological fix for every problem" (Harvey, 2005). Technology has become the problem-solving mechanism for every problem that the world faces. This reliance on technology enhances the growth of markets in a neoliberal world. With this ideology at the center of its system, "the United States evolved a more open system of imperialism without colonies during the twentieth century" (Ibid). With its shifting ideology from liberalism to neoliberalism, the US exerts high monopoly power outside its boundaries (Ibid).

Broad Objective

To explore the influential role and engagement of the RF, FF, and GF and their continuities in the transformation and transition of health and the construction of scientific medicine in public health from the early 20th century to contemporary times in China and India.

Specific Objectives

- To explore the historical role of American philanthropy in public health in China and India
- To contrast and examine the public health programs and institutions established and founded by RF, FF, and GF in China and India
- To study and analyze the convergences and divergences, similarities and differences, continuation and exits of RF, FF, and GF philanthropy in public health in China and India

Research Question:

- What are and have been the historical roles of American foundations in public health since the 20th century to the present?
- What are the factors responsible for contributing to the intervention of these American Foundations in Public Health in China and India?
- What has been the American Foundation's role in institution building and formulating public health programs in China and India?
- What strategies and approaches were adopted by Rockefeller, Ford, and BMGF in establishing public health institutions and programs in China and India?
- What are the implications and influence of these foundations in public health in China and India?
- What are the fundamental similarities and differences in engagements of these foundations in public health in China and India?

Research Design

A historical and exploratory research design was adopted as the research design for this study. The purpose of a historical design is to collect, verify, and synthesize evidence from the past to establish facts. The researcher would use secondary sources and a variety of primary documentary evidence, such as diaries, official records, reports, archives, and non-textual information. The focus of the exploratory design is to gain insights and familiarity, often used to establish an understanding of how best to proceed in studying an issue or what methodology would effectively apply to gathering information about the topic.

Research Method:

Given the stated objectives, this study adopted a qualitative method of data analysis in which Archival research, Systematic review of secondary literatures, and in-depth interviews of key informants was used as the primary source of data collection.

The thesis is divided into different sections following a chronological order. Different research methods are adopted for the various sections owing to the objective of the individual chapter.

The first section on 'Charity and Philanthropy in America' is completely dependent on systematic review of secondary literatures. The second part on American Medical Missions in China and India adopts both the archival research and systematic review of secondary literatures. The Rockefeller Foundation part of the study is the largest and the primary section of the study. Speaking to the objective and research questions, the study uses archival research, systematic review of literatures and extensive interview of key informants as the mode of data collection. On Ford Foundation and Population Control in China and India, the study following the RF section adopts archival research, systematic review of literatures key informant interview as the method of study. The last section which covers the BMGF in Public Health – China and India rely on the systematic review of secondary literatures. This chapter gives a descriptive narrative of American philanthropic continuities in the 21st century China and India through the BMGF. Publicly

accessible sources of information on BMGF are limited to its official website, which does not cover documents related to internal decision-making and operating practices, such as meeting minutes, memos, and correspondence.

Archives/Libraries visited:

In 2017, the "Harvard Yenching Institute – Institute of Chinese Studies (HYI-ICS)" pre-doctoral fellowship for China studies aided the researcher to take up an extensive field work in China and the United States where the primary archives and libraries for the proposed study are located. Through this fellowship, the researcher was also able to reach out to various key informant interviews who were mostly scholars engaged with the history of science/medicine in China and India.

Andover-Harvard Theological Library
Department of East-West Cultural Exchange Missionary Archive, Wuhan
Shanghai Municipal Archives, Shanghai
Shanghai Central Library, Shanghai
Harvard Yenching Library Collections
Widener Library Archival Collection, Harvard University
Rockefeller Archive Centre, New York

The Archives/Libraries were selected based on its collections adhering to the objectives and research questions of the study. The Andover-Harvard Theological Library was accessed to collect archival documents/resources on the "history of American Board of Commissioners for Foreign Missions (ABCFM) Medical Missions and its role in China and India. Special Collections at the Harvard Divinity School Library preserves and makes accessible primary source materials documenting the history of religion and theology, with historical emphasis on American liberal religious traditions." The material accessed in this collection describes the history of medical missions, medical institutions and programs established by the American missionaries in China and India. ABCFM special topics on medical work – China and India covering various aspects of medical missions in both countries were accessed and analyzed to trace the history of western

medicine in both countries. The Archive at the Department of East-West Cultural Exchange, Central China Normal University, Wuhan was accessed to trace the records of Medical Mission work in China. With a wide collection on missionary writings, this archive gave a unique access to medical missionary publications in China since the early decade. The Yale-in-China collections which documents the history of the Yale-in-China Association's activities in mainland China is one of the primary contents of the archive at the East-West Cultural Exchange, Wuhan. The Yale-China collection documents the history and activities of the organization's medical work in China. The Shanghai Library and Shanghai Municipal Archives located at Shanghai was accessed to collect published materials on the history of western medicine in China covering both the medical missionaries and the foundations. Since many of the collections in the East-West and Shanghai archive comprised of Chinese language materials, the researcher mostly collected published books and articles in the English language that were otherwise difficult to procure through other means.

The researcher visited the Rockefeller Archive Centre (RAC) at Tarry Town in December 2019. The RAC was the primary point of collections on archival documents related to the Rockefeller and Ford Foundation's public health activities in China and India. The RAC is a repository and research centre for the study of philanthropy and its impact. It houses collections of both the Rockefeller Foundation's and the Ford Foundation's philanthropic activities around the world. The core objective of the study focuses on two aspects of RF and FF public health philanthropy – programs (Hookworm Campaign, Population Control) and institutions (Peking Union Medical College and the All India Institute of Hygiene and Public Health). The selection and filtering of the material, documents at the archive therefore was directed on these aspects. In addition to organized RF and FF collections on China and India separately, the Population Council (PC) records gave a detailed highlight on population control projects undertaken by the RF in India in the 1950s. The China Medical Board (CMB) records on the other hand detailed the process of medical institutionalization initiated by the RF through the PUMC in the early 20th century.

Apart from documents and materials, the researcher's access to the RAC's bibliography of scholarship (a comprehensive online database of publications citing RAC archival collections) on both the RF and FF, undertaken by various scholars over the course of decades helped the researcher to identify and locate several resources relevant to the topic of study. The RAC's

digitized documents that cover the RF's and FF's Annual Reports, RF Centennial Website, and the FF History Project Publication also covered the historical trajectory of the foundation's public health engagement with China and India.

A rich and vast collection of published writings on the 'History of RF and FF philanthropy in public health in China and India' was collected from the Harvard Yenching Institute (HYI) Library Collections, and the Widener Library Collections at Harvard ranging from books, peer-reviewed articles, working papers, and thesis/dissertations. Since the Gates Foundation is a new philanthropic entity, it does not have an archival collection of its own. The researcher therefore had to depend on the availability of written materials on the internet. The foundation also maintains a strict policy of sharing its data for public scrutiny which made the researcher dependent on whatever information was available in its official website. With such limitation, the researcher had to fully depend on access to online library portals which covers online news articles, commentaries, and few published peer reviewed articles and books. In this aspect, the Harvard library online collections offered an array of published writings on the Gates Foundation philanthropy in public health. However, since there are limited published materials of Gates's work in both countries, most of the references on the BMGF's public health activities in China and India was procured through the foundation's official websites and through internet research.

Approach and Sources

The primary approach of the study was mining of the archive to dig out relevant resources. The study primarily drew its sources from "archival data, namely correspondence, memoranda, notes, reports, personal papers of some of the important actors, minutes of meetings, manuscripts of memoirs and autobiographies, reports of committees and commissions, working papers, thesis, and secondary references". Using content analysis as a research tool, the researcher scanned the presence of certain words or concepts within the primary documents accessed at the archives visited. Content analysis is conducted by qualitatively analyzing the written texts by using one of content analysis' basic methods: conceptual analysis or relational analysis. "Conceptual analysis determines the existence and frequency of concepts in a text. Relational analysis develops the conceptual analysis further by examining the relationships among concepts in a text" (Population

Health Methods, 2022). Instead of looking at the number of times a concept appears in a text, "relational analysis assesses the relationships between different concepts as well as how they are connected, and the context in which they appear" (Crosley, 2021). Here the text is coded, or broken down, into manageable categories on a variety of levels--word, word sense, phrase, sentence, or theme and then examined owing to the research questions of the study. The searched key words and concepts were circumscribed and categorized adhering to the primary objectives of each chapter. The content was selected from a number of sources extracted from the archival collections. Speaking to the objectives of the chapters outlined, the study adheres to relational analysis as the method of research. Concepts and themes like American philanthropy, western medicine, medical missions, scientific medicine, population control, technology were selected and their relationship were examined from the texts/documents. Archival research at the Rockefeller Archive Centre located in New York is an important source of collecting primary materials for both the RF and FF. In the case of the Bill and Melinda Gates Foundation, since the foundation does not have an archive center of its own, the researcher accessed all secondary materials available through internet sources and different networks.

Limitation of the Study:

Most of the resources that the researcher engaged with has been English language publications. The researcher did take up Chinese language training as part of the ICS-HYI Fellowship and passed the HSK 4 exam. However, the language level achieved was limited to rigorously engage in academic Chinese writings. Hence, most of the data's accessed were English language publications.

In-depth Interview:

Corroborating with archival research and systematic review of secondary literatures, the study adopted in-depth interview of key informants as a method of study. Since the study adopts an interdisciplinary lens, the participants for the indepth interviews were scholars from across disciplines selected on the basis of their engagement with the topic of research. The participants for the indepth interview included more Chinese scholars as compared to Indian key informants as

noted in the list below. American philanthropic engagement with public health in China and India have been deliberated across disciplines by various scholars. However, compared to the Chinese scholars, fewer number of Indian scholars have engaged rigorously with the topic at study. Apart from Dr. Kavadi, who is an expert on the Indian scenario, not many scholars have worked indepth on this topic.

However, what this study contributes is the comparative angle which is a rarely explored area of study. Since interviews were held with selected individuals, informed consent was taken from them. A combination of purposive and snowball sampling was used to identify the key informants. An indepth interview supplemented with numerous discussions on various occasions gave the researcher a detailed narrative.

Apart from the list given below, the researcher did approach other scholars who have worked on the topic. However, interviews with those scholars could not take place because of various reasons. Few meetings had to be cancelled because of Covid. Some senior scientists were not forthcoming to discuss formally on the topic. The researcher did have informal discussion with few other scholars. However, upon their request, their names are kept anonymous. The list of scholars who agreed for an indepth interview are given below.

Participants: -

Prof. Gao Xi, International Center for Studies of Chinese Civilization, Fudan University, Shanghai	An interview with Prof. Gao Xi, Dr. Zhang Meng, Prof. Jiang Yuhong, and Prof. Liping Bu, who has all worked in different aspects of American philanthropic engagement with China, gave a detailed note on the historicity of RF's engagement with China in the early 20th century. Their expertise in the history of medicine in China helped the researcher to look at the topic from a holistic perspective.
Dr. Zhang Meng, Department of History of Science and Technology, Peking University	
Prof. Jiang Yuhong, Peking Union Medical College	
Prof. Liping Bu, Alma College, Michigan	

Prof. Ke Zhang, International Center for Studies of Chinese Civilization, Fudan University, Shanghai	Prof. Zhang Ke is a historian whose research interests include looking at China-India connections, specifically at Sino-India cultural connections in the late Qing. Since the researcher's study is also based on the same linkage - China and India. A discussion with Prof Zhang Ke helped the researcher to explore methodological insights in China-India Studies.
Prof. Lincoln Chen, China Medical Board	An In-depth Interview with Dr. Chen covered both the RF and FF's history of public health engagement in China and India. Prof. Chen served as the executive vice president of the RF and as a representative of the FF in India in the 1970s and 1980s. An in-depth discussion with him covered the RF and FF history in detail.
Prof. Biao Xu, School of Public Health, Fudan University	Her interest in studying TB in China also includes examining India's TB research. In addition, an interview with Prof. Xu helped the researcher explore the BMGF's role in China and India.
Dr. Shirish Kavadi, Independent Researcher	Dr. Shirish Kavadi, an independent researcher and Visiting Professor at the Symbiosis School of Liberal Arts and Symbiosis Law School, was the primary key informant for RF's public health in India. His numerous publications on RF's role in public health in India span many themes, from disease control to institution building. In addition, he has engaged extensively with RF archival documents at the RAC. His widespread engagement with the RF history in India was divided into two in-depth interviews.

Dr. Manoranjan Mohanty, Delhi University and Institute of Chinese Studies	Prof. Manoranjan Mohanty, a political scientist, is a China expert Indian scholar who has worked in China studies for decades. His 2017 publication 'China's Transformation: The Success Story and the Success Trap' talks about China's transforming public health since the PRC, highlighting the Family Planning story of the Chinese population health in detail. His extensive knowledge of Chinese history and politics navigated the researcher to conceptualize the research.

Chapterization

Chapter 1:

This chapter provides an introductory description of the thesis by exploring the emergence of charity as a concept in pre-industrial societies. The growth of the middle class, substantiated by the spread of evangelical missions, supported these social movements. It details the changing notion of charity into organized philanthropy, the foundational approach of 20th-century American philanthropy in China and India's public health. This transformation of charitable giving into modern organized philanthropy ensued with the concentration of wealth in Industrial Europe and America. As wealth began to grow exponentially, so did the aspirations of the wealthy to get involved in philanthropic giving for various reasons. Through a chronological mapping, the chapter traces the development of modern institutional philanthropy or scientific giving in 20th century America through the birth of major philanthropic foundations like the RF and FF. It further explores the continuities of American philanthropy in the new century in China and India's public health by introducing the creation of 21st-century mega philanthropy, the BMGF.

Chapter 2:

This chapter traces the historical roots of western medicine through historical research by contesting that the development of modern medicine owes to its missionary influence. American medical missions through the ABCFM were one of the most organized bodies of missionary society that had introduced the use of medicine for their evangelical agenda. ABCFM's medical missions were active in China and India, catalyzing change and introducing western medicine. This chapter explores in depth the role of Medical Missionaries in the making of Western Medicine in both China and India, with a special focus on Medical Missionaries of the American Board of Commissioners for Foreign Missions. This part of the research uses descriptive analysis to map out the role of American Medical Missions in building and strengthening Western Medicine and tracing the relationship between Missions and the foundations. Through archival research and a systematic review of secondary literature, this chapter outlines the historical development of American medical missions, their role in the transformation and transition of medicine, the ideology that informs it, and the influence exerted over the decades and its relationship with the foundations that followed after them in China and India's public health.

Chapter 3:

Chapter two traces the historical role of the Rockefeller Foundation (RF), the first prominent American Foundation to engage in public health issues in China and India. Since the early years of its inception, the RF has been very influential in the global development of public health, not only through its grant-making but also by participating in shaping concepts and policies. Science-based innovations with a biomedical view formed the basis of the Foundation's public health approach. There has always been an overt focus on technological solutions to social issues. RF's sustained emphasis on modern science and technology legitimized an American scientific influence on China and India's public health. It normalized a tradition of intellectual and professional elites in the medical circles of both China and India. This chapter looks at the differences in the scope, nature, and depth of engagement of the Rockefeller Foundation with focused health institutions and programs in China and India in the early twentieth century. Using archival resources, secondary literature, and in-depth interviews, this chapter traces the RF's

historical development in China and India, the world of its philanthropic giving, its impact on knowledge construction, social policies, and the agenda it sought to fulfill. It further illustrates the contrasting aspects of RF's involvement in 20th Century China and India's public health.

Chapter 4:

This chapter depicts in detail the advancement of American philanthropy in public health in the Cold War era in China and India through the FF's involvement in population control. The second half of the 20th century experienced the rise of demography as a discipline with a huge outpouring of technical aid and resources to curb the population of the developing nations with a special focus on Asia. China and India figured in the imagination of these demographers, who believed in Neo Malthusian theory of positive checks on population control. The idea of Neo-Malthusianism took precedence among senior technocrats, demographers, and government officials in the 1950s and 60s. China experienced the peak of Neo Malthusianism with the one-child policy in the late 1970s and India with the Emergency in the early 1970s. By focusing on the role of the Ford Foundation (FF), one of the most important actors in the population control movement, this chapter analyzes the volume of funding and policy influence of the Foundation to promote the population control agenda in the 1950s India and late 1990s China. Tracing the conceptual understanding of Neo-Malthusianism, which was the theoretical backbone of Ford's population control programs, this chapter encompasses the historical development of the population control program in independent India and socialist China with a sight on the various important factors involved, the geopolitical context of Ford's entry, strategies adopted and the implications of Ford's population control ideology on China and India's public health.

Chapter 5:

Through a qualitative analysis, this chapter illustrates the continuities of American philanthropy in China and India's public health from the 20th century RF and FF to the 21st-century BMGF. With the dominance of RF and FF waning in public health by the late 20th century, the BMGF rose as an essential player in public health in a period dominated by the private sector. In the 21st century, American philanthropic envelopment in public health in China and India is known

through the activities of the BMGF, the arbitrator of global health and the largest philanthropic funder in health and medicine. What RF was in the early 20th Century and FF in mid-20th century China and India are what BMGF is in today's world. The drive and influence of American philanthropic funding through the involvement of the BMGF in China and India's public health have increased exponentially. The foundation's ascendency in public health has made it a crucial player in global health forums. Using a systematic review of secondary literature, this chapter demonstrates the continued impact of American philanthropy and its influence on public health in China and India. It also exhibits the contrasting aspects of American philanthropy in China and India's public health through the activities of the BMGF.

Chapter 6:

Chapter 6 is an analytical study that ties all the three foundations (RF, FF, and GF) and investigates their role, influence, impact, and continuities in transforming and transitioning public health concepts and policies from the early 20th century continuing till today in China and India. This chapter discusses in detail the onset of American philanthropy in public health in the early part of the 20th century in Republican China and Colonial India and highlights its historical character, and contends how even with two very different geopolitics, the RF was able to build strong networks with the Chinese elites in China and Colonial officials in India and exert a profound influence in public through its hookworm campaign, the institutionalization of medical education through the PUMC and AIIHPH and the population control agenda. The second part of American philanthropic influence starts in the 1950s in Independent India and 1990s in Communist China. Through its population control agenda, which was the burning issue of the era, American philanthropy through the FF exemplified its increased involvement through its population control agenda in the global south with China and India, with their very high population, figuring as a crucial interest area. The third section deals with the rise of BMGF in China and India's public health through its disease control and family planning programs. The BMGF's story highlights the continued and increasing influence of American philanthropy in contemporary times and contends how American philanthropy has reconceptualized public health concepts and exerted high dominance in China and India's public health.

Chapter 1:

Age of Benevolence: Charity and Philanthropy in America

From Charity to Philanthropy: Birth of Organized Giving

The history of American charity traces to the beginning of the early English settlement evoked by John Winthrop's 1630 sermon "Model of Christian Charity" (Gifford, n.d). This calling, deeply enmeshed in popular Christian belief, became a template for Charity in New England. The period between 1790 and 1840, known as the "Age of Benevolence" in America, gave a distinctive purpose to charitable purposes. The concept of poor law from Victorian England was replicated through the construction of poor houses between the 1820s to 1830s. Almshouses, therefore, rested at the center of public policy before the Civil War. The revolutionary era brought these almshouses into the collective mind of the American society and hence was supported by municipal taxes (Friedman et. al, 2003; Gross, 2012; Gifford, n.d).

Defined as a complex of ideas rooted in the ideals of Christian beliefs, particularly in the era of the protestant reformation, traditional Charity as a concept was influential in pre-industrial society. It was primarily related to almsgiving or, in a more professionalized term, 'Care Giving.' It flourished widely in pre-industrial societies characterized by the influx of wealth in the hands of few and poverty so wide that it could be alleviated only by the kind nature and generosity of the few wealthy people. Charity is often assumed as strongest when the state power becomes weak and incapable of handling the social problems of the masses. Under such circumstances, when the state becomes weak, social problems becomes the responsibility of the generous rich rather than being remedied by public wealth (Friedman & McGarvie, 2003; Gorsky, Mold & Berridge, 2011; Soskis, 2014).

Crafted by the ideas of 'Social Darwinism', by the 1890s, fears of social disintegration and disorganization challenged the traditional form of charitable institutions. These fears projected mainly by protestant evangelicals and civic reformers considered new approaches to dealing with pauperism. They aimed to restore community empathy by inspiring or coercing the poor to live a virtuous life. The idea of 'Scientific Charity' birthed in this era called for reevaluating poor relief

and analyzing poverty. This transition from traditional charity to scientific charity was devised in the form of 'Charity Organization Societies' or COS articulating one of the most influential interpretations of the time. The proponents of scientific charity who were ecumenical and theologically liberal sought to synthesize the values of Christianity with modern science to address social problems. Numerous COS sprang up in America from the 1870s through the 1910s to reform local charitable practices (Friedman & McGarvie 2003; Gross, 2012; Hansan, 2013; Trattner, 1973; Gifford, n.d).

In medicine, the agenda of charity was influenced by the priorities set by the givers rather than medical professionals. Care was the central focal point of this giving, not cure. Scholarly writings on numerous forms of charitable giving in medieval and early modern Europe suggests that spirituality was the primary concern that influenced charitable giving. Private charitable giving also had other motives, not just spiritual concerns. These kinds of giving for the public's well-being could be sustained only by subsidies offered by the church or the state. The state saw many benefits in such private activities to solve social problems, but this approach out rightly avoided the knowledge that 'Care was the right of the poor and not the gift of the rich'. Charity was also the point of the power struggle between rival elite groups. With the increasing expansion of industrialization, notably in the great cities of industrial Europe, wealth expanded exponentially, and along with it, the aspirations of charity (Powell & Steinberg, 1998; Powell & Steinberg, 2006; Gorsky, Mold & Berridge, 2011).

In the years following the revolutionary war, the concept and composition of charitable giving transitioned radically marked by the rise of benevolent organizations and the crusading spirit of reform brought forth by the evangelical impulse of the protestant reformation. The appalling and chronic conditions of the poor was seen as destabilizing the classical and liberal values of the Victorian era.[7]

The reformation movement had introduced new religious philosophies in contrast to the Church's institutional monopoly. Hence, with the advent of the 19th century, the concept of

[7] Pauperism was seemingly observed as willful condition which subverted the liberal ideas and values of independence and thrift, biblical image of the modest poor, and the transition to wage based modern industrial economy.

Charity changed from a paternalistic form to a professionally administered system.[8] This second mode of giving known as 'Philanthropy' synonymous with scientific charity was coined in 17th century England. Stemmed in the Enlightenment period, philanthropy sought to apply reason to social ills and needs. Unlike traditional charity, this second mode of giving takes both the religious and secular forms. With an objective to develop society through the advancement of new knowledge, philanthropy strives in building a world where charity is uncommon or perhaps even unnecessary. Standing at opposite poles, whereas traditional charity is concrete and individual, philanthropy is abstract and institutional (Barry and Colin, 1991; Ruswick, 2013; Cunningham and Innes, 1998).

With the advent of philanthropy as a new concept, Charitable giving became a modernized concept; facilities were separated between the sick and the poor under the classificatory efforts, and the infectious were separated from the incurables. Specific institutional arrangements were made for specific groups. The modernization of charity became a complex process reflecting social and political tensions. Welfare became the point of tension between the state and the church, the labor force and the industries. The pro-market professionals fiercely opposed the socialized system of medicine. Two radical forces confronted these welfare ideas - the conservatives and the socialists. The conservatives relentlessly supported the virtues associated with charity, and the socialists argued for radical economic reforms to abolish the social problems of poverty altogether.[9] Amid these two ideological arguments, what was established, was a complex form of schemes and policies calling for voluntary and state involvement (Ruswick, 2013; Cunningham

[8] In Public health, this transition of charity to a more organized form of giving was motivated by labour productivity. The flocking of laborers to factory towns from the countryside created an increase in the population of the cities and towns. The laborers lived with low wages and unsanitary conditions which created ideal spaces for diseases to breed. This initiated the sanitary reform movement led by workers who began to organize collective efforts to better their conditions. They were also joined by joined by certain middle-class social reformers who were outraged at the shocking conditions in city slums, factories, and mines. The poor law of 19th century which laid the foundation for state responsibility for the destitute was now under scrutiny. The reformers believed that poor relief should be concerned only with the alleviation of 'true need'.

[9] Preventing avoidable ill-health was a framework of socialist public health policy. They upheld the idea that healthcare should reach into every corner of working life. The idea called for evaluating "each work process from the standpoint of whether it made workers ill or not, but also such diverse aspects of life as food, housing, transportation, and personal relationships would be affected far more than under capitalism by considerations of their health-enhancing potential. Changes in life-style in relation to all of these things would be a matter of general public concern and action. Necessary economic and social changes that would enable people to live, eat, and relate differently would be a matter of medical care policy" (Deacon, 1984, p. 454).

and Innes, 1998; Barry and Jones, 1991; Friedman & McGarvie, 2003; Gorsky, Mold & Berridge, 2011).

The ideology of liberalism, which became a powerful force, gave renewed impetus to philanthropic organizations and associations. These voluntary activities remained active in areas which the state could not reach or access. Charity has been very central to American culture. Americans considered themselves exceptional givers. Nearly all Americans have been engaged in some other form of charitable giving, whether it was to affirm religious claims or another purpose. With the advent of the 19th century, the concept of charity slowly started changing to philanthropy in America. If charity was associated with caregiving, philanthropy brought about the blend of care and cure. Philanthropy became the more organized and a scientific form of giving, a more systematic form of approaching work of improving social conditions and asserting technological mastery over the social world, a scientific technique to bring about social change. Philanthropy adopted management techniques from the business world as strategies to address problems relating to social issues. The modern form of grant-making illustrated large-scale donations from the wealthy businessman who had flourished during the late 19th and early 20th centuries (Friedman & McGarvie, 2003; Gorsky, Mold & Berridge, 2011).

Hence, by the end of the 19th century, charity no longer inspired a sense of zeal. Instead, it became popularly linked with almsgiving, which was dismissed by the pro-market advocates stating that the practice of charity is inefficient and demeaning, going against democratic norms and principles. Proponents of free markets, as well as labor leaders united and called for an end to charity. The call for an end to charity was accepted widely in the early decades of the 20th century. Many leading organizations and institutions of social welfare renamed their titles from charity to welfare or service (Gorsky et al., 2011; Hall, 2016). The promotion of philanthropy led to the demotion of Charity in the popular minds. Philanthropy progressed on the weakness of charity, "Modern philanthropy would be efficient, whereas most charitable giving was wasteful. Philanthropy would turn its attention to regional, national, and even global problems, while charity`s scope was parochial. Philanthropy would address root causes, whereas charitable giving pre-occupied itself with palliatives. Philanthropy would be governed by rational analysis and the

sober calculus of the laboratory and boardroom. In contrast, most charitable giving was prompted by sentimental impulses and was even, at heart, a selfish endeavor." (Soskis, 2010; Soskis, 2014).

The American Wealthy and Institutionalization of Philanthropy

The relationship between government policy and private philanthropy has always been intertwined in American history. Defined narrowly as 'giving of private wealth for the public good,' this intertwined relationship has only extended in scale, scope, and complexity with the spread of western civilization (Ashley, 1971). Recognized as a new force in civilization, the direct conversion of massive capitalist trusts into public assets under the guidance of the wealthy, along with their expert advice, became the most significant development in late 19th century America. These large endowments in the form of philanthropic gifts expanded the realm of civil society. The scale and ambition of these new forms of giving were distinct from the traditional mode of charity (Zunz, 2012). "Modern American philanthropy believe in extolling the virtues of disciplined capital accumulation to benefit the greater good. It invokes the idea of yoking capitalist activity to the wealth of the nation. More subtly, modern philanthropy is quintessentially American process. This is because American charity has been a story about the development of giving within an array of corporate giving for decades" (Harmaon, 2017, p. 2-3).

Andrew Carnegie, one of the wealthiest businessmen of the 19th century, published an essay on wealth popularly known as the 'Gospel of Wealth' in which he talked about a new practice of giving. He stated that giving is necessary to balance existing inequality in the society brought about by industrialization. Through the essay, he urged his fellow millionaires to use the same genius efforts they use in their businesses to distribute their fortunes. Traditional charity, according to Carnegie, is not adequate to bring about continuing social and economic progress as it only encourages the slothful and the unworthy instead, he noted that society would progress only if the needed resources reached the worthy and the aspiring individuals, moving from traditional equality of condition to the new equality of opportunity. Andrew Carnegie and John D. Rockefeller were the earliest philanthropists. Later, business tycoon Henry Ford joined the two to become three big foundations of the American century. These prominent philanthropists were driven by the belief that private wealth can play a vital role in bringing about social and economic stability. But underlying these beliefs were also religious convictions and to build their ruined reputations (the

'Ludlow massacre'[10] involving the Rockefellers and 'Homestead dispute'[11] involving Andrew Carnegie, two of the bloodiest disputes in US labor history). The broad objective of these early philanthropists was to deal with the root cause of social evils like poverty and ill health. In their popular opinion, charitable giving as a practice was incapable of dealing in depth with the problems of wide-scale poverty and ill health, it would only address symptoms, but philanthropy, on the other hand, possessed scientific skills to address the issues from the root to bring about change in the human condition. This core distinction between charity and philanthropy, where charity is considered as a means to only alleviate suffering by addressing the symptoms, and philanthropy which aims to bring about social change, remains central to American Foundations (Fernandez, 2016; Goss, 2016; Skocpol, 2016; Teles, 2016; Reich, 2016).

The rapid increase in philanthropic foundations highlighted the growing number of millionaires. From an estimated one hundred foundations, the number of foundations increased to about forty thousand in the middle of the World Wars. The concentration of individual wealth in this era was remarkable (Parmar, 2012; Martens & Steitz, 2015; Raymond et al., 2007). The two big foundations of the American century, Carnegie and Rockefeller, were formed at the end of the 19th century. The Ford Foundation, formed in 1936, was modelled on the Rockefeller Foundation. The foundations were therefore active during the era of the two World Wars, the great depression, and the Cold War. Consequently, they skillfully adapted to changing social, economic, or political conditions. During all these different periods of change, the foundations have also learned to play critical roles in shaping those changing environments, both domestic and international.

The cohort of leaders inside the foundations belonged to various sections of the American elite who were influenced by the ideas of free market. Vast interconnection exists between the giant corporations and America's elite group. This vast network is connected through various cultural, religious, state, and political institutions. The turn of the 20th century brought attention to America`s global role. The idea was to build a powerful federal executive to make the presence

[10] "On April 20, 1914, members of the Colorado National Guard opened fire on a group of armed coal miners and set fire to a makeshift settlement in Ludlow, Colorado, where more than a thousand striking workers and their families were camped out" (Mauk, 2014).
[11] "Homestead Strike**,** also called Homestead riot, violent labour dispute between the Carnegie Steel Company and many of its workers that occurred on July 6, 1892, in Homestead, Pennsylvania" (The Strike, 2017).

of American Power known in the global sphere. With this plan drawn out, they branched out and established institutions and initiated many scholarship programs to attract toward the American way of life, the American dream. The Foundations have actively pursued America`s economic interests since the 1920s. They have been involved in terminating and building governments considering America`s global interest and acted as strong catalysts for powerful reform movements. To push their agenda forward and to make their power felt, they started giving priority to 'Intellectual Production' to determine the right approach to solving social problems. The right approach according to the 'American ideology.' (Palmar, 2012; *The Business of Giving | Feb 25th 2006 | The Economist*, n.d.).

As the concentration of wealth increased exponentially in the United States, the number of private foundations also grew. Some of the big foundations of the 20th century were Carnegie, Ford, Rockefeller, Mott, Pew, and MacArthur. Meanwhile, their endowments have been far surpassed by big players of the 21st century like Johnson, Packard, Kellogg, Lilly, Hughes, Annenberg, Wallace, Hewlett, Duke, Gates, and Mellon. These new players brought about tens of billions of dollars to foundation endowments, raising the total philanthropic assets to about $420 billion. Philanthropic Foundations hold great power in American society, which goes beyond their wealth. They exert significant influence in public policy making and have evolved to assume the role of educators and researchers of policy think tanks. As American Philanthropic giving becomes more scientific and organized, trustees, managers, and program officers are meeting quite often in seminars and conferences to explore efficient ways to increase the impact and influence of foundations. "American Science has long been another major focus of philanthropic concern. In fact, no other field of endeavor has been as strongly influenced by foundation support. And science, though it rarely faces a crisis of its own, is consistently called upon to produce solutions to modern crises…. () Under the federal government became the major funder of scientific research in the 1950s- mostly for purposes related to national defense- private foundations were the sole support of programs in basic science and the technological application of scientific discoveries" (Dowie, 2001, p. 108).

International Public Health and Philanthropy

International health diplomacy was initiated in 1851 with the first conference in public health, 'The first International Sanitary Conference, ‘discussed emerging public health concerns like cholera, plague, and yellow fever. These diseases were initially dealt with by building quarantines and isolating the infected. However, as cholera became a deadly epidemic in the first half of the 19th century in Europe, the leaders saw the necessity for an international diplomatic discussion. The fear of epidemics led to the creation of numerous international health organizations to address the issues of infectious diseases. With germ theory taking international recognition and influencing popular ideology and policies, public health started to be informed by this theory. The First World War brought about mass misery and epidemics; to deal with these issues around national health, the then executive secretary of the Rockefeller Sanitary Commission (RSC) 1922 stated the need for international health as a separate and a new type of organization. Philanthropists were regarded as people who could take tasks beyond national boundaries. Thus, the next step was to set up an international health authority under the rubric of which diseases that were considered beyond the reach of state help would be addressed. The entrepreneurial officers of the International Health Board (IHB) realized the requirement of international experts for the advancement of medical science and to further gain knowledge in the epidemiology of the disease. It became an important task to develop international standards, collaborative tests, and coordinated international medical assistance, which needed a special relationship between the Rockefeller Foundation and the League of Nations Health Organization (LHNO). Rockefeller Foundation realized the capability of LHNO and its strong networks, which can be used to advance its strategy of building international ties in public health to raise overall health levels throughout the globe by enhancing scientific knowledge of medical science by a group of institutional resources of expert elites (Weindling, 1997).

The experts of the foundation dismissed the need to go forward with the legacy of intergovernmental treaties and sanitary agreements which was inherited before the First World War; they forwarded instead for a permanent organization capable of working on new scientific discoveries which would also communicate the principles of the new type of public health organization across the world. International philanthropy became a matter of delicate concern for the foundation, being a non-governmental and private international body, as there was contention

between what issues mattered to constituent states in the newly renovated League of Nations and what issues should be covered under the international rubric. Lending resources to a government-run health system needed to be handled delicately, giving professional advice so that it should not be misunderstood as interference, and avoiding any clash between the state-run public health system and international authority involved in the system. On the other side, the government also feared that they would not be able to share the expensive vision laid down by the foundations. Moreover, the Rockefeller Foundation experts decided it would not infringe upon governmental public health responsibilities to address this fear. The explanation offered was that if foundation funds become a great part of the LHNO's programs, it would breach national sovereignty. Also, the foundation was keen on not involving the same public health issues taken up by the LHNO. Keeping all these complications in mind, the foundation decided to direct its focus on issues of major infectious diseases like malaria and yellow fever, supplemented by laboratory research. In keeping international public health as the foundation's sole focus, they also pulled out their support from humanitarian efforts like American Relief Administration. The last grant to the ambitious European Feeding Programme of the American Relief Administration was made in 1920 when the foundation gave the last generous amount of $1 million. The justification given was that the foundation was not a relief agency. The foundation saw short-term programs as no longer helpful and beyond its resources. Establishing international public health elites was seen as the need of the hour to advance their dream of health for all. Hence, "The Rockefeller philanthropies decided to turn their backs on immensely costly war relief to support scientific and medical programs. This shift towards building up organizations and scientific expertise was a part of a broader movement in philanthropy which looked to science for fundamental solutions to the problems of poverty and disease" (Weildling, 1997, p. 271). With this vision intrinsic to the organization's core values, the Rockefeller foundation became the world's most prominent development actor, outstripping state spending on international health. "The co-incidence of 1940 marking the birth of both WHO and the Cold War demands an examination of the embodiment of the WHO of Cold War ideologies of international health as a tool of development in the contested terrain of the Third World" (Birn, 2009, p. 56). Certainly, “post-war anti-malaria efforts have been understood as an eradication campaign against communism and the disease and its vector" (Brown, 1998, p. 56).

Dawn of American Philanthropy: Creation of the Rockefeller Foundation

The RF was founded two years after Carnegie Corporation in 1913. The establishment of the Foundation came after a ruling given out by the United States Supreme Court that marked Rockefeller`s Stanford Oil Company as an illegal monopoly. This ruling ordered Stanford Oil to be broken down into smaller companies. Following the dissolution of the company, John D. Rockefeller, the company's major shareholder, became the wealthiest man of the time. “With the establishment of his foundation, he could insulate a large part of his fortune from income and inheritance taxes” (Martens & Seitz, 2015, p. 9). These big foundations' organizational design and strategy have been adopted from their parent corporate body, which portrays architects of massive, corporate-bureaucratic, national, and international networks. “These major foundations have played a major role in building American Global Hegemony. Foundation-sponsored programs were influential in developing a Realist mindset, Worldview, and Knowledge base among strategic elites and, more broadly, in society establishment of certain methodological and theoretical approaches to adopt in the world of policy making and implementation” (Parmar, 2012, p. 65).

The RF stands out as one of the most important actors in mapping a new institutional framework for global health, which has become a landmark in international health. Rockefeller’s foundation in global health went beyond narrow political and economic self-interest. The International Health Division (IHD) of the RF, founded in 1913, became one of the greatest philanthropic branches which went beyond borders to engage in public health issues. The foundation`s health unit legitimized the field of global health as an inter-governmental and private agency endeavor. For almost over a decade, the foundation dictated and molded the principles, practices, and key institutions of international health. Standard Oil Magnate John D. Rockefeller founded the Rockefeller Foundation to ‘Promote the well-being of mankind’ on all continents. His efforts opened a new phase in philanthropic giving in public health.

Rockefeller followed the new American crusade of ‘Scientific Philanthropy’ initiated by steel tycoon Andrew Carnegie in his 1889 essay ‘Gospel of Wealth’. This movement was a call to the rich and wealthy to invest their fortune for societal good by replacing the generational practice of individual charity with a more organized, systematic, and scientific form of giving which would be conducive to order, productivity, and secular advancement. Modern Philanthropy of the

twentieth century was viewed as a cyclical use of exploitation-derived profits to counter the threat of working-class unrest and growing political radicalism (Birn, 2013). This approach aided the United States to avert its welfare state and tamper threats to capitalism in the late nineteenth and early twentieth centuries. Rockefeller foundation was built on the premises of Carnegie`s ideas, expanding its philanthropic activities from a traditional charity like a hospital, church, and university to much more broad areas like public education, medical and scientific spheres. Amongst all these areas, public health became their ideal vehicle for applying the scientific idea for the public good. This was possible because the field of public health was still in its nascent stage in the US, just starting to professionalize as a subject with a very limited government footing which created a platform for the foundation to experiment with their ideas (Birn, 2014; Birn, 2009b; Birn, 2013).

At the turn of the twentieth century, the RF initiated their philanthropic involvement in China and India's public health by directing their focus on specifically targeted disease control programs through research, treatments, and prevention measures. These philanthropic foundations laid the path for creating and conceptualizing public health. In the process, such philanthropic investments also enabled the training of new types of professionals and aligned with local and national governments to spread their public health model worldwide. In addition, the Southern United States offered a unique opportunity to experiment RFs scientific and educational mission in public health. The Southern philanthropic efforts would ultimately clear the ground for the RF to expand its philanthropic outreach beyond its national boundaries.

The RF reinforced a biomedical view and technological solutions to disease control and informed the approach to public health. It is this perspective that informed the funding of numerous schools, departments, and research institutes of public health in and around the world. These included "John Hopkins, Harvard University, Sao Paulo Universities, London School of Hygiene and Tropical Medicine" (Birn, 2013). Some of the science-based innovations that the foundations supported included the yellow fever vaccine developed at the Rockefeller Institute of Medical Research and the eradication of malaria vector *Anopheles gambiae* mosquito in Brazil in the 1930s. As Cueto observes: "By the late 1930s, the RF`s work on yellow fever in Brazil was handed over to the Brazilian government. This was considered the best moment for an expansion

of a public health program throughout South America. This was understood to be the decentralization of health services, the promotion of full-time positions in the ministries of health, the training of nurses in professional schools, and the reform of medical education following the Flexnerian model" (Cueto, 2008, p. 23). By the time of its dismantling in 1952, the RF's International Health Division had already spent millions of dollars on funding "hookworm disease, malaria campaigns, yellow fever, Tuberculosis, Yaws, Influenza, Schistosomiasis, Malnutrition, and other health-related problems in about 93 countries and colonies" (Birn, 2013). The foundation's public health program ran with business-like efficiency, target-oriented, and technocentric approach (Birn, 2014; Brown, 1976; Cueto, 2008).

In addressing public health issues, the RF smartly avoided diseases that were costly, overly complex, time-consuming, or distracting or moving away from its techno-centric approach and its focus, which was highly target oriented. Aiming to advance science and technology, the foundation officials sought to focus only on diseases that were responsive to targeted technological interventions. Diseases like Hookworm, Yellow fever, Tuberculosis and Malaria were demonstrable as a disease creating dramatic and well-publicized epidemics. The nature of these diseases was able to create a public health threat and presented a workable control strategy. Added to that, research on these diseases was seen as a medium to prove the scientific value of modern medicine by identifying the germ causing disease leading to the development of a possible cure. These diseases offered an array of techniques that waited to be tested and refined. To advance this agenda, the IHB designed technological interventions to address the epidemiological triad (agent – host – environment) to their disease control program.

One of the highly applauded achievements of RF in international public health is yellow fever control. This program was highly praised for reducing the incidence of the Aedes aegypti mosquito vector through vigorous campaigns involving insecticides, larvicidal fish, drainage, and the creation of the yellow fever vaccine in 1936 (Birn, 2013). However, it was observed that the reduction of the incidence of the malarial vector contributed more to commerce. The disease was transported through cargo and proved fatal, especially in places unexposed to the disease. "The Rockefeller Foundation had a geopolitical role that went well beyond health, stimulating investment, development, and economic growth; stabilizing colonies and emerging nation-states

by helping them meet the social demands of their populations; improving diplomatic relations, expanding consumer markets; and encouraging the transfer and internationalization of scientific and cultural values" (Birn, 2014, p. 4). The RF was also a pioneer in making international health an essential instrument for foreign policy. During the inter-war period, when Germany was gaining momentum as a global power, it used medical aid to connect with allies like Mexico and Brazil and access essential resources like oil, rubber, and minerals. The RF, realizing Germany's growing influence over these countries, increased its public health efforts in Latin America. These efforts intensified the foundation's internal involvement with the State Department of the United States, which called for involving philanthropic foundations to keep a check on the German participation in those regions. With the establishment of the WHO, IHD was disbanded, but the foundation still maintained an indirect presence for decades in public health.[12] Since the 1910s well into the 1940s, RF had marked itself as a dominant player by establishing and legitimizing international health through its ideological leaning, building institutions and practices. "This influence was so pervasive in international health that WHO's early years were imbued not only with the RF's dominant technically-oriented disease-eradication model but also with its far more subordinate forays into social medicine, an approach grounded in political, economic, and social terms as much as the biomedical" (Birn, 2013, p. 129). In consecutive years after the disbandment of the IHD in 1951, top RF public health officials were appointed to important posts in the WHO. The foundation, in alignment with the WHO, joined and funded seminars, mainly travel expenditures, to attract the interests of scientists in fields like sanitary engineering.[13]

Even though the RF rolled back its active involvement in international health in the early 1950s, it kept its connections to public health and other developmental projects through participation in the agriculture movement (green revolution), population concern (population council) and research in social science and medicine. The emergence of new international agencies like WHO transformed the foundation international role in the post-war decade. With the dominance of WHO and UN in public health, the preeminence of RF waned. Moreover, global

[12] The Director of WHO office in the America's along with the second Director-General had both been important RF officials in Brazil.

[13] Serving in the capacity of a retired international expert in public health, many of RF's top officials' involvement in the WHO served as a medium for maintaining contacts in PH. The RF since the beginning of its association was also mindful not to support WHO projects without having a say in their design. The RF hence played an influential role on WHO.

concern tilting towards agricultural studies and social sciences happen to demand allocation of resources. A dramatic population growth among postcolonial societies in the 1950s drove the RF to invest in agricultural sciences and population health. The foundation invested in programs specifically designed to improve agricultural production with an aim to prevent possible famines. "Agriculture and health were intrinsically linked, given that hunger and malnutrition increase one's susceptibility to disease. The waning of IHD coincided with the rise of these major new initiatives which projected the advanced application of science and technology of the post-World War, the signature feature of the RF since its inception" (Matysiak, 2014, p. 176-77).

RF also played an important role in diverting WHO`s attention from primary health to a more techno-centric approach in the late 1970s. Following the 'Alma-Ata conference'[14], John Knowles, then CEO of the RF, together with the WB and USAID, planned a conference titled "Health and Population in Development" at Bellagio in April, 1979. This conference was organized in contention with the Alma Ata declaration. The RF proposed, and UNICEF soon spearheaded, a "selective" variant of PHC, arguing "for the development of limited primary care programs, concentrating exclusively on disease control and advocating for a return to vertical health program" (Birn, 2018, p. 1153; Bhattacharya, 2019).

With the advent of 1970s the RF's dominance to shape international public health continued to slowly wane. Along with the rise of other agencies in global health, the RF officials realized that the foundation's ability of allocating resources to support projects and staffs in the developing world was diminishing. However, inspite of its waning dominance, the RF had already marked its reputation in the field of global health. The foundation's significance in global health "represented a critical asset that could be leveraged in the context of efforts to convene others for collaborative action" (Matysiak, 2014, p. 218-19). With the advent of the 1980s, the RF started funding and establishing new fields of medical science like "the International Clinical Epidemiology Network (ICEN) and the Great Neglected Diseases of Mankind (GND)."[15] Most of

[14] The Alma-Ata Declaration called for a comprehensive approach to healthcare which entailed "people's participation in policy-making, technological benefits to be transmitted to the remotest people, and preferring resource mobilization and detente over armament".

[15] "The RF realized that the most prevalent and pernicious diseases in the world were not receiving attention from pharmaceutical companies because these diseases primarily affected the poor and thus offered little opportunity for the drug companies to make a profit. The Foundation's trustees allocated $10 million in December 1977 for a new

the GND projects were focused on creating vaccines for the developing world. For this purpose, the RF brought together private and public sectors to launch major new initiatives to attack major diseases of tropical concern. However, in the years following, the RF officials realized that, although research in such scientific field represented a vital component to promote public health, investments in research should ultimately result in health systems improvements. At the onset of the twenty-first century, this realization that investments in any kind of public resources should offer the greatest advantage to the local population drove the "idea of equity" that gradually directed the RF's activities in public health. Hence, through the 1990s, the foundation to build schools of public health, launched Health Equity Initiative, and essentially invented the public-private partnership model, which is now the dominant ideology governing public health (Ibid, 280-81).

Many of the programs taken up by the foundation have been a reflection of U.S interest in international and financial markets. The RF`s activities entailed extensive give and take and were marked by moments of negotiation, cooptation, imposition, resentment, outright rejection, and productive cooperation. The RF responded dynamically to shifting political, scientific, economic, cultural, and professional terrains. Uniquely for the era, "it operated not only as philanthropy but also as, at one end and the same time, a national, bilateral, multilateral, international and transnational agency" (Birn, 2014, p. 6).

The Onset of the Cold War and the Inception of the Ford Foundation

The decade following the Second World-War transformed the relationship between government policy and private giving of the gilded age. The end of the 2nd WW quickly replaced colonial empires with independent states. The colonial empires of the old decade provided technical and managerial skills to run the colonial administration and likely left the education and healthcare of the local populations to the missionaries. The newly independent nation-states, however, insisted that foreign aid beyond the scope of private organizations was necessary for

initiative focused on these "Great Neglected Diseases of Mankind" (GND), including schistosomiasis, hookworm, malaria, and amoebic dysentery. In launching the program, the Foundation once again became a major player in international health and tropical medicine" (Matysiak, 2014, p. 225).

national development (Ashley, 1971). The second important factor in this changing relationship was the onset of the Cold War between the two big powers – the United States and the Soviet Union. These nations eventually became a battleground in the struggle for global influence between the two great powers. Foreign aid, therefore, became an important weapon to advance national interests and a center of ideological battleground (Ibid). The birth of the FF occurred amid the great powers' tussle.

Founded in Detroit in 1936 with a modest gift of $25,000 from Mister Edsel Ford, Ford started the foundation with a mission 'to advance human welfare.' It started initially with a four-member trustee Henry Ford, the family lawyer- Clifford Longley, and the secretary-treasurer of the Ford Motor Company, Burt J. Craig. In the initial days, the foundation operated in a familiar pattern of a family foundation, with the US based Edison Institute and the Henry Ford hospital receiving the two largest grants. Henry Ford bequeathed a large portion of wealth from his Ford Motor Company. By 1950, it was recorded that the foundation gave away nearly a billion dollars which amounted to the largest donation of that period, much more than the Rockefeller Foundation, its closest rival. With this, the foundation became one of the largest philanthropic organizations in the country. Unlike Rockefeller and Carnegie, the Ford Foundation was not conceptualized and built, but the mission statement of the foundation resulted from an expert commission headed by Rowan Gaither, a lawyer by profession who led a far-reaching, yearlong process known as the 'Study of Policy and Process.'[16] Gaither was a reputed personality known as a successful attorney in San Francisco and co-founder of RAND Corporation (a post-war global policy think-tank focusing on national security) (Sutton, 1987; Palmer, 2012, p. 273).

> When the Ford Foundation was considering its future directions in 1949 and 1950, the Gaither Report took a point of view modeled on that of the Rockefeller foundation experience but adjusted for the post-war change in the world`s circumstances, most notably the apparent greater power of the United States, the threat of communism, and the newly won independence of Asian Countries and their demand for economic improvement. What is striking is the similarity in attitude to the Rockefeller`s foundation approaches in the first quarter of the century. There was the same optimism, the same belief in what American Philanthropy

[16] Unlike Carnegie and Rockefeller who had created their philanthropic foundations owing to their personal beliefs and philosophical underpinning, Henry Ford believed that the ford foundation should represent the national interest and this idea should become the core of the FF. The team that Gaither assembled to study what the FF should become were made up, entirely of men from academic backgrounds. To achieve Henry Ford's goal, the committee went around the Unites States and interviewed more than a thousand experts from different field. The report of this study completed in November 1949, unanimously accepted by the foundation officials became the basis of the public report on the foundation's program issued in September 1950 (Sutton, 1987)

> can achieve, and similar confidence in the value of education and science. But now, the religious basis of the activities has been abandoned, to be replaced by the secular model imperative that emphasized direct economic and social change. The science of economics has replaced medicine as the spearhead of the attack on poverty in the light of the achievements of Keynesian economics in the emergency of war and depression (Rosen, 1985, p. 6)

Like all other American corporations, Ford was an ardent advocate of 'Individualism.' He considered traditional charity demeaning and a kind of drug that made people dependent and did not address the root cause of social evils like poverty and ill health. The only way to deal with these social ills was not charity but industrial growth and development.

The Gaither Commission gathered suggestions from the experts in different fields found in governments, business, health, and natural sciences to classify current issues in the world that demand the FF attention. These problems were to be dealt by designing a structured, scientific, and well-defined program. "Rather than embarking on an academic exercise studying stacks of written data, the committee drew its conclusions from over one thousand interviews with notable figures as diverse as Walt Disney, Dwight D. Eisenhower, and Eleanor Roosevelt" (Rosenfield, 2015, p. 5). The commission selected five fields of activity in order of priority: peace, democracy, economics, education, and behavioral sciences (Rosenfield & Wimpee, 2015; Magat, 1979).

Philanthropic foundations played active roles in this era to combat anything that was anti-America. The 'Gaither Report' published in 1949, is a classic example that reflects the Cold War perceptions of the big American foundations. This report set out the Ford Foundations' goals for the organization's future growth. This report highlighted the 'tide of communism' in and around Europe and the Asian continent, which was seen as a prevailing threat to the ethos of democracy. Addressing this threat became the key challenge of the foundation (Sutton, 1987; MacDonald, 1989; Magat, 1979).

The foundation started its experimentation and expansion with the advent of the 1950s. In the aftermath of Hiroshima and Nagasaki, the foundation prioritized world peace. The top leaders of the foundation saw the organization as the means to reconstruction and reconciliation after the Great War. The leaders believed these could be achieved only by advancing democratic ideals and economic development. With the Cold War warming up between the two great nations, the

foundation started developing programs like intercultural ties and individual freedom. It was only in the 1950s that the foundation began experimenting in areas like population control, environment, energy, interracial relations, and urbanization (Sutton, 1987; MacDonald, 1989; Magat, 1979; Rosen, 1985).

The foundations successfully endorsed the most appealing aspects of American culture, both in values and building institutions. The foundations became most active in dealing with anti-Americanism during the Cold War, domestically and internationally. One example would be opposition to third-world colonialism and support for European nationalist movements. The backdrop of these actions corresponded with the expansionist policies and East Coast Foreign Policy Establishment of the American government. The sole underlying plan was to sell the idea that American leadership is for the good of the global harmonious society, that it is rational and thoughtful, cultured and educated fighting relentlessly to defend freedom and oppose the tyranny of the uncultured. They aimed to imbibe these thoughts in the minds of the strategic elites of the society through cultural and diplomatic relations. American leadership could be trusted in all its forms to use its powers wisely for the interest of all. "This was a 'Soft-Power' strategy to complement the global reach of America's postwar military might" (Parmer, 2012, p. 99).

The foundation began stretching its arms in health from the early 1950s coinciding with the dismantling of the RF's IHB. The foundation trustees held meetings in February and June 1953 to discuss the issue of rapid population growth in developing nations. "The Joseph R. McCarthy era and the congressional investigations of foundations took their toll on the both the RF and FF and no doubt helped to account for our caution, especially in the late 1950s, in approaching anything with great potential for controversy" (Caldwell & Caldwell, 1986, p. 33). The Population Council was therefore finally launched in September 1953. The first field research on this project took place in Japan and Puerto Rico, followed by a study of twins in the United States.

FF's population control which began in 1952 through the Behavioral Sciences Program became one of Ford's most important priority funding. This approach was motivated by the aspirations of some trustees who were keenly interested in Planned Parenthood. In the initial few years, from 1952-58, the primary funding went to Population Council (averaging about $300,000).

The starting years were dedicated to population health. Funding was mainly divided between two core areas during that period – "research in reproductive sciences and the development of contraceptives." The core objectives of this approach were to develop and advance better birth controls (Rosenfield & Wimpee 2015; Magat 1979).

The fundamental research on reproductive biology and contraception was initiated and conducted by medical schools the developed nations. In developing countries, the foundation offers support to institutions undertaking quality research adhering to international standards and also those medical centres undertaking research and molding expertise at the local level. Some of the research institutes that the foundation has funded are PC, the Worchester Foundation, and the Salk Institute. The foundation has also shown genuine interest in financing institutional innovations. Private firms mostly took up the development of products. The foundation has actively developed patent agreements in cooperation with a non-profit research and private industries. This step has incentivized private firms to invest more in product development and distribution. Scholarships and fellowships in researching in reproductive sciences and to post-graduate and doctoral scholars have also been a primary area of funding in health (Caldwell & Caldwell, 1986; Rosenfield & Wimpee 2015; Magat 1979).

Enter the Era of Global Health Governance: The Age of BMGF

During the period dominated by Cold War, the RF was eclipsed by other dominant players like the WHO, WB, and the FF. The FF entered this period overshadowing the RF, and maintained its dominance in population control projects, highlighting the mood of the Cold War's obsession with developing countries. However, Ford's role was more focused on supporting decolonization projects owing to the developmental interests of the United States, and less on public health projects like disease control, where the RF had marked its legacy. The end of the Cold War brought the promotion of trade, commodification of health, disease surveillance, and health security as justification for international health. By then, the role of the WHO had also waned. The World Bank pushing for privatization of healthcare had a far greater health budget than WHO. The 1990s brought international health spending to stagnation. With such changes in the global scenario, the future direction of organizations like the WHO and other agencies was in a complex situation. International health philanthropy, therefore, would only revive back significantly only with the

infusion of an enormous number of resources. This revival coincided with the rise of neoliberalism. The resurrected entity, which highly favored the free-market ideals and advocated for commercialism, functioned in a role that criticized the state's role in the health sector (Kilby, 2021; Birn, 2014).

The 1980s and 1990s, also known as the birth of the neoliberal era, brought a transition in global health policy-making. The decision-making process shifted from the UN agencies to the International Financial Organizations. This shift was designed to bring in the participation of private actors in global health policymaking. The end of the 20th century saw increasing collaboration between United Nations and businesses, clearing the grounds for more private players to participate. These changes occurred partly due to two specific reasons, first, was declining level of assistance coming from the OECD (Organization for Economic and Co-operation and Development) countries in the 1990s, and second, was because of fear that the importance of the UN in the global health forum would decrease if it does not collaborate with the corporate players. Instead, they were gaining momentum in overall policy making. Such collaborations gave birth to various "global health policy actors like Global Alliance for Vaccines and Immunizations (GAVI), the Global Fund to fight AIDS, malaria, and Tuberculosis (GFATM), Global Alliance for Improved Nutrition (GAIN)" (Ibid). These global players are public-private entities with targeted issues at hand. In addition, the United States has increased its participation in setting global health policies since the 1990s. Traditional goals of US AID from the beginning have been to promote privatization and economic liberation. It has also placed global health issues in global forums like G8. The setting up of international health policies in the recent decade has been influenced and fostered by certain actors like the G8. For the most part, development aid has been steered largely towards population control programs like Family planning. Approaches to health policymakers have become increasingly fragmented and verticalized in the recent decade.

The largest new foundation to enter China and India has been the BMGF, one of the largest American foundations of the century in terms of assets and giving. "While the Rockefeller and Ford Foundations were flag-bearers for capitalism, they worked closely with, and shaped, government policy both in the US and elsewhere" (Kilby, 2021, p. 83). Driven by similar world views and shared concern for the newly independent countries in the post- second World War, the

RF and FF worked very closely in the Cold War era. This association between the two foundations which relied on close partnership with the US government involved collaborative meetings and a cross-fertilization of staff in which individuals left government projects to work for the foundation and foundation employees left for government positions (Kelly, 2013). "The Gates' Foundation, on the other hand, is more married to private sector approaches, being generally skeptical of governments and their role. Gates' input into to government policy is very much to promote the private sector in the delivery of health services. The Gates' Foundation unlike the other major Foundations is run by the founder and funders" (Kilby, 2021, p. 83). This donor driven approach gives the BMGF "a particular 'private sector' view into what it believes are applicable national policies to promote education, health and agriculture (Ibid).

The Gates foundation's interests in both countries have been in health-related programs, particularly HIV/AIDS. The foundation was established through a merger of the William H. Gates Foundation, established in 1994, and the Gates Learning Foundation, established in 1997 as Gates Library Foundation. The total endowment of the foundation includes the combined donations of Microsoft Co-founder Bill Gates, the world`s richest man according to Forbes, and Warren Buffet, the second richest to Gates. The foundation has operated in two separate entities since 2006, the BMGF and the Bill & Melinda Gates Trust. The first entity distributes the money, and the second manages it. This structure of two entities helps the trustees separate the program work for the investments. Four major areas of the foundation are- "Global Health, Global Policy & Advocacy, and the United States Programme, governed by three trustees Bill Gates, his wife Melinda Gates, and Warren Buffet. The foundation has invested the most in Global Health" (Edwards, 2009; Levich, 2014; Birn, 2014; Hay & Muller, 2014). The main focus of the BMGF so far has been to combat infectious diseases in developing nations and to bring about wide market reforms in agriculture worldwide. Bill Gates was influenced by John D. Rockefeller`s philanthropy and its acclaimed achievements in public health (McCoy et al., 2009; Cueto, 2008; Birn & Fee, 2013; Levich, 2014). "Echoing the RF, the BMGF follows a technically oriented approach—with programs designed to achieve positive evaluations through narrowly-defined goals—and adheres to a business model emphasizing short term achievements" (Birn, 2014, p. 9-10).

The super-wealthy since long recognized the importance of practicing scientific philanthropy, which is not only related to moral rewards but at the same time can serve as a pathway to social acceptance. What is different about the philanthropic practice of the 21st century is how it is practiced. The super-wealthy bestow their fortunes like they earned them- entrepreneurially. They have been actively using their wealth to experiment to solve the world`s biggest problems. There is a close association between their way of thinking like a business person and their ways of giving. They have been operating on a large scale in their businesses, and their reach has always been global; they use their giving similarly. An important feature of these big philanthropic givers is the way in which they are growing- on a huge scale. Market plutocrats are developing their foundations and think tanks. American philanthropy has been growing on a massive scale after World War II (McGoey, 2014; Reckhow, 2016; Skocpol, 2016; Teles, 2016; Goss, 2016). As George Soros stated- "It is much easier to become rich in America as compared to Europe because Europeans envy the billionaire but Americans, on the other hand, emulate them" (Freeland, 2011, p. 54; Freeland, 2012).

The models of addressing health issues forwarded by the BMGF offer simple solutions to the complex problems of healthcare. These simple solutions sideline the complex social and cultural contexts from which diseases are caused. Ill-health, instead, is described by accessibility to drugs which are considered an answer to poverty and inequality. "The business and trade practices of McDonald's, Coca-Cola, Johnson and Johnson, Monsanto, and other junk food, pharmaceutical, and agribusiness interests in which organizations such as the Bill and Melinda Gates Foundation hold massive amounts of stock, in turn, evade scrutiny and their business proceeds as usual, regardless of its effects on well-being" (Stuckler et al., 2011, p. 97).

Chapter 2

American Protestants in the Making of Western Medicine in China and India

Introduction

The creation of 'Western Medicine' dominating the landscape of health service provisioning in China and India has historical roots in Colonialism and several actors, including missionaries and American Foundations. In congruence with the core objective of the thesis, which focuses on the transformation and transition in public health in the early 20th century by American Foundations (Rockefeller, Ford, and Gates), this chapter traces the historical roots of western medicine through a qualitative method by contesting that the development of modern medicine owes to its missionary influence. The politics of establishing modern medicine in China and India can be seen through the lens of medical missionaries who preceded the Foundations. In both countries the introduction of allopathic medicine was through the colonizers- who were differentially engaged with China and India. In the case of India, the British colonial government played an important role in institutionalizing allopathic medicine whereas in the Chinese context, western medicine was mostly concentrated in port cities where most of the imperial powers were stationed.

The relationship that was found between the local elites, political class, the intelligentsia, and local population with the missionaries laid the ground for the first American Philanthropic Foundation, the Rockefeller Foundation, to gain entry and enhance their ability to set up medical institutions and public health programs which became one of the most critical public health initiatives ever taken up in both the countries. The foundations managed to survive many political upheavals and stood their ground in developing modern medicine. The medical missions demonstrated the ability to endure civil wars and political upheavals when they managed to survive through difficult times. The histories of medical missions speak to the engagement between the foundations with the local populace. Medical missionaries did not only engage themselves in mission work but were equally active in politics and served faithfully in many provinces as the

spokesperson for their imperial powers.[17] Several of them slowly found a place in the administrative hierarchy as political advisors. The missionaries became a favorable asset for the imperialists to gain legitimacy in the Chinese and Indian societies. Through their hard work and sacrifice, especially demonstrating the power of healing in a society facing the burden of sickness, the missionaries were able to win over the hearts of the imperial court in no time and gain the trust of the masses. This trust built over decades of hard work became the route through which the Philanthropic Foundations were able to make their way into both the countries.

The missionary story in China and India dates to the entry of the Nestorians, followed by the Jesuits, Roman Catholics, and finally, the protestants.[18] The concept of western medicine as a powerful tool for the civilizing mission was a core agenda in the main outline of evangelism by the protestants. American Board of Commissioners for Foreign Missions (ABCFM) product of the 'Second Awakening' was peculiarly an American phenomenon characterized by the desire to equal and follow the London Missionary Societies' patterns of evangelism missions in the colonies. The anti-missionary attitude of the East India Company in both China and India forced the London Missionary Society to send their missionaries via the United States, which in turn produced intense zeal amongst the young American evangelicals. ABCFM was catalyzed by a group of students at the Andover Seminary who looked at the Orient as a land of lost souls who needed to be saved from heathenism. Medical Missions were one of the core agendas of the American Board. With this in mind, the American Board's first mission field was India. Western medicine started taking roots with the entry of the missions. The three core areas of the American Board in colonial India were the Marathi Mission, Ceylon Mission, and the Madura Mission. The first medical mission to China started with the arrival of Dr. Osgood in 1870. American Board's missions were active in

[17] The tradition of missionaries acting as political advisors goes back to the Jesuits and their influential role in bringing about change in dynastic China`s outlook towards foreigners. One important name in this history is missionary Frank Price of the American Presbyterian missions who enjoyed direct access to the leader of the Chinese Republic Chiang Kai-Shek. Frank Price compared to other missionaries enjoyed special privilege with the Chinese political leader. Though much of his efforts proved very limited, he still played an important role by becoming the voice of American interests in Chinese politics. During Chiang Kai-Shek rule Chinese Christians dominated the top echelons of the Nanking government. Chiang himself became a devout Christian throughout the 1930s and continued to demonstrate his religious beliefs. One important effort of the generalissimo is the creation of the religious program 'New Life Movement' the principle of which was a combination of Confucian and Christian ethics

[18] The entry of missionaries goes back as far as the 12th century in both China and India. Both countries share similar stories on the chronology of western medicine through missionaries. The Nestorians, the Jesuits, Roman Catholic and finally the protestants entered China and India at approximately around the same decade. All the different forms of Christian denominations brought with them a type of medicine from the west.

Foochow, Shanxi, Shantung, and other parts of North China like Peking and Chihli. By the 1890s, China had surpassed India as one of the largest fields of missionary activity (North China, n.d; Hemingway, 1935; The North China, 1908).

In the early part of the nineteenth century, one of the core concerns of the missionaries had been the changing nature of politics at the national level. Various missionary writings both in China and India show explicit concerns over the growth of communism. Medical missions in both countries have been very active, from building hospitals and medical institutions to train the local people. These missions have been active in one of the most impoverished regions in both countries. As a result, the urban-centered medical institutions were more focused on training. Western medicine delegitimized the existing indigenous system of medicine and sought to build its superior knowledge through the scientific-based study of anatomy, physiology, and chemistry. Evangelism centered around the mission of healing through medical and surgical care became the cornerstone of the rise of western medicine in both countries. As a result, women's health became one of the most significant drivers of attitudinal change toward western medicine in both these countries. The development of western medicine took place under the influence of the American protestant movement in both China and India at the most contentious point in history, surrounded by Colonialism, imperialism, modernism, and nationalism coinciding with the rise of the scientific system of knowledge in medicine.

The Evangelical Revival and the Civilizing Missions

The missionary awakening in Great Britain at the end of the 18th century paved the way for creating a new movement of Christianity based on the biblical imperative of evangelism. In Great Britain, this movement was popularly termed as 'Evangelical Revival,' and in the United States, it came to be seen as the 'Great Awakening' (Bert, 2013). With this movement spreading far and wide, many missionary societies were founded between 1787 and 1810, both in New England and the Middle Atlantic States (Ibid). Some of the prominent names in missionary medical science are the London Missionary Society, the American Board for Foreign Missions, the Free Church of Scotland, the European Missionary Society, and the Roman Catholic Missions. The

remarkable passion displayed by the missionary movement was in such a way that the period from 1800-to 1914 is remembered as "the great century of missions" (Calvi and Mantovanelli, 2018).

Since the beginning of the Christian missions, missionaries sought to heal those willing to convert. "Like their imperial counterparts, missionaries, were a byproduct of a European intellectual milieu which made them accountable to the authority resident at the seat of power" (McKay, 2007, p. 548). However, at the same time, missionaries, unlike their imperial contemporaries, often differed in their approach to the local populace. They enjoyed a considerable amount of autonomy and associated mentally and physically with the region and the population they worked with (Ibid). They went beyond their comfort zone and often sought to interact to know and understand the culture of the region they were located, in the process, generating a vast body of knowledge of the local society. In the early years of the evangelical movement, medical work did not figure as an essential body of the missionary movement. Instead, the missionary societies were least interested in considering medical missions as a critical component of proselytizing. The medical missionaries were instead looked down and considered a distraction from the true vision of the mission movement. In correspondence to the growing awareness of failing missions, evangelizing methods started to turn in the 1860s (Calvi and Mantovanelli, 2018). As the medical missionaries started to display their value slowly on the field, the attitudes started altering toward accepting as consecrated physicians (Loomis, 1950). Unlike their other colleagues, the medical missionaries came with the "combination of Christian conviction, imperial mission, and science, a compelling amalgam of the age" (Hardiman, 2006, p. 5). This gradual acceptance made continued support for building hospitals, health dispensaries, and training medical personnel possible (Loomis, 1950). In the process, the medical missionaries reduced the chasm between religion and science (Hardiman, 2006). The entry of the medical missionaries worked in favor of the colonialists and imperialists since they were least interested in investing in the health of the local populace.[19] Initiatives were taken only when the colonial state was threatened with epidemic

[19] The British initially developed a system of healthcare designed on segregation and discrimination, neglect of the local population. Facilities were set up for providing medical relief to the troops and employees of the East India Company. Interestingly, with the interest in scientific research boosted by the rise in epidemics and pandemics, the EIC started taking interest in the health of the local population. However, in China, enclave colonialism meant that there was lack of a cohesive administrative policy. Most of the medical institutes were located in port cities gathering to both the European and local Chinese populations.

diseases. At the local level of healthcare, it was the medical missionaries who were always at the forefront.

The creation of the ABCFM in 1810 signified a new era in the American Protestant movement of missions (Kurtz, 2014). The ABCFM was predominantly a New England congregational effort and the first successful North American agency dedicated to foreign missions. ABCFM, in the later years, became the largest foreign missions board in the 19th century (Barton, 1906). In the initial phase of the evangelizing mission, the focus was on their territory. However, as the news of British Evangelical Missions reached the masses of American Missions through mass media like the "Christian Observer, a publication of the American Episcopal church," it created a sense of moral responsibility to help and support their spiritual brethren in the world of the heathens (Verney, 2013). During the first half of the century, the primary targets of the American Foreign Missions were India, Burma, and Ceylon, slowly followed by mission fields in Africa, Asia, and the Turkish empire. "By the end of the nineteenth century, China had become one of the largest fields of the protestant missionary movement in the far east" (Bigelow, 1900). Amongst all Christian denominations, the protestants believed fervently in the gift of medical science for 'civilizing missions'[20], especially to reach the minds of the rural poor in the far east. More than school education, medicine was considered a much better agency to break the barrier of communication with the elites (Hardiman, 2014). The 'Caste System'[21] in India and 'Confucian teachings[22] China carried strong moral and ethical authority. The barrier between the west and the east reduced when the status of the relationship changed from a doctor to a patient. In this aspect, medical missionaries were considered agents of institutions that could publicize the humanizing aspect of Christianity amongst a heathen population (Kumar and Basu, 2013).

[20] Broad ideology encompasses enlightenment ideals, evangelism, racism, white supremacy, and liberalism
[21] A social and religious system in India is determined by your birth. It is a form of social stratification characterized by endogamy and heredity
[22] The ancient Chinese system of thought and behavior consisting of ethics, education, and statesmanship propounded by famous philosopher and thinker Confucius

Protestant Missionaries in Colonial India and Imperial China

Protestant Missionaries Enter Colonial India

The European colonizers in India in the 18th century initiated a new wave of missionary activities. Western medicine was seen as a bearer of western cultural values which could tie the subjects to their colonial masters. It was also seen as a 'tool of the empire.'[23] Medicine played an important role in maintaining the imperial rule. Apart from playing a prominent part in the military, it was also seen as an important economic efficiency tool. Knowledge of medicine became a colonizing force on the Indian body.

Attempts of the non-professional kind played an essential role in furthering the missionary agenda. Missionaries Gabriel Boughton in 1636 and Hamilton in 1713 successfully healed the Mughal rulers of painful maladies and, in return, received royal favors. The Tranqueber mission would send an occasional doctor to India, and William Carey's companion Dr. John Thomas was a practicing and licensed medical practitioner. However, on the other hand, the organized body of medical missions was a 19th-century phenomenon and coincided with the growth and development of modern medicine (Sinha, 2008).

The entry of western medicine in colonial India dates to the 18th century. Medicine became an influential and authoritative vehicle of colonial agenda. South India led the way for medical missionary work in the empire. Healing became a modernizing process in the Indian colony (Arnold, 1993). India became the preferred site for protestant missions due to their proximity to the British. By the middle of the 19th century, "more than a quarter of missionaries were settled in British India. By the time of the first World War, around 5200 missionaries, 2500 were British, and 1800 Americans were posted in the Indian sub-continent" (Piggin, 1984). China was the only country that could compete with India in terms of the number of protestant missionaries stationed there. Protestant medical missions, in contrast to colonial medicine, differed in their approach.

[23] The British developed a system of healthcare designed on segregation and discrimination, neglect of the local population. Western medicine was seen as a bearer of western cultural values which could tie the subjects to their colonial masters.

They sought to place themselves in the social and institutional milieu of the local populace and embrace people from all sections of the society irrespective of their caste or gender. With such an approach, medical missions became an effective strategy of evangelizing, gaining popularity and unprecedented growth by the late 19th century. The upsurge in the number of hospitals and healthcare dispensaries added the number of doctors and medical practitioners posted in the Indian Sub-continent increased from 28 in 1870 to 335 in 1912 (Roy, 2021). Along with the rapid rise of the medical practitioners, employment opportunities for the local people who worked as assistants to the missionaries increased (Ibid). The pioneers of medical missionary work in colonial India belonged to British and American missions. The London Missionary Society was the first missionary society in British India and started its mission in Madras presidency in the 18th century (Baru, 1999). Before forming an organized body of medical missions, nearly all missionaries in the different fields had the opportunity to use whatever measure of medical skills they possessed in healing the sick.

Missionaries in Imperial China

There are many contested histories highlighting the point of contact of China with western medicine. Chemin Wong and Wu Lien Teh divide the historical narrative of medicine in China into four eras – "the ancient or legendary period (2697-1122 BC), the historical or golden period (1121 BC - 960AD), the medieval or controversial period (961-1800AD), and the modern or transitional period (1801-1936AD)" (Wong and Lein Teh, 1932). Earlier records show that the Jesuits first brought the western scientific style of medicine (Fu, 2011). The last quarter of the 19th century was a significant turning point in the history of modernization in China which coincided with the growth of the protestant movements around the world. These two important historical developments in modern Chinese history influenced each other. First, the missionaries have been active in many fields, from education and agriculture to medicine. Second, the development of western knowledge owes to its missionary movement. In the initial years of missions, the movement was confined exclusively to evangelism in the treaty ports. Third, the opening of educational institutes and hospitals was under the confines of European charity and not an agenda

of general schemes. In the later decades, it was because of the '1876 Chefoo Convention.'[24] and the creation of the 'China Inland Mission[25] Missionaries were allowed entry into the mainland, contributing much to its mission efforts (Bigelow, 1900).

The first protestant missionary in the far east was Robert Morrison of the London Missionary Society 1807, who arrived in Guangzhou, marking the effort of the early protestant movement in China. He came fully prepared with the advantage of the Chinese language, which he learned in his seminary. His earliest mission work started with translating the Bible (Starr, 1998). Unlike his merchant peers, he did not receive much support from the British East India Company as the company was very strict with its regulations of maintaining religious neutrality and in no way wanted interference in ruling India efficiently and profiteering from trade with China. He was also an influential personality for the British Government and the EIC, acting as a translator on many important occasions. In Morrison's time, the open propagation of any foreign religion was illegal by the Qing courts, and the EIC, at the same time, did not want any activities to interfere in its commercial activities (Latourette, 1929). After decades of efforts by foreign missions, Chinese Christians started taking prominent positions in the missionary movement after the 1840s (Ibid).

Several surgeons of the British East India Company since the 19th century commenced few or limited medical works at Macau or Canton.[26] In 1918, the appointed "ship surgeon of *General Harris*, who was bound to sail to the Far East, failed to report for duty. In lieu of this, Sir Astley Paston Cooper (1768-1841), residing surgeon to Guy's hospital, put forward his favorite pupil Thomas Richardson Colledge for the appointed post" (Fu, 2013a; Fu, 2013b). Thus began Richardson's long association with China (Heule, 2018). After completing his training in St. Thomas, Richardson took an appointment with the British East India Company, one of the most powerful mercantile firms of the time, in the capacity of an Assistant Surgeon to their China station

[24] Also known as the unequal treaty was signed between the Qing and British empires, allowing Britain entry into some of the port cities like Ichnag, Wuhu, Wenzhou

[25] To reach the mainland of China with the Gospel beyond the treaty ports, the China Inland Mission was set up by James Hudson Taylor in June 1865

[26] Macau is an island off the south coast of China. Its geographical location as a tiny peninsula made it ideal for foreign settlements. Macau has been occupied by Portuguese colonial power since 1553. Since its occupation by foreign colonial powers, Macau became the center of trade in East Asia, opening the tiny island to missionaries (Fu, 2013, p. 11; Ravin, 2001)

at Macau (Fu, 2013a; Ravin, 2001). His initial function was Superintending Surgeon of the Hospitals for British Seamen (Heule, 2018). When Colledge landed in Canton, Macau, very few western trained medical practitioners had treated the Chinese. An extraordinary sight met Colledge's eyes as soon as he landed in Canton. It was not the people, culture, or the unfamiliar language but the appalling spectacle of sickness that confronted him on all sides. He seemed to have encountered every kind of painful sickness, but what got his attention was the pathetic helplessness of the blind (Balme, 1921). Moved very much by the painful sight, he decided to dedicate his time and money to provide relief to the people suffering from various ailments. Losing no time, he proceeded at once to make inquiries about the possibility of opening a hospital in the port city of Canton. Considering the very little attention given to eye diseases, Colledge diverted his attention mainly to this disease. Thus, in 1827, he founded the Macau Ophthalmic Hospital, the first of its kind ever opened in China, to provide Chinese people the benefits of western medicine (Ibid; Ravin, 2001). Also known as Colledge's Ophthalmic Hospital, it was available for all types of disease but focused mostly on ocular problems (Ibid). The hospital thus established the foundation for creating the medical missionary society in the later years (Greene, 1917).

Elijah Coleman Bridgman who landed in China in 1830 was the first missionary who saw and appreciated the strategic importance of modern medicine and its superiority in certain aspects of medicine like eye surgery, to further the evangelizing agenda (Hardiman, 2014). “One of the first Protestant missionaries to arrive in China prior to the First Opium War, Bridgman was a pioneering scholar and cultural intermediary and laid the foundations for American sinology in China. His contributions shaped the development of early Sino-American relations” (Ibid). Being one of the first few protestants to engage with China, through his extensive experience and writings, Bridgman’s writings is known to create American imagination of China. He was the “pioneer behind the creation of 'The Chinese Repository,' the first journal of sinology. He also came to be known as the first China expert. As a translator, he also contributed significantly to formulating America's first treaty with the Chinese Government under the Qing Dynasty” (Ibid).

Dr. Peter Parker (1804–1888) was the first appointed medical missionary to China by the American Board. He was famously known as the person who "opened China at the point of a lancet when Western cannon could not heave a bar" (Fu, 2016, p. 266). Dr. Peter Parker became one of

the earliest American pioneers who built Sino-American relations in the nineteenth century (Anderson, 2006; Anderson, 2013). He founded the Canton Ophthalmic Hospital, which is known as the first modern hospital in China, in 1835. "Ordained as a missionary in Philadelphia on May 16, 1834, Parker was a graduate of Yale's medical school and theological department. Parker's appointment to China by the American Board was mainly in response to Bridgman's request for a medical missionary in Canton" (Hardiman, 2014). In January 1834, Parker encountered David W. C. Olyphant, an American merchant who helped him to reach the Chinese shores through the Morrison (Anderson, 2006; Anderson, 2013). Parker first aimed to enlighten the Chinese in "the science of physics and surgery and, second, opened the way to spread the blessing of Christianity among the vast population. Peter Parker also played an important role in the Sino-US diplomatic relationship, succeeding Bridgman as a temporary secretary and interpreter in the first legation to China" (Fu, 2016, p. 2). Parker treated around 925 patients with no remuneration in the first quarter and purely based on charity. Western missionaries and merchants in Canton supported the hospital (Ibid).

Parker also became the first person to conduct surgery on the Chinese people (Ibid). As the missionary hospital in Canton slowly expanded and became well known, the missionaries realized the requirement for an organized enterprise of medical missions with a definite and underlying policy. They accordingly proceeded to plan out the framework for the foundation of a medical missionary society (Balme, 1921). Two factors promulgated the creation of an organized body of medical missions. Firstly, with the increasing financial contribution to the hospital, the missionaries saw the need for an administrative body to maintain the balance sheet. Unlike other missionary enterprises, Parker observed that foreign merchants in China were more willing to support the medical enterprise. Secondly, Parker saw the need for trained Chinese medical personnel in the hospital and medical dispensaries (Hardiman, 2014). Simultaneously, the first Medical Missionary Society in China was formed in April 1838 (Balme, 1921). Dr. Parker's aim was not only to heal the patients but also to train Chinese people in Western medicine.

The Missionary Agenda: Politics of East India Company in British India and the Struggle with Opium Trade in Imperial China

Missionaries and the East India Company

The East India company was initially not keen on the missionary agenda of the 'Civilizing Missions.' They understood the importance that Indians hold dearly with their religious beliefs, culture, and tradition. Disturbing that very nature of belief would not augur well for their colonial interests and dominance. Religious neutrality thus took an important place in colonial expansion. Unwilling to tamper with religious issues that conflicted with their commercial interests, the East India Company passed a resolution barring the entry of missionaries without a license issued by the company. Missionaries without this license would be expelled from the territories governed by the company. In the light of these political hurdles, the first protestant missionary in India had to come under the protection of the Danish king. Such restrictive policies of the East India Company created an uneven and unpleasant relationship between the colonial government and the missionaries (Chawla, 2000). Although, in many aspects, they shared similar beliefs in the cultural superiority of western civilization when it came to implementation, colonial interests, which were informed by commercial profits and religious ideologies of the missionaries, conflicted with each other. However, eventually, with the great awakening of evangelicalism in Britain and the United States and growing factions within some of the company's court of directors who upheld the same idea with the missions of proselytizing India, the East India Company had to loosen its restrictions and open the colonies for the missions. This was a period during which the missionary movement gained much momentum and support in the British parliament. Finally, the new Charter Act of 1813 gave access to the missionaries to reside in India but under certain conditions (Ibid; Barpujari, 1986).

The pursuit of the missions to Christianize the Indians increased this decade with an increasing number of missions in the field. By 1833, when the Charter Act was put forward in the British parliament for renewal, the evangelicals had organized themselves into a strong lobby. The belief that the 'English bore the moral responsibility of introducing the principles of laws and institutions of the civilized to the heathens gained widespread popularity in public in both Britain

and the United States. Thus, as commercial interests and religious ideologies assimilated in terms of profiteering by civilizing the local populace, the ambitions of both the colonial authorities and the missionaries fused (Chawla, 2000). As the term "Civilizing" became a popular slogan that carried a combination of law, institutions, and religion, the renewed charter act of 1833 removed all restrictions on missionary movements within the colony. The 19th century thus witnessed an increase in missionary activities in places like Calcutta, the heart of the empire (Ibid).

Opium Trade and Christian Missions in Imperial China

When the medical mission's project was gaining momentum, one of the most contentious and morally problematic issues that the missionaries had to deal with was the problem of the opium trade. The opium trade of the 1830s became a significant factor in social issues in Chinese society. Opium addiction affected many Chinese men, especially from the laboring class, which made them physically weak and idle. The earliest date of opioid importation into China can be traced back to the Arab channels, approximately at the end of the 16th century. Whether it is imported from Arab or Persia, the presence of opium in China has been historically known since the Mongol dynasty. The use of opioids in medicine started only in the Ming dynasty. By the turn of the 19th century, the opium trade became an important source of commerce for Britain's secular ambitions. The story of the opium trade ties a complicated alliance of mission, empire, and commerce. America's first missionary to China, E.C. Bridgman, played an influential role as the voice of missionaries against the opium trade (Latourette, 1930; Lazich, 2006). He published numerous writings against this trade in the Chinese Repository. There was a constant dilemma for the missionaries for openly coming against this trade as many of them were funded by merchants of the trade. In the initial years of his arrival, Bridgman accepted the ill effects of opium use and expressed his concern privately but given the precarious situation between the trade and the civilizing missions stayed away from publicly condemning it.

One of his close associates Robert Morrison of the LMS was supported by the British EIC, whose commercial interest in China was well known. He was able to securely voice his opinion because his chief funding came from the New York Philanthropist merchant D.W.C. Olyphant, a well-known businessman who had denied to take part in the opium trade. When it came to

acknowledging the ills of this trade, many missionaries had to choose between challenging, connivance, or silence (Lazich, 2006; Miller and Stanczak, 2009). Dr. Peter Parker, who had gained immense popularity as the first medical missionary to China on behalf of the American Board mission, traveled to the United States just after the opium war to explain the circumstances surrounding the recent events in China. The American position on the trade-in contrast to its British counterparts, changed its trajectory from early opposition to supporting legalization, which in their judgment, was the right way to control the corruption and violence associated with the smuggling of opium (Ibid).

Tensions began to erupt between the EIC and the Qing courts as the illegal trade of opium grew in large numbers. The surmounting of political tensions for trading rights finally resulted in the first opium war in 1839. The War continued till 1842 when the British were demanding open access to the Chinese domestic market, and on the other hand, the Chinese were fighting hard to maintain their trade sovereignty. The missionaries found themselves in a moral dilemma. They were aware of the consequences of immoral trafficking and the harmful impact of opium on the Chinese people. Some of them took a radical stand at the house of commons in London against these immoral and criminal practices and while some looked at it as a chance to open for missions to the mainland. The diplomatic settlement or the unequal treaty system that followed this War lasted for a long time until World War II (Lazich, 2006; Miller and Stanczak, 2009).

The opium wars placed a set of unequal treaties for the Qing government. Access to practicing Christianity was highlighted in the first set of treaties which included the following – 1) extraterritoriality (foreign citizens coming under their consular authority, not Chinese jurisdiction, for any sort of crime or other legal action.); this was a provision applying to all foreigners; 2) provisions secured by the French in 1844 indicating that Christianity would be no longer be legally outlawed; an3) opening up five coastal cities for trade and residence by foreigners including the right to build churches, missionary residences, schools, and other elements of Christian communities; and 4) the foreigners right to reclaim the use of former church buildings wherever they had formerly existed before the proscription of 1724, and no matter what the present use of the property (Lazich, 2006, p. 338). Some of the missionaries also acted as translators during the Opium War. It became vital for the existence of Christianity in China to plant itself within the

legal framework of the treaty. The space for Christianity to co-exist inside the mainland depended wholly on the legal status of the unequal treaty system.

Entry of the American Protestant Mission in British India and Qing China

American Protestants in Colonial India

"The American Protestant empire carried American evangelical religion, national identity, and political goals overseas in an unstable mixture that interacted with local environments in unpredictable ways" (Ellington et al., 2014, p. 4). The American interaction with the east should be looked at within the context of negotiation with British Colonialism. Though they shared similar beliefs in religious doctrines and values, British colonial interests did not always coincide with America's imperial aspirations. The missionary movement did carry the baggage of colonial and imperial interests. American missionaries were theoretically funded and controlled by the governing sponsoring societies back in the United States. However, in the colony, they had to rely on the British colonists, be it allotment of land for mission purposes, grants, and aids for maintenance, colonial and state recognition of their institutions. Moreover, since the missionary strategies indirectly or directly fulfilled colonial objectives of setting up health care and educational institutions, the colonial state supported their programs through grants and aid (Arnold, 1993).

Compared to all other Americans living in India till 1930, the missionaries have been the largest group that has not been given adequate attention in various scholarships. As compared to the British, American missionaries did not take Centre stage when it came to their contribution to civilizing the Indians. Compared to its British counterparts, who had a very long-standing relationship with the Indian elites and worked in efficiently noticeable spaces, the American missionary movement in India was active in some of the most impoverished places (Ibid). The politics of territoriality between the various missionary societies plays out as an essential factor of the missionary enterprise, which consisted of many numbers of denominations. When the American protestant missionaries first arrived, the Methodists were already working in Lucknow, a city in Northern India; the Roman Catholic's presence was quite visible in the southern part, the

Presbyterians stationed at Allahabad and the Baptist missions in the Eastern part. There exists a clear hierarchy within the power structure of the different denominations, which cut across cultures and societies. These power asymmetries functioned not only within the different denominations of the same society but also across different cultures. The more established British mission maintained a colonial superiority relative to other missions.

With the Charter Act of 1813 being passed in the house of parliament by the British Empire, also known as the age of modern missions, American Protestant Missions arrived with their agenda of civilizing missions. With the arrival of the first American Protestant Missions in 1813, American evangelical missions started playing a significant role in Christian evangelism in India. The various debates around the company, empire, and British missions were closely followed in the United States. Publications on the debates were routinely distributed in and around the United States, creating much interest in the American Evangelicals. The American board had an influential role in American Foreign Policy derived from immense public prestige earned by the missionary movement. Missionary publications like the reports of societies like the London Missionary Society and Millville's letters on missions were large in number. These helped shape public attitudes towards various important foreign policy issues by taking editorial positions. The highest levels of government often considered opinions offered by missionaries on issues concerning international policies. The American Board was powerful enough in congress to develop public opinions and policies. At the same time, many at the level of Government also sympathized with the missionary agenda. The American Board members often enjoyed close ties with the governments. They had an influential role in filling candidates for diplomatic positions in countries where the mission movement had an active interest. They also developed strong ties with the professional and commercial elite in the United States (Reed, 1972).

American Protestants in Qing China

The 'Boxer rebellion.'[27] of 1900 unexpectedly flourished the missionary enterprise in China. Invoked by sacrificial values, many volunteers were influenced to participate in the missionary movement. Amongst many such stories, the story of Boxer martyrs "Yale graduate Horace Pitkin and the mission work of other foreign missionaries like – the Presbyterian church, Congregational, and China Inland Mission encouraged an increase in the number of applicants for missionary work".[28] Horace Pitkin's martyr gave way to the creation of the Yale-in-China mission in Hunan in the early 1900s. This period coincidently collided with the change within the Qing government, which were looking for reforms. The reforms included abolishing the "old examination system, promoting modern education, and creating a constitutional political system" (Bays, 2011, p. 93). The Yale Chine Mission, the establishment of Hsiangya hospital, and the growth of medical missions in Hunan owe their development and influence to two people – one American, Dr. Edward Hume, and Dr. Fuqing Yen, a Chinese doctor trained in western medicine. The foundation of the Yale in China mission brought Dr. Hume to China where he joined the medical mission in Changsha. Dr. Yen, appointed in June 1909, happened to be the first Chinese western trained doctor who was given equal status with a western medical practitioner in China. An alumnus of John Hopkins University medical college, Dr. Hume was a 1897 Yale graduate. After obtaining his medical degree in 1901, Hume began training as a plague specialist. His expertise in plague led him to his birthplace India. Hume loved to work in India, but China offered him a nascent field for medical missionary work. Developing medical education framed within a Christian context was the most important priority for Hume. In India, with the British colonial policy, many medical institutions had already been established in chief provincial cities. The need for American initiative in medical education was less seen than in Hunan, where there was ample opportunity for fostering western medicine. Hume thus sailed for Hunan in June 1905 aboard a Yangtze River steamer. The thought of ample opportunities for clinical work, vaccination campaigns against smallpox and typhoid, and the idea of building a medical school motivated Hume to continue with this long journey. Since its inception, the Yale medical mission has sought to cultivate a positive relationship between the Chinese and the westerners through its clinical and educational work. This medical cooperation was achieved in China at a period marked by rising

[27] An uprising against foreigners started in 1900, led by peasants but later supported by the Chinese Government. This rebellion was provoked by the unequal treaty act, the missionaries, and discrimination against the Chinese in their homeland

[28] His death brought a lot of young Americans to serve in the missionary service in inland China

Chinese nationalism and xenophobia. “Torn by political and military rife, Hunan's top provincial officials and gentry played very important roles in promoting the cooperative venture with the Yale mission” (Renshaw, 2005, p. 101-103; Reeves, 1970).

The fall of the Manchu Empire finally in 1911 developed a positive feeling within the missionary community in the United States. China, according to them, was finally on the verge of developing a holy combination of Modernization and Christianization. There was great rejoicing in the Christian circle as the president of the newly established People’s Republic of China in 1913 requested the protestant churches of the US for prayer for his newly formed Government. News across all of America covered stories on the prayer for China (Jing, 2015). China became the center of American missions from 1911 to 1915. Throughout the early nineteenth century, China did not locate in the popular imagination of the Mission Board Policies. China practically looked like a poor market for Christian Civilization because of hard-lined restrictions on missionary travels, hostility towards foreign thoughts and religion, strong control of Confucian ethics, and increasing anti-foreign activities. However, these sentiments changed after the demise of the Qing government. “Elijah Coleman Bridgman therefore became the first American Missionary appointed to China missions by the American Board.”[29] Coleman was the pioneer who edited the famous periodical “The Chinese Repository” an English language publication known for its comprehensiveness in covering many topics and information on China-related issues. He also played an influential role as a translator and advisor in the first Sino-US treaty between 1842 and 1844. The outline of the medical mission by the American Board states:

> Because of the absence of foreign-trained physicians among the Chinese, the mission recognizes medical work as one of its important functions. The example of the divine master and the teachings of modern science regarding the intimate connection between mind and body emphasizes the duty of bringing to the suffering multitudes the healing of medicine and the relief of surgery. Such ministrations, in which revitalizations of body and regeneration of soul are united, are a worthy end in themselves and a great aid in the extension of Christianity (Dyer, n.d)

It was not until the beginning of the 1890s that China surpassed India in missionary activities. With the abolishment of the Chinese examination system by the Qing courts in 1906, China became one of the most promising fields of missionary enterprise in the far east. With such

[29] Elijah Coleman Bridgman was the first missionary to China by the American Board in 1830. He arrived just before the onset of the Opium War and became a pioneer in the various diplomatic issues relating to the War.

changes in the Chinese society, revenues for missionary expansion were prioritized for China. As the funding grew, many Americans started imagining a Christian China. Since the nineteenth century, American missionaries have played influential roles in Chinese politics by playing important roles in the capacity of advisors either to China's imperial rulers, bureaucrats, the Chinese revolutionaries, and the War Lords of the early twentieth century (Craft, 2004).

Western Medicine and the Civilizing Mission: American Board of Commissioners for Foreign Missions

The core purpose of medical missions as highlighted in the mission statement: -

> The Ministry of Health and Healing is part of the Gospel Message and the work of the Kingdom of God. The Church exists to continue the work Christ began. As he identified himself with the needs and sufferings of the world, so must his disciples identify themselves with that need and suffering, that the redeeming love of God may be mediated through them to the lives of others. Mindful of God's value on human personality and animated by the spirit of compassion that moves the 'Great Physician,' the Church will follow him in methods of service that express his mission. It is her privilege, as is her duty, to have an effect, in Christ's name, on the redemptive purpose of God, whose end is the restoration of the divine image in men. The Ministry of Health and Healing belongs to the essence of the Gospel and is, therefore, an integral part of the mission to which Christ has called and his calling his Church (ABCFM Special Topics: Medical work, 1925-1947).

The Baptist Missionary Society of England was organized as an official body through the efforts of William Carey, which was simultaneously followed by the creation of another organized missionary body, the London Missionary Society, in 1795. The establishment of the Church Missionary body thus followed in 1799. The work of these missionary societies attracted attention far and wide. This new movement was covered in many leading articles and news on both sides of the Atlantic (Barton, 1906). Resonating with this new movement, many young people were attracted to join the revival. One of them was Samuel J. Mills Jr, who was convinced of his calling to join the mission in a foreign land. His zeal for missions attracted four of his friends, which ultimately gave way to the establishment of the ABCFM in 1810, one of the first foreign missionary board in America. In its structure, ABCFM was non-denominational but a combination of various denominations. Two years later, the missionaries sailed to their first field, India. The missionaries stationed in the field started writing extensively about their work, the people, their culture, and religious customs. These publications introduced eastern geography and culture to the

western audience. These reports were not only printed in religious magazines like the Missionary Herald but also figured in scientific journals.

One of S. Wells Williams classic work, "The Middle Kingdom" introduced China to America. S. Wells Williams was a well-known missionary of the American Board. These writings, which were purely written for religious purposes, also had great commercial value. With the expanding knowledge of the east, the merchant classes of America saw this as a great trading opportunity. Thus, American products entered the eastern markets through the modern missionary movement with this new trading prospect (Ibid; Kling, 2003). The missionary movement introduced the modern practice of medicine and surgery. The Christian medical work in China proved itself as an important agency to reach out to the local people. "It symbolized the whole Gospel in seeking to make men whole in spirit, mind, and body" (Greene, 1917). When an American missionary E.C Bridgman saw British East Indian physicians gaining unique access to Chinese society through medical work when the Chinese Government prohibited contact between the locals and foreigners, he realized a new strategy of mission work. The American Board was the first missionary society that created the organized body of 'Medical Missions' in 1834 with the appointment of Dr. Peter Parker. The board-initiated funds to open hospitals and medical institutions in the empire and equipped them with modern apparatus. The medical missionaries also trained many competent local youths to serve their people and funded students to study abroad. With Dr. Parker gaining popularity, calls were soon sent for more medical missionaries to America (Ibid; Reeves, 1970).

Breaking the Purdah in Colonial India and Accommodating the Chinese Women in Imperial China

American women missionaries played a prominent role in redefining the idea of American imperialism in different colonial locations. Often placed in different colonial settings, these women missionaries worked in places that challenged the confines of their own cultures. However, the implications of their efforts are categorically not defined. For example, American protestant women have played an influential role in the dynamic extent of American religious culture across the world. In an era defined by the rise of America as a global power, "these women missionaries

became central to the connections between domestic and global events that shaped American imperial culture from 1812 to 1960. The rise of evangelical Protestantism played an important role in the emancipation of American women that addressed their gendered location in American society" (Ellington et al., 2014). American Baptist and Presbyterian mission started their medical relief work in the mid-19th century. During that period, women who had medical training had very few employment opportunities in their respective countries found their calling in the medical field in the colonies. The growing mission field in the colonies provided them with unique occasions to practice their learned art (Baru, 1999).

Breaking the Purdah in Colonial India

One of the most significant contributions of the missionary movement has been on issues related to women's health. Women in India, as compared to men, were completely cut off from interacting with foreigners because of cultural barriers related to tradition and religious beliefs against female education and the 'zenana system[30]. Western influence depended largely on cutting across such cultural barriers of the time. It was not until the first rebellion by the Indians called the 'Mutiny of 1857.'[31] Learning about a western culture by the Indian womenfolk was considered significant. The Indian elites were increasingly showing greater interest in learning about the west. To respect both the zenana culture and, at the same time, break the barrier, the Zenana education system was created, which involved door-to-door visitations by female missionaries. This system, in turn, created a demand for female educators, which coincided with a surplus of single females in the west who were mainly preferred for missionary work (Forbes, 1986). Women missionaries mainly were confined to working health related services, which was perceived as the greatest need of the hour. The contribution and efforts of these women missionaries led to the conception of the Lady Dufferin Fund, which was created to aid and support hospitals and dispensaries for women and children in West Bengal, Uttar Pradesh, and Madhya Pradesh (Baru, 1999).

[30] 'Zenana' derives from the Persian word and means 'Harem' or inside the household. Under this system, men and women work in different spaces within the family, entrusted with different activities.
[31] Also known as sepoy mutiny or great revolt of 1857 was the first violent uprising against the British rule by Indians. This event is also considered the first outbreak of an independence movement.

Many women were shaped in significant ways by the institutional culture of the women missionary societies, which had done tremendous amounts of work in women's health and education. Medical work by women missionaries in different areas of the mission field attracted a wide range of people from different caste and classes, from the lower caste to women of princely families, as compared to mission schools and colleges which were urban-centered and usually attracted people from the middle or upper class. The mix of people from different social groups consisted of conservatives and liberals in their political and social orientations. Women who attended the educational institutions mainly were from non-Christian backgrounds. American missionary women were pioneers in building one of India's most distinguished and substantial educational institutions. Some prominent missionary women's educational institutions established in the early 20th century in bigger cities of colonial India are Isabella Thoburn College at Lucknow, the Kinnaird College at Lahore, and the Women's Christian College at Madras, the Christian Medical Colleges at Ludhiana and Vellore. These institutions, to date, are premier educational institutes. Women educated in these institutes trained for professional careers centered around the English language, which gave them a higher status than others trained in vernaculars. The early period of the missionary movement was male-dominated until the 1870s when women's missionary recruitment started taking place. Single women were encouraged to step outside their comfort zone to help their sisters in the heathen world. Since the mid-nineteenth century, missionaries voiced the importance of breaking cultural barriers to gain access to women in colonial societies. Indian women were separated from their male counterparts through the 'purdah system.'[32]. In the light of this knowledge, missions started raising funds in their home country for women's missionary medical projects (ABCFM India Records, 1949).

Clara Swain was the first woman doctor to India who came in 1870 and initiated a hospital specifically for maternal care in a town called Bareilly in Northern India who was then followed by Sara Seward, who came to train women in medicine was stationed at Allahabad. Medical work in non-western cultures initially was experimental. Most of the missionaries employed in distributing medicines did not have any kind of formal training. Some of them were missionary

[32] Practices in ancient India that prohibited women's social mobility and behavior

wives, and others were 'zenana'[33] Workers. Working in a cross-cultural setting offered many challenges like getting access to the private spaces of local women, building confidence to use western medicines instead of traditional remedies, and encouraging them to come out of their secluded spaces of home into public places like the dispensary. Even with the availability of professionally qualified female physicians, these challenges remained constant till the 1870s. Inadequate supply of equipment's, dearth of trained medical practitioners, and lack of resources were very often highlighted in their reports to the mission board back home. Adding to that was the cultural barrier of caste and class, which frequently created problems with clinical care and also led to the slowing down of the medical work.

Clara Swain (1834–1910) supported by the Woman's Foreign Missionary Society of the Methodist Episcopal Church is well-known for her medical work in Bareilly (North India). Another pioneer medical missionary Anna Kugler (1856–1930), arrived in 1883 and founded the missionary medical work in the Guntur district of South India. Women medical missionaries were seen as valuable assets to access upper-caste families and zenanas, making issues of caste and gender central to the missionary movement. It was important for the women missionaries to gain credibility for their work; hence it became important for them to get access to women patients from upper caste and upper-class gentry who belonged to wealthy families and experienced a higher social standing within the local community. The small dispensary that Swain started in 1870 attracted attention and support from the Nawab of Rampur, a local princely ruler who donated a portion of his property for building a women's hospital in Bareilly. Swain's popularity attracted many other princely families whose medical needs she attended several times. After a rejection by the American board to work in the capacity of a medical missionary in India, Dr. Anna Kugler finally arrived in India in the capacity of a 'general missionary' supported by the board. Kugler's efforts in Guntur, Andhra Pradesh, finally convinced the board to fund and support her medical work in 1885. In 15 years, Kugler's small dispensaries became fully functional missionary hospitals for women and children. Like Swain, Kugler confronted the same issues with caste and class in Andhra. Even with her white privilege and education, women medical missionaries were

[33] A generic Urdu term was used to signify "spaces in households marked off exclusively for women, where they would cook, do domestic work, and spend leisure hours. The practice was prevalent in upper-middle-class families among Hindus and Muslims" (Sehrawat, 2013).

still viewed as the cultural other and unclean, a prejudice mostly based on religion and race, not gender (Singh and Gracey, 2005).

The Medical Mission Training Institute of the United Presbyterian mission was opened in 1881 and initiated by Dr. Valentine in Agra, a city in Uttar Pradesh. The North India School of Medicine for Christian women, established in 1894 was founded by Dr. Edith Brown. Ida Scudder is a pioneer in setting up the Christian Medical College for training women doctors (ABCFM India Records, 1949; ABCFM India Records, n.d). Ida Scudder is perhaps the most renowned personality in India's women's medical missionary movement. Scudder returned to India at her father's mission compound Tindivanum, a small town located a hundred miles from Madras, to nurse her ailing mother. During her visit, the plight of young Indian women touched Scudder's heart.

The lack of women medical doctors and the cultural barrier of male physicians from touching a female body created numerous problems related to maternal health. Years later, after obtaining her medical degree in the US, she returned to India, intending to build a women's hospital. While the first hospital was under construction, Ida found her hands full dealing with plague, cholera, leprosy, and other diseases. Through her relentless efforts and sacrifice, sanatoriums for tuberculous were built, a school for nurses was initiated, dispensaries, hospitals, and last, her greatest achievement, Women's Medical College in Vellore, was established. The medical center initiated by Scudder at Vellore was considered the best in Asia. It was built with the support of forty protestant denominations in more than ten different countries. "It included Vellore Hospital, Vellore's Missionary Medical College for Women, the first of its kind in India, which later became co-educational and was renamed the Christian Medical College of Vellore, a school of pharmacy, a nursing school, a leprosy rehabilitation unit, a mental health center, and within a fifty-mile radius of Vellore, branch hospitals, roadside dispensaries, rural health centers, eye camps, and research sanatoria that ministered to some two hundred thousand persons each year" (Azariah, 1990, p. 135).

The superior value of 'Western Medicine' was highlighted as an important and powerful tool to reach the women in their home spaces. As the missionary enterprise grew slowly, the

missionaries working in different field areas, both urban and rural spaces, understood the importance of first addressing the bodily ailments which would give them access to preach the Gospel. Many of the early initiatives were dispensaries, but slowly, with the popularity of the women missionaries, full-fledged hospitals were built for both women and children. This also points out that the missionaries were skillful in adapting their systems of medicine to suit the needs of the indigenous population. The development and growth of such institutions happened typically under the leadership of single women physicians. This endeavor occurred in conjunction with women gaining access to medical education in the west. The first medical institution for women, "the Vellore medical college, was built with the efforts of the American women's missionary enterprise" (Khan, 2010, p. 144). 'One of the key factors that encouraged women's missions was the understanding that "the responsibility of liberating the oppressed sisters in the heathen world lies on the shoulder of the free women of the west" (Ibid, p. 142). The strength of the Christian movement in India lies in the emancipation of its women. Missionary women were also more involved in the social sector of the colonial society because the evangelical enterprise was male-dominated where women were not ordained. By the 1920s, many professionally trained women in America were recruited with a greater emphasis on social and medical work (Forbes, 1986).

The status of Indian women has always been an issue of great concern, both socially and politically. Social reformers of the early 19th century took this concern as an important issue of social emancipation, voicing out on issues like sati.[34], child marriage, and female infanticide. Social status of Indian women started to change only by the end of the nineteenth century. This period centered the discussion on the emancipation of women and made it a famous slogan of the decade. The value of Indian women was highly appraised for her role in maintaining India's spiritual superiority over the western religion. Hence, with this idea taking strong roots, reforms were limited. The Indian nationalist leaders re-centered the question of women against the notion of the cultural superiority of the west. They recruited many Indian women into the nationalist movement against British Colonialism for independent India (Khan, 2010). Many educational institutions by the missionaries during this period came under tight scrutiny. They were criticized for influencing Indian women with the western idea of 'Womanhood' and denationalizing their

[34] Social practice in India where recently widowed women, either voluntarily or by use of force or coercion, commit suicide due to their husband's death

social and religious identity. Women missionaries were seen as implicit in the colonial policy of British rule. Their relationship with the colonial state in accepting grants and aid that supported the established mission schools and institutions made them appear like cultural imperialists to the nationalist Indians (Ibid).

Accommodating the Chinese Woman through Medical Missions

The initial proponents of missions did not necessarily go out for commercial interests. However, their many writings on the east caught the attention of many traders and businesses in the western world. The missionaries paved the way for the American consul, a pioneer of commerce and trade, to set up their business interest in China. The west has benefited much from this decade of trade and commerce with the east, opened by the efforts of the missions of the early 19th century. The relentless efforts of the missions finally bore fruit after decades when the civil service examination by the imperial courts was decided to be conducted by western standards by 1905 (Ibid). American missionaries to push the mission movement in China developed strong relationships with the Chinese intellectuals (Dawley, 2003). However, both parties had many fundamental differences in their core principles; they unanimously agreed upon one important factor, 'China's Reconstruction.' These earliest proponents of Christianity who uphold the idea of liberal social Gospel considered evangelism and social advance goals were both important drivers of the civilizing movement. Christianization would include various social reforms like the liberation of women, modern education, and eradicating barbaric social practices with these ideals in place. Many Chinese intellectuals were attracted by this social Gospel of the missionary movement, specifically the second part of social reforms. At the turn of the century, they emphasized increasing women's status in Chinese society, which also coincided with the increasing number of women missionaries from the west coming to China.

A significant number of female American missionaries started relocating to China in the latter part of the nineteenth century. Focused on the mission of proselytizing, their medical efforts were more inclined to win the hearts of the people for their religious purpose. One of their notable efforts called for abolishing the oppressive practice of female foot-binding. Such voices further added in destabilizing the Confucian ethic which governed Chinese society. "In Jane Hunter's '*The*

Gospel of Gentility: American Women Missionaries in Turn-of-the-Century China,' Sarah Elbert points out that American missionary women came to China with a mixture of religious ardor and plain longing for adventure" when there was no other alternative than teaching in a school for women in the home" (Tokay, 2006). The missionaries had a firm conviction that the upliftment of Chinese society depended on the status of their women. They believed it was important for Chinese women to play an essential role in social and political affairs. The young Chinese were also a significant group that attracted the missionaries. Liberating these groups in modern education became a critical mission as they were considered 'The Conscience of the Nation. The 'May 4th Movement.'[35] created a sense of hope and enthusiasm amongst the missionaries that China was now ripe and moving towards liberal democracy, the foundation of which was 'Christianity.' Chinese patriotism was on the high rise with increasing social and national awareness. The parent body of the missions also commended the unremitting efforts of Chinese women in the evangelical movement. Late 1919 to early 1921 was an important turning point in the history of Christian missions in China. Chinese intellectuals in this period called out for a more severe and open assessment of Christian doctrines and their influence on Chinese society and politics. Compared to the earlier period when such activities were addressed through violent means, this period sought to influence the Chinese' ideological and spiritual life.

The American board had started sending women medical missionaries in the 1860s (Zhan, 2020). The first female medical missionary to China, Dr. Lucinda L. Combs-Stritmatter (1849 – April 23), arrived in Peking in September 1873. Two years after her arrival, she built the first women's hospital in Peking. Medical work in Peking had commenced in 1861 with the efforts of Dr. William Lockhart of the LMS. However, the womenfolk in the city did not benefit from these efforts. Combs could finally commence her work in full swing with the building of a separate hospital for women. The successful labors of Combs were highlighted in the Annual Report of Peking, 1876. Through her contribution and sacrifice, medical work for women had won its way in Peking. As a medical missionary, Dr. Leonora Howard, a graduate of Michigan University, left for China on March 20, 1877. After her arrival, she immediately took charge of the women's hospital in Peking. Within three months in early 1878, she reported having treated 567 patients at

[35] An anti-imperialist cultural and political movement that grew out of student protest in Beijing on May 4, 1919

the hospital. The arrival of the famine throughout North China increased her duties two folds. Besides the local Chinese, many missionaries succumbed to malignant fever. Howard's medical work expanded from Peking to Tianjin, an important port city for the Chinese empire. Through her medical work, Howard contributed to softening the oriental prejudice toward westerners. By treating important and influential figures like the wife of a Chinese viceroy, she secured support from the Chinese (Gracey, 1881).

In the issues relating to maternal health issues, women doctors served actively in Foochow as part of the American Board Missions. The Board's first women missionary physician was sent to Foochow. Dr. Kate G. Woodhall and her arrival marked the beginning of women's medical missions in Foochow. Her first hospital was constructed on the building of a remodeled old Chinese house, where she began her pioneer work of healing the sick and training Chinese women in modern medicine (Kate C. Woodhull Hospital, n.d). After graduating in medicine from the Medical College of New York Infirmary, Kate Cecilia Woodhull decided to follow her spiritual call for foreign missions. Joined by her younger sister Hannah, who felt the same divine calling, the Woodhull sisters embarked on their long journey and set out for missions in 1884. One of the most worthwhile contributions of the Woodhull hospital was the training of nurses. Chinese girls with a junior school degree were trained for three years, after which they took the examination for the national exam set by the nurses' association of China (Ibid; Zhan, 2020).

Dr. Lora G. Dyer, an alumnus of Smith College Women's Medical College Philadelphia, was another important pioneer of medical work for women and children. Dr. Dyer started her medical work in temporary quarters with assistance from Chinese nurses. After 1920, she was called to serve in the general missionary hospital. In 1921, the board sent out nurse Hazel M. Atwood to assist Dr. Dyer in the new building of a women's hospital for women and children, which was due to open soon. During the many years of her service, she dealt with many diseases affecting the local population, which helped her win the confidence of many Chinese women. Many of the failed cases by local Chinese practitioners were brought under her care in the hospital. Confucian conservative beliefs created hurdles in visiting the modern doctor until the seriousness of the case. Diseases that plagued Chinese society were mainly preventable, like tuberculosis, syphilis, trachoma, malaria, dysentery, plague, smallpox, leprosy, and typhoid (Whitney Hospital,

1949). In order to tackle these diseases, the medical missionaries created awareness of hygiene and sanitation. In addition, educational campaigns in preventive medicine started rigorously after the cholera epidemic (Foochow, Willis F. Pierce Memorial Hospital, 1944).

Many of these women medical missionaries were motivated by religious calling and potential professional opportunities. If some women joined the mission influenced by religious impulse, others were motivated by professional considerations. With shrinking opportunities for professional work in medicine for women, foreign missions attracted female physicians. The growth and development of bacteriology, increasing professionalization and bureaucratization of medicine, and the closing of women's medical schools brought about radical changes in American medicine (Zhan, 2020). The joining of foreign medical missions also opened unique opportunities for pursuing medical education for aspiring female physicians. Affiliation with missionary societies helped significantly reduce the cost of medical education for women physicians. In addition, missionary societies' sponsorship of pursuing medical education for female students was not uncommon (Ibid). Along with religious piety and spiritual knowledge, imperialistic aspirations were also a contributing factor in furthering the women's missionary movement. The responsibility of the white woman to save the heathens contributed to their imperialistic assumptions. Moreover, the publicity received by the mission-related societies like the student volunteer movement (SVM) played an important role in appealing to female physicians to join the mission. For example, many female medical missionaries, such as Lora Dyer and Clara Shepherd of the Foochow Mission and Shaowu Mission, were student volunteers. Through many writings, it is seen that many of these women missionaries were mostly appealed by their evangelical zeal. They were least concerned about the place of posting and the challenges that awaited them. For example, some female medical missionaries chose to study medicine because of their hope of responding to the needs of foreign missions. In the process of their missions, the female medical missionaries developed a deep, meaningful relationship with the Chinese (Ibid).

Conclusion: Missionary Medicine in the Making of Modern Medicine

The creation of the American Board of Commissioners for Foreign Missions in 1810 marked a new era in the American Protestant Movement that happened at the height of British colonial expansion and America's political and commercial interest in the east. The mission's core

aim was to civilize the heathen world where rampant poverty, disease, and religious superstition. The superior quality of western medicine was one important tool of the civilizing agenda. The history of missionaries can be traced back as far as the 12th century in both China and India. Both countries share similar stories on the chronology of western medicine through missionaries. Many historical writings have shown that Christian missionaries created one of the major forms of the impact of the occident upon the Orient. When it comes to modern medicine, it is no different. Amongst all the Christian missions that existed in China, one of the most prominent and profound impacts was made by the American missions. The missionary came with a twofold mission: a mission of healing, affording him an opportunity of Christian philanthropy and service; and a mission of teaching, whereby he proclaimed the true motive of such service to be that befitting a son of God and a follower of Christ. His faith and works had to be of a piece; they had a common groundwork, and each reinforced the other.

Since both countries had already experienced some knowledge of western medicine, the people's minds were already prepared when the protestants came with medicine as a part of their civilizing agenda. The kind of medicine that the protestant brought was evidence-based scientific medicine called the biomedicine, with its foundations based on the germ theory of disease causation. Colonialism gave easy access to enter both countries. Many denominations and church ministries were already active players in health in both China and India. However, the idea of a separate 'Medical Missionary' is a creation of the American Board. The understanding that medicine could break cultural barriers was already a well-known fact. They also entered at a time when there were internal changes taking place within the societies of the colonial state. Both countries were struggling as a society to grapple with the notion of modernization and its importance of it for territorial sovereignty. The rise of science and allopathic medicine tended to describe the medical systems in India and China as superstitious and backward. The spread of allopathic medicine was intrinsically intertwined with the project of modernity. Medicine also became a strong colonizing force where the bodies of the colonized remained at the mercy of the superior knowledge of the colonizers. Two critical factors that played a significant role in establishing the superiority status were the popularity of surgery and breaking the barriers in women's health. Ancient historical writings show the existence of some form of surgical methods in ancient China and India. However, with Confucianism and Hinduism's religious ethics taking

strong roots that prohibit tampering with the human body, anatomical knowledge took a backseat. Both the systems of medicine function mostly on alchemy and philosophical knowledge of the human body. When medical missionaries brought western medicine with the gift of modern science, which could address many health conditions that were previously not addressed by the local knowledge, it slowly gained popularity amongst the masses.

Unlike any other social services, modern medicine enjoyed continued support from both the Government and the local people in both China and India throughout the period. The American Board happened to be the first mission that practically adopted the idea of 'Modern Medicine' as an auxiliary in introducing Christianity to China. The protestant missionaries introduced the hospital as an important organization of western medicine. As an important component of the mission, the medical charity was endorsed strongly at the 1877 conference. They believed in the superior knowledge of western medicine and felt that the civilizing missions largely depended on the power of this form of medicine. The rapid expansion of medical missions by the protestant missionary took place between 1880 and 1910. There were about 34 medical missionaries in 1881, which increased to around 60 by 1887. During this period of expansion in the number of hospitals in the west, the protestant missionaries started their civilizing missions in the east.

Just as evangelism and church building became one of the core agendas of the American board, training of both Chinese and Indian doctors and nurses became an essential component of the medical missionaries. Three main aims of the missionaries highlighted by the board are: to fulfill the stated fundamental goals of the board for which it was formed, starting with building a strong, trusting relationship with the local people in positions of influence with the aim of evangelical expansion upholding moral and spiritual values maintaining high professional attitudes, secondly, the chosen missionaries were required to live a religious life and thirdly missionaries were not to be sent for holding high administrative positions. These positions had to be filled by the locals later as the missionary movement gained momentum. The idea was to leave the hospitals and health institutions at the hands of locally trained doctors and health practitioners. Keeping these ideas in mind, many students were trained under the guidance of missionary doctors both in medicine and surgery. Some were funded by the board, while few others managed to gain

financial support from the local governments. When they came back, these trained doctors became pioneers in setting up medical institutions and hospitals.

The missionaries also became a good asset for the imperialists to seep into the colonized society. Through their hard work and sacrifice, especially demonstrating the power of healing in a society facing the burden of sickness, the missionaries were able to win over the hearts of the imperial court in no time and gain the trust of the masses. It is also not to forget that the missionaries also took up the moral responsibility to stop the growth of communism and establish a liberal government in nationalist China and India. Several missionary writings have highlighted concerns over the changing political scenarios in both countries. First, the missionaries supported the Republic's creation in China, which became a vital sign of the modernization process. During the decades of civil wars, several missionaries have worked relentlessly to maintain and continue American support to the Republic to combat the spread of communism. On this note, the missionary public opinion on China's changing political landscape played an influential role among the American public. India's independence posited new challenges for the missionary movement. In a report by the Board in 1951, they highlighted the following factors that affected mission work in the field, namely abysmal poverty, inflation, communism, pervasive secularism, the resurgence of orthodox Hinduism, growing syncretism, widespread enthusiasm over freedom, national governments, resentment towards the United States and profound appreciation for Christ with less enthusiasm towards 'Western Christianity' and the organized Indian Church build by the foreign missions.

In the context of colonial India, western medicine was initially established only for people involved in the colonial project, as was the same case with China in the treaty ports where western medicine was developed only for foreigners by the imperial powers but medical missionaries, on the other hand, looked for grounds with more access to the local population to push their evangelical agenda. They were very successful in building both elite networks and, at the same time, reaching the local masses. Western medicine successfully broke cultural barriers and won people's confidence through its healing techniques, especially when it came to surgical care. The notion of superior knowledge that they carried with them blocked them from having meaningful exchanges with the indigenous system of medicine already in place. The missionaries successfully

established Western medicine institutions that would, in the decades to come, serve as training grounds for young Chinese and Indian. The development of western medicine comes packaged in Colonialism, Imperialism, and Cultural assimilation. The interest of the elites coincided with colonial/imperial interest. 'Modernity' was the marker point based on which western medicine began its civilizing missions. When both China and India were grappling with diseases, many of which were creating the colonial/imperial hand, the protestant missionaries came with their gift of scientific medicine to liberate both the body and souls of the Chinese and the Indians.

Chapter 3

Missionaries of Science: Rockefeller Foundation and the Creation of Modern Public Health in China and India

Introduction

The rise of the American secular philanthropist dates to the blurred border between the 'Gilded Age and the Progressive Era.' With high confidence in their inevitable success, these philanthropists sought to use their immense wealth to bring about societal change in the United States and worldwide. These newly created philanthropic foundations embody the notions of progressive thinking, as explicitly highlighted in their faith in expert knowledge and their ability to tackle societal issues. At the same time, their unremitting confidence in their ability revealed many of the flaws of the era, including the culture of elitism founded on arrogance enmeshed very deep in the agendas of their founders and nation (Baick, 2004). At the epoch of this burgeoning industrialization, certain successful businessmen, made much more money than they could spend. Mega industrialists like Andrew Carnegie and John D. Rockefeller were concerned about their exponential growth of wealth. Their wealth was too large for them to manage in their lifetime and far too much to dispose of through a will or testament.

Along with unmanageable riches, such vast accumulations brought a great deal of resentment from the public (Corner, 1964). Carnegie's solution to deal with this problem of excess fortune was to give the responsibility to a group of trustees, directing them to use the money for the public good in adherence to the changing needs of the time. His ideas appealed greatly to the individualistic spirit of Americanism, winning approval from the general public. Carnegie was

philosophical and democratic in his approach[36], Rockefeller, whereas was deeply moved by religious sentiments and conscientiousness (Ibid).[37]

Rockefeller and the Birth of Scientific Giving

John Davison Rockefeller and his financial benevolence have changed the discourse of charity since the dawn of the 19th century. "Rockefeller's philanthropic efforts were part of a new American movement – 'Scientific Philanthropy' propounded by the Scottish-born steel mogul, Andrew Carnegie. Through his essay 'Gospel of Wealth' published in 1889 by *The North American Review*, Carnegie gave a call to his ultra-rich friends to channel their wealth for the good of the society by extending support to systematic social investment rather than haphazard forms of charity" (Birn, 2014). Whereas Andrew Carnegie's secular views moved him towards ideas of 'Social Darwinism' for the distribution of resources, John D. Rockefeller's had his viewpoints based on his religious beliefs. These beliefs influenced him to heap great benevolence on many socially uplifting charities (Brown, 1979). According to his biographer Nevins (JDR, v. 1, p. 124), John Rockefeller was introduced to the systematic and purposeful use of philanthropy through his readings from the extracts of "The Diary and Correspondence of the Late Amos Lawrence" (Josephson, 1952, p. 72). For philanthropists like Andrew Carnegie, supporting religious organizations were last on his list. Still, for Rockefeller, in the initial days of his charity, the Baptist church missions took the highest priority of recommended philanthropies (Brown, 1979).

Rockefeller's charitable activities have evolved in several stages over the years. During the initial period of his career, i.e., the 1850s to 1880s, most of his giving was concentrated on local needs guided by Baptist impulse. A large portion of his charitable contributions till the early 1880s went to the mission needs of the Baptist church. The unending requests from various Baptist churches across the US were becoming a mounting pressure for Rockefeller, who also happened

[36] Carnegie envisaged the granting of funds for socially worthy causes. His 'Gospel of Wealth' laid down his basic beliefs. Trusteeship of wealth, he believed, was the moral responsibility of the rich. This social Darwinist approach calling for the transfer of doctrine of evolution into the domain of the moral conduct, had a further corollary – those who received assistance were not the needy, but those best able to utilize the funds granted to them. This was good business. The principle of this approach has persisted into the 20th century foundation thinking (Ashley, 1971, p. 11)

[37] John D. Rockefeller was an ardent Baptist. Most of his initial charities were directed towards the missionary activities of the Baptist church.

to have his hands full with business obligations. By the late 1880s, it was apparent to Rockefeller that there was a need to develop an organizational mechanism to channel his gifts more efficiently (Hewa, 1997). Rockefeller's idea of giving went beyond the traditional mode of charity; the idea was not to provide relief but to address the root cause of human suffering. The larger aim was to create a new kind of institution of giving capable of dealing with the challenges that come with large scale modern philanthropy (Abrahamson, 2013).

From Stanford Oil Robber Baron to the Great American Philanthropist: Creation of the 'Rockefeller Philanthropic Foundation'

29th June 1909 was a significant moment for the Rockefeller Foundation when John D. Rockefeller released around "73,000 shares of Standard Oil valued at $50 million to three trustees: Rockefeller Junior, Gates, and Harold McCormick" (Chernow, 1998, p. 1121). After a series of tumultuous events, Rockefeller had finally convinced the U.S. Senate to push for a tax-exempt status for philanthropic foundations. The $50 million that John D. released became the first funding set aside for the proposed RF. This was also a noteworthy moment because he was able to secure this deal amidst the commotion of the federal antitrust suit against the Standard Oil Company. The RF charter was finally confirmed in 1913 where John D. was able to insulate a considerable part of his capital from inheritance tax. With this move in 1919, when the foundation's first meeting was held, Rockefeller Junior was elected as the first governing president. Though the foundation was established as a public trust, its administrative structure suggested otherwise. The foundation's decision-making body created a company that would work towards supporting existing Rockefeller philanthropies, which was in direct conflict with the promise laid down in front of the US congress while convincing for an autonomous operation. The governing body consists of personalities who were already associated with Rockefeller. "Out of the nine trustees, two were family members (Senior and Junior), three were staffers (Gates, Starr Murphy, and Charles O. Heydt, Junior's secretary), and four came from Rockefeller philanthropies (Simon Flexner and Jerome Greene from the RIMR, Harry Pratt Judson from the University of Chicago, and Wickliffe Rose from the Rockefeller Sanitary Commission)" (Chernow, 1998, p. 1128; Collier et. al, 1976; Fosdick, 1956; Goulder, 1972; Harr et. al, 1988; Hawke, 1980; Tarbell, 1969; Llyod, 1976;

Rockefeller, 1984). Being the most hated man in America at that time, Rockefeller's philanthropy refrained from investing in anything that would be controversial. The contention over the federal charter attracted enough public criticism. Having attuned to the progressive era, any area selected for philanthropic work would be rational and scientific. The answer lay in the magic of science, the gift of the renaissance. Science was sound and objective, sensible and logical (Chernow, 1998).

John D. Rockefeller and Frederick Gates: From Missionary Medicine to Modern Scientific Medicine

"Your fortune is rolling up, rolling up like an avalanche!" Gates had advised him on this matter a few years earlier. He further reiterated "You must distribute it faster than it grows! If you do not, it will crush you and your children and your children's children" (Segall, 2001, p. 100)

- Frederick Gates to John D. Rockefeller

Rockefeller's philanthropic success owes its accomplishment to one personality in particular, a Baptist minister and John D's very close associate, Rev. Frederick Taylor Gates (1891-1923). "Gates was the driving force behind the creation of the Rockefeller Foundation in 1913" (Baick, 2004, p. 60). He is known to be one of the pioneers behind the invention of modern institutional philanthropy. Throughout their association which spanned over decades, Rockefeller's activities transformed the world's most considerable fortune into the most strategically applied philanthropy, establishing principles, methods, and directions that other aspiring philanthropists soon emulated. This successful endeavor continued to expand through the next two generations of Rockefeller philanthropy (Brown, 1979). With his sharp skills clothe in piety, Gates was both a religious and a rational personality. "He introduced two fundamental principles to Rockefeller's benevolent giving – Wholesale Giving and Scientific Philanthropy. These two principles reflected both the puritan ethic of giving and the general process of rationalization and became the guiding principle of Rockefeller philanthropy" (Ibid, 32-33). Wholesale giving as a principle denoted a systematic style of organizing charitable activities resembling modern business methods. One of the forefront aspects of this principle "was the hierarchical order of the decision-making process. The goal was to maintain both the objectivity and legitimacy of philanthropic activities" (Ibid). On the other hand, scientific philanthropy

characterized the outlined objectives of all charitable activities of the Rockefeller Foundation (Hewa, 2001). Although a Baptist minister with a religious upbringing, Gates was at heart a businessman in the making covered in spiritual clothing.

Frederic Gates and the Beginning of Scientific Medicine

In 1897 while vacationing at the Catskills, when Gates read William Osler's *Principles and Practices of Medicine,* published in 1889, he was convinced that medical education in the United States was practically futile and ineffective. He was highly impressed by Osler's writings on a vast number of diseases "the definition and its extension throughout the world, the history of discovery about it, the revelations of innumerable post mortems, the symptoms, cause, and probable results of the disease, and the permanent complications and consequences likely to follow; but when he came to the vital point, namely the treatment of the disease above, Osler who had up to this time been treading on solid ground with the confidence and delight of sure knowledge, would almost invariably lapse into a mental attitude of doubt, skepticism, and hesitation" (Bryan, 1997, p. 150). Gates became convinced that the United States was in real need of "a medical research institute similar to the Koch Institute in Berlin and the Pasteur Institute in Paris, a place of sanctity where scientists could work unconstrained by outside demands" (Ibid). On 24th July 1897, after returning from his vacation, "Gates convinced Rockefeller to fund the creation of the Rockefeller Institute of Medical Research to research the causes, prevention, and cures of diseases" (Ibid). Around the same time in 1901, Rockefeller lost his first grandson, John Rockefeller McCormick, who died at Pocantico from scarlet fever (Segall, 2001, p. 81). Rockefeller Institute for Medical Research, now known as the Rockefeller University, was inaugurated in New York in 1901, soon after the fatal illness of his first grandson (Ibid, p. 87).

In the decade from 1987 to 1906, when the Rockefeller Institute for Medical Research (RIMR) was planned and organized, the United States was growing and changing. Medicine was revolutionized with the advances in fundamental knowledge of medicine. "It was a time of great scientific optimism in the United States" (Corner, 1964, p. 6). The contributions of basic science to biology and medicine became more apparent (Ibid). With the invention of the modern microscope and the discovery of germ, Pasteur, Koch, and many contemporaries developed the

science of bacteriology. This new knowledge was revolutionizing the use of drugs. The promise of new science in medical education was slowly becoming more apparent. The Rockefeller Institute was proposed when bacteriology was becoming the new medicine, and the discovery of infectious diseases was at its height. Medical history from 1880 -to 1890 was the period of the reign of bacteriological sciences (Ibid).

Committed to creating the best medical research institute in the US, Rockefeller in 1901 dedicated a vast amount of $200,000 in 10 years to establish the planned RIMR. With a vision to assemble the best minds of the century, the Institute selected "William H. Welch, a noted pathologist and the first dean of the Johns Hopkins School of Medicine as the first board chairman" (Kohler, 2009, p. 1). Another renowned American pathologist, Simon Flexner, was the next to be recruited to run the Institute. "The Rockefeller Institute for Medical Research was the first biomedical research institute in the United States" (Ibid). The Rockefeller Institute of Medical Research's design followed the Pasteur Institute's patterns. In the years to come, the Rockefeller's continued to invest substantial money in enabling the institute to carry on a wide variety of expensive and challenging research (Burham, 1966)

Towards the Far East: The Oriental Education Commission to the Orient (1908-1909)

The earliest engagement of Rockefeller's philanthropy with China and India started through the Chicago Commission or the Oriental Education Commission. Influenced by the notions of scientific medicine when the RIMR was gaining popularity, the chief purpose of this commission was to survey the conditions of medical education in the East. Dedicated to both missions and medicine, the Orient had attracted Gates since the early days of the Rockefeller Foundation. Additionally, John D. Rockefeller had received repeated requests from various missionary societies to aid in their work around the world where the mission board was active. Upon discussing with Rockefeller, a decision was reached to finance an 'Oriental Education Commission' to the East. Also known as the "Chicago Commission," the commission's purpose was to 'investigate conditions of education, social and religion in the Far East.' The commission comprised two prominent Rockefeller members from the University of Chicago, Ernest De Witt Burton (1856– 1925), professor of Theology, and Thomas Chamberlain (1843–1928), professor of

Geology. In 1909, the commission spent six months in Japan, India, and China (Bowers, 1972). "Ernest Burton was born to a Baptist preacher and grew up in Ohio, Michigan, and Iowa. Burton was a prodigious writer, publishing severe biblical studies and popular books and manuals for church and school use. When Rockefeller invited him to join the commission to the Orient, Burton fulfilled his long-held wish of going to China and assisting foreign missions" (University of Chicago, n. d). "Travelling through England, Turkey, India, China, Japan, and Korea, the commission's journey lasted longer than a year. Burton kept detailed notes of interviews and records of what he learned in his journal and reports. He was also involved in many missionary organizations such as the American Baptist Foreign Mission Society, the Foreign Missions Conference of North America, and the Edinburgh World Missionary Conference" (Snac, n. d).

Born on a moraine, Southeastern Illinois, Thomas Chrowder Chamberlin (1843–1928) was one of America's pioneer glacial geologists in the late nineteenth century and "the first director of the U.S. Geological Survey's Pleistocene Division" (1881–1904) (Dott, 2006). Along with Ernest Burton, Thomas Chamberlain was selected by Sr. Rockefeller for the Oriental Commission. These two men representing very different school of thought were combined to bring their humanitarian and scientific experience in a balanced team. "From late 1908 until mid-1909, the Commission frequently traveled across Asia's vast territory, investigating the conditions concerning education in its various regions" (Fosdick, 1936, p. 24). The monumental report of this commission was published in six volumes. The report is characterized as a vast blueprint of the educational opportunities that lay wide open for the Rockefeller foundation (Ibid). While Horace G. Reed and Chamberlin were appointed assistants, Professor Burton, and his assistant traveled eastward to study conditions in India and other countries. Chamberlain and his team went westward as opposed to Burton. The purpose was to bring different points of view and observations to the discussion table. The whole party finally assembled in Shanghai in February 1909. Since their principal target was China, the commission spent nearly five months traveling across China by rail, riverboats, sedan chairs, and Peking carts, studying fifteen of the eighteen provinces of China and making short excursions into Mongolia and Manchuria (Chamberlin, 1932).

Unhooking the Hookworm: The Perils of Hookworm Disease in British India and Imperial China (1913-the 1920s)

The interest of the capitalist class in a stable and healthy workforce gave birth to the Rockefeller hookworm campaign in 1909. Starting in the Southern United States, the Rockefeller hookworm campaign stretched to the British colonies and in and around the Far East, where China and India figured as essential areas for experimenting with their hookworm program. The RF hookworm campaign in both China and India was designed to control the disease, particularly in plantation sites in India and mining colliery in China, with a larger aim to facilitate labor productivity. As observed in the U.S. South, soil pollution, a more significant public health problem, was the primary cause of hookworm infections. The whole campaign was designed employing two strategies – deworming and introduction to sanitation which the IHB officials thought was so easy that anyone could do it. However, addressing soil pollution in China and India was linked with more significant issues related to access to proper sewage and water. In the Chinese case, the connection of soil pollution in relation to the nightsoil as a commercial agricultural fertilizer. All these factors together debunked the public health understanding of the RF.

The IHB realized that working towards developing sanitation and hygiene in the orient was a complicated and tedious process, with sanitary surveys proving to be expensive and a prolonged process. Instead, they moved their campaign from a preventive to a more curative-oriented approach. In the Indian context, the mass deworming campaign brought temporary relief, which was easier to show in numbers, but rising infections were a constant threat. But in the Chinese context, the absence of a proper public health network made mass deworming an impossible target to achieve. Although the hookworm campaign was deemed unsuccessful in both countries, it opened the doors to the orient in a significant context. Despite these disappointments, the legacies created by the IHB were substantial. The campaign had successfully instilled in the public interest in scientific medicine and public health while encouraging programs in sanitation which in the days to come would become the blueprint of public health in both China and India (Longkumer, 2021).

The Rockefeller Sanitary Commission and the 'Germ of Laziness' in the Southern United States

Travelling in a train on a cold winter morning in 1908, 'Charles Stiles'[38] thoughts were consumed by the "so-called American murderer called *Uncinariasis* or hookworm". This tiny intestinal parasite was creating havoc all over the U.S., especially in the industrial south. "Hookworm infection was more prone to poor people in the American South and the equatorial regions, who work barefoot in soil polluted with hookworm larvae shed from human feces" (Matysiak, 2014, p. 38). Though the disease was seen to be rarely fatal, it had the potential to develop severe chronic symptoms. "The parasite lodges itself in the victim's digestive gut and burrows deep into the intestinal wall tapping into the host's bloodstream. Anemia and stunting were common symptoms seen in a host of infected children" (Bleakley, 2007, p. 74-75). Stiles presented his findings on the hookworm *Necator americanus* at a 1902 meeting in Washington. His presentation attracted the attention of the *New York Sun,* who published their headline as "Germ of Laziness." But hookworm, as an important public health problem, started getting attention only after John Rockefeller and Gates's entry (Elman et al., 2014). Stiles believed that the disease could be eradicated or controlled only with the initiation of a population-level campaign combining treatment and sanitation to prevent reinfection. The Rockefeller Sanitary Commission (RSC) for the eradication of hookworm was created with a seed funding of $1 million from Rockefeller on October 26th, 1909, with three outlined tasks – determine the geographical distribution of the disease, cure the people infected, and to eliminate the source of infection by putting a stop to soil pollution (Rockefeller Foundation Annual Report, 2013-14). The central working unit of the sanitary organization was going to be the 'State.' The state machinery was recognized as a fundamental unit in the interest of both the economy and the efficiency of the work proposed. To protect the economic prosperity of the state, the lives and health of its people, and the education of its children, it was pertinent for hookworm infection to be stamped out. To achieve this goal, the Rockefeller Sanitary Commission suggested that the states assume responsibility (Ibid).

[38] "A zoologist with the U.S. public health service" (Matysiak, 2014)

Public health, both in the U.S and abroad, was largely undeveloped or underdeveloped. The magnitude of intervention that Stiles imagined was something that had never been attempted in the U.S by government or non-profits. He envisioned and hoped for a public health system deeply embedded in local communities. The U.S government intervention in public health was limited to a local issue (Matysiak, 2014). Stiles was fortunate to get an audience with Gates, Rose, and Flexner. "In the fall of 1908, Gates saw hookworm eradication as a test case for the ability of Rockefeller philanthropy to address not only disease but also social and economic development" (Ibid, p. 42). The RSC started its treatment campaign by sending teams of health workers to administer de-worming treatments free of charge. The drive covered around 400,000 individuals with deworming medications. The next step was to educate doctors, teachers, and the public about the disease. The last and the most crucial step was hygiene and sanitation. To inform ordinary people on the importance of hygiene, especially regarding sanitary privies.

Hookworm and Labor Productivity in the British Colonies: A look at Chinese and Indian Indentured labors in the British Colonies

The experience from Asia revealed hookworm disease as an international problem with high prevalence rate and alarming both in China and India. The prevalence rate in China and India showed as high as 50 percent of the population (Matysiak, 2014, p. 59). The RF's approach for any philanthropic activity was a step-by-step process. The first step would comprise measuring the extent of the problem, which included extensive surveys. When the surveys revealed hookworm as a severe problem with global concern, the IHD lost no time and started its global campaign against hookworm disease. Three steps were followed with every hookworm campaign – "survey to assess the prevalence rate, microscopic examination for diagnosis and treatment, and sanitary measures" (Ibid). In every region that they worked, the goal of the IHD was to work in collaboration with the local governments and support them until they were ready to handle the task (Ibid, p. 59). With slavery abolished, the British colonial officials started employing indentured East Indian laborers in Trinidad and British Guiana in their sugar plantations by the 1830s. A census survey carried out in 1911 in British Guiana ascribed Indian indentured labors to be about 40 percent of the population. Most immigrants came from the North Central United Provinces of the Gangetic plains. Unlike their Chinese counterparts, most Indian laborers continued living there

even after the termination of their contracts (Palmer, 2006). Hookworm disease was becoming a threat to the British colonial economy. There was a call to arm up against hookworm throughout the British empire. The indentured Tamil coolies from Southern India were of particular concern to the colonial officials. As early as 1903, the colonial officials stationed in British Guiana ordered that all laborers dispatching for British Guiana from the port of Calcutta should be examined for any kind of hookworm infection and, if possible, treated. An examination portrayed a total of 75 percent of total coolies being infected (Webb, 2019, p. 107).

With the sugar enterprise picking up business, the demand for labor in British Malay increased. There was a significant number of Southern Indians already present, which took place under the auspices of the Indian shipping merchants. The demand for more labor opened opportunities to employ Chinese migrant laborers on colonial plantations. By the 1880s, clear governing differentiation was seen between the Tamils and the Chinese. Whereas the Tamils were ruled by an authority that spanned from the Bay of Bengal to the ports in colonies around, the Chinese functioned with greater autonomy. The Tamils had to sign a bond with the state as its protector in their employed territories. But within the Chinese community, they were connected by *Kongsi* or Brotherhoods, which joined the labors with their capitalist masters. The *Kongsi* assumed responsibility for the whole migration process, from recruitment and financing to community protection and social security (Amrith, 2010). This great deal of autonomy and transnational connections of the Chinese was looked upon as a threat by the British Empire. The upsurge in Chinese labors to the Straits and Malaya in the 1920s was a matter of great concern for the colonial officials. Hence, for colonial administrators, increasing Indian migrations could balance the threatening increase in Chinese migrations (Ibid). These thoughts were also accompanied by fears involving the conspiracies of 'Chinese Secret Societies' and the abolition of opium farms (Ibid). The extension of the British Malaya as a part of the larger British Empire saw Chinese migration and their transnational connections through the *kongsi* threatening to the colonial authorities and the Indian labor, being British, preferable (Ibid).

According to Watson[39] (1921), "different ethnicities existent within the workforces created various epidemiological profiles typically based on other cultural practices. Both the Chinese and the Indian laborers suffered equally from diseases on an unhealthy estate" (Watson, 1921, p. 9). Most of the Indian laborers were dispatched from Ceylon, where the laborers, mainly Tamils, were employed in large numbers in coffee and tea plantations. Most of these laborers belong to the lowest strata of Indian society. If an estate has an unhealthy environment, it becomes a financial burden for the estate agents since the medical treatment of the laborers becomes their responsibility (Ibid). There were fundamental differences in how the estate agents treated Tamil and Chinese laborers. If a Chinese coolie risks an unhealthy estate, he expects to be well paid for the risk. Practically every Chinese coolie belongs to a Society or Guild, an organized social institution where they learn about their situation. He, therefore, is practically in a position to make his terms (Ibid).

Hookworm: An Entry Wedge in the Orient

The First World War in the summer of 1914 immediately disrupted the initial overseas hookworm efforts. By early 1915, with most of the resources turned towards war efforts, the hookworm campaign came to a halt. Only in 1915-16 did the IHB expand its hookworm program beyond war zones. The IHB soon established the Uncinariasis Commission to the Orient (UCO) in British Malay to conduct research on hookworm over two years, from 1915-to 1917. Around the same time, "the government of Madras Presidency in colonial India, through the Indian Research Fund Association (IRFA), agreed to carry out hookworm research in Negapatam, Madras. These two surveys were integrally linked because Tamil laborers from Southern India were the primary workforce in British rubber plantations in British Malaya" (Webb, 2020, p. 2). In the early years of the sanitary commission, the aim of the RF was complete eradication. But, by the time the IHD initiated its global campaign, the RF had already grasped that eradication was nearly impossible; "the global strategy was thus changed to relief and control. The IHD's first worldwide campaign against hookworm began in British Guiana" (Matysiak, 2014, p. 60). Immigration of laborers from British India carried the hookworm infection to other colonies in the

[39] "Chief medical officer of the Federated Malay States" (Watson, 1921)

tropics. For Wickliffe Rose, Director of RF at that time, attacking hookworm was not about the severity of the disease; rather, it was about demonstrating strategies for disease control. Hookworm proved to be a cutting wedge for preventive medicine in the Orient. It gladly served as a convenient means to a larger end; its nature, causes, and cure were readily understandable to a layperson, and its more significant effect on health was easily demonstrable. Moreover, with various infectious diseases getting attention, it was easy to replicate the same process in other endemics (Fosdick, 1950).

Victor Heiser to China and India: The International Health Board Hookworm Survey

Victor George Heiser (1873-1972), born in Johnstown, Pennsylvania, was a medical doctor and a public health administrator. Heiser joined as the RF's IHB director of the East in 1914 (Heiser, 1918; Founders of the Heiser Gift, 2018). For the next 20 years, after he was appointed Director of the East, Heiser traveled to many countries around the Orient. "My mission, he wrote, was to open the golden window of the East to the gospel of health, to let in knowledge, so that the teeming millions who had no voice in demanding what we consider inalienable rights should also benefit by the discoveries of science, that in the end, they too, could have health" (Ibid).

Heiser's early assignment with the RF was located in Ceylon, the prized British colony of the Orient. He was assigned the task of convincing the British plantation owners to allow him to start a hookworm campaign, which was debilitating thousands in the labor force (Ibid). The infection rate in Ceylon ran as high as 90 percent. Almost every country importing coolie labors from India was seen to invite the infection to its land. The Indian coolie was the chief source of labor supply in almost all the countries in the Orient. The importation of the labor force from India was considered the reason for the state of highly disastrous infection levels of hookworm in those countries. The infected Indian coolies were exported to Durban, British Guiana, Jamaica, Malay States, Dutch Guiana, Strait's settlements, Java, etc. The health authorities at San Francisco examined a shipload of Indian coolies and found 90 percent of the infected and established quarantine centers.[40]

[40] Rockefeller Sanitary Commission for the Eradication of Hookworm Disease, Organizations, Activities and Results upto Dec 31, 1910

The flow of Tamil coolies from the Southern states of India was at its height when Heiser started his tour in India in 1915. The abolition of slavery in different regions around the Orient opened up the labor market in India, which had an excess to cheap labor force governed by British colonialism. This availability of cheap labor force was an essential element for the colonial economy (Hewa, 1994). Heiser's trip to Ceylon had three real reasons – first, because of its economic prosperity, Ceylon was looked at as a prized colony in the East; second, the hookworm infestation was heavy and widespread, and lastly, "if the RF proved the importance and practicability of a hookworm campaign, it would open doors to other countries in the Orient. The British colonies would try to emulate it, and hence a successful campaign at Ceylon would serve as an entering wedge to other regions" (Heiser, 1936, p. 327-328).

The government of Ceylon was very clear with its labor policy. Since India was near, the planters had to manage the transfer of labor force from India on their own. The periods of a high number of immigrations of the labor force from India "coincided with the growth and expansion of the plantation industries like coffee and rubber. At the height of the plantation economy, around 100,000 laborers with their families arrived annually in Ceylon" (Hewa, 1994, p. 75-76). The route taken by coolies from their station to the plantation sites was tiring, unsafe, and extremely hazardous. It took around two weeks to reach the plantation sites from the northwest coast. Many workers succumbed to disease, starvation, and exhaustion on the way. The ones who managed to reach became very vulnerable to infections. Majority of these labor forces belonged to lowest strata of Hindu society. Because of the inhumane, discriminatory practices at home, many people ventured out to other British colonies searching for odd jobs and landed up working in the plantations (Hewa, 1994). Almost all of the laborers were from Madras Presidency, a Southern state in India. A detention camp was built in Mandapam at the coast before departing to the estates. Coming from a conservative culture, the Tamils had various superstitious beliefs that were opposed to the culture of western sanitary habits. Introducing hygiene and sanitation was one of the most crucial strategies of the RF in their fight against hookworm. In fear that intrusion in sanitation would hurt their business, the planters stayed away from any intervention in hookworm (Heiser, 1936).

After a series of hookworm campaigns in Ceylon, it was time to launch an attack on the epicenter of the disease, the Madras Presidency in southern India. Madras was considered the radiating center of rising infections because of its popularity in exporting a huge number of Tamil laborers to colonies across the Orient (Longkumer, 2021). The first step was to convince the authorities in Madras of the urgency of the situation. Heiser encountered the similar pessimistic tone that he came across in his years of medical work in the East – it was practically an impossible task to achieve. After a series of the interview at Calcutta, Delhi, and Shimla trading health ideas, "Heiser found the source of authority to be Sir Charles Pardey Lukis, Director General of the Indian Medical service. Following that, he immediately arranged a meeting with Sir Pardey. Sir Pardey initially was not very convinced with the hookworm figures that Heiser presented" (Ibid). According to his knowledge, a 70 percent infection rate was doubtful, but he was open-minded and ready to change his mind if it proved to be true. He, however, was opposed to any new activity during wartime. Heiser, however resorted to giving examples of British colonies that were undertaking health efforts despite the ongoing war. Heiser then approached Major F. Norman White, the Asst. Director-General, who proved to be more difficult than Sir Pardey. He dreaded that the government would not agree to any new undertaking until after the war, fearing that the Indians would take advantage of the war to start an uprising. Any recent activity would only fuel these fears. After many nights of discussions with these important people, Heiser finally managed to submit a letter with the proposal. The leaders at the Indian Medical Service were not convinced with Heiser's data and hence decided to have their men verify the estimates. They employed two people for the job – Mhaskar, a native doctor, and Father Caius, a Catholic priest and a competent chemist working on a various cure for hookworm. The final investigation reported a 97 percent infection, higher than Heiser had depicted. The IMS officials were surprised with the result of the survey. However, because of the war, several years elapsed before the RF started its hookworm campaign in India. The government of India finally freed from war obligations, asked the RF to cooperate in fighting against hookworm (Ibid, p. 340-342).

Heiser visited China in the fall of 1916 to establish the finest medical institutions in Asia. After working for many years in the Philippine islands, Heiser was convinced that America's efforts in developing sanitation science was significant in the tropics. "The general public was slowly beginning to realize the proper expenditure of definite sums of money can be counted to

produce proportionate reductions in the morbidity and mortality rate" (Heiser, 1918, p. 60). He further elaborated, "The impetus which sanitation in the Orient has received during the past few years has contributed greatly to the well-being of mankind, and America's efforts, which have been made largely through altruistic motives, have added no small share" (Heiser, 1918, p. 60, 68). In China, he took a trip to the coastal cities of Canton and Shanghai and the hinterlands of Hankow and Changsha. Throughout his journey covering different parts of China, Heiser observed the alarming level of hookworm infections. The IHB of the RF was already undertaking an international hookworm survey during Heiser's visitation. Considering the appalling situation with city sanitation, Heiser proposed control and treatment of hookworm as a priority (Bullock, 1980). The hookworm survey in China functioned under the auspices of Dr. Norman Stall and Dr. John Grant (Heiser, 1936). After a series of observations of the China hookworm situation, Heiser realized the most daunting challenge of working towards public sanitation was the prime importance of human excreta, also known as 'Night Soil,' for the Chinese agricultural economy. He found that the circulation of human disposal across rural and urban provinces kept the farming economy going since night soil was used as the primary fertilizer and was also widely available (Longkumer, 2021). Every night the night soil would be collected in wooden buckets by coolies and taken to barges along the river which are then pushed up the streams and canals. It was a common sight to see farmers purchasing those collected night soil from coolies for specifically using in their rice and mulberry farms. Most of the workers or farmers in those fields worked barefoot which becomes an easy target for hookworm. Thus, Heiser noticed a light infection had the tendency to carry the infections all around the country through the export/import of night soil. However, in Shanghai, Heiser was successful in convincing the authorities to build water purification plants and sewers (Heiser, 1936).

Rockefeller Foundation's Anti-Hookworm Campaign in Ping Hsiang Colliery and Madras Presidency

The Initiation of Hookworm Campaign in the Pinghsiang Mines

RF's first hookworm campaign in China transpired through the IHB's collaboration with the medical college of the Yale in China located in Changsha. Founded in 1913 by an agreement

between the Yale-in-china mission and the Governor of Hunan, Tan Yankai, the Hunan-Yale medical college was directed by Dr. Edward Hicks Hume, a John Hopkins graduate. Through the establishment of the medical college, Dr. Hume sought to build a centre of modern medicine and scientific research in China modeled after his alma mater (Longkumer, 2021). On one of his visits to the U.S, Hume discovered the newly established sanitary commission of the Rockefeller Foundation and its desire to extend its public health campaign worldwide. This he saw as an opportunity of securing support for the development of modern public health in Hunan Yale (Hume, 1917). Till 1914, no organized efforts had been made to study hookworm infection in Hunan. Earliest records of hookworm infection in imperial China were documented by medical missionaries in larger cities like Changsha, Changteh, Hangchow, Siangtan, and Yiyang. These reports were published by the medical missionaries in journals of the China Medical Missionary Association. Cogitating the lack of any systematic study on hookworm infection, the Rockefeller Sanitary Commission published a report stating, "the Chinese government or the Chinese are doing nothing to alleviate or eradicate the disease" (Hume, 1917, p. 1888-1889).

Soon after, the hookworm survey in Hunan took place from 1914 to 1916. This extensive survey was followed after a meeting between Hume and the Director of the International Health Commission in 1913. Dr. A.C. Reed, assistant physician of the Changsha Yale hospital, was specified to start a thorough investigation of the Pinghsiang Colliery, one of the largest mines in China. Investigating the prevalence and condition of hookworm infection in the deep mines of South-Central China was seen as an essential strategy for future efforts to eradicate any disease. Considering this vital information, talks between the Changsha Yale Hospital and the German engineers who operate the Pinghsiang colliery, began in January 1914. The negotiation between the two parties resulted in cooperation between the Changsha Yale hospital and the German staff at the Colliery. The detailed investigation, which took place between March 25th and April 16th, 1914, was favored by three factors in general. Firstly, Pinghsiang Colliery was the largest mine; second, its underground work was extensive, and lastly, the German staff was very supportive with resources and space for work (Hume, 1917). The Pinghsiang Colliery started with the collaborative efforts between the Germans and the Chinese. Pinghsiang is located 90 miles from Changsha, just across the border from Hunan, in the province of Kiangsi. The Colliery's commercial relations with the rest of the country is connected through Changsha, the capital (Ibid; Reed, 1914).

Pinghsiang Colliery produces all the coal for the Han Yeh Ping Co., the only steel manufacturing company in China at that time. The Colliery is located in the village of Ah Yuen, five miles from Pinghsiang. The area in which the Colliery is situated in one of the wealthiest mineral districts in China and includes Kiangsi, South Hunan, and the adjacent portion of Kwantung (Reports China, 1917). Simultaneously, a hookworm survey undertaken by the combined efforts of the RF in collaboration with Dr. Hume showed that around 225 hookworm cases were found in a study of 272 among underground workers. The high number of cases was attributed to infection through the feet due to indiscriminate defecation. The study indicated a lack of sanitary facilities, long working shifts, and unbearable heat and humidity as factors ideal for the spread of hookworm (Hume, 1917).

The mixture of feces and urine from the latrines of the boarding houses in the mines are carried to the vegetable fields in the valley. "Thus, there was a constant and large stream of hookworm infection from the mine distributed broadcast through the agricultural sections. Not only were measures taken to free the colliery from hookworm important, but it was of the utmost sanitary importance that no source of infection be left open from the mine to the outside country" (Reed, 1914, p. 1146-1147). The sanitary situation in the underground mine was much pathetic than the upper areas. No toilet facilities of any sort were provided inside the underground working areas, with human feces being scattered everywhere. The miners work constantly in the wet muddy places not only barefoot but often naked. With favorable temperature and humidity, the later approaching sometimes 100 percent, it became an ideal site for the propagation of hookworm larvae (Reports on Hookworm Survey, 1918).

Hume requested the International Health Board of the RF to initiate a anti-hookworm program in Hunan based on the survey results. The Rockefeller medical philanthropists at that time were debating as to which division within the RF would be more suitable to introduce modern scientific medicine in China. In the spring of 1917, when Heiser and Norris visited China, they alerted the government officials and the mine owners regarding the seriousness of the hookworm situation. Accordingly, a formal request for funding support to tackle the hookworm problem was written to the IHB of the RF. The Director of the IHB arrived in Shanghai on November 10th, 1917. This visit was followed by two conferences with Mr. K.F. Shah, former Chinese minister to

Washington and now Director-in-general of the Han Yeh Ping Iron and Coal Co., which controls the four plants – The Hanyang Iron and Steel Works, The Tayeh Iron and Steel Works, The Tayeh Iron Mines and The Pinghsiang Colliery. The result of these conferences came out in the form of a tentative plan for a hookworm campaign targeted at the Colliery. The IHB decided to undertake the initial examination and treatment of the miners and offer expertise in designing a sanitation strategy. At the same time, the company will take charge of introducing these improvements. The IHB planned to support the campaign, but it thought that sanitary reforms should be taken forward even after they had withdrawn from the project (Ibid).

At Hume's behest, the RF appointed Dr. Yan Fuqing of Hunan-Yale college to undertake the proposed work and Dr. John Grant to accompany him as the IHB's field officer. Considering the high level of infection, they chose the Pinghsiang Colliery as the first site of operation. A demonstration in the control of hookworm disease followed in December 1917. As was the IHB's standard procedure, an extensive survey of infection level of the mining community was the first step in the demonstration strategy. On April 6th, 1918, the systematic examination and treatment of the employees commenced. Considering the high level of infected workers in the mines, the mining corporation set aside $20,000 Mexican for the purpose of sanitating the mines. A part of this money was used to establish a permanent sanitary department. The work of this department was to take over the hookworm campaign after the initial demonstration had been completed. A well-trained Chinese sanitary engineer was to be appointed to direct the new department (Longkumer, 2021). Project on sanitary conveniences were started with an aim to provide sufficient toilets both below and above the ground (Rockefeller Foundation Annual Report, 1918).

The extensive survey and demonstration of the hookworm campaign in imperial China revealed the use of nightsoil as a fertilizer to be the ultimate source of infection. The other challenge to addressing the disease involved the question of the net morbid influence of hookworm existing, as it does everywhere, concurrently with tuberculosis, syphilis, and infection with other animal parasites. The IHB, in its second annual report in 1916, noted that "curing persons of hookworm infection is of little value unless steps are taken to prevent reinfection" (Hume, 1917, p. 18). That it is vital "to find a satisfactory method for the disposal of sewage at the farm home, one which the people in rural communities may be brought to adopt and to carry out, and one

which will prove to be safe in experience under the conditions which prevail in these communities" (Ibid). Hume noted the only difference between the interpretation of this statement in America and China is that the word 'disposal' would connote in the U.S. as merely the thought of getting rid of the material, while in China, it would mean the utilization of the nightsoil, after its removal from the latrine buckets (Ibid).

The IHB's annual report of 1922 highlighted in detail the challenges of preventive work in China. The hookworm project at the Pinghsiang Colliery, according to the IHB, served chiefly to demonstrate the difficulty of permanent accomplishments under certain pre-existing conditions in China. "In an elaborate report, the IHB attributed their failure to the absence of stable and efficient central and provincial governments, widespread ignorance of modern medicine, peculiar biological, social, and economic conditions, and the lack of trained personnel, making public health progress extremely difficult" (Rockefeller Foundation Annual Report, 1922, p. 35). Cultural beliefs played an important role in the unsuccessful functioning of the IHB hookworm campaign in China. The concept of modern medicine was still new to the Chinese, who had been very comfortable with their ancient indigenous Chinese medicine for millennia. When the modernized Rockefeller people came to save them from the troubles of hookworm disease with their modern technology and knowledge, much mistrust began to circulate amongst the local population. In addition to the suspicion around the medicines being administered, as the pandemic of influenza started spreading throughout central China made its appearance in the Colliery, many who fell ill attributed their sickness to the medicine they had taken for hookworm (Longkumer, 2021). Since many workers resisted the treatment, the sanitary department had to suspend its hookworm campaign to dispel the notion that hookworm medicine was responsible for the epidemic. The IHB officials successfully convinced the mining authorities to invest in improved sanitation and adopt stringent preventive measures to stop reinfection. Following this advice, "the mining officials barred the new workers from entering the mining premises before they were certified as hookworm free and issued a clean bill of health, which took the form of a dated wooden "Tag of Good Health" bearing the official seal of the Colliery" (Ibid). Miners were explicitly required by the authorities to wear these tags for identification. In the later years, the Pinghsiang anti hookworm campaign helped the IHB officials understand the realities of introducing health and sanitation in China, which was far from what they had imagined (Jiang, 1990).

Addressing Hookworm in Madras Presidency

In 1914, while taking a tour of the East, Wickliffe Rose, then Director of the IHB, recognizing the lack of extensive knowledge on the science of hookworm disease, appointed a commission to survey "Java, Sumatra, Straits Settlement, Singapore, Siam, Federated Malaya States, Fiji, Burma, Ceylon, and India" (Kavadi, 2016, p. 66). The investigation identified the high infection rate of hookworm disease amongst the Tamil coolies imported from South India around the British colonies, alarming the colonial officials. The Madras Presidency in South India was recognized as the source of hookworm infection in several countries around the tropics. "Speaking to the Indian Medical Congress in1894, Dr. Thornhill, the Senior Medical Officer of the province of Uva, argued that whether the disease existed among the Sinhalese in the past time or not, I can only say that it is now widespread amongst them in the Uva and other provinces of Ceylon, apparently mostly in the provinces where immigrants from India are employed" (Hewa, 1994, p. 77). The Mining Journal, Railway and Commercial Gazette, in its 1904 annual report, stated that unless proper measures were adopted, it would be difficult to control the spread of disease, which was constantly brought across the shore of Sri Lanka by Malabar coolies. By 1909, the hookworm had reached a catastrophic level on the island, with over 90 percent of the plantation workers being infected, and the death toll was rising alarmingly (Hewa, 1994).

The increasing number of Indian emigrants in the U.S. with high infection rates that was viewed as a threat to American health, was another important reason for the RF's hookworm campaign in colonial India. With the IHB stretching their hookworm activities in areas beyond war zones in 1915-16, the RF, with the permission granted by the colonial authorities, created the Uncinariasis Commission to the Orient (UCO) in British Malaya. The UCO undertook extensive research from 1915-to 1917 in British Malaya. The Indian Research Fund Association (IRFA), under the auspices of the Government of Madras Presidency, initiated a hookworm survey and, in 1916, commenced its hookworm campaign in Negapatam. The survey then stretched to towns, jails, and tea estates from 1916-to 1923. "Since Tamil coolies were the principal workforce on British rubber plantations in British Malaya, and they usually departed from the depot at Negapatam, the two initiatives, that of the UCO in British Malaya and the IRFA in Madras Presidency in India, were interlinked" (Webb, 2020, p. 2). The RF saw the hookworm problem in

India to be staggering. In Madras Presidency, it was estimated that more than 70 percent of the population were infected. Under the auspices of the Indian Research Fund in 1916, Caius and Mhaskar undertook a study of ancylostomiasis, which found the traditional mode of treatment too costly and time-consuming, and too stringent for the masses with whom they had to deal with. Hence, "to create a simple and effective therapy, the study focused on designing a treatment plan that would not interfere with people's work and could safely be used by all people. The chief aim of this investigation was to find the most efficient drugs for giving mass treatment to large agricultural labor forces" (Rockefeller Foundation Annual Report, 1922, p. 180-183).

Hookworm parasites are bred very quickly in the rainy climate and wet soil of the coastal districts of Madras. Hookworm infection was observed to have a cyclical process where exposure to feces through barefoot individuals was seen as the primary source of infection and re-infection. The absence of sanitary facilities owing to many people walking barefoot happened to be a common sight in the British colony of Madras. The infection rate in the Madras Presidency was divided between 52 percent to 75 percent of the general population, 70 percent to 90 percent amongst the plantation labor, and an astounding 90 percent for the Indian coolies in the colonies. The high infection rate amongst the coolies in the colonies was thought to reduce the economic productivity of the plantation estates. The IHD's hookworm campaign in Madras between 1920-1928, marking the beginning of the RF philanthropic efforts in public health in British India, was prompted by its belief that to stop the spread of the disease, it was vital to employ control measures at the source of infection (Kavadi, 2007). Replicating its hookworm campaign efforts implemented in the U.S. South, the IHB modeled its hookworm program in Madras following the same framework, consisted of "creating awareness on hookworm and sanitary matters, encouraging local organizations to promote sanitary conditions and demonstrating the development of inexpensive and easy to maintain latrines to encourage widespread use. Their methods, IHD officials maintained, were simple enough to be acceptable to even ignorant and prejudiced sections of the population" (Kavadi, 2007, p. 130).

With the increasing emigration of laborers to different colonial plantations, the chance of increasing hookworm infection on a greater scale became evident. On the coast of Negapatam and Mandapam, hookworm stations were created where treatments were provided to the coolies while

en route. Because of impending poverty and caste-related issues, the construction of latrines was met with many challenges. Unlike in China, human excrement was not used as fertilizer in the Madras Presidency, which the IHB saw as an advantage in solving soil pollution problems (Rockefeller Foundation Annual Report, 1924). Heiser, in his 1916 visit to Madras, noted Negapatam as a filthy place; hookworm as a disease was not considered important enough for any efforts accompanied by high fecal pollution in the soil. He concluded that the camp itself could be a source of increasing infection.

After a meeting with Captain A. Russell of the Madras Medical College, Heiser concluded that the hookworm campaign in British India would be successful only when it was placed under the leadership of the Indian Medical Service Officer, supported by government sanctions, and military support, and legal power to construct sanitary privies. Major General Lukis, director of the Indian Medical Service (IMS), was equally interested in the hookworm project. Still, worries around nationalist uprisings and the uncertainty of American interference took much of his thoughts (Farley, 2004). Lieut. made the first systematic attack on the disease. "Col. Clayton Lane of the Indian Medical Service, in 1916 on the tea estates of Assam. In response to the official request, the board sent a representative during the year to direct operations in the Madras Presidency" (Rockefeller Foundation Annual Report, 1920, p. 124). In April 1920, George Paul arrived in Madras to take over the hookworm campaigns. But by the end of the year, Paul was very discouraged with the way the program was heading. Without proper sanitary facilities, cases of reinfection were on the rise constantly. Paul noticed an alarming deteriorating physical condition between 83 and 100 percent of Tamil coolies showing moderate to severe clinical symptoms. According to his observations, even with the provision of latrines, it would still be challenging since most workers regularly return to their villages, where they were likely to become reinfected (Farley, 2004).

John Kendrick took over Paul's position as the director. Under the supervision of the surgeon general, an extensive survey to examine the intensity and incidence of the disease was conducted in the province. The investigation revealed a low degree of intensity and high incidence rate, with infection rate between 90 percent to 100 percent of the general population. The survey also informed the high level of infection was caused by the less harmful *necator americanus*

compared to the more dangerous ancylostoma duodenal, which is why there were fewer physical symptoms among the infected population. This also explains the reason for viewing hookworm disease as a minor public health concern. Another important strategy was an educational programme which Kendrick believed would educate the masses on the dangers of adopting and living with unsanitary practices. The hookworm program of the IHB in Madras was not about eradicating the disease, but the purpose was merely instilling in people the knowledge of improved sanitary surroundings with a core focus to stop soil pollution using tactful educational propaganda supplemented by the offer of free treatment. But, in the days to come, the IHB hookworm program was inclined more towards curative approach. Curative approach aroused less resistance from the public, gave immediate benefits even if temporary and were easier to show its benefits from cure. The surgeon general with whom the IHB was working with held the belief that mass treatment was the only viable option to reduce the degree of infection. The deplorable condition of hygiene and sanitation in the rural areas made prevention of soil pollution very challenging and hence advocated heavily for mass treatment with a hope that such an approach would reduce the worm count which would eventually decrease the cycle of infection. The main strategy therefore was decrease worm count through mass treatment accompanied by educational propaganda to introduce sanitary habits to tackle the hookworm problem (Kavadi, 2007). An experiment conducted by Dr. Kendrick in Madras "employed the worm count method to determine the rates of reinfection. Worm counts as a method has been used to a certain extent for determining the geographical, racial, or occupational relationships of individuals or groups" (Rockefeller Foundation Annual Report, 1922, p. 194-195). Voicing this opinion, the RF annual report in 1922 explicitly noted "the species of hookworm harbored by a race, or a community are determined by geographical, racial, and climatic conditions, and are limited, of course, to the species of larvae existing in the soil of their immediate environment. The "worm picture" may thus disclose important information as to the previous environments and even as to the ethnical origin of peoples" (Ibid).

A total of 2300 laborers were investigated in the tea estates which highlighted the infection rate as 83 percent in dry districts and 100 percent among those in wet districts. The infection rate amongst the laborers in the tea estates were much higher than the prisoners in the jails as determined by clinical observations and hemoglobin tests. None of the tea estates inspected in the

Madras Presidency were found to provide sanitary facilities to their laborers. Soil pollution was accounted as the major cause of hookworm infection (Rockefeller Foundation Annual Report, 1920). "The tea plantations located along the coastal districts in heavy rain fed areas became the major sites for control work. Most of the tea estates were located along the Wynaad-Nilgiri hills, in the east of Malabar district, one of the wettest regions in the Madras province" (Ibid, p. 144-145). Understanding the need to improve health of the workers to increase production capacity, the planation officials were all very supportive of the new approach. The limitations of the mass control treatment were slowly becoming very apparent. Without proper sanitation, the IHB observed, the positive results shown by the curative treatment was adversely affected. The living conditions of the workers in the tea estates was pathetic, overcrowded with no sanitary facilities. Lack of sanitary privies made the hookworm control work difficult to conduct and the enthusiasm shown by the planters in support of the hookworm work was short lived. No concerted efforts to improve the health of the workers were seen (Kavadi, 2007). At the end of the hookworm campaign in Madras, Kendrick realized that the RF had completely neglected the sanitation part of the hookworm work and relied too much on treatment and awareness activities which was not enough to bring the hookworm disease under control.

The Issues of Addressing Soil Pollution in Imperial China and Colonial India

Hookworm, Soil Pollution and the Use of Night Soil in Imperial China

Nightsoil was a major traditional fertilizer and an important source of agrarian economy in imperial China. Records of its use had been observed during Song and Ming dynasties. Intensive use of nightsoil as an important trade arose in the course of rapid urbanization in the 16th and 17th century Ming dynasty (Xue, 2005). The nitrogen content in the nightsoil which acts as the main plant nutrition in feces was the only source of fertilizer which was available widely. A number of studies have highlighted the correlation between human manure use and hookworm incidence in China. "Cort *et al*. (1926) were the first parasitologists to conclusively establish a link between the use of human manure in agricultural cultivation and the spread of hookworm disease in China, proposing that sericulture or the cultivation of mulberry trees accounted for its prevalence in central and southern China and that the climate was too cold in northern China for the disease to

spread" (Couacaud, 2014, p. 355). In the west, "the concept of hygiene was often associated with cleanliness in the urban environment. For the Chinese population, excrement, however, was less a public health problem than an important part of agricultural economy and a precious commodity" (Xinzhong, 2010, p. 51). Yu Xinzhong (2010) highlights "the constant presence of feces in late imperial cities as one of the most visible and criticized aspects of Chinese life. The use of human excrement became a sanitary concern only after the introduction of western concepts of public health in the last decades of the imperial period" (Ibid).

The Chinese through age-long experience appreciate the manurial value of the feces and consider it as a source of national wealth. Being essentially an agricultural economy, all efforts were made to ensure the continued fertility of the soil. The use of nightsoil therefore was both a profitable business and agriculturally indispensable for fertilization in a land where horses and cows are few. Both custom and the relative cost of human excrement made its displacement by manufactured manures impracticable (Reports China, 1917). In 1917, based on his study, Hume recognized four factors responsible for hookworm infection in China – universal use of human excrement for fertilizer, consequent and continuous discharge of effluent, containing parasitic ova and larval forms. These larvae's flow into streams contaminating both their waters and the soil of their banks. The presence of disease due to other animal parasites, such as *Schistosoma japonica*, whose symptomatology resembles, in so many ways, that of hookworm infection, the frequency of concurrent infection with hookworm and malarial or other fevers, also rendered it difficult to gauge the exact morbid significance of cash (Hume, 1917). He further connotates the problem of hookworm in South China as very different from the rest of the world. According to his observations, the hookworm problem in the U.S. is particularly because of the carelessly built latrines or the lack of one, in rural India, "human excrement is deposited directly on the soil without any organized system of using it as fertilizer. However, in South China, it was customary to collect to collect the feces in earthen pots, ladle it out in the buckets and spread it across the fields and gardens" (Ibid, p. 1888).

In the west, human excrement was not used as a large-scale agricultural commodity because of the steady and continued supply of animal manure from a relatively prosperous animal husbandry industry (Longkumer, 2021). Whereas in China, the cyclical process of transportation

of human excrement between the rural and urban areas helped maintain a balanced cycle both in the rural and urban ecosystems where agricultural produce was transported from rural to urban areas and feces from cities to villages to maintain soil fertility. "While the modern sewer system in the west was created to tackle degenerating urban environment due to defecation in public places and contamination of water sources, in China, the practice of nightsoil maintained upto some extent the sanitation of the cities" (Xinzhong, 2010, p. 52). Hence, the nightsoil business in the urban areas, indirectly served as a sewage system. Being recognized as an important source of revenue, the imperial government frequently interfered in various kinds of disputes to prevent any kind of interruption in the nightsoil trade. Without a modern sewage system, in the countryside, this practice was considered the best possible way to keep village and drinking water clean by transporting all nightsoil into farmland (Xue, 2005).

The IHB hookworm campaign in China realized the problems related to the use of nightsoil, hookworm infection, and its relationship with agricultural productivity. In short, the IHB officials realized that the use of nightsoil was central to Chinese agriculture, and any reforms in Chinese sanitary practices would bring about profound economic consequences. Heiser, in his visit, observed "sudden stopping of soil pollution would mean the impoverishment of the soil unless some substitutes were placed within reach of the people. No such substitute existed at that time. Heiser further stated, If the problem could be economically solved in such a way as to utilize excrement without danger to the health of the people, the result would not only be of vast economic significance to the East but might also prove to be of equal significance to countries where the same material is entirely wasted" (Rockefeller Foundation Annual Report, 1916, p. 16-17). But since this was impossible, the only solution left was mass deworming campaigns, which were deemed impractical. The lack of proper public health system to carry out the deworming campaign and the constant danger of reinfection due to the absence of sanitary facilities made the campaign nearly impossible to achieve. For Norman Stoll, the famous parasitologist, the hookworm experience in China questioned the 'gospel of sanitation.' As he put it, "Public health practice, in the control of any disease related to human feces, must therefore reexamine the precepts upon which it stands, rather than dogmatically attempt to combat a thrifty Chinese practice with wasteful Western custom" (Webb, 2019, p. 120). Epidemiological studies of intestinal worm infections in the 1930s supported Stoll's belief. The climate in North China was not viable for the hookworm

larvae to breed and hence infection was nearly absent in the northern areas. Hookworm infections in the southern part of China were highly visible; the infection rate of roundworms on wet rice fields showed a staggering 81 percent, hookworms became a constant menace in the vegetable growing cities of Suzhou and Nanjing, a high incidence was found in the Kwantung province workers of Mulberry groves (Ibid, p. 121). The only solution to achieving hookworm-free China was to modify its agricultural practices using fertilizers, which the IHB saw as a monumental task and impossible to achieve. The IHB officials were disillusioned and dropped the hookworm project. The strategy applied in the U.S South did not work in China. With utter disappointment, they pivoted to other disease targets (Ibid).

Soil Pollution and Hookworm Campaign in Colonial India

The IHB, since the beginning of its hookworm campaign in colonial India, worked in close coordination with the British IMS officials. Since the beginning, the nature of the cooperation was marked by confusion and uncertainty. The nature of IHB's standard way of working through collaboration was not expected in colonial India. The agreement stated the provision of resources from the government, and the task of the RF was to organize a campaign along with established IHB principles. But the campaign was dispersed and became essentially curative. As reported, the hookworm campaign in the Madras Presidency was scattered and primarily focused on controlled communities like prisoners, inmates in hospitals, school children, and laborers in plantation estates. The idea was to first demonstrate the campaign's benefit through the controlled communities and later stretch it to other areas. But the strategy was more or less unsuccessful on all fronts. For instance, the absence of sanitary privies in the plantation sites gave way to reinfections even amongst the cured population. With its large population, high infection rate, and caste issues, British India differed from other countries where anti-hookworm activities were being carried out. The IHB understood the need for a different approach to colonial India (Kavadi, 2015).

The IHB, through its extensive hookworm campaign in both Southern U.S. and other colonies, had already realized that complete eradication of hookworm was not possible without intervention in sanitary facilities. Building proper latrines to avoid soil pollution was necessary and one of the most important steps to tackle rising infection and reinfections. This task, according

to the IHB, required long period of education and enlightenment (Rockefeller Foundation Annual Report, 1918). In its 1918 annual report, the IHB highlighted the viability of hookworm larvae in soil and feces as one of the most important factors that need thorough investigation. In the past, it was common knowledge for the ground to become sterile after six to ten months, and the disease would gradually die out, but the evidence gathered by the IHB showed otherwise. "The soil, once heavily infected, particularly in tropical areas where the temperature seldom drops to a freezing point, often remains infected for a considerable time even after sanitary conditions have been improved" (Ibid, p. 157-158). The importance of tackling soil pollution was highlighted explicitly through the Ceylon hookworm demonstration, where high reinfection cases were observed repeatedly. "Treatment for hookworm disease brought only temporary relief. The IHB realized it was imperatively necessary that not only latrines be provided but that they be properly used" (Rockefeller Foundation Annual Report, 1919, p. 100). But, owing to caste, poverty and other difficulties, little progress was seen in the construction of sanitary privies. The Indian Caste system created hurdles for the collection of feces for study purpose since touching feces with one's hand was an act of defilement for any Hindu (Farley, 2004).

The 1913 hookworm survey under Major Clayton Lane funded by the IRFA found 70 percent of labor population in the Darjeeling tea plantations with hookworm infestation. The thorough survey attributed the high degree of hookworm infestation to the lack of latrines in the coolie lines. He then initiated the distribution of thymol in selected plantations to cure existing infections. But it required permanent sanitary infrastructure to prevent reinfections. Lane tried to convince the planters to build latrines and borrow pits along the coolie lines. There was complete lack of sanitary or sewage facilities due to which hookworm affected the productivity of the labor force drastically. Some planters were keen and accepted but most of them were not willing to take up the task. Mostly because the plantations relied on cheap labor and sick labors were easily replaceable. The IHD activities in Colonial India was mostly focused on public education campaigns through collaboration with the local governments. With an aim to introduce modern hygienic practices to prevent the spread of disease, the IHD particularly focused in areas where labor productivity was severely affected (Bhattacharya, 2012).

Although the IHB officials were convinced about the need to prevent soil pollution, they were not able to convince either the planters or the government regarding the importance of building sanitary facilities (Kavadi, 2016). The British officials of the IMS were against any suggestion that would involve their intervention in building the sanitary facilities. When a proposal to support 50 percent of the costs of constructing village sanitary facilities was brought before the surgeon general of Madras, his response was negative. He was not keen on supporting the rural Indians for any such activities. The government would support the treatment costs and educational campaign but when it comes to sanitary facilities, it was to be left to the people (Farley, 2004). "With a crucial difference from colonial enclaves: the plantations were sites of private enterprise. Government intervention and public health policies within the plantations were limited and always under negotiation" (Bhattacharya, 2012, p. 16). Arnold (1994) posited that Colonial India as a scientific laboratory was prevalent before the creation of 'Tropical Medicine.' But eventually it required new dimensions with the institutionalization of tropical medicine in the 20th century. With such changes, plantations identified itself as sites to experiment ways to reduce the occurrence of disease to generate productive labor (Ibid, p. 17).

The IHD hookworm campaign in Colonial India ran for a decade. At the end of the program, incidence rate remained constant at 90 percent with no reduction in soil pollution as envisioned by the RF officials. Sanitation and hygienic practices which was the core aim of the campaign showed little progress. The IHD field staff in India cited poverty, superstition, illiteracy and caste impediments as reasons for their failure. Complete lack of sanitary awareness even amongst the educated Indians and dearth of knowledge on hookworm disease within the qualified medical community were to be blamed (Kavadi, 2007). The IHD in its hookworm approach was very focused on their biomedical framework and missed the point where building and maintaining sanitary privies for a common Indian family was a costly affair. With limited resources in their hands, the villagers could not afford to put up latrines for the prevention of soil pollution, nor were they able to adopt any measures for the conservation of water supply or improvement of drainage (Kavadi, 1999). Also, the problem did not stop at access to privies, even when erected, it was important to teach the people the way to use the facilities. Inexpensive and easy to maintain privies were needed to develop widespread use but the RF did not succeed in these efforts. Antagonism and suspicions from the Indian community was a common challenge that they had to face. People's

perception of normal health included hookworm infection which according to them was not a threat as compared to other diseases. Citing increasing level of infections, difficulties in constructing latrines, lack of proper sanitary knowledge, the IHD officials justified mass treatment as the answer (Kavadi, 2002).

Kendrick at the end of the hookworm campaign in Madras noted "Our work so far in this Presidency had been patch work and scattered. This has been at the request of the Surgeon-General. I am rather of the opinion that at present this is best. The estates, as I have written before, are entirely devoid of all latrine accommodations and are therefore not ready for real successful campaigns; the towns are far less ready than the estates. Our small demonstrations in different parts of the Presidency tends to more widely and rapidly bring the matter before the general public and will thus aid greatly the work of the future" (Kavadi, 1999, p. 102). The RF realized that it had completely neglected the sanitation part of the campaign while relying heavily on treatment and awareness programme. Kendrick considered the creation of an effective waste disposal system could have produced permanent solutions. However, "The closed European- style privies that the RF was attempting to promote were unsuitable for rural Indian conditions since these were difficult to maintain, mainly on account of inadequate water supply" (Kavadi, 2016, p. 69). Two important factors that the RF missed out in its hookworm survey was – lack of funds and technical support and racial segregation and income distribution. "Limited funds with the absence of central government aid created challenges for the local bodies to develop public health. Racial segregation and income distribution decided who gets benefits of water and sanitation. Thus, households located in the European sections were connected to main sewers whereas the poorer regions suffered from inadequate facilities where human waste was scattered all over" (Kavadi, 2007, p. 134).

Scientific Medicine in Colonial India and Imperial China: Rockefeller Philanthropy in Medical Education

The Oriental Education Commission from 1908 to 1909 was the first engagement of RF in medical education in China and India. The report of the commission highlighted poor condition of medical education in both the countries. Most of the renowned medical institutions in both China

and India were missionary efforts. However, whereas the quality of missionary medical education and absence of scientific medicine was questioned in China, In the Indian case, the main problem highlighted was the deteriorating conditions of the already existent scientific medicine institutes and quantity of institutes which was very low to cover the significant Indian population. In India because of the British colonial interests in medicine and research, medical education upto some extent was advanced as compared to China where according to the RF, scientific medicine was absent. The China Medical Commission proposed to establish the finest of medical institution in China in par with the Rockefeller institute in the U.S. In colonial India, the William Carter's medical education survey highlighted the dire need of developing a school of public health and hygiene. Two factors responsible for RF's interest in establishing a wholly new medical institute in China were – Rockefeller's personal inclination and China offered a nascent field to Rockefeller to try out his new interest in scientific medicine. In India, the strong presence of the British colonial administration in medical education according to the RF had helped to develop scientific medicine but in public health and hygiene, colonial India was still underdeveloped. The 'John Hopkins' model of medical education was followed as the framework for both the Chinese and Indian medical institution of the RF – Peking Union Medical College (PUMC) and the All India Institute of Public Health and Hygiene (AIIHPH). Through the formation of both the PUMC and the AIIHPH, RF sought to establish the superiority of American medicine which they believed was scientific, rational, and modern.

RF and Scientific Medicine

"William Welch was late and, Wickliffe Rose was growing increasingly anxious. The two men had promised to co-author a plan to create the first school of public health in the United States, and their deadline was fast approaching. Welch had agreed to write the first draft, but so far, Rose had not received anything. They were both busy men. Welch, with his silver goatee and bushy moustache, was the dean of the John Hopkins University School of Medicine. In 1915, he was also widely regarded as one of the foremost physicians in the United States. This was a momentous time for the history of medical education in the U.S. Rockefeller had entered the field of medicine with an aim to develop medical education along scientific line" (Matysiak, 2014, p. 23).

Scientific medicine in the United States advanced at the same time when corporations grew to develop the larger economy. Medicine in the late 19th century before the growth of the corporations was pluralistic in its theories of disease, technically ineffective in preventing and curing diseases, and divided into various warring states. 'Medicine' became synonymous with clinical science perpetuated by the American Medical Association and the infamous report by Abraham Flexner on the status of medical education in the U.S. All other forms of medical practice were removed from the practice. By the 1930s, doctors as an occupational group firmly controlled the medical profession and rose slowly in income, power and status. With such changes, hospitals soon became the locus of medical technology holding a powerful position in the field of medicine and science. Medical schools through most part of the 20th century have been university controlled adhering to the interests of the philanthropic foundations. These American philanthropic foundations have been a dominant force exerting high influence on the growth of American medicine in its formative years from 1900 to 1930. 'Financial Assistance' had been their source of power, generous in its approach but carefully applied to specific programs and policies. Scientific medicine was able to garner the support of the American Medical Association because it met the economic and social needs of the medical profession (Brown, 1981).

One of the first graduates of John Hopkins, Abraham Flexner, a professional educator, was an enigmatic personality with a zeal to bring reform in medical education in the United States. After spending a year in advanced study in education at Harvard, "he wrote his famous critique of higher education in the U.S. Funded by Carnegie Foundation in 1908. Abraham Flexner started his survey of North American medical schools. For the study, Flexner visited every medical school in the U.S., which later culminated in the famous Flexner Report" (Brown, 1981, p. 135-149). During his visit to his alma mater, John Hopkins, Flexner found "John Hopkins to be a small but ideal medical school embodying the best features of medical education in England, France, and Germany, skillfully adapting to American culture" (Ibid). The John Hopkin style of medical education became the living model for Flexner. His report suggested ensuring the quality of medical education by keeping in pace with the breakthroughs in medical science by reducing the number of medical schools from 131 to 31. Only the finest medical schools should be allowed to survive and thrive (Brown, 1981). At the newly established RF, Flexner's report was highly discussed and scrutinized. To develop John Hopkins as the model medical school in the whole

country, the General Education Board of the RF in October 1913 released a significant grant to Hopkins designated to pay for full-time faculty, build and finance new laboratories, and expand enrollments. With a vision to expand scientific medical education worldwide, Flexner and other RF advisors oversaw the expansion of the program internationally. The RF ultimately provided the grants establishing a separate medical education division in 1919 (Matysiak, 2014).

The China Medical Mission, Creation of the China Medical Board (CMB), and RF Medical Education Survey in Colonial India

In 1911, the success of the worldwide hookworm campaign seemed to provide a new and promising direction. Two RF trustees were especially keen to look at the Far East – Frederick T. Gates and Jerome D. Greene. Gates reiterated, "Might we not do medicine in China what we had failed in our attempt to do in university education?" (Ferguson, 1970, p. 14) "Might we not indeed at once attempt scientific medicine in China?" (Bullock, 1980, p. 35). The Rockefeller men believed that medicine as a safe arena, free from religious, political, and social entanglements involved in other approaches. Both the Chinese government and the missionary bodies would warmly welcome this idea. The lack of stability in China was if anything, an added argument for acting at once. "If we wait until China becomes stable," said John R. Mott, "we lose the greatest opportunity to deal with the nation" (Fosdick, 1952, p. 82). The Oriental Medical Education reported only three existing medical schools established by the Chinese at that time – among them, two were Army medical schools located in Canton and Tianjin, which were well organized and efficiently operated. The yearlong survey in China made Burton come to two possible conclusions - that there was a need to break from missionary education, and second, the time was ripe to introduce scientific medicine (Hoogenboom, 1972; Hoogenboom, 1973). Unlike India, where medical education was developed upto some extent due to the British colonial policy, China was in a nascent stage and provided the RF with a ripe field to try out their new ideas.

Similar to the Chinese case, the Oriental Education Commission noted the need to develop and advance more medical institutes in colonial India. However, medical education in India compared to China, was already initiated on a scientific line framed under the colonial policy of the 19th century. Under such circumstances, the RF had to tread very cautiously with their

philanthropic agenda in colonial India. The period from the 1870s to 1920s is marked as an important watershed moment in the history of science, medicine, and disease in India, especially regarding the plague epidemic of 1896, which pushed for the growth of bacteriological sciences. India was slowly becoming a hub of medical research in the tropics with the rising number of outbreaks brought about by colonialism. The germ theory of disease slowly gained acceptance in the 1890s and 1900s in the medical and sanitary circles of India. The process of institutionalization of medical research was largely characterized by military orientation and control by the Indian Medical Service (IMS) with a special importance given towards applied research. The IMS was predominantly a military service dominated by Europeans with a civil branch that included teaching posts in medical colleges. Indians trained in western medicine were recruited to a subordinate level than their European colleagues. The discriminating attitude towards Indian aptitude and ability with lack of interest towards advancing medical research meant limited facilities and institutions (Kavadi, 2015).

The delegation of the First China Medical Commission arrived in Peking on 18th April 1914 and visited around seventeen medical schools around the next four months. The intensive survey of the commission came out in the form of a comprehensive report titled *Medicine in China* in October 21st, 1914, and presented to the trustees of the RF. The exhaustive report described each medical school in detail with specific importance given to the Union Medical College (UMC) in Peking (Ferguson, 1970; Bowers, 1972; Peking Union Medical College, 1919; Peking Union Medical College, n.d). One important highlight of the report was the condition of medical missionary schools which they found to be utterly disappointing. In summary, the commission strongly recommended the initiation of medical work in China substantiated by teaching of the highest practical standard with English as the principal language of instruction. Highly impressed with UMC, the commission recommended Peking as the site for their first medical work.

Peking was also chosen as the preferred site due to other probable factors: Peking was likely going to continue as the capital, which deemed it a suitable place to establish a strong and influential medical school, and it was the educational hub of China easily reachable by either a rail or by sea, the local Peking dialect was the language of the ruling class in China and lastly because it was the only medical school recognized by the Chinese government (Ibid; Elliot, 1914).

The RF's first medical education survey in British India happened under the auspices of medical specialist Dr. Victor Heiser in 1915, followed by additional surveys in 1921 and 1928 survey by Dr. William Carter. The survey noted a retrogression of standards in medical education with only one percent of the Indian population getting access to physicians. Amongst his many visits throughout the country, Heiser notes his visit to Calcutta as one of the most interesting stay where he met Sir Leonard Rodgers at the Pathological Laboratory of the Calcutta medical school. Stimulated by the plague epidemic in 1896, "the creation of the school of Tropical Medicine was part of the wider institutionalization of medical research which began in the later part of the 19th century and gained pace after 1900. Research in tropical medicine with the increasing role of the laboratory in medical practice, teaching and research paved the way for the formation of the Calcutta School of Tropical Medicine (CSTM)" (Power, 1996, p. 198-199). In British India, CSTM represented the first school of tropical medicine at the periphery of the British Empire and also offered ample opportunities for members of the Indian medical community (Ibid). "CSTM became a project of the emerging Indian elites to take up western medicine as part of their own hegemonic project" (Chattopadhyay, 1999, p. 197). Heiser was impressed with the school at Calcutta, the atmosphere of which according to him felt like a university setting. The scientific work at Calcutta was highly acclaimed which would routinely appears in the Indian Journal of Medical Research (IJMR). Heiser found the state of medical education in Calcutta to be well advanced and on a big scale.

With an aim to establish one of the finest medical institutes in Peking, one that can be equated to the ones in Europe and America, the RF planned to create a separate organization to oversee the China project. Considering the dreadful condition of medical education and missionary intransigence, with an initial endowment of 12 million dollars, the China Medical Board (CMB) was created on Nov 30th, 1914, to oversee the activities of medicine in China. Rockefeller became the first chairman of the CMB. The first meeting held on Dec 11th, 1914, highlighted major activities that would become the core objective of the board. Fellowships for recent Chinese medical graduates, scholarships for female Chinese nurses, co-operation with various missionary societies were important objectives outlined in the meeting (Bowers, 1972; Peking Union Medical College, 1919; Peking Union Medical College, n.d). The RF through the

CMB also provided funding support to missionary medical institutes who were in dire need of funds to get their institutes running. With utmost faith in their ability to introduce western scientific rationality, the architects of the CMB resounded with E.B. Tylor's dictum that states "the science of culture is essentially a reformer's science." Until 1928, CMB was merely a subdivision of the RF but later at the instance of the foundation, the board was dissolved and formed into a new corporation established under the name of the CMB, Inc., an independent American Organization, with a purpose to hold and distribute funds for the promotion and advancement of medical education on modern scientific lines in the Far East (Fosdick, 1952; Rockefeller Foundation, n.d; John D. Rockefeller, 1915).

In similarity to the Chinese case, the RF also offered monetary assistance to many medical institutes like CMC, AIIMS, in India. The RF policy in medical education in colonial India, however, was part of its global agenda of advancing modern scientific medicine and building the science of hygiene and public health, which became a core focus of their project in India. The RF saw the advancement of public health as a driving force to further the agenda of scientific medicine in colonial India. With the growth of tropical medicine, the science of hygiene was already in the process of development in India. "Sir Rodgers in consultation with the Government of India (GOI) was already planning to establish six full-time chairs at the medical college, Calcutta – tropical medicine, bacteriology/pathology, protozoology, entomology/helminthology, biochemistry/serology, and pharmacology. Rodger was particularly interested in taking over the chair of tropical medicine" (Chattopadhyay, 1999, p. 617). Negotiations with the RF over a possible funding for a chair of protozoology had already started. The RF considering the whole administrative structure of the school, withdraw their support at that time thinking they would not have enough control of the position in which they were funding (Chattopadhyay, 1999). The Chair at the School of Tropical Medicine however was successfully established in 1916 with the support of the RF (Guha, 2018).

Wallace Buttrick was not completely satisfied with the technical aspects of the China project. He was quick to realize the magnitude of the project and what it demanded of him. He was convinced that inorder to create the finest medical education in China, an intensive field study was required by the best medical men. Two best people suited for this job according to Buttrick was

William Welch, the acknowledged leader of medical education in the U.S. and Simon Flexner, the esteemed Rockefeller medicine man, two most prominent figures in American medicine at that time. The second commission sailed for Yokohama from San Francisco on the *Tenyo Maru* on 7th August 1915 with Welch, Flexner, Frederick L. Gates (son of F.T. Gates) and Buttrick. The first commission had designed the vision, it was the job of the second commission to give that vision form and substance. In the second commission, Welch and Flexner acted as investigators and diplomats. They set their aim as "to create as good a medical college as can be found anywhere in Europe or in America with an excellent staff of teachers, well-equipped laboratories and a good teaching hospital and dispensary and a training school for both male and female nurses" (Fosdick, 1952, p. 24).

The medical barons divided their responsibilities into Welch for institutions in North China, Flexner for East, Central and South, Gates for the central region. The findings of the commission suggested a dire need for developing premedical teachings if a first-class institution was to be developed. These pre-med courses were to figure within the missionary medical institutes which the RF had sought to support (Gates and Buttrick, 1916; Greene, 1916). The second commission also underlined in detail the inadequacies of the missionary medical schools. The report pointed out that "As the missionary of the gospel is not necessarily an educational expert or a trained administrator of educational or scientific activities, and as the funds are available for such purposes are always at best scanty and are divided among many independent organizations, it can hardly be expected that a systematic and comprehensive scheme should have been worked out" (Ma, 1995, p. 139). This statement clearly defines the different lines of thoughts and ideas on the promotion of modern medical education between the Rockefeller people and the medical missionaries. The foundations scientific approach to China was the core component of RF's commitment to medical science. This aspect infact helped the foundation and American medical professionals to claim their social relevance (Ibid; Buttrick, 1915; Rockefeller Foundation, n.d; Murphy, 1915).

In the Indian case, the RF was engaged in supporting the missionary project by funding missionary medical institutes in Vellore, Lucknow, Madras, Ludhiana etc. But by the mid 1920's like in China, the RF decided to move away from supporting narrowly missionary institutions into

other arenas like public health and education (Gordon, 1997). The RF officials after receiving several requests for public health intervention remained reluctant with the view that the RF would not involve in other activities in India apart from the ones, they were already involved in. They were of the opinion that problems of public health and tropical medicine should be studied along with a general study of medical education before making any decision of giving aid to any particular institution. The time according to the RF board was not ripe to make any long-term investment in medical education in India. Considering the utmost need to develop an institute of public health but the reluctance from the side of RF, the All India Conference of Medical Research Workers held in Calcutta in December 1923, took an initiative, and passed a resolution requesting the Government of India to forward an invitation to the RF to initiate a survey of medical education and research in India (Kavadi, 1999).

Acting on the request placed by the GOI, the RF directed Dr. W.S. Carter, Associate Director of the Division of Medical Education to conduct an extensive survey of the medical teaching and research institutions of India in collaboration with Indian authorities. Carter toured India during 1926-27 covering a total of 35 medical teaching and research institutions. Carter's detailed notes of the survey highlighted that most of the medical colleges lacked adequate teaching staff and infrastructure for preventive medicine and public health. CSTM, which Carter found to have the best training in public health unfortunately had limited resources to train public health personnel for the whole of India (Ibid). The structure of the institute was solely operated under the auspices of the Bengal government. Under this structure, other provinces had to pay high fees to send their officers to the school for training. Considering these issues, Carter recommended an all-India school of hygiene to gather to the needs of the large Indian population following the framework of the Calcutta school (Ibid). This extensive survey results provided the essential background on the basis of which the officers of the RF would carefully consider cooperation in medical education in India.

Building the John Hopkins of China and India: Peking Union Medical College and the All India Institute of Public Health and Hygiene

A John Hopkins for China: The Creation of the Peking Union Medical College (PUMC)

The idea for the creation of a John Hopkins for China was initiated by an amalgamation of two powerful forces in Rockefeller philanthropy – John D. Rockefeller's missionary impulse and the desire of the newly established Rockefeller philanthropic institutions, the IHB, and the RF to transform western medicine in the scientific lines (Stapleton, 2017). However, the China Medical Board designed to support the establishment of the PUMC aimed to reflect higher social standing than the missionary students by attracting the elites of China, not the *declasse* who had been drawn to missionary institutions (Ibid). With religious motivation sidelined, "the scientific and secular presentation of western medicine in the form of PUMC was far more attractive to the Chinese, complementing the historic movements of the times" (Bullock, 2011, p. 52). This changing nature of the institute was able to attract students from upper-class gentry and mercantile Chinese families. "While missionary institutions sought Chinese Christians, who were few in number, to staff their hospitals and schools, PUMC was able to easily recruit the first generation of Chinese medical scientists who had studied abroad" (Ibid). The creation of PUMC was also in line with plans for the new School of Public Health and Hygiene at John Hopkins. The pedagogy, vision and the institutional goals of both the schools were the same. The plans for PUMC were made with an aim to establish it at a level comparable to other Rockefeller institutions. The high standard of students, teachers and teaching curriculum was to be maintained throughout (Stapleton, 2017).

"The scientific white glares combined with the Chinese hues, the college, hospital, and their medical curriculum signify PUMC as a unique mosaic of a Sino-American Institution" (Bullock, 1980, p. 78). The architect of the medical school acted as a symbol of the Board's desire "to make the college not something imposed from an alien source, but an agency which would fit naturally and harmoniously into the picture of a developing Chinese civilization" (Fosdick, 1952, p. 87). "Under the shiny jade-green glazed roofs of these Chinese palaces, the inner construction of the PUMC was completely modern, and equipped with the most advanced medical facilities. While the exterior of these buildings was designed to match the best Chinese palaces in the city, their interior must be, as the Foundation emphasized, suitable for modem medicine" (Ma, 1995, p. 150).

With a determination of maintaining the highest standards of medical education as highlighted in their vision, "it was decided that three years of premedical science would require, a higher requirement compared to many U.S. medical schools at the time" (Bullock, 2011, p. 51). Announcements were made to all the leading colleges and schools across China that the preparatory department would commence by September 11th 1917 followed by the opening of the medical school in the autumn of 1919. The first cohort of students comprised only of Male students, the first women was admitted to the premed school in September 1919 and medical college in 1921. PUMC thus also became the first co-educational medical school in China (Ferguson, 1970). The curriculum of the premed school included subjects like physics, chemistry, biology, mathematics, Chinese, English, and modern European language with the medium of instruction strictly in English. Admission policy of the school was based on strict entrance examination that students could register for after one year study in an approved college. Qualified students would then be considered for advanced training. Inorder to strengthen the premed education, grants included funds for faculty salaries, fellowships, for equipment's, upgradation of facilities were provided to selected colleges to develop their existing science departments (Bowers, 1972). By the summer of 1925, the situation of premed education had improved so much that the schools could be closed. It had prepared the primary function of training the Chinese students to enter the first-class medical institute which the second medical commission had outlined as one of their primary goals. In a total of 205 students who entered the premed training, 100 succeeded in entering the medical college and out of these 84 students completed the full five-year course leading to a coveted M.D degree (Ferguson, 1970).

In early April 1920, Franklin McLean, resident physician of the Rockefeller Medical Institute who was appointed as head of PUMC was invited by the RF to attend one of its periodic strategy meetings where trustees and foundation officials sit together and discuss major issues before they are forwarded to the high-level meeting of the trustees. Participants for this particular meeting included RF President George Vincent, medical barons William Welch, Abraham Flexner, Henry Judson, Frederick T. Gates, Roger Greene and Richard Pearce who took over McLean's position once he retired from his PUMC post. The highlight of the meeting was PUMC where they explored issues around the purpose, objectives, administrative structure, faculty appointments, finance, teaching and research around the establishment of the medical school (Bowers, 1972). Dr. McLean

pointed out his concern regarding the financial considerations of the CMB and how it could settle for a school of mediocre academic standards with much focus on quantity rather than quality, and with very little emphasis on research (Ferguson, 1970). He was primarily responsible for summarizing the scientific policy of the college as: "Within the limits of the resources made available, the scientific aims of the PUMC are –

1) Primarily to give a medical education comparable with that provided by the best medical schools of the United States and Europe, through
    a. An undergraduate medical curriculum
    b. Graduate training for laboratory workers, teachers, and clinical specialists; and
    c. Short courses for physicians
2) To afford opportunities for research, especially with reference to problems peculiar to the Far East
3) Incidentally to extend a popular knowledge of modern medicine and public health" (Ibid)

The dedication ceremony of the medical school held in September 1921 showcased the expectations of its international community. Numerous speakers from different countries assembled and gave presentations on various topics of recent medical research (Stapleton, 2017). The dedication program of PUMC was one such event that has never happened before, with a huge gathering of intellectual prestige, of diplomatic rank, and of global representation. The interruptions of the First World War created discouraging complications but, by 1921, the vast plan of the school envisioned by the RF was officially completed (Fosdick, 1952). "The school began with an enrollment of 140 students, 67 teaching staff, of which 25 percent of the teaching staff were Chinese, almost all of whom were trained in the United States or in Europe" (Ibid, p. 86). From the very beginning, PUMC was not focused on increasing the quantity of doctors and nurses which was a dire need at that point in time. This was a task to be taken over by the Chinese. The institution aimed to train future leaders in medicine and nursing who would serve as teachers and investigators in Chinese medical education. "The main goal of the institute was to develop a centre of modern medical training and research carried on in the modern scientific spirit by well-trained men and women from different parts of the world" (Ibid). Another important element of the RF PUMC program was the initiation of formal fellowship program which started in 1917. The awards to Chinese faculty, students and officials by the RF were usually substantial and usually

more than any other country received. Most of the awards received by the PUMC cohorts were directed to studies at John Hopkins University, Harvard or the RIMR. The teaching faculty at the school was recruited globally with most coming from the U.S. and English-speaking countries (Stapleton, 2017). The ideas, standards and techniques of modern scientific medicine were thus seeded through this process (Fosdick, 1952). The Chinese teaching faculty at PUMC epitomized the transformation of the Confucian literati class to an international modern elite. Although in the initial years of its founding, the Chinese faculty appeared as second-class citizens with a different salary scale than their western colleagues, these men nonetheless became the first-class citizen of Peking (Bullock, 1980). The PUMC hospital became widely known over the years with many Chinese elite increasingly looking for treatments and gained national reputation.

Introducing Public Health Organization through the PUMC

In the years following, PUMC also became the epicenter of the modern public health movement. "Innovative and locally designed programs in public health and social medicine emerged out of PUMC's faculty and students becoming national models from the Guomindang era to the People's Republic of China" (Bullock, 2011, p. 59). In September 1925, Dr. John B. Grant advanced the establishment of demonstration health centre in a ward of a city not far from PUMC (Ferguson, 1970). Born to medical missionaries in the Chinese city of Ningbo, trained in U.S. and Britain, John Grant became an eminent campion of public health in China. This demonstration centre also known as the Beijing First Health Station, was a pilot project in developing health services for people. The centre also acted as a training ground for the students of PUMC's public health school. This was a new concept in public health that Grant had introduced which was nonexistent in the earlier years, a departure from the type of public health teaching in most medical schools in the United States and Europe, and more inclined towards the European socialist system of healthcare. This pattern of public health thus set was also followed by other Chinese medical schools and became a part of the program of the Ministry of health when it was established by the Nationalist government (Ibid). Grant advocated for a comprehensive delivery of preventive and curative care and state led medical infrastructure as the key to efficient healthcare delivery. Highly influenced by ideals of European reformists, his experience in public health in North Carolina and China shaped his belief in state responsibility of health (Bu, 2012). Grant's

entry in China coincided with the weakening of the Qing Dynasty and early Republican governments. There was a growing interest of looking towards modern science in the Chinese intellectual community. "This interest signaled a clear anticolonial purpose: to refute the widespread perception of looking at China as the 'Sick Man of Asia' and to gain control of the quarantine at the treaty ports from various imperial powers" (Bullock, 2011, p. 59). The Peking Health Demonstration Station was modeled to be an inspiration to the Chinese government and health officials to undertake a national project (Stapleton, 2017).

The Japanese invasion of China in the 1930s and particularly the tragic consequences of the second World War completely altered the next few years of the institution. Immediately after Pearl Harbor, the Japanese took over the Peking school, and remained under their control until 1945. Henry S. Houghton, Director of the Medical School was imprisoned by the Japanese in Peking together with another officer of the institution. The faculty and student body remained widely dispersed throughout China (Fosdick, 1952). Since PUMC was a symbol of American presence, the Japanese occupation was intensely hostile. Although the wartime efforts of the RF were minimal, the activities of Chinese doctors trained at PUMC or supported by RF fellowships gives a fascinating picture of China during war. Following the closure of the medical school, PUMC students like Wu Hsien and Yuan I-Chin (1927 batch) travelled to Chungking to assist the Nationalist cause but the majority of the pupils remained in Peking, Shanghai and Tianjin throughout the war. The First Health Station remained opened throughout the Japanese invasion and provided employment opportunities for some PUMC medical graduates. Some alumni joined the local hospitals while others went into private practice. Some of the PUMC community who left for the Southwest became highly visible in wartime medical programs (Bullock, 1980). Scientific temper and productivity of PUMC thus continued even at such difficult juncture.

With the Second World War coming to an end, on 4th September 1945, T.V. Soong, President of the Executive Yuan of the Nationalist Government wrote to Raymond Fosdick, president of the RF, requesting to initiate all programs at PUMC at the earliest date possible (Bowers, 1972). Serious considerations were to be made with the re-establishment of the school, according to Fosdick. Although the infrastructure did not suffer much material damage but quite a few numbers of medical equipment's had disappeared. Adding to that, the lack of maintenance

over the years following the war had resulted in serious deterioration. Moreover, the country was struggling internally with Civil War with a great chance of another similar episode (Fosdick, 1952). Even with such turmoil, the RF was unwavering in its devotion to PUMC which was reflected in a letter that Fosdick addressed to John D. Rockefeller, Jr. on 26th November 1945, which says, "The work of the PUMC is among the bright jewels in our crown, and I think we have the strongest kind of obligation to continue our support of modern medicine in China" (Bowers, 1972, p. 215). In 1946, the RF joined hands with the CMB and decided to send a commission to China under the leadership of Dr. Alan Gregg, Director of the Medical Education Division. The terms of reference of the commission were however extended beyond PUMC with a broad mission which states – "to study the situation in broad terms, not limited to the PUMC, nor to medical education exclusively, in order to present the needs of China that might properly be the concern of the RF and the CMB and to aid in the formulation of an effective program for the future" (Ferguson, 1970, p. 196-97).

The major recommendation of the commission expressed that the foundation through the CMB should direct its principal efforts towards rebuilding PUMC to its former glory with an appointment of a Chinese member in the interest of mutual understanding. The report ended by expressing that the time has come to transfer the baton of scientific medicine in the hands of the Chinese (Ibid). This however did not mean that the Chinese would control the institute. The real administrative power was still controlled by the RF officials seated at the New York office. The Chinese director who at the same time was to serve as minister of the health department was not in real charge of the PUMC. The financial and decision-making power was still held by the RF and not even the CMB Inc., (Ma, 1995). However, just at the official re-opening of the school in 1948, Mao Zedong's Eight Route Army was nearing Peking with the situation in the city deteriorating slowly. Finally, on 3rd February, 1949, Peking fell to Mao's forces (Bowers, 1972). With the invasion of the communist, Dr. Lee, first Chinese Director of the PUMC appointed by the RF remarked an unofficial statement which indicated "an encouraging interest in the continuation of the college's function of training medical teachers and leaders, and a friendly concern that the buildings and equipment's should be protected from harm" (Ferguson, 1970, p. 210). The first changes came involving the PUMC came in the form of citywide unionization of

teachers, students and staff. By summer of 1949, there were four active organizations within the college – students union, workers union, clerical union, and professors' union (Ibid).

But by the year 1951, PUMC was nationalized and renamed to Union Medical College of China, with it, came the end of the long-standing relationship between CMB and PUMC. The nationalization process brought about reshuffling of the faculties into all departments and by 1957, PUMC was merged with the Chinese Academy of Sciences and functioned as a separate division. Simultaneously, the PUMC hospital was reorganized as a separate hospital and designated the Peking Union Hospital. In 1968, the name of the hospital was changed again to Peking Anti-Imperialist Hospital. The Soviet influence of medical education in Communist China was apparent by that time.[41] The Communist policy in contrast to the core idea of the PUMC was to produce more doctors to meet the health needs of the population. Medical training which was six years before liberation was reduced to five years and followed the Soviet plan where some students halfway through the course went for specialization in public health or pediatrics. All medium of instruction in schools were changed to Chinese. Edgar Snow in his 1960 visit to China recorded – the former PUMC now Peking Hospital was still an important hospital which is not a college anymore but functions as a large polyclinic. As a part of the anti-western propaganda, PUMC also faced a lot of backlash with bad press portraying the college as an experimenting laboratory of American doctors using the Chinese as human guinea pigs. The cultural revolution of the 1960s only fueled these sentiments more and more. In an article in November 1968, the former PUMC was accused as a colony of U.S. imperialism build on Chinese soil. Since many of the graduates of the college served in the Kuomintang governmental health services, their efforts were denounced. But slowly as the situation started to change with positive effort towards accommodating the U.S. after the cultural revolution, the Anti-Imperialist Hospital went another name change and was renamed Capital Hospital in 1972 (Bowers, 1972).

[41] In the early 1950s, there was a decisive transition in medicine in China towards Soviet Influence with the creation of the new communist regime. "China embraced not only the Soviet Union's technical expertise but also its principle of medicine in the service of the people" (Leow, 2014). "During the first decade of Mao's rule, China referred to not just the USSR but all members of the Eastern Bloc as "brother countries," sources of direct assistance as well as role models. In health care, or *baojian*, as in other sectors, efforts were thus made to study Soviet priorities, organization, and philosophy in detail" (Chee, 2021, p. 55).

PUMC graduates in the years following became the voice of authority in medicine and public health in socialist China. Holding several high positions in the party, PUMC is today the leading centre of medical education and research in China. Some of the leading personalities are – Chu Futang, China's leading pediatrician went to become Deputy to the People's Congress, Chu Hsein also served in the capacity of a Deputy, Lim Khati, a leading obstetrician-gynecologist and a leader of the party who stood with Mao and Chao Enlai in the May Day celebrations, Wu Yingkai went on to become the director of the Chest Institute. "The PUMC, with its worldwide reputation, upgraded the medical profession in China profoundly, and thus helped the growth of the new Chinese intellectuals in general. Compared with the traditional Chinese literati, which had been, to a great extent, serving only as the pool for the imperial government's civil officials, this development of modern intelligentsia with their independent social identity became an important factor in China's modernization movement" (Ma, 1995, p. 311).

RF's Vision for Colonial India and the Creation of the AIIHPH

W.S. Carter's 1926-27 survey formed the basis of RF's approach towards developing medical education in India. India at that time was caught in the midst of political tussle as the nationalist movement started taking strong roots, working towards its independence from the British Raj. On the other side, threats posed by Japanese troops on its northwest border was posing another major challenge. The RF's vision of opening model public health schools might have experienced calm waters in London and Toronto, In India they were not going to find such an accommodating situation (Farley, 2004). In the 1920s, Indian medical professionals who were not associated with the IMS, supported by the nationalist movement, put a demand for representation for a non-official body of Indian doctors and scientists. The creation of the AIIHPH occurred in the midst of these struggles. This brought the RF in conflict with the British members of the IMS who were looking to retain their power and control medical education and research in India. David Arnold in *Colonial medicine in transition: Medical research in India, 1910–47* (1994) expresses, this tussle needs to be viewed in the "context of a highly politicized struggle for patronage and authority" in which he notes the presence of a 'recurrent tension between the political and the scientific' (Kavadi, 2017, p. 231). The growth of the bacteriological sciences stimulated the increasing recruitment for the IMS and hence acted as a medium of continuing availability of

European doctors for its own civilian and military needs with most of the laboratory situated in the hill districts inorder to accommodate the European comfort. "The institutes situated was located far from the main centers of population and sites of chronic disease which signaled an attitude of racial aloofness and elitism" (Arnold, 1994). With growing criticism from the Indians, the decision to locate AIIHPH beside CSTM in Calcutta was one conscious effort to reverse the criticism. "The larger aim was also to build a bridge between pure research and its practical applications to public health" (Arnold, 1994, p. 16).

CSTM which was viewed as one of the best institutes of medicine in India had limited facilities to assist public health training to cover the whole Indian population. In the backdrop of this and also in relation to access to public health training which was an expensive affair in CSTM, Carter proposed an all India school of hygiene structured in the line of CSTM. In 1928, Carter made his second visit to India to explore the possibilities of the IHB assisting the creation of the All India Institute. He visited Delhi and Calcutta to discuss the various matters related to the setting up of the institution. Topics discussed were centred around the nature of the RF assistance, funding, number of departments, appointments of director and faculties, procedure of recruitment and most importantly the nature of controlling the institute. There were disagreements between the Indian authorities and the RF officials which in the years to come was only going to become more real than anticipated. Approval at various level was required in establishing the institute starting from the India Office in London Mr. Bajpai the Undersecretary, Mr. Habibullah, Member (Minister) of the Viceroy's Council for the Department of Education, Health and Lands, and most importantly the Standing Finance Committee of the Central Legislature. This was because research as a "reserved subject" was a function of the Government of India, but education was a "transferred" or provincial subject under the Government of India Act of 1919 (Kavadi, 1999).

The establishment of the AIIHPH took place in two phases – the first phase comprised of planning and negotiations (1922-32) and the second phase involved negotiations over the reorganization of the institute (1935-45) (Kavadi, 2010). This was also a transitioning period for colonial health with significant impact on institutionalization of medical education and research where India acted as a key agent in this process of change. This period also saw the emergence of colonial medicine towards a more diverse body by slowly moving away from its enclavist model

(Ibid). Carter's report after his second visit emphasized certain important points, was opinioned by Graham in the same language – firstly, public health work was instituted for the benefit of Indians and for it to be effective, "it must carry conviction and establish its position against immemorial conservation and tradition" and, "it must therefore be done by Indians" (Kavadi 1999, p. 223; Guha, 2018, p. 134).

Carter further elaborated that public health workers in India were very limited in number and therefore inorder to increase the working force, it is pertinent to develop "a careful system of specialized training in institutes or schools devoted to public health teaching and research, and that this cannot be done without adequate financial support." The report pointed the lack of opportunities for training and absence of facilities to provide the necessary apparatus for preparation. The need for an all-India institute of hygiene was thus at its greatest height, and "that need will become more prominent with increasing public health activities in the field of preventive medicine" (Kavadi, 1999, p. 223-224). Carter imagined the new institute of hygiene would be placed under the control of the IRFA. "Carter's empathetic intervention and subsequent meetings with the Government of India (GOI) enabled the setting up of the institute in the extremely troubled times in which it was founded" (Ibid). In the wake of the Great Depression of 1929, after a series of negotiations, the foundation agreed to pay the non-recurring cost of the proposed institute, provided the government of India was prepared to place its management under the control of the IRFA and to provide adequate financial help for its maintenance (Ibid; Jaggi, 2000). Since the successful functioning of the institute relied on having the right person as the control and direct, Carter, Megaw and Graham, all agreed on Lieutenant Colonel Alexander Stewart, former professor of hygiene at the CSTM to be appointed as the new director (Farley, 2004).

This decision to involve the IRFA brought the functioning of the AIIHPH under the mayhem of Indian politics. The RF's exclusive criteria of bringing the AIIHPH under the control of the IRFA, which was mostly Euro-British dominated highlights the process of institutionalization marked by racial and political prejudices. The RF officials shared the same prejudices with the colonial authorities. Together they agreed to preserve scientific control over research funding and institutions with an agenda to keep away all political elements from policy and decision-making bodies. The IMS officials expressed concern that if Indian medical

professionals were given equal weightage with the Euro-British-American medical group, it would politicize medical institute which would be detrimental to medical research. The justification was to distance medical institutes from political influence to ensure institutional autonomy. The underlying apprehension was to retain control of medical institutes in British hands (Kavadi, 2017, 2015, 2010). The ultimate goal of the RF was to develop a first-class institute with the most advanced instruction in preventive medicine suited to fight India's peculiar needs, the branch of research on the other hand would focus on applying pure research in practicality adhering to issues of the particular community (Kavadi, 2010). "As the chief objective of the institute was to bridge over the gulf between pure research and their practical application, its function was designed to be primarily instruction" (All India Institute of Hygiene and Public Health, 1931, p. 534; Jaggi, 2000, p. 266).

The RF since the beginning had made it very clear that the GOI should provide for maintaining the functioning of the institute. The issue in regard to the upkeep of the institute took much time than anticipated, with the Indian Government authorities trying to pass the responsibility to the RF. The RF since the initiation of its global program had maintained a very clear policy where all the local beneficiaries are required to be equally responsible in taking up a project. Whether it was the London School of Hygiene and Public Health or other institutes, the RF would provide for the site and construction but on condition that the government would take permanent responsibility. Except for PUMC, where the RF justified the unusual conditions in China. Carter reiterated that, "the officers of the RF would not consider doing the same thing in a country with a stable government and great wealth; that India should appreciate the importance of training personnel for public health work; that considering the lavish expenditure of money by the GOI in building the new capital at New Delhi, India could not be compared with China in a request for maintenance" (Kavadi, 1999, p. 235-236).

The AIIHPH finally opened its doors in 1932 but the battle for scientific control had just begun. A threat issued by the Indian members of the IRFA to partially withdraw support upset Carter to an extent that he asked the RF to reconsider dispensing any more funding to India. According to Carter, the Indians were blinded by intense nationalism and hatred towards the British that their detest came at the cost of the Institute's success. Their only goal, Carter

highlighted, was to get rid of the British and replace with incompetent Indians. The British, he further states were only trying to uphold the quality of the medical education but there is no doubt that the quality of medical education and research is deteriorating in proportion to the extent to which they have been Indianized. The RF being an American institution was not going to walk away from a highly democratic India while staying in a totally totalitarian Japan especially at a time when the U.S. was pressurizing the British Government to come in terms with Indian nationalists (Farley, 2004). With Dr. Stewart's retirement as the director, his succession issue would resurface the same problem with struggle between nationalist demand and colonial political interests (Kavadi, 1999). The fear of an Indian takeover was fueled further by the introduction of the GOI Act, 1935 which granted expanded provincial autonomy and caused great concern amongst both the RF and IMS British officials. This fear steamed from the suspicion that in such an event, the institute would become entirely provincial controlled staffed by their own member and would soon lose its scientific status for which it was initially established (Kavadi, 2010).

Col. Stewart was temporarily replaced by Dr. R.B. Lal, a Professor of Epidemiology and Vital Statistics at the institute and a former IHD fellow. As expected, this decision brought more crisis to the already debated issue. The British expressed their dissatisfaction with an Indian Director and demanded a British replacement, while the Indians fought for authority. Here, the RF officials shared similar concern with the British which has been their stand since long. At such a situation, although the RF had decided not to assume any responsibility for the AIIHPH, they eventually had to step in. William Jacocks, the Health Division's representative in India warned the RF officials that the delay is only feeding the political maw and accentuating an already unhealthy situation. With the Congress party winning absolute majority in 1937, Indians had gained considerable power and executive authority. What followed after these events was an American compromise as a director (Farley, 2004, p. 255-256). John Black Grant, Professor of Public Health at the Peking Union Medical College seemed the most suitable person for the assigned job. During his 18 years of service in China, He had played an instrumental role in the development and advancement of China's public health. After years of negotiations, the appointment committee finally agreed upon a five-year appointment for Grant, during which a suitable Indian would be selected and trained. Grant's selection would serve two purpose – firstly, prevent an Indian takeover and secondly, utilize his Chinese experience to reorganize the institute.

Added to that, he was a Canadian, a British subject which was more acceptable to the colonial officials, who at that time regarded anything American with a great deal of suspicion (Ibid, Kavadi, 2010, p. 647; Kavadi, 1999, p. 269).

The second phase of the AIIHPH thus started in 1939 with John Grants' appointment as the new director. Grant was sent to India with an aim to reorganize the institute in a way it was initially envisioned by the RF. Grant took his job with great zeal and vigor by displaying focused attention in planning and organizing. His ideas were immediately put forward across the RF with two outlines themes of action – immediate and future. These two objectives would determine and shape the course of the institute. The central message of the objectives highlighted the availability of trained personnel and facilities essential for the development of public health. But the immediate hour of the need would be to establish a university grade institution for the training of health personnel's especially, medical officers with a long-term objective of preparing the institute to eventually assume the responsibility without any external help (Kavadi, 1999). Through his own assessment, "Grant located the issues of AIIHPH within the broader context of public health problems in the whole country. He was displeased with the mentality of the IMS officials which he felt was devoid of any sense of innovation and experimentation, and the controlled exercised over it by the civil and medical administration seated faraway in Delhi only created more hassles" (Ibid, p. 270). As he initiated his task of reorganizing the institute, he became highly critical of the health administration which was controlled by a web of bureaucracy. He further prompted the Government of Bengal to restructure the province's public health administration which according to him needed serious reorganization (Kavadi, 2019). "These outlines objectives were based on the prevailing worldwide evolutionary nature of public health instruction in medical education, and hence Grant believed that these should determine the development of technical policy for the institute" (Kavadi, 2010, p. 649).

But his major concern was the institute's academic status and lack of autonomy. The notion of scientific control acquired a new dimension during Grant's tenure. The IMS military emphasis in medical administration according to Grant, militates against the development of true university standards particularly in regard to the lack of technical considerations which are subordinated to the IMS service needs. Another issue of concern was, the issue of linkage between public health

administration and general administration referred to earlier, and how the former was subordinated to the latter creating administrative hurdles (Kavadi, 1999). To address the outlined issues, Grant pointed out "four lines of action: Consolidated Public Health Acts like the Madras Act of 1939; scientific training and supervision of the social services; better central and provincial planning; and the training of an adequate number of doctors, nurses and health visitors" (Kavadi, 2015, p. 12).

Considering the utmost need to develop a community health centre, Grant applied his innovative experiments of the 1920s from China's public health experience. He decided to utilize the Malik Health Center at Singur, a creation of the International Health Division of the RF in 1939, as a rural training centre (Farley, 2004; Dobe, 2015). This rural health centre was to develop following the model of the health station at Dingxian in China. The most important landmark of Grant's service in India remains his influence on proceedings and recommendations of the Bhore Committee, on which he served a member of the scientific advisory group alongside John Ryle and Henry Siegrist. Also known as the 'Health Survey and Development committee', the Bhore committee is one of the most comprehensive surveys of healthcare in independent India, acting as a blueprint for post-war reconstruction, and has been widely discussed in the academic, policy and activist circles. Grant's experience of working in China's public health for two decades found its way in the framing of the Bhore recommendation, which emphasised an integrated approach to public health in post-independent India. As Baru has argued, "a majority of the members of the Bhore Committee belonged to the elite Indian Medical Services (IMS) and the lobbying of doctors in private practice had a significant influence on the development of Indian health services. The fact that the Bhore Committee privileged allopathic medicine over indigenous systems was indicative of the influence of its composition" (Baru, 2019).

Sunil Amrith further noted that Grant represented the American variant of Social Medicine in the Bhore committee, more inclined towards efficiency with less focus on inequality in healthcare.[42] Grant, in many of his writings, was deeply critical of the government of India and its

[42] "The RF preference for quality over quantity, efficiency over equality, and technical expertise over local knowledge, and its assertion of the superiority of western medicine over local indigenous medicine, were critical components of Grant's public health approach. Both PUMC and the AIIHPH, through Grant's efforts, served as "social laboratories" for training public health professionals and workers inclined more towards public health research than healthcare

inefficiency in building strong public health. When Grant was invited in 1943 to join the committee, he saw this as an opportune time to make a landmark in the evolution of public health in independent India by addressing the loopholes of the past committees on health and educating Indian officials on international trends in public health development. With the nationalist movement picking up, "the intervention of the Rockefeller Foundation in the institution of the AIIHPH became a classic example of internationalisation of public health in India even as efforts were slowly made to ensure greater involvement of Indians in health administration at the local and provincial levels in the later decades" (Guha, 2018, p. 134). By then, "the second World War had cemented the shift towards the perception that science, technology, expert knowledge should be employed by the state and equally supported by international organizations to bring about a planned transformation of social and economic life" (Amrith, 2006, p. 12). One of the oldest institutes of public health in Southeast Asia, AIIHPH became the classic example of post war public health development and provides an insight into the colonial legacy of medical institutes in India.

The Population Explosion: Rockefeller Foundation's Population Control in China and India

Rockefeller's interest in the population question dates as far as the early 20th century. However, most of these interests were confined to Rockefeller and the family's personal interest in the eugenic discourse and the birth control movement.[43] The RF's interest was limited to funding eugenic studies and clinical research in contraceptive technology. Since population control was a topic surcharged with theological politics, the RF did not start supporting the movement openly until the 1950s. Most of its population issue was connected to the agricultural question propagated by the green revolution. It was John D. Rockefeller III whose interest in the population issue gave birth to the formation of a separate organization, 'The Population Council'. With the Communist party taking over China and the Americans being ousted out, the RF philanthropy looked towards India. The GOI's interest in the population issue was already apparent since the mid 1930s. The combined fear of communist influence and Malthusian imagination pushed the population control

delivery. Grant's new approach, therefore, retained the rigorous methods of scientific research, a signature feature of the Johns Hopkins model of public health".

[43] "Rockefeller's association with the eugenic movement goes as far as 1904 when Rockefeller in cooperation with Carnegie opened a eugenics department and laboratory in Cold Spring Harbor, New York" (Longkumer, 2021).

program of the JDR III PC and the RF who joined the movement in the later years towards India. In the Williamsburg's meeting which gave birth to the PC, the population issue of India and China was discussed extensively. More so for India knowing they have greater chance of implementing their programs there. Although most of their population program in the 1950s and 1960s was confined to India. However, they did not lose sight of China. Rockefeller's PC tried numerous times from the late 1960s to 1970s to engage in the Chinese population issue. Although these efforts failed, discussions around the Chinese population issue happened in various ways initiated by the PC New York office. In the Indian scenario, assistance offered in different forms by transnational philanthropic networks like the Rockefeller's pumped the debates on population control to a large extent. Premised on the Neo-Malthusian ideology of linking population growth with poverty, policies in the form of Family Planning and Planned Parenthood became the implementing agency which gave birth to the National Family Planning Program in 1952, the first of its kind in the world in independent India. In the Chinese context, the pro-natalist policy of the communist policy governed most of the population related discussions in the early part of the PRC. However, with failing economic policies coupled with the geopolitical influence of Malthusian thinking, the PRC started its Family Planning campaign in 1956. In this context, although no direct relationship can be observed by Rockefeller in the designing of the Chinese Family Planning as in contrast to India where they exerted a direct influence, Rockefeller strong support in the population control issue since the early part of the 20th century which played an important role in the changing viewpoint of the Chinese PRC in the mid 1950s from their pro-natalist stand to implementing the Family Planning Program, cannot be disregarded.

Rockefeller Philanthropy and the Initiation of the Population Control Movement

"A select group of billionaires met in semi-secrecy in May 2009 to find answers to a "nightmarish" concern. Their worst nightmare wasn't the imminent danger of runaway climate change, the burgeoning levels of hunger worldwide or the spread of weapons of mass destruction. The nightmare was other people – lots of other people. The self-styled "Good Group" included Microsoft founder Bill Gates, media mogul Ted Turner, David Rockefeller Jr and financiers George Soros and Warren Buffet" (Butler, 2009). Yet, this was not the first time that the ultra-rich discussed this topic in great length and sincere commitment. This was the same reality of 20th

century as it is now. Public policy of curbing population growth always meant controlling the poor, whether it is concerned with fertility or migration. The target was and is always the poverty-stricken nations with the highest birth rates. But it was not until the second half of the twentieth century that population control found its place in the halls of power and influence. The word 'Overpopulation' became a key area of concern for a number of governments which mobilized the family planning aid to address the growing population by decreasing the birth rate. "The post second World War accompanied by high level of poverty in the majority of the global south, along with the periodic rebelliousness of its people, reinforced the support for population control policies in conservative circles" (Ibid). This growing concern with unprecedented levels of growing population particularly in the global south influenced mega philanthropist like JDR to initiate, advance and develop the Population control Movement (Silva and Tenreyro, 2017).

JDR III enters Population Control Movement: Creation of the 'Population Council'

John D. Rockefeller III returned from a tour of the global south concerned that the RF had not considered how its work towards eradicating diseases might have unconsciously exacerbated overpopulation. This concern developed in the form of a "Conference on Population Problems" which was conceived between John D. Rockefeller 3rd and Lewis Strauss who was on his way to become an esteem member of the U.S. Atomic Energy Commission. Strauss pointed out that most scientist so far has not given much importance to the population problem and might benefit from a meeting with the experts (Connelly, 2010). John D. III had particularly been interested in the population subject for a long time and was keen to make it a major focus of his philanthropic career. His interest in birth control started as early as the 1930s and was only pushed further by his long tour to Asia and Africa before the war. Following the war, JDR tried to convince the RF to take up population control as an issue but RF was not ready to expand its involvement in population beyond the medical field. When the foundation declined to take up the population issue, JDR decided to establish his own organization (Critchlow, 1995). "The desire not to alienate the Catholic Church was certainly one factor in the Foundation's stance, but no less pressing was the fear of 'scatteration': it was thought that the population problem was simply too big and too diffuse for one philanthropic organization to tackle" (Nally, 2016, p. 222)

For the purpose of the planned conference at Williamsburg, he was able to attract the attention of the National Academy of Sciences, whose participation was going to pull eminent scientists and administrators from various fields of expertise "from botany to physics, embryology to economics including the presiding president of MIT" (Connelly, 2010, p. 156). Amongst many discussions in the room bearing both settlements and disagreements, some of the experts questioned whether it was now practical to continue development aid to countries like India whose population was growing exponentially posing a threat to depleting resources, a classic Malthusian argument. Out of this meeting of the so-called experts, the 'Population Council' was born, where JDR became the first president. The Population Council included "representatives from the International Planned Parenthood Federation (IPPF), the United Nations, the Ford and Rockefeller foundations, as well as major pharmaceutical firms. In this way the Population Council became not only the world's pre-eminent institute for policy-oriented research in demography and contraception, but also a nexus for all the other major players in the field" (Ibid, p. 159). Formed officially in 1952, the population council was designed with a vision to foster "research and technical assistance for population programs across the world" (Silva and Tenreyro, 2017, p. 6). Created as a special purpose foundation, the PC allowed foundations like Ford and Rockefeller Brother's Fund (RBF) to assist population research while distancing itself from any potential controversy (Sharpless, 1997). Although there were discussions around framing the council in the lines of an international organizations without official connection to any government body but in the months following the Williamsburg meeting, Rockefeller and his associates were concerned that the foreigners represented at the council will each instinctively look at the population problems from its own perspective which would create problem to reach on any consensus. This concern however reveals their fear about "advancing U.S. interests rather than the countries that they sought to support. The council therefore was established as a U.S. based non-governmental organization comprising of a board of trustees composed entirely of U.S. scientists, businessman and philanthropist" (Merchant and Hacker, 2016, p. 312; Merchant, 2021). At the same time, "Although the stated purpose of the Population Council was to support scientific research in both demography and reproductive biology, under the directorship of Frederick Osborn, it aimed at promoting consensus among political, academic, and business elites on the population issue" (Sharpless, 1997, p. 182).

Rockefeller Malthusian Thinking and the Population Problem in Asia

Asia as a concern in matters related to population explosion was thoroughly discussed in the meeting held at Williamsburg. The discussion centred around the incessant growth of population in Asia and its detrimental effect on developed countries. They feared that the growing number of 'people' in Asia might contaminate the population profile of the developed countries and potentially unleash destabilizing political currents (Nally, 2016). Much of the population council's fellowship programs, contraceptive and demographic research has been heavily biased towards Asia since the inception of the organization. The notion of overpopulation pumped by population pressure depicting 'sheer numbers' threatening 'Chaos' in a so called 'Orderly World' depicted Asians in general as a danger to the western civilization, a hazard which became more real with the rise of communist ideology (Ibid).

RF and Population Council in Post Independent India and Communist China

The Population Council in India

The population council interest in India started from its initial days of establishment. India's exceptional place in overpopulation discourse is clearly highlighted in the full record of proceedings of the 'Conference of Population Problems' at Williamsburg. India was constantly referred as an exemplary model of "an overpopulated country viewed through the prism of Malthusianism and demographic transition theory with discussions centred around India's capacity to feed its growing population, relationship between economic development and population growth" (Williams, 2010, p. 2). Demographer Kingsley Davis attempted to summarize the debate by stating, "I think we have stated a belief that there are too many people in India for the technology and resources that India has at its disposal. If there are not too many at present, there are likely to be such increases in this number that it will slow down the process or make it impossible, perhaps to get a higher level of living for India" (Ibid). In his influential work *The Population of India and Pakistan (1951),* Kinsley Davis argued that India's "enormous population itself shows signs of becoming a dampening factor on industrial progress." This theory found itself in the national policy of the first five-year plan which stated that "population control can only be achieved by

lowering birth rate and this is necessary for maintaining national economy (Williams, 2014, p. 479). Although the official mandate of the PC was designed to extend support to research in both demography and reproductive biology, its unofficial purpose on the other hand was outlined with an aim to promote consensus among academic, governmental, and cultural elites that the issues related to unprecedented population growth were not only a pressing concern but were also reaching crisis proportions (Sharpless, 1995). The relationship between rapid population growth and economic developments has always been a source of grave concern for demographers. "The intensification of Cold War accompanied by the loss of China and the ongoing conflict in Korea made the demographic concerns for newly independent states like India more acute" (Connelly, 2006, p. 634). The fear was very high that queries on "whether it was feasible to produce mass numbers of estrogen and whether, enough Indian women could be inoculated against pregnancy" were discussed at Williamsburg (Ibid).

The same year that Rockefeller founded the population council, India started its first national population program and, in parallel, the International Planned Parenthood Federation (IPPF) was established in 1952 with the efforts of Margaret Sanger and Lady Rama Rao. By the late 1950s, the 'population question' had received much attention from the U.S Government (Silva and Tenreyro, 2017). "The IPPF has been a major force in the population control movement across the globe. The funding for the IPPF initially came from the Hugh Moore Fund and the Rockefeller Foundation. But soon it attracted funding from Du Pont Chemicals, Standard Oil, and Shell" (Rao, 2004, p. 110). The population control lobby was formerly consolidated by the 1950s and Hugh Moore, had just published his infamous '*The Population Bomb*' (1954). The FF, RF and the Moore Fund came together with their population control activities (Ibid, p. 109). The incessant growth in India's population and its anticipated effects on the nation's ability to reduce its soaring poverty were discussed thoroughly in academic and political circles in India before World War II. The National Planning Committee of the Congress Party under the leadership of India's first prime minister, Jawaharlal Nehru had already argued for a population policy even before India got its independence. These debates were highlighted in the first five-year plan of the newly independent government in 1951 (Finkle and Mackintosh, 1994). "Initially rebuffed, Douglas Ensminger of the Ford Foundation, along with JDR eventually convinced India's Health Minister "to evolve some program activities in the field of family planning" (Prasad, 2020, p. 4). Simultaneously, "the newly

independent Government of India became a pioneer in population control policy by launching the world's first government-sponsored family planning program in 1952" (Ibid). In the later decades, "India became a key site for international population control intervention, becoming what sociologist and population control critic Donald Warwick described as the darling and the downfall of the donors, and the world's proving ground for birth control" (Williams, 2010, p. 1). The Soviet Union style of five years plan adopted by the GOI was a 'cafeteria approach' whereby the public was provided with education and access to a variety of contraceptive methods (Prasad, 2020). Indian population growth stood at 365 million in 1951 but for the GOI and its philanthropic consultants, the stakes were much higher than what was projected. Whereas the GOI believed in population growth disrupting the nation's economic security, the philanthropists like RF and Ford reasoned that Indian population growth can alter political and economic stability globally (Ibid).

RF Agricultural Sciences and the Population Issue

The rapidly increasing population was making it less plausible for nations like India to feed its growing number of people. In *Famine-1975! America's Decision: Who Will Survive (1967),* William Paddock and Paul Paddock describes that famine, an inevitable reality of the underdeveloped nations, beset as they are and have been in the recent years by unprecedently rapid rise in population. Along with the inevitable reality of famines, riots and other civil tensions will accompany which the central government will not been able to keep a check on (Bonner, 1967). Stanford biologist and author of the famous bible for eugenicists *The Population Bomb (1960),* Paul Ehrlich, applauded *Famine 1975* as one of the most important writings on population issue. The RF having engaged with these issues shared the same concern with these people. The Paddocks suggested a Darwinian approach where they called for putting an end to development aid to help all starving people equally and instead set up a criterion based on which they can make the judgement on who deserves the aid and who doesn't.[44] But rather than going ahead with Paddocks suggestions, the RF took a different strategy. India's overpopulation caught in a Malthusian trap and teetering on a brink of communism was a much bigger concern for the RF officials and trustees. The RF officials decided that it was not wise to directly get involved in the

[44] Those countries who has the capacity to be self-sufficient were to be help whereas those who cannot are to be left out.

project of limiting population growth, so their only recourse was to get involve in agricultural science (Perkins, 1990). In the later years following the green revolution, the population concern took a different turn whereby it was argued that rising development aid in agriculture was giving rise to population explosion. The growing number of people was now slowly outstripping the available food resources. This was the concern that prodded the creation of the PC and pushed the RF's interest into the population issue further. Norman Borlaug, an agronomist working for the RF and William Gaud with the United States Agency for International Development (USAID) attended a small meeting in 1968 where Gaud described an almost unbelievable surge in food output achieved by countries like India and Pakistan, which were at the brink of disaster for a long time. The situation according to Gaud was worrisome and needed to be taken into serious consideration. India with a population of half a million with famines ravaging every now and then was able to increase its agricultural productivity to meet the needs of its rapidly growing population. It was highlighted that food production in India and many of its neighbors would soon outstrip population growth (Kohler, 2007). However, the visionaries and planners of the philanthropic organizations overlooked the social aspects that plagued the Indian society. The issue was not so much about availability of food resources as much as it was about accessibility.

> A deep irony attends the issue of overpopulation on the Indian sub-continent because it was concerning that population growth rates caused political instability that shaped the RF's plans. Yet, unequal distribution of increased agricultural productivity, which was one of the core issues of food problems in India, may be a major contributing factor to India's continued high population growth. Development that does not result in a more egalitarian society may create an underclass of people for whom more children are the only source of economic security, however meagre. Given the Malthusian pall that hang around the foundations planning in the 1940s and 50s, it would be ironic indeed that the foundations responses to overpopulation might have created the very situation its officers most dreaded (Perkins, 1990, p. 15).

The issue regarding food availability and standard of living were by no means exclusive to India nor were the concerns in regard to cold war politics. However, India took a special place in case of population issue for the American philanthropists. In addition to these factors, India also offered a particularly promising site of intervention and more importantly, a great source of leadership in population politics in the decades to come, which the foundation officials had envisioned. With a country with such good number of delegates with personal experience, "India offered a fertile ground for population activities. Frederick Osborn, Warren Weaver, Pascal Whelpton and Marshall Balfour, all renowned population scientists and eugenicists had also visited India and identified the country as a possible site for study" (Williams, 2010, p. 3-4).

The Khanna Study

Developed through the collaborative efforts of "the Harvard School of Public Health, the GOI Ministry of Health and the Ludhiana Christian Medical College with the help of the eugenicist Clarence Gamble, the Khanna study serves as an important window into the population issue of the 1950s, and consequently into the emergence of the population control lobby" (Williams, 2011, p. 2; Williams, 2013). The RF was a major funding agency of the Khanna study where they set aside almost a quarter of a million dollars between 1953 and 1956 specifically for the purpose. Khanna study also serves as an important point to understand, why the RF who had always maintained a cautious position on population issue throughout the 1940s and 1950s suddenly decided to invest such an enormous amount into one single contraceptive study in India (Ibid). Field study for the Khanna population study in rural district of Ludhiana, Punjab, was initiated in 1953 till 1960 with two chief purpose – to test in a field a proposed method of slowing down the growth in numbers of population, and to make accurate detailed observations on population growth within a region selected as an example of the major rural population of the world. The hypothesis of the study was based on the belief that – if contraceptives are made available to rural populations, rural Asian populations experiencing a rapid growth in population will respond with a reduced birth rate. Although no immediate effect of contraceptive use was observed between 1955 and 1959, the study however provided a long-tern stimulus to family planning (WPM, 1969; Wyon, 1969). According to Matthew Connelly, the Khanna study was "American social science at its most hubristic". House visitation on a monthly basis to ask whether people were using the contraceptive tablets was a gigantic and a challenging task but for the team, "they all agreed that it was worth the effort with the understanding that there was no better place to do it than in India. India, they decided, is the cauldron in which mankind will be tested" (Connelly, 2010, p. 171).

Based on the Malthusian premise that connected population pressure to social malady, although the Khanna study in a broader sense was a failure, it nevertheless became an important blueprint of population studies for several reasons. Firstly, it became an important survey supported by both the GOI and by leading demographers proving the desire of Indian families to limit their population size. Secondly, the research design of the study became an influential document followed and cited by other population studies that followed and lastly, the study became

an important point of discussion of a long- running debate as to whether children are an economic asset to their families (Williams, 2011). The issue of children as an economic asset for rural populations was extensively discussed by Mahmood Mamdani in his *The Myth of Population Control: Family, Caste and Class in an Indian Village (1972)* where he debunked the theory propounded by the Khanna study and argued that "family labor is a necessity for the economic operation of small and medium size holdings", that overpopulation was not the cause of poverty, but in reality, the result of poverty. Mamdani's study took place in Manupur, one of the villages included in the Khanna study. After his thorough study, he argued that the failure of the Khanna study primarily lies in the perception of the study director's and Indian staff, where "population was understood as a disease to be treated with the knowledge of an epidemiologist" (Varma et. al, 1974, p. 77-78). Rather than a threat, Mahmood's study found that children acted as an economic asset (Ibid).

PC and the Creation of Demographic Training and Research Centre (DTRC) in India

Population concerns in India took a turn towards developing technical institutions to support research in demography and family planning. The Williamsburg participants had all agreed that it was important for the Asian elites to want population control for themselves. They very well understood that population is a sensitive area and hence this needs to be dreaded very cautiously. The program should be packaged in such a way that it should not offend their culture but at the same time be acceptable to the local populace. Vogt suggested that "the program can be sold on the basis of their mother's health and the health of other children." He noted, "there would not be any trouble getting into another country on that basis" (Connelly, 2006, p. 636). "Frederick Osborn stated a feeling that the acceptable role for Westerners is to make available to the best technical help when it is asked for, and to make grants for projects developed by local governments or institutions accompanying these grants with qualified personnel. In this way we hope to avoid any feeling that we are interfering in Indian affairs" (Williams, 2011, p. 5). Speaking on the same line of thought, Notestein was of the idea that "there is a considerable opportunity to influence opinion and policy, perhaps directly, to channel such influence through international agencies. He therefore urged training local scholars and setting up research centers, while admitting that some of the research, of course, would be pretty bad" (Connelly, 2006, p. 636).

The need to initiate scientific research in population growth was thus sown out of these many discussions within the expert panel at New York. The council therefore took the task of opening demographic research centers in population growth and reproductive biology which became one of the core areas of the organization. With this key focus in mind, Frederick Osborn brought together representatives from the IPPF, the UN, the FF, the RF, and major pharmaceutical firms (Daksha, 2016). The council initiated its population program by funding the establishment of population studies in American universities followed by offering training fellowships to graduate students from underdeveloped countries to study in those demographic centers in the U.S. These grants changed a small group of scholars inclined to similar interests in the same field of population science and shared assumptions about how population dynamics worked, how it was to be studied and how to design an appropriate intervention to address the issue. These groups later turned into a substantial group of researchers, attempting to resolve a crisis of their own making (Rao, 2004; Sharpless, 1997). These fellows over the course of decades became the drivers of population control policies and demographic scholarships throughout the world over the next few decades (Schlinder, 2007). "These students were trained to view fertility as a variable capable of being manipulated by contraceptive technology; a variable which could be molded into a solution to the problem of poverty in their societies. Leading Third World demographers were thus trained to imbibe and share the perception of the West about the population problem and its solutions" (Rao, 2004, p. 107). The establishment of these centers and fellowship programs was in actuality "the creation of a worldwide network of population experts" centred on "a common body of knowledge and mode of discourse" (Sharpless, 1997, p. 80).

During the period 1953 – 64, the PC made many grants to individuals and organizations in India to develop the country's training and research program in the population field. In addition, 98 fellowships were granted to 77 Indian students to study abroad. Simultaneously, a comprehensive program of research and training in the field of reproductive biology was initiated by the council in 1963 at the All India Institute of Medical Sciences (AIIMS) with grant support from the FF. The special emphasis of the PC in the 'production of knowledge and experts' is derived from its definitive interest in furthering the field of demographic study and research institutes in India. The GOI had already depicted its interests in setting up scientific institutions of

demographic studies since the 1950s which was further accentuated with the council clearly indicating its willingness to offer funding and technical assistance in setting up such institutes in India (Caldwell and Caldwell, 1986). Considering the urgency in the population crisis, the PC called for every promising possibility that can be achieved in population control. Research in incentives by employing action research method, to popularize the ongoing program was seen as an important need. The idea was to put a 'price tag' on stopping population growth. India was seen as an ideal place to carry out research with incentives due to several reasons – firstly, it was much cheaper to conduct research in India as compared to the west; secondly, India had a good number of well-educated and high-quality trained professional looking for work; third, population issues was more acute in developing countries like India and lastly, India holds a good data of research on population issues with a climate which is fairly acceptable to such research.

RF and the Population Question in Chinese East Asia

The record of population policies in the People's Republic of China can be subdivided into six fairly discrete periods: from 1949 to September 1954, during which policy of family planning was strongly negative; from September 1954 to June 1958, during which the regime moved from the first indecisive steps towards support of family limitation into an all-out campaign to lower the birth rate; from June 1958 to January 1962, during which the first political euphoria and then economic anxiety held family limitation in abeyance; from January 1962 to June 1966, the span of the second family limitation campaign; from June 1966 to the summer of 1969, when birth control work was interrupted by the cultural revolution; and from the summer of 1969 to the present, when family limitation has for the third time become official policy (Aird, 1972).

Although in the initial years of its stringent population policies, China was not openly supported by external forces. Nevertheless, the influence exerted by international forces to China's evolution to population control policies cannot be neglected. Global anxieties fueled by Malthusian and Darwinian ideas among the western elites influenced the population control movement of the 20th century and shaped their views on China. The emerging Cold War and the defeat of the Nationalist in 1949 despite numerous military aids from the U.S. was explained in a report whereby it was highlighted that the CCP would ultimately not meet its obligation to feed its growing

population because of unchecked population. The third and the most important influence was the successful implementation of family planning programs in its neighboring states like Japan, India, Taiwan and Korea. China saw that the Japanese economy by the 1960s was rapidly recovering from the trauma of WW II. Premier Chou Enlai was particularly impressed by the lowering birth rate in Japan at a time when the Chinese economy was badly hit by the Great Leap. He suggested to send experts to Japan to study how they had achieved these milestones. Recalling the bad history with Japan, Chow Enlai felt the urgent need of controlling China's impending population growth (White, 2016).

The first recorded engagement of Rockefeller Foundation with China's population problem happened through the September – December 1948 mission to China, Japan, Taiwan, and the Philippines (Connelly, 2010). "The report of this mission published under the auspices of the RF with Marshall Balfour as the lead author, warned that population growth was imminent in China, Korea, and Indonesia. This report captures one of the last views of the region prior to the Korean War, and the beginning of the Cold War redefining population politics ideologically and rigidly" (Connelly, 2010, p. 134). The group along with other countries travelled throughout Northeast China to get an idea of public health and demographic concerns. The connection between "Public Health and Demography" reflects the immediate context of post WW II, which would later in the years followed connote "not just the spread of communicable disease, but also longitudinal links with poverty and economic welfare, pointing ahead to the transformations associated with a refashioned conception of the "modern" (DiMoia, 2016). The team of RF experts in mainland China met and interviewed high ranking officials and U.S. representatives like Consul General John M. Cabot in Shanghai and Ambassador to China John Leighton Stuart in Nanking. In the capital of the Nationalist Government, they also met leaders at the Ministry of Health, Interiors, and Budgets who had special concerns with population (Balfour, 1950). This report titled *"public health and demography in the far east: report of a survey trip, September 13 – December 13, 1948"* which was send to a host of influential personalities in Washington D.C pointed occupied Japan as the country most amenable to attack in East Asia (Connelly, 2010). Beset by banditry, warlordism, communist revolution, and Japanese invasion, China became an impossible country to enter for the U.S philanthropists with its population control agenda (Ibid). However, neither the RF nor the PC lost sight of China. In the coming years, the council tried to build connections with

the PRC leaders on the population issue. Concurrently, studies and researches on understanding China's population growth and programs were going on in the U.S. universities. Research reports were gathered and meetings were held. The inaccessibility of the council to work officially with the Chinese did not stop the council from pursuing its interest. In 1945, Chiang Kai-shek, President of the Nationalist Republic of China, had planned a population policy promoting internal migration and ethnic intermarriage while prohibiting abortion. But unfortunately, the civil war prevented the implementation of this program (Ibid). Osborn was impressed with the population efforts of the Chinese by mid 1950s. According to him, it was infact the Americans who were backward in terms of adopting population policies. When it was still illegal for some states in the U.S to prescribe contraceptives, China had removed all restrictions of sterilization and abortion (Ibid).

Looking Towards Taiwan

The U.S backed Kuomintang (KMT) defeated by the CPC retired to the small island of Taiwan in 1949. Post-colonial Taiwan tattered by years of Japanese colonial rule was a difficult place to settle in. Inorder to secure its ruling legitimacy and needed military and economic aid to survive the civil unrest, the KMT turned towards the United States for help. Taiwan's population experienced a rapid increase with high birth rate after the 2nd World War between 1949 and 1954 due to high immigration from mainland. Approximately around 1.5 million mainland Chinese migrated to Taiwan along with the KMT regime (Huang, 2016). For a long time, in the initial years of its settling down in Taiwan, the KMT maintained a wartime ideology that regarded a large population not only as a show of national strength but at the same time unpatriotic. KMT officials believed that the large growing population would be fully accommodated once they take back the mainland hence any talk of population control resembled that the KMT was giving up its hope in taking up the mainland (Ibid). However, the ever-growing population in Taiwan was becoming a source of concern both for the U.S officials stationed at the island and also a small group of ranking technocrats who were gripped with Neo-Malthusian concerns. They feared that unchecked population would consume resources otherwise need for other pressing matters like military security, industrialization, and economic development (Ibid).

This pushed for U.S aid to Taiwan's population concerns which occurred in two ways – federal government agencies and non-state actors. The group of RF experts 1948 survey to the East had visited Taiwan. The report *"Public Health and Demography in the Far East: Report of a Survey Trip, September 13 – December 13, 1948"* (1950) warned about the seriousness of Taiwan's growing population and its economic consequences. The contents of the report created an alarm in the minds of Taiwan's elites and government officials. Consequently, in 1952, the RF in collaboration with the population research at Princeton University conducted the first ever fertility study in the island. For this study, the PC provided technical and research assistance (Park, 2001). Dr. Roger Evans from the RF team had visited Taiwan to propose the initial project of the fertility centre and had met the Premier Cheng Chen and other political elites who shared the same concerns with the RF. "This created a "collaborative mode" that allowed technocrats in Taiwan to claim both their autonomy and the scientific validity of population studies while shielding all three parties (US agencies and foundations, the US researchers, and the Taiwanese government), at least to some extent, from political criticism" (Ibid, p. 384)

JDR III, PC and the Attempt to Connect with the Chinese Mainland

Having learned China's unremitting efforts in pushing the birth control movement by the 1970s, JDR III, then president of the PC tried to connect with the Chinese CPC in 1973, informing the council's interest in assisting the Chinese with their population control program. The letter by JDR dated July 18th and October 1st, 1973 concerned the PC's interest in sponsoring a group of professional people in the population field to visit China. The council had organized a China Committee to get as much information as they could from China. In addition, they had also arranged seminars headed by people who had been to China or who are in Chinese Studies. These members included Peter Chan, Irene Taueber, Dr. C.K. Yang Sociologist from the University of Pittsburgh who had visited China in 1971, Leo Orleans of the Library of Congress, Dr. Victor Sidel – Professor of Community Health at Einstein Medical School. The council had also committed to publish two additional materials in China – a China country profile and a Shanghai pamphlet, "Marry late and Plan your Family" (His Excellency Huang Hua, 1973; Lapham, 1972; Schearer, 1972; BB, 1972; Berelson, 1972).

The council in its plan to take a broad overview of Chinese population made a list of important questions related to research and evaluation of fertility control which can be considered as a guideline for the visitor going to China. The queries covered many aspects of the population aspects in China ranging from government policies concerning fertility reduction, printed or published materials on it, evidence of participatory efforts by the officers at the higher level, availability and usage of contraceptive methods, the handling of the contraceptive resources, the role of different ministries in the government, administrative structure for delivering family planning services, availability of training facilities for health personnel specializing in family planning or fertility control activities, usage or role of community workers to promote the use of contraception or abortion, mass media and information dissemination on birth control, population related educational activities and many more. Since many questions were very specific, it was understood that it would be difficult to obtain reliable information on all matters. However, since they had very little information on what was happening in China, any amount of information gathered would be useful (Ibid).

On October 26th, 1972, JDR along with one of his PC officials had a meeting with Ambassador Huang Hua of China and his colleague the Chinese Ambassador to ECOSOC. This meeting was held in regard to the council's request for permission to send a technical mission to China. At the outset of the meeting, JDR reminded the Chinese ambassador the purpose of the visit. In addition, the council official gave a brief overview of the PC activities with a copy of their annual report. The Chinese officials were interested in talking about the population issue and ask specific questions related to the United States population programs. They were curious to know about the fertility rate of the U.S., how did the American young "feel about the population question"? "How important were the religious issue involves"? Does the council have a special research unit working on contraceptives"? After the queries were responded, the Chinese ambassador then turned to give an account of the population situation in China. JDR's letter following this meeting which requested for sending a 4-5 group of professional experts to China was planned with a view to learn the state of population in China, exchange information and views with professional counterparts and thus, to begin a "continuing contact in this field." The council also extended an invitation to the professional colleagues at China to visit the population study centers in the U.S by offering travel grants. An invitation was also forwarded to have a speaker at

the population council of America annual meeting in April 1973. However, this request was rejected on the behest that although China is interested in the population question and possible research on the topic, they were not yet ready to receive visitors on the issue (Ibid).

Clearing the Path for Ford: Rockefeller, Ford and Population Council in China and India

Significant changes have culminated in the population issue since the 1950s which coincided with the entry of RF, PC and FF. Late 1950s have been characterized by the low salience of population issues, limited international activity, and in the sphere of public policy, "a conspiracy of silence" (Nagelburg, 1985, p. 1). By the end of the 1960s, the trend had changed its discourse with international assistance flourishing and the population issue gained a place in the policy debates on the international agenda. At this juncture in history, these three organizations-initiated programs in population control which changed perceptions about demographic trends and the desirability of population control policies. These grants coming from these big organizations legitimized concern for population issues and advanced the Family Planning frame leading to the establishments of population control experts certified by prestigious institutions. With the initiation of these international programs, the knowledge base on the population issue widened and awareness of demographic trends in the developing countries increased. Activities relating to curbing population growth, including research on new technology of contraception, family planning, and role of the expertise started in a massive way. Significantly, fellowships also played a crucial role in expanding the field of population science by inviting young scholars from developing countries to train in prestigious universities in the U.S. These young scholars became important assets for their national governments to further the population agenda. "The entry of the foundations transformed a minor academic field into a major international force that influenced government policies and national programs for decades to come. The mechanisms Ford and Rockefeller employed in the 1950s and 1960s to build the field included grants for several Activity categories: Research; Capacity-Building, Technical Assistance, and Training (CBTAT); Networks/Conference; Policy; Services; and Communications" (Elkind, 2015, p. 86)

Conclusion

Rockefeller philanthropy since the early part of the 20th century have exerted profound influence in China and India's public health. Several factors that directed the RF's philanthropic movement are Andrew Carnegie's scientific philanthropy movement calling for the ultra-rich to divert their wealth for the betterment of society, scientific optimism in America, build Rockefeller's tarnished image after the Ludlow massacre, changing societies in the Far East. The Orient had always attracted Rockefeller's attention. Both China and India are two major civilizations that have always captured the imagination of the west. Western medicine had already been long introduced through the efforts of the Christian missionaries in the 16th century.

The relationship between the local elites, political class, the intelligentsia, and the local population with the missionaries laid the ground for the Rockefeller Foundation to gain entry and enhance its ability to set up medical institutions and public health programs. "Rockefeller Foundation entered China and India when both countries were looking for answers in modern medicine as a means of regaining their lost sovereignty" (Longkumer, 2021). If Indian nationalists were demanding more autonomy, the Chinese were looking to regain their lost strength to reverse the belief of looking at China as the sick man of Asia. Although nationalism provided a fertile ground for vitalizing the revivalist tradition of traditional Indian and Chinese medicine, the demand to regain their lost glory entailed that both the countries needed to project themselves as progressive, modern, and scientific. Therefore, with the majority of the elites supporting this cause, the revivalist efforts took a turn towards establishing a scientific and progressive rationale for development. The East, during this period, was seen as a weak and sick nation against the powerful knowledge of the west. The practice of medicine in both China and India before the advent of western medicine was broadly pluralistic, and there was awareness and acceptance of alternative traditions. As colonial and imperial domination hardened in both the countries, western medicine claimed superiority and scientific authority in both the countries. With anatomy as the weapon of scientific rationality, indigenous medicine was looked upon with contempt and often labeled unscientific and irrational (Anshu and Supe, 2016, p. 257).

The Rockefeller enterprise first arrived in both China and India in the 1910s. Before the philanthropic Americans stepped their foot, public health in both countries was, to a significant extent, developed by western colonialism and Japanese imperialism. In Colonial India and Imperial China, public health became a point of contention between colonial governance and national sovereignty. As western colonialists viewed both the countries as sick and feeble, the nationalists, in response, called for a "healthy body, strong nation." This became a common slogan against China and India's anti-colonial and imperialist struggle. Both the anti-colonial nationalist and western educated elite looked towards embracing modern public health as one of the essential goals for building a strong nation. The statistical argument for this acceptance of modern public health was lower death rates seen in developed nations. Science was projected as a domain of monopoly of the western powers, and in subsequent western knowledge was seen as rational and scientific. The western-trained Chinese and Indian elites recognized the superiority and authority exerted by this knowledge. Hence with this desire to make their nation strong and modern, the elites tried to emulate the west as they embraced science as the yardstick of rationality and engine of progress (Bu and Yip, 2012, p. 8-9).

Rockefeller's plan to develop medical elites by building modern medical institutions of high status equipped with the best of advanced medical technology and funding fellowships abroad to capable Indian and Chinese medical personnel created a legacy of influence in medicine. These students who returned would change the discourse of medicine. Modern medicine in the later decades became a marker of modernity. When the RF first launched its philanthropic mission in the hookworm campaign, they came with the preconceived notion of modern medicine's superiority. They believed ardently in the laboratory-based solutions to social issues confronting disease and illness. From fighting infectious diseases, building institutions, supporting medical cadre through fellowships, public health programs through community health, the RF philanthropy has influenced and changed the discourse in medicine and health in China and India. "To promote the well-being of human beings all over the world" through modern scientific medicine, a germ theory laboratory-based medicine was the backdrop of RF's philanthropy in public health. With this knowledge, most of their public health strategies had a biomedical view that, when implemented, overlooked the social aspect of illness. The RF's influence in China and India was applied through the activities of the International Health Board and the China Medical Board,

which worked together with provincial governments to establish medical institutions and introduce public health programs that became the hallmark of scientific medicine.

Chapter 4

Ford Foundation and the Conception of the Family Planning Frame in China and India

Introduction

During the Second World War, Ford entered the world of philanthropic giving and quickly became one of the largest philanthropic foundations in the post-World War era, highlighted distinctly in the former secretary of state Dean Rusk's words, "fat boy in the philanthropic canoe" (Arnove, 2006, p. 7). After the Second World War, the period was also tempered by new fears around depression, nuclear war, and, most importantly, the spread of Communism. These fears became the base around which the Foundation's purpose as outlined by the newly established Ford Foundation (FF) leaders. The FF was born with a modest gift of $25,000 from Edsel Ford in 1936, and within a few years, the magnitude of its investments eclipsed that of all other existent philanthropic foundations like the RF of the century. The initial operational style of the Foundation was essentially in the familiar patterns of a family foundation comprising of trustees Edsel Ford, the family lawyer, Clifford Longley, and the secretary-treasurer of the Motor Company, Burt J. Craig (Sutton, 1987). The trajectory of FF's growth after the demise of Henry Ford Sr. depended on the fortunes of the Ford Motor Company. At the passing of Senior Ford in 1947, 90 percent of the Ford Motor assets were bequeathed to the Foundation. Ford Motors, at that time, was nearly at the stage of collapsing as a large conglomerate. The central figure in the saga of its rebirth was Henry Ford III, who took over the company's control after the senior's death. Henry Ford's working pattern to rebuild Ford Motors provided a model that was instrumental in shaping the Ford Foundation (Ibid). As Henry Ford set out to restructure his company, the FF, in parallel, also underwent changes starting with its trustee board which started expanding its membership. The FF defined its charter as "to receive and administer funds for scientific, educational, and charitable purposes" (Sutton, 1989, p. 3). By the mid-1950s, FF emerged as one of the most significant philanthropic players, with its annual spending exceeding that of Rockefeller and Carnegie. "Ford's endowment even exceeded the combined assets of the nation's three wealthiest universities: Harvard, Yale, and Texas, plus the total budget of the United Nations" (McCarthy, 1995, p. 294).

The entry of Rowan Gaither as a director changed the organizational structure of the Foundation, transferring the control and operation of the Foundation from the Ford family to a trustee. Such a move was important in the reorganization of the Foundation because Gaither thought that the Foundation should not appear as an instrument of either the Ford family or be associated with any particular political alignment (Raucher, 2015, p. 81; Rosenfield and Wimpee, 2015). The 1949 Gaither Report, formulated by a group of experts, pushed the FF to become one of the most influential philanthropy of the decade. This group of experts was made up of men widely known in education, medicine, public health, natural sciences, social sciences, modern business, and industry (Foundation, 1949, p. 10). The report recommended the Foundation invest in five areas reflecting the post-war era: "establishing peace, strengthening democracy, strengthening the United States economy, supporting education in democracies, and advancing the behavioral sciences" (Elkind, 2015, p. 40). Gaither encouraged the Foundation to direct its grants toward the population issue. He saw the population issue as a subject matter that would attract the board's support in the behavioral sciences. However, "the population was still a contentious and sensitive subject in the 1950s United States. Although the American Medical Association (AMA) had approved birth control in 1937, contraceptive advertisement to the public, which was prohibited as obscene under the Comstock Act of 1872, was not permitted until Congress amended the Act in 1970" (Harkavy, 1995, p. 14).

Ford made its first population grant in July 1952, the same year in which JDR III Population Council (PC) and Margaret Sanger's International Planned Parenthood Federation (IPPF) were founded. 1952 was also a watershed when "India became the first developing nation to announce an anti-natalist population policy" (Ibid, p. 1-2). The FF's population control activity began with a small grant dispersed to a demographic institute and advocacy group called 'The Population Reference Bureau.' It was because of Waldemar Nielsen, an FF official whose report called for the FF to extend its population control activities to international population programs. Agreeing with Nielson's report, the Foundation started to award limited grants, one of which included a small grant to the international union for the scientific study of the population, "which was aimed at funding delegates from the developing countries to the 1954 world population conference in Rome, which happened to be the United Nation's first major foray into population issues" (Wooster, 2004b, p. 1-2; Wooster, 2004a). FF's first major grant for population issues went to JDR's

Population Council in 1954. "This initiated a series of grants that would total $88 million between 1954-1993, with occasional grants since then" (Wooster, 2004b, p. 3).

Ford and the Population Question in Asia

The FF's greatest expenditure on population-related issues outside the United States was in Asia, with particular assistance in the family planning projects (Harkavy et al., 1968). The main driving force in developing the discipline of population studies in Asia was philanthropists and advocates rather than scientists, where FF was an important philanthropic entity of the mid-20th century (MacDonald, 2017). The need to develop population studies as an important area of concern was intensified by the impact of US economic aid on agriculture and livelihood, which was seen as a reason for a growing population in the developing world.[45] These aids were crucial because by the mid-1950s, many developing nations, including Asia, had become a new battleground for the Cold War (Sharpless, 1995). Paul Hoffman, then President of the newly established Foundation, had diverted his attention towards Asia since the early days of the Foundation's philanthropic activities. Hoffman proposed that the US should convince Asians that America was the bearer of the free world, not seeking to impose new forms of oppression and exploitation. This belief first took him to Asia in 1951 to see how the Foundation might formulate programs to assist in its economic development (Hoffman, 2015). Hoffman's appointment as the new leader of the FF in the 1950s strongly influenced the development of the organizational structure of the Foundation. Before joining the FF, Hoffman was a prominent member of the Marshall Plan Aid Program, which influenced his firm conviction in investing in international efforts, which he believed could yield constructive efforts and optimism (Elkind, 2015). The FF experts emphasized the high rate of a growing population to falling death rates due to medical and technological advances. "They asserted that population growth was a threat to economic development and national and international political stability and called attention to the lack of understanding of the forces underlying these trends and the need for more capable demographers"

[45] "Foreign-aid programs expanded into the developing world with Truman's "Point Four" initiative; international agencies increased their support for health and agricultural projects, and a growing number of specialized private relief agencies sought to bring the "gift" of Western technology, knowledge, and expertise to the developing nations of the world. As fast as the international gift-giving grew, however, the needs of developing nations always seemed to outpace the flow of resources" in Sharpless (1995), 79

(Harkavy et al., 1986, 12). Following this presupposition, FF was instrumental in establishing many new Centres of population studies in Asia. These regional Centres aimed to produce local demographic experts in developing nations to address the issue of rapid population growth. The demographic pattern of Asia caught major attention from the newly emerging centers of population studies in the United States in the 1950s. These newly established regional centers for population studies would initially be headed by a US-trained graduate who would then train young university students among the local population. Western expertise would be placed for guidance and to provide adequate supervision. "In this context, Princeton University's OPR produced a series of influential books on the issue of population in Asian countries, including *The Population of India and Pakistan* (Davis 1951), *Population Growth in Malaya* (Smith 1952), *Colonial Development and Population in Taiwan* (Barclay 1954), *The Population of Japan* (Taeuber 1958), and *Population Growth and Economic Development in Low-Income Countries* (Coale and Hoover 1958)" (McDonald, 2017, p. 34).

The FF officially got engaged with the Asian population question by creating the Population Studies Centre at the University of Michigan on the condition that it would involve itself in the family planning programs, research, and training in Asia. The Taiwan Population Studies Centre was established within the Provincial Health Department of Taiwan in 1961. The Taichung study, undertaken with support from the FF and the Rockefeller's PC within this institute in Asia, became the model for family planning programs in the Asian sub-continent (Ibid, p. 36). Ford's population program's initial impetus came from the national government itself. They highlighted a vital criterion: the Foundation would provide ample support to only those institutions and programs where the recipient country places high priority and offers a substantial contribution of resources and manpower. The ultimate strategy was to support institution-building and training of local expertise through technical assistance (McCarthy, 1995). "Ford's population work in the Asian continent signifies a new chapter in the history of American Foundation Philanthropy which marks a transition from progressive faith in the notion of 'disinterested expertise' to a belief in local trained expertise instead of university-trained, constituting the optimum guide to 20th-century policymaking" (Ibid, p. 294).

American Philanthropy and Public Health during the Cold War: China and India

The dawn of the 1950s, which saw the onset of the Cold War, witnessed an upsurge in global public health movements. These multiple events eventually led to the development of the World Health Organization. With these shifting strategies in the Cold War decade, FF became the largest Foundation with the first billion-dollar philanthropic fund. This period also saw the rising role of expertise in domestic issues relating to allocating resources and governance structures. The entry of the FF pivoted the transition "from working with public institutions to independent NGOs, illustrating a significant shift in American philanthropic grantmaking in the twentieth century. In the 1960s, American foundations began to move away from forming close partnerships with governments and instead began funding an independent civil society space" (Wimpee and Raymundo, 2021; Cueto et. al, 2019).

During this era, philanthropic interventions in public health were orchestrated by the onset of the Cold War in the Global South and the developmental trajectories of the recently developed nations. FF played an instrumental role in establishing population control as a crucial developmental paradigm in post-independent India. "This administering governance in the new international order was in dialogue with the closure these foundations faced from Maoist China, starting in 1951. In other words, the Rockefeller, and Ford-funded projects in this period in India were explicitly aimed at limiting the communist expansion in Asia to the PRC" (Sarkar, 2014). Rao (2004), in "*From Population Control to Reproductive Health*," elucidates that the creation of a communist state in China injected a note of urgency into the developed nations. They were acutely aware that India was one of the sources of raw materials that they must continue to have access to; the defection of India to a communist block would serve as a big blow to their economic interests (Rao, 2004). India was considered the last bastion of the free world and a significant political mileage that needed to be guarded against the communist onslaught. Western demographers hence were busy "attempting to influence US policymakers to include population control as a means of US aid by using their fear of communist influence" (Ibid).

Ford Enters the People's Republic of China and Post Independent India

FF's interest in the Indian population issue started with establishing the Foundation as a philanthropic entity. India was Ford's first philanthropic experiment. The 1950s India, which coincided with Ford's entry, was a time of independence fervor and civil unrest pushing for the partition of India and Pakistan. India's burgeoning population became the experimenting ground for population studies, with the FF becoming a central figure in exaggerating the role of India in promoting population-related queries. The millions of Indians became a pool of adequate statistics for population studies. Those statistics influenced India's first Prime Minister (PM), Jawaharlal Nehru, to advance population control by initiating the national family program, the first of its kind in the world (Elkind, 2015; Foundation, 1952). Ford's officials stationed in India had informed Nehru that India's population growth was an issue of concern and may hamper the country's economic development. Therefore, the FF is interested in dispensing appropriate funding in this field to address this concern. Following that, the first recorded request for FF assistance in family planning came from India (Minkler, 1977; Minkler, 1975). By the early 1950s, FF had become even wealthier than the RF, closely monitoring the population control developments in New Delhi. To advance the population agenda, Kingsley Davis, one of the most prominent demographers of the time, who had also visited India, advised Ford to provide funds on a "liberal grants-in-aid basis to currently productive scholars, simply to advance the useful work they are already conducting" (Connelly, 2010, p. 169). The idea was to train more demographers from countries like India so that the research produced would have "the flavor of a domestic investigation of a domestic problem" (Ibid). He further reiterated, "India had a chance to be the first country to achieve a major revolution in human life? the planned diffusion of fertility control in a peasant population before, and for the benefit of, the urban-industrial transition" (Connelly, 2006, p. 641). Ford's population program in India marks a conscious shift from university-based scientific and social science research with American technical assistance to grass-root based organizations located outside the governmental realm. With a particular focus on India, the Population program in South Asia became one of Ford's most substantial and enduring commitments and the most extensive and earliest overseas initiatives (McCarthy, 1995).

The failure of the target-driven population control programs of the 1950s was evident by the 1970s. The population control approach, which viewed women as potential 'contraceptors,' or producers of too many children, had led to stringent coercive family planning programs, which

were highly criticized for numerous ethical violations of women's rights. Therefore, the move towards reproductive health in the 1990s was deemed “as a comprehensive approach to women's health and well-being, which included fertility and infertility, contraception, abortion, childbearing, maternal mortality, morbidity, etc. Rooted in the ideals of the second wave of feminism, this approach was defined as a policy concerned with women's empowerment” (Lane, 1994, p. 1303). However, the primary concern remained population growth, especially in the global south. The main apprehension remained the same; the attempt was to change the strategy to deal with it. The common proposed program in reproductive health was aimed primarily at fertility control which also happened to be the same goal in the earlier population control approach (Qadeer, 1998). The FF’s transition from population control to reproductive health activities is exemplified in its differential and transitional approach from 1950s India to 1990s China. In its 1991 strategy paper, "Reproductive Health: A Strategy for the 1990s", the following points were highlighted as the main features of the new reproductive health program.

> First, the program recognizes the need for a more comprehensive approach and concern for reproductive health. It takes a multi-disciplinary approach incorporating social science perspectives, particularly a qualitative approach from anthropology, sociology, and economics, combined with a quantitative approach from demography and epidemiology. The latter is deemed necessary in this context to provide information on correlations among events and to call attention to patterns that should evoke concern, but it is argued that the perspective alone is rarely able to explain social relationships or how people's decisions are made. The program focuses on a better understanding of women's lives to improve their health and gain better control of factors affecting their lives; this - according to Ford documentation - in turn, requires an understanding of the structural, political, economic, and cultural forces, needs to draw on theories about poverty, ethnicity, and gender, and requires an interdisciplinary approach, linking biomedical and social scientists. It commits to empowering women, especially disadvantaged women, to enable them to act in their health interests (Chu, 1994, p. 187).

Qadeer (1998), in *Reproductive Health: A Public Health Perspective*, argues that the "replacement of the concept of ‘women's health’ by ‘reproductive health’ is yet another key contribution of the advocates of human development. Instead of visualizing health issues as women of different regions see them for themselves, they merge them into universal reproductive health and rights issues. As a consequence of their priorities, they never really examined either the epidemiological basis of reproductive health or the reasons behind some women's silence vis-à-vis reproductive health problems. Had they done so, the immensity of women's health problems and the social constraints on women's lives would have revealed the inadequacy of their isolated strategy in the context of the expressed needs of women for land rights, freedom from atrocities,

food, security system, minimum wages and communal harmony (Women in Action 1994) along with the need for health services" (Qadeer, 1998, p. 4-5).

By the dawn of the 1990s, FF's longstanding interest in population issues led them into programs that emphasize reproductive health and development. For example, the Foundation entered China with such a program in 1991, to which it contributed over a million dollars. "The program announced its ten-year commitment of US $125 million to reproductive health programs with a focus on the social, cultural, and economic factors that influence reproductive health, in both rural and urban areas, throughout their reproductive cycle" (Chu, 1994, p. 186; Wong et. al, 1995). The 1990s approach of the Foundation was a decisive shift to a more technocentric program for population control issues (Ibid). Birth of 'Reproductive health.'[46] translated as '*sheng Zhi Jian Kang* or '*sheng yu Jian Kang* as a concept coincided with the entry of the FF into China's population health (Kaining, 2011). This concept of "reproductive healthcare, also defined as a constellation of methods, techniques, and services that contribute to reproductive health and well-being, became the guiding framework for the FF's reproductive health strategic planning for the 1990s" (Ibid).

In its 1990 strategy paper, the goals of the Foundation are explicitly highlighted as – 'to build institutional capacities for research in reproductive health, as it did in the area of demography.' The paper further expresses the propagation of reproductive health research through the social sciences, biomedical education, and non-governmental community-based agencies. These community agencies were considered a means of direct intervention to promote reproductive health (Qadeer, 1998; Miller, 2022). The PRC's population approach centers itself on the ideas of 'Marxist Population Theory' whereby economic production and social reproduction are recognized as two basic foundations for development processes. The population control approach is within the social reproduction paradigm, where an attempt to limit population quantity and improve population quality is seen as two crucial steps in achieving its economic goals

[46] This concept took its form in the 1980s, initiated by "Dr. Jose Barzelatto, former director of the WHO special program of research, development, and training in human reproduction. Simultaneously, the official definition of the concept came from his successor, Dr. Mahmond F. Fathalla, who posited four critical elements for reproductive health – people can reproduce as well as regulate their fertility, women may safely experience child-birth and pregnancy, pregnancy outcomes are safe in terms of maternal and infant survival and well-being and couples can have sexual relations free of the fear of unwanted pregnancy and of contracting the disease". Kaining (2011), xxiv

(Winkler, 2002). The new concept introduced and initiated in China through the efforts of the FF changed the discourse of family planning and population control. It marked a fundamental shift of focus from a population control-oriented approach to reproductive healthcare.

Ford Foundation in India's Family Planning

One of the most significant expenditures of the FF was investing in India's family planning program (Harkavy et al., 1968). Founded at the advent of the family planning era, FF centered itself on the neo-Malthusian theory, which believed rapid population growth impeded economic developments. This era focused mostly on developing nations with political concerns related to the influence of Communism. The Foundation operated with the view that it was in the West's interest to promote development in the developing countries (Elkind, 2015). Moreover, many demographers gripped by Malthusian fears were increasingly concerned that if the population were left unchecked, it would lead to a resource crisis (Ibid). Ford's presence in India was so significant that it rivaled the American embassy staff stationed in Delhi (Connelly, 2006). At the dawn of Indian independence, Douglas Ensminger, Ford's prominent population consultant and a sociologist by profession, approached India's fledgling government. Ensminger, along with JDR III, convinced the health minister of the newly formed Indian government to evolve programs in the field of family planning (Prasad,). Immediately after, a nationwide family planning found its way into the first five-year plan (Ibid).

Before executing the clinic-based approach, which was the implementation framework of the first family planning program, the dominant thinking in the Indian family planning was the 'Gandhian approach' or the 'rhythm method. This dominant thinking was premised on the perception that the artificial birth control method was impractical and would most likely result in moral degradation. Rajkumari Amrit Kaur, the Union Minister of Health, was a staunch Gandhian. Thus, the natural methods of family planning – rhythm and withdrawal were preferred over the clinic approach. However, the pilot studies in the first plan revealed that the rhythm method was ineffective, and people were not prepared for family planning. In addition to challenges associated with impracticality, the rhythm method failed to recognize the complexities of family planning in an Indian household. "Family planning was not only a function of health and education but of a

number of social and cultural factors like the preference for a male child" (Robinson and Ross, 2007, p. 305). Despite its failure, the natural experiment, however, proved itself to be "an important political step in giving public recognition to the population problem and legitimizing the exploration of methods for fertility reduction" (Harkavy, 1995, p. 132). The urgency for India to adopt a national family planning just at the onset of its independence was pushed by various factors. First, the Bengal Famine Inquiry Committee, which was set up to examine the possible cause of the 1940 famine, raised the alarm about the burgeoning population and recommended the setting up a network of birth control clinics. Simultaneously, the Bhore Committee, 1943, called for creating a national program for family planning to improve the health status of the population. The committee's findings urged the Prime Minister of the newly independent India to adopt the national family planning program (Harkavy and Roy, 2007, p. 301-302). The plan outlined in the first five years by the GOI "emphasized that the objective of stabilizing the growth of population over a reasonable time must be at the very center of all planned development and that, under the circumstances prevailing in India, the stress must be placed on the promotion of family planning for economic and social development" (Amonker, 1975, p. 586).

Such an approach, however, was a daunting task for a country like India with its sheer size with "barriers that include widespread illiteracy, inadequate transportation, diversity of cultures and languages, and lack of channels for mass communication, especially in rural areas where 80 percent of the population resides" (Ibid). In addition, the interest and efforts in population control strategies by the elite Indians were part of the Indian landscape, especially in cities. Lady Rama Rau's planned parenthood oversaw the distribution of clinics initiated under the "funds allocated to the ministry of health in the first plan. These strategies, however, saw a weak response to burgeoning population growth. Nonetheless, the clinic approach was still extended to the second five-year plan" (Robinson and Ross, 2007). The Foundation has been actively involved in India's national family planning since 1958. India received its first grant from Ford in 1959. Over the years following, nearly $9 million in funding has been approved for technical assistance and support, research, and training in population, social science, and reproductive biology. Instead of depending on universities, the Foundation's approach to technical assistance in India was direct hire, which happens to be the Foundation's largest group of direct hire technical specialists (Connelly, 2006). "After 1959, Ford's funding to population control programs in India began to

expand. In 1960, Ensminger requested $2.5 million from Ford to “launch an attack on all phases of the population problem.” After this grant was approved, Ford sent Population Council researcher Sheldon Sagal and gynecologist Anna Southam to India. On Sagal’s recommendation, Ford contributed $1.7 million in 1962-63 to eight Indian research institutions to subsidize research into birth control” (Wooster, 2004, p. 14).

With the sight of strengthening India's family planning program, India soon became the focal point of Ford's population efforts. In the initial years of the Foundation, they were reluctant to offer assistance to family planning projects, even in response to direct requests. However, with changing notion of family planning becoming more acceptable in the West, they directed their efforts toward the program. For example, Ford's assistance to Indian family planning ensued in response to an international speech by Nehru in 1959, where he audibly enunciated India's needs for family planning assistance. This issue was covered in detail by the American press, which caught the attention of the foundation officials (Elkind, 2015). Unrestricted population growth was viewed as one of the biggest hurdles to economic development. The absence of expertise in formulating family planning policies and programs was quite ostensible; Ford quickly took this opportunity and started providing funds to public health schools for training and research in family planning. Ford's assistance in India quickly picked up pace in just a few months. However, it soon overtook the PC's efforts in population issues (Ibid).

In May of 1959, Ensminger, the Foundation's representative, wrote to Lieutenant Colonel B.L. Raina, India, Director of Family Planning, with a plan to strengthen the communication aspect of the Indian family planning program. The Foundation aimed to draw out a "Five Year Family Planning Action Research Training Program in Communication” targeting three to five geographic areas. The purpose of such an exercise was to "scientifically determine the role of all available methods of communicating information about family planning, attracting interest, gaining acceptance, and motivating continuous use of family planning practices" (Goswami, 2019, p. 1). Ensminger was also instrumental in convincing health minister Amrit Kaur of India’s need for a population program.

"He urged her to consider the effect of India's growing population on the very destitute and the need to assist those who wanted help in limiting their fertility" (Harkavy, 1995). According to Bonnie Mass, the Foundation "chose India as a target for intensive research in demography, contraceptives and distribution systems, thereby following in the path of the Population Council, which made a grant to India's Institute of Public Health for a field study of population control in West Bengal" (Rao, 2004, p. 26). The family planning program in India adopted a cafeteria approach whereby the public was provided with education and access to a variety of contraceptive methods (Prasad, 1990). The three principal components of family planning services included sterilizations, IUD insertions, and conventional contraceptives (Amonker, 1975). "The program's major requirements consisted of general training in public health, behavioral sciences, health education, and supervised fieldwork in countries where family planning has been developed" (Goswami, 2019).

The GOI gave population control measures a top priority in the second five-year plan. A Central Family Planning Board was established and presided over by a health minister. This plan called for establishing 2500 clinics nationwide to provide free contraceptives for people from low-income backgrounds (Connelly, 2006, p. 182). Massive attempts through the clinic approach in the five-year plan did not achieve the intended population control target. The 1961 population survey revealed an increase in population and fertility rate. Reducing the fertility level thus became the prime focus of the second plan (Ibid, p. 306-307). "Opening up a large number of birth control clinics before educating the people and raising their level of consciousness was like putting the cart before the horse. Females who constituted the target population in the program did not enjoy equal status in the family, and the Westernized Indian planners did not see that in India, the family planning movement could not get momentum without men's support" (Ibid). At the same time, on a practical level, operating such clinics by hiring one additional worker in the already overburdened primary health care meant the reach was not extensive, and the workers were strained. Instead, these workers were responsible for covering a large population averaging around 60,000 people. With less than two months of training, at times none at all, they were expected to do everything, from motivation to education, screening, and the distribution of condoms. In the few months following, it proved difficult and unmanageable to recruit enough individuals with

degrees in healthcare or social work; the program simultaneously became an impossible task to achieve (Connelly, 2006, p. 184).

With the limitation of the clinic approach, the director of Family Planning, advised by an FF consultant, initiated a reorganization of the program (Rao, 2004, p. 32). The new program was aimed at extension education, greater availability of contraceptive supplies, and less dependence on the clinic approach. "The move away from the passive clinic approach to the more active extension approach stemmed from the community development movement in the US" (Ibid). The clinic-based attempt was replaced by an extension education strategy to reform the targeted approach. This new strategy aimed to popularize family planning through education and communication. The plan was to initiate door-to-door visits to motivate couples to accept family planning methods. The direction of the family planning program now moved toward a population-based, public health outreach approach (Ibid). Thus, "the Third Five Year Plan stressed the role of "intensive education, provision of facilities and advice on the largest scale possible and widespread popular effort in every rural and urban community as a matter of the greatest significance. This paved the way for the extension education approach" (Ibid). The FF entrusted a group of Ford-affiliated consultants to advise and help develop constructive programs. This group of consultants included prominent names like Moye Freyman, an American public health physician who joined the FF staff in India in 1957, and his wife, Katherine Freyman. The limited success of the clinic approach had now spurred the development of "an extended family planning campaign involving extension educators, assistant surgeons, family welfare workers, auxiliary nurse-midwives, and contraceptive depot holders (those responsible for storing and dispensing contraceptives) at the village level" (Harkavy and Roy, 2007, p. 304).

The central 'FPCAR.'[47] was now focused on "Knowledge, Attitude, and Practice" (KAP) to ascertain the reasons for the unacceptance of family planning by the common public. They planned to design and administer an action program, test out a hypothesis, and evaluate effectiveness in relation to a baseline survey. To support such avenues of communication research, the FF March 1961 approved a grant totaling $603,000. With this generous support from the FF,

[47] FPCAR was a large-scale, multifaceted program that included modest support for six communications and action research centers established between 1961 and 1963.

the Central FPCAR committee selected six institutions to execute the outlined action research – "The Central Health Education Bureau New Delhi, which was transferred to the Central Family Planning Institute in 1964; the Demographic Training and Research Center, Bombay, 1961, Indian Statistical Institute, Calcutta, June 1962, Department of Statistics, University of Kerala, Trivandrum, November 1961, Institute of Rural Health and Family Planning, Gandhigram, July 1962, and Planning Research and Action Institute, Lucknow, February 1963" (Goswami, 2019, p. 5-6). In this new approach, an army of family planning workers was deployed throughout the countryside to meet the government's goal of reducing the birthrate from 41 live births per 1,000 population to 25 (Orkavy and Roy, 2007, p. 308).

The GOI's massive campaign in the 1960s yielded few signs of success. The 1971 census further proved this suspicion by showing that population growth had not declined. This frustration paved the way for a coercive approach to family planning where organizing vasectomy camps was undertaken as a major strategy to lower the fertility rate. "Together with substantial monetary and in-kind incentives, Vasectomies became one of the defining features of the Indian family planning initiative. Female sterilization was also part of the program but was not as glaringly featured as its male counterpart" (Ibid). "Sterilizing men rather than women were preferred because a competent surgeon could operate under local anesthetic in ten or fifteen minutes. But the drive to reduce fertility rapidly and at minimal cost made it difficult to maintain standards, including medical screening and sterile instruments" (Connelly, 2006, p. 645). The so-called vasectomy camps became a major instrument for achieving large numbers of acceptors in short periods (Orkavy and Roy, 2007). This emergency sterilization program aimed to reduce the birth rate by 40 percent by 1972. This was an effort that had not been experimented with by any national government since wartime in Japan. With a targeted demographic goal, the first of its kind aimed at population growth, this program was done in close cooperation with non-governmental organizations. Then, the FF employees were even more than the US Agency for International Development. By 1966, Ford's long-term consultants advising India's population program were 17 in the number who were donned with the responsibility of monitoring Ford's projects and identifying new funding avenues, giving them leverage with their Indian counterparts (Connelly, 2006). Ford's involvement in India's IUD campaign is also marred with dissension. After many tussles between the Indian government and the Ingo officials like the FF, the Indian government finally approved the use of

IUDs as a necessary form of family planning in 1965. This, however, was not without any controversy. Although studies revealed the widespread side effects of IUDs across the country, government officials ignored this information and pushed for more use (Micinski, 2017).

The Ford Foundation's involvement firmly established the Foundation as an innovator working on the threshold of program development in population control. India was for long the only large, poor, densely settled country with adequate statistics. Ford's activities in India dwarfed all other operations taken outside the United States. The core philosophy of the FF at that time was the idea that governments are the main drivers of change. With a vast resource pool, much larger than the private foundations, the governments had much more power to direct "ambitious development projects. The Foundation's role in these whole efforts would be to prove the effectiveness of certain projects and transfer these to governments" (Micinski, 2017). The FF's symbolic and human resources and internal connections to several elites leveraged them to become particularly effective at certification and brokerage. Non-grantmaking brokerage activities included making introductions and hosting formal meetings. Brokerage through grants involved extending support for building partnerships between public and private enterprises. For example, to increase access to condoms in India, in the late 1960s, Ford "helped to fashion a public/private partnership to distribute supplies and locally-manufactured goods through five companies" (Elkind, 2015, p. 89). Ford's involvement in the Indian population's health was also a troubled enterprise. For example, the tussle between Ford's Ensminger and India's health minister Sushila Nayar on priorities of funding allocation was a constant cause of debate. On a few occasions, Ensminger accused Nayar of using Ford funds for her projects; "her every move," Ensminger recalled, "was directed toward diverting budgeted funds from family planning activities to build up the public health infrastructure." Moreover, Ford's representative did not support dispensing the funds for government-defined priorities like building up the public health infrastructure instead of using it on Western-inspired population control (Wooster, 2004, p. 15).

The Foundation also helped create two major institutions involved in the family-planning program in India, namely, the Central Family Planning Institute, later rechristened the National Institute of Family Planning (NIFP), and the National Institute for Health Administration and Education (NIHAE) (Rao, 2004). One of the most significant influences on shaping the field of

demography and giving weightage to the population control lobby was the nature and quantum of funding and the consolidation of population control establishment. Attracted by the ideas of eugenics, these American philanthropists like the FF opted for the principles of eugenics in the population control movement. Funds eventually started flowing into both demographies as a discipline and its policy counterpart, the population control lobby (Ibid; Rao, 1999). One of their most persistent legacies was the creation of an international academic and policy elite invested highly in population control as a national development strategy (Rao and Sexton, 2010; Rao, 1999).

Ford Foundation in Reproductive Health in China

Ford's entry into population issues in China did not occur in isolation. The wave of population control movement promulgated much by American corporate philanthropists and their ideological and institutional agenda since the early 20th century had firmly seeded the idea of fertility control in relation to economic developments. Ideological influence, economic interests, and political agenda made this movement stronger in the Asian context. After operating in a closed context for a long, the Chinese officials gradually opened up with an eagerness to reduce fertility rates. From the 1970s, per capita grain production stagnated, and the government started giving out contraceptives for free. Finally, in 1973, population targets became an integral part of economic policy. The following year, Mao made an astounding remark that "it was unacceptable not to control the population" (Connelly, 2010, p. 339). In the later years, China's fertility program evolved itself as a demonstration of total integration, more radical and ambitious than India's 1970s Emergency.

Connelly (2010), in *Fatal Misconceptions,* states: -

> If American population control proponents ever considered "qualitative" issues in countries like India, they have concluded that reducing quantitative growth by promoting contraception was the best way to address them. The danger of differential fertility was unproven, whereas high birth rates seemed to drive infant and maternal mortality. Reducing fertility was thought to be integral to modernization, enhancing the health and productivity of both poor people and developing countries. Moreover, with the onset of the Cold War, the communist victory in China, and the United States and its allies on the defensive in Korea, defusing the population bomb was becoming the overriding priority (Connelly, 2010, p. 161).

After two decades of closed-door policy, mutual understanding between the United States and China slowly revived in the 1970s. This decade saw the arrival of China's open-door reform policy. Deng Xiaoping had just returned to power following the Cultural Revolution. Keeping the developmental agenda at the core of its economic policy, "Deng became convinced that population control was key to China's bid for modernization and invited the UNFPA into China to develop a core of expertise in the reproductive health field. The UNFPA undertook 20 projects, including undertaking China's first scientific census and building technical expertise in demography, clinical trial know-how, and manufacturing of modern contraceptives" (Joan Kaufman, 2010). For the American population control proponents, the central battleground for gaining influence and legitimacy on infertility issues was China, which in the late 1970s had witnessed its largest cash program. China had developed its first one-child policy without any foreign influence. But the UNFPA and IPPF, experiencing an uncertain future and pressured by donors, decided to extend their aid despite repeated warnings. After entering China's population health, they realized that the country was at its weakest point, making everyone connected to it vulnerable and open to attack. "These attacks were disingenuous, often defamatory, but they compelled those committed to reproductive rights to close ranks and insist on a more principled platform. The fruit of long struggle, a new consensus, would finally displace population control at the last United Nations population conference in 1994" (Connelly, 2010, p. 328).

With the normalization of diplomatic relations, the FF 1979 began "a program of direct funding for academic and professional exchanges between institutions in China and their counterparts in the US" (Ford Foundation, n.d). From 1979 to 1989, the Foundation's funding to Chinese institutions was limited without a proper setup. For instance, "in 1986, the Foundation's grant to China was about US$200,000 in total, compared with US$2.47 million to Bangladesh and US$7.88 million to India" (Ibid). 1988 became a watershed moment for the Foundation when they successfully appealed to the Chinese Academy of Social Sciences to be its sponsor (Ibid). "In 1988, the Foundation opened its Beijing office with the support of the State Council of the People's Republic of China" (Ibid). But it was only in 1991 that Ford started its involvement in reproductive health in China with the introduction of a reproductive health portfolio. "From January 1988 until September 2005, the Foundation spent $207 million on China-related programs, and China eventually became a focus of its Asia strategy" (Zhang, 2008, p. 59-60). The Foundation's New

York-based reproductive health program initiated a paradigm shift and pushed for the emphasis on rights and empowerment at the level of policymaking. The combination of women's rights and reproductive health, a signature feature of Ford's population strategy, characterized the 1990s. In the decades following, China ultimately became the signatory of all the major conferences and action plans concerned with reproductive health. At the same time, its one-child policy was considered one of the most coercive population control policies in history. It was highly criticized for its obsession with numbers and for violating human rights (Kaufman et al., 2014, p. 159).

China's journey to reproductive health from population control has a long and multifaceted history. On the one hand, there have been tremendous improvements in primary healthcare and maternal and child health since 1949 with the organization of the family planning program. On the other side, the imposition of a coercive program for fertility reduction led to major violations of reproductive rights and a highly distorted sex ratio in favor of boys. But on the other hand, the nature of the top-down population policy has highly constrained advocates for reproductive rights (Ibid). Greenhalgh and Winckler (2005) elucidate that "the likely reason for the adoption of persistence and hard birth planning in the late 1970s was mutual acceptance of the need for population control in the senior-most members of the Deng circle. Most of them considered Mao's failure to limit population growth a grave mistake in development economics. Instead, they saw the Deng era as a chance to rectify this mistake and saw this as an opportunity and obligation to correct it" (Greenhalgh and Winckler, 2005). The coercive family planning, specifically designed to fulfill all sterilization targets, started receiving alarming feedback. For instance, in one commentary in *People's Daily,* the writer called for attention to increasing infanticide, child abandonment, and infant sex-ratio imbalance, calling them a "big problem that deserves serious attention" (Ibid, 111).

In the early 1990s, at the onset of Ford's entry, "Chinese politics first leaned center-left towards revived central planning and then plunged right towards hard-lined renewed marketization" (Ibid, 122). The Foundation became a central figure in providing funding support to reproductive rights activists. For example, the Foundation provided ample funding assistance to Chinese women scholars to attend the international conference on "Women, Gender, and the State" held at Harvard University in 1992. "The conference acted as an important platform to discuss

issues of common concern with their counterparts in Hong Kong, Taiwan, North America, and Europe. Also, it was their very first opportunity to travel outside of China" (Zhang, 2008). Ford's reproductive health activities in China underwent four phases. First, the Foundation's grant in aid was based on a strategic analysis of challenges, input from a wide range of stakeholders, and the potential for impact. In the first phase, from 1991-to 1995, intersectoral and social science approaches, including community-based participatory approaches for identifying needs and programming strategies, were set. These strategies included seeding new social organizations that had just come up and bringing about quasi-governmental groups working on reproductive health problems unaddressed by government programs and services. The second phase, from 1996-to 2001, initiated pilot projects to promote global connections with various international organizations working in reproductive health, such as the PC and the International Women's Health Coalition. In the third phase, from 2001-to 2010, support was mitigated to strengthen the ongoing program to reorient population control towards a rights-based approach by scaling up the new quality of care approaches and institutionalizing innovative practices. The fourth phase, which began in 2010, narrowed down its target to youth sexuality and reproductive health and rights (Kaufman et al., 2014).

Ford's reproductive health work in China began at a time "when reproductive health had just entered the international population and health discourse and was virtually a new concept in China. The 1994 International Conference on Population and Development (ICPD) officially located reproductive health onto the international population and development agenda" (Foundation, 1994; Foundation, 1995). Along with other countries, China agreed to the goals and objectives for reproductive health set by the ICPD. By endorsing a program of action, a call was made to provide universal access to reproductive health services, including family planning and sexual health services (Jing, 2004). ICPD was followed by the Fourth World Conference on Women (FWCW) held in Beijing in 1995, which added new ideas to the concept of reproductive rights and ethical perspectives on family planning programs (Foundation, 1995; Duan, 2019). "In 1994–95, a large contingent of Chinese family planning officials and researchers attended preparatory meetings for ICPD in Bali, ICPD in Cairo, and the Beijing Women's Conference" (Kaufman et. al., 2006, p. 19). The 1994 Cairo ICPD and the 1995 Beijing FWCW provided a unique platform for the FF to promote reproductive health concepts and commitment in China.

Influenced highly by the ideas discussed in the ICPD, the Chinese government started to explore ways to shift its target-driven approach to a rights-based population policy; this policy change opened the door for the FF to help shape such efforts (Kaufman et al. 2014). The Chinese State Family Planning Commission (SFPC), in response to the ICPD, "proposed a new guideline known as the "two reorientations" (*Liang Ge Zhuan Bian* 两个转变) in October 1995, which called for focusing on family planning from merely a family planning issue to an integrated approach addressing economic and social developments. This transition marked the beginning of China's journey from population control to reproductive health" (Zhenming and Mengjun, 2011).

Simultaneously, in the late 1990s, the Chinese population program moved beyond state-centric birth limitation by broadening its goals and liberalizing its methods. The population program instantaneously incorporated reproductive objectives stated by the 1994 Cairo conference and reinforced by the 1995 Beijing World Conference on Women. The Chinese State Family Planning population control advocates soon started accepting international advice and assistance in experimental projects for pursuing those goals. Reproductive health care was taught in the family planning services, indicating a move towards narrow medicalization (Winckler, 2002). Hence, the global discourse on reproductive health and Ford's initiatives in reproductive health work in China went hand in hand, which included strengthening women's movements to foster more dialogue, debates, and changes in the said field (Kaufman et. al., 2014; Foundation, 1992). Since 1997, the FF started providing technical and funding support to SFPC programs in technical workshops, seminars, and study tours both within and outside the country. "One such pilot study was the executive workshop organized by the SFPC and supported by the FF and the Public Media Center of the United States. Approximately 100 family planning senior officials from China's central and provincial governments participated in the US training" (Zhenming and Mengjun, 2011). Along with other donor agencies, the Foundation has funded around 100 Chinese women to attend and observe local NGO forums worldwide. Such exposures have helped encourage many Chinese intellectual elites to build their own NGOs. Furthermore, when these grass-root NGOs took up activities in sexual and reproductive health projects, they received generous funding support from the Foundation (Guosheng and Ying, 2011). Such programs acted as a medium of imparting the knowledge of the New York-based reproductive health proponents to China's population health. Unlike other donor agencies like the UNFPA, FF was the only bilateral or

multilateral organization in the 1990s working in reproductive health in China that was not obliged to work exclusively through the medium of the Chinese government (Kaufman et. al., 2014).

As a philanthropic entity, FF entered China in the context dominated by China's one-child policy, the most draconian population policy posing significant reproductive and women's rights challenges (Ibid). It simultaneously became one of the largest philanthropic institutions in reform China becoming a crucial factor in promoting self-initiated organizations accounting for about "29 percent of total grants from 15 US foundations in China" (Zhang, 2008). The Foundation also started supporting local initiatives "such as organizing conferences, workshops, and training programs that have become a communication bridge between Chinese and international activists" (Ibid). One such example is the Chinese Women's Health Network which was founded after a Ford-sponsored summer school on Women's issues at Tianjin Normal University, during which a number of activists decided to create a network (*wangluo*) to help prepare for the FWCW (Wesoky, 2002).

Ford was also a significant donor agency to the All-China Women's Federation (ACWF) reproductive program.[48] Prior to the 1990s, most program initiated by the ACWF was directed toward public education projects targeted at marriage and family and the protection of women's labor rights. This changed in 1992 when the FF initiated funding support towards the women's research institute of the ACWF to launch a 12-year Chinese Women's reproductive health project. This was ACWF's first entry into the reproductive health movement (Guosheng and Ying, 2011). "The Ford-funded China project aimed to promote reproductive health in Chinese women by educating awareness on reproductive health issues through research. However, since the ACWF had never ventured into reproductive health issues, the secondary goal of the Foundation was to assist the research institute of the ACWF in building its research capacity in reproductive health" (Chu, 1994). Simultaneously, in the year following, to extend further support to reproductive health research in China, Ford funded the Yunnan Academy of Social Sciences to support a project on women's reproductive health (Guosheng and Ying, 2011).

[48] Founded in 1949 as one of the Eight People's Organizations to safeguard and protect women and children's rights and interests, ACWF is one of contemporary China's most vigorous and active organizations.

Because of its autonomous nature, Ford's activities in China have entered into areas that were sometimes regarded as too risky and sensitive for any bilateral donor agency and even the Chinese government itself. This unique position has fostered the Foundation to develop new talent and organizations through supporting different types of actors, including the NGO community and academic researchers. But on the other hand, the Chinese government has often seen to support Ford's activities and engagement in controversial areas to test out these ideas without entering into the contentious arena directly. Moreover, the population program was one such engagement where the Foundation received acceptance in the greater government circles. Furthermore, Ford's engagement in the population program institutionalized this issue in social and policy dialogues and debates, even influencing policy change and implementation (Kaufman et. al., 2014).

Conclusion

The onset of FF's population activities first in independent India in the 1950s and 1990s in Communist China marked a new epoch in the role of American philanthropy in China and India. With the growing role of international experts in domestic issues, this period witnessed philanthropic interventions in health due to two main factors – the ongoing Cold War and the development trajectory in the recently decolonized nations. The FF in this aspect played an instrumental role in Independent India in advancing the developmental paradigm. Their intervention in population control in the new international order was orchestrated by the closure they faced from Communist China, where American philanthropic foundations had been active for decades. The RF's and FF's interest in India in this period therefore was explicitly aimed at limiting the communist expansion in Asia (Sarkar, 2014).

South Asia came to the fore front as an area for possible foundation activity in the field of population science. It was an area that fulfilled the criteria set by the Gaither Report for selection of priority activities in terms of welfare which could be measured by large populations and the seriousness of growing poverty. India and Pakistan were chosen as field area for experimentation since both the countries had just gained independence from colonial powers bordered by China and seemed threatened by communism. These countries were important even in terms of American policy as there were tensions between India and the U.S. South Asian population initiative acted

as a laboratory for tracing the shift from university based scientific research with American technical assistance to grass roots organizations. Population programmes in South Asia became one of Ford`s largest overseas initiative. "In the process, they opened a new chapter in the history of American Philanthropy, marking a transition from the progressive faith in the notion of the 'disinterested expertise' to a belief that local experience, rather than university training, constituted the optimum guide to twentieth century policy-making" (McCarthy, 2010, p. 294; McCarthy, 1984; McCarthy, 1987). The first overseas programme on population control was launched in the 1950s in India. By 1950 Ford had become one of the wealthiest donors of the time exceeding Rockefeller and Carnegie.

Although the ongoing Cold War had no direct bearing on the PRC, the country, however, was not immune to its effects. The changing dynamic between the PRC and Soviet Union since the 1960s brought a wave of optimism within the small community of American philanthropists who were functioning in the country even in the time of political turmoil. The entry of the FF was motivated by this changing dynamic. While the RF continued with its involvement in PUMC, FF directed its focus on specific programs. A special interest was focused on reproductive health, technology, and birth control. Similar programs had already been initiated under the same theme in India (Sarkar, 2014). Following the trajectory of the Rockefeller foundation in population control in China, Ford also became an active American Philanthropic actor in the Population control Programme in China. Some of Ford`s efforts in this area included collaborative research with China`s Population Information and Research Centre on the impact of family planning across generations of women. After the 1994 International Conference on Population and Development in Cairo and the 1995 Beijing International Women`s Conference, the foundation stretched its arms in population control programs in China. The FF`s China trajectory from the Cold War to actively support China`s official reform and development policies and then extensive engagement with Chinese non-governmental organizations illustrates a general trend in American philanthropic engagement in China.

Chapter 5

Gates Foundation and the Making of Philanthrocapitalism in Health in China and India

Introduction

The entry of the Bill and Melinda Gates Foundation (BMGF) at the turn of the 21st century transformed the face of philanthropic giving in public health. Endowed with $50 billion coupled with an annual income disbursement of $3-5 billion, the Gates Foundation (GF) is one of the largest non-governmental donor agencies in foreign aid and accounts for around half of all western foundations funding (Kilby, 2021). Established in 1999 as the William H. Gates Foundation, BMGF has established itself as a leading actor in global health. The Foundation is widely known for its particular emphasis on developing health technology with a focus on vaccines. Like the RF and FF of the 20th century, apart from funding developmental projects, the GF is also interested in shaping and fashioning developmental policy, especially in healthcare. The Foundation has achieved this by providing funding support to vaccine research, development, and distribution initiatives and supporting universities and think tanks that take up research projects on those lines (Ibid).

The Foundation draws its funding from America's wealthiest conglomerates. Over two decades, the Foundation has positioned itself as the largest contributor to global health. Its investment in global health is comparable to the spending of the WHO annually. These factors have made the Gates Foundation a central actor in shaping international health policies. Two important foci of the Foundation are – awarding the grantees and advocacy. With a tight focus on vaccine development as a major focus area, the Foundation has prioritized "vaccine-preventable diseases such as polio, malaria, tuberculosis, measles, and DPT (Diphtheria, Pertussis, Tetanus), MNT (Maternal and Neo-natal Tetanus) and hepatitis. Global Fund to Fight AIDS, Tuberculosis, and Malaria and the GAVI Alliance have been the major recipients of the Gates Global Health Program. By building an alliance with other global players like WHO, UNICEF, the United Nations Population Fund (UNFPA), UNAIDS, the Global Fund to Fight AIDS, Tuberculosis, and

Malaria (GFATM), GAVI, and the World Bank, the Foundation advocates for better and effective healthcare around the globe". By participating in high-level global health forums like H8, deemed structures for global health governance, the Foundation exercises its power to argue its healthcare priorities and directions (Curtis, 2016, p. 12). Whereas the "RF and FF worked in close contact with the national governments and helped shape healthcare policy both within the US and internationally, the GF, on the other hand, is more linked with private sector approaches. The Foundation's primary input in the government is to promote the private sector in the delivery of healthcare services" (Kilby, 2021).

Philanthrocapitalism: Golden Age of Philanthropy

The term 'Philanthrocapitalism' was given by a New York-based journalist Matthew Bishop in 'The Economist in Feb 2006. "Philanthrocapitalism encompasses not just the application of modern business techniques to giving but also the effort by a new generation of entrepreneurial philanthropists and business leaders to drive social and environmental progress by changing how business and government operate," focused on tackling the world's, toughest problems (Bishop 2013: 474). Like Andrew Carnegie of the previous century, who through his 'Gospel of Wealth' pronounced 'the man who dies rich dies disgraced,' Ted Turner, one of the biggest tycoons of the 21st century, founder of CNN, sailor, and Philanthropist, challenged his fellow billionaires to become serious philanthropists. Turner promised to give away $1 billion in 1997 to United Nations. In his 2013 article 'Philanthrocapitalism: Solving Public Problems through private means,', Matthew Bishop stated that since Turner donated his money to the UN, private sector involvement in the UN has increased. "When Turner tried to give money to the UN, he was told it was illegal. This led to the creation of the UN Office for Partnerships, which has never been busier, striking up deals with philanthropists, not-for-profits, and big business. However, the biggest difference Turner made was that it helped to kick-start some highly public big giving by the wealthy of America and, increasingly, the world" (Bishop, 2013, p. 473).

This movement took a vibrant turn officially on 26 June 2006, at the New York Public Library, when the then second richest man in the world, Mr. Warren Buffet, donated most of his fortune (estimated at $30 billion) to the Bill and Melinda Gates Foundation owned by the world's

most successful business tycoon Mr. Bill Gates. That was a unique moment in history when the most successful and wealthiest business tycoons of the century decided to put their surplus wealth together to fight the world's deadliest problems, poverty and illness worldwide and improve America's failing public school education. This culture of mega-philanthropy is purely an American tradition that has flourished since the early decades of the 20th century. This tradition rose to a new level since the invention of 'The Giving Pledge' by Gates and Buffet in 2010. The mega philanthropists of the 21st century is like the merchants of Tudor England and Renaissance Europe, who were pioneers in helping the needy in growing industrial cities like London, Florence, and Bruges. Philanthropy was widely practiced by big business tycoons of the 19th century like Rockefeller and Carnegie but giving at such a level is a new practice. The new breed of philanthropists believes that they are giving and improving the practice of philanthropy altogether, equipping it to address the new set of social problems faced by today's changing world. They believe that philanthropy of the 20th century has not been very effective and needs improvement. They are of the idea that they can do much better than their predecessors. The new philanthropists of today are trying to apply their secret methods of amassing vast wealth to their philanthropy. Matthew Bishop has given them the name 'Philanthrocapitalist'. "As of early 2013, over 100 American billionaires and more than a dozen foreign billionaires have taken the pledge, publicly promising to give away at least half of their fortunes by the time they die. According to the annual list compiled by Forbes in 2012, their global list of billionaires had risen to 1,225, so maybe there are many more pledges to come" (Bishop, 2013, p. 474).

Today's Philanthrocapitalist see a world full of problems that they, only they, can make right. "Their philanthropy is 'Strategic,' 'market conscious,' 'impact-oriented,' 'knowledge-based,' often 'high engagement' and always driven by maximizing the 'leverage' of the donor's money. Philanthrocapitalist are increasingly trying to find ways of harnessing the profit motive to achieve social good" (Levich, 2014, p. 1). This new approach to solving world problems through large-scale giving is called 'Creative Capitalism,' coined by Bill Gates, signaling a new paradigm for governance. There are two broad beliefs behind this approach; first, that Philanthrocapitalism will help build and generate large stock of private resources, which will be able to compensate for the declining aid from governments. These increased resources will slowly surpass the stock of the government, which then one day be independent enough to tackle the grave problems of climate

change, diseases, hunger, and poverty. The second claim is based on the belief that Philanthrocapitalism has the capability to achieve better and more sustainable results, which the old form of philanthropy or, for that matter, even governments have not been able to achieve. Underlying this claim is the conviction that Philanthrocapitalism privileges the market mechanism for large-scale economic and social change because it can attract many donors and investors compared to governments or traditional NGOs (Bishop 2013; Bishop & Green 2008). "This strategy is dominated by aggressive revenue generation efforts to promote financial sustainability through the market, and an emphasis on rapid "scaling-up" to meet potential demand; and "leverage" comes through investing in, and working with, a wide range of vehicles to achieve social and economic goals, including for-profit corporations, public-private partnerships of various kinds, social enterprises, and even profit-making subsidiaries of the new foundations themselves" (Edwards, 2009, p. 36).

American philanthropic foundations are generously tax-subsidized. They enjoy flexibility as a result of the First Amendment's free speech guarantees, loose federal regulation, and political support of non-governmental support to address public issues. Assets are given to the Foundation by a donor untaxed in two respects- "donations are made more or less tax-free, diminishing the tax burden they would face in the face of no donations, and the assets that constitute a foundations endowment, invested in the marketplace, also are more or less tax-free"….() this is substantiated by the idea that "a tax incentive will stimulate more philanthropy, more and larger foundations, and therefore more public benefits, that would occur without the subsidy." Foundations are the product of public subsidy- the funds lost would otherwise be tax revenue. It was recorded that in 2014, philanthropic giving cost the US treasury more than $50 billion. Hence, foundations are not only about wealthy people investing their money for the good of the society, but citizens pay in lost tax revenue for foundations. The concrete governance structure of the foundations makes them capable of funding experiments and innovations (Reich, 2016).

BMGF in the Making of Philanthrocapitalism in Healthcare

Private philanthropic giving is significant and increasing. The endowments made by the 'new philanthropists' make up a significant amount of overall giving to charities (Waldie 2011 n.a).

In an extensive study done in 147 US cities over the period 1989-to 2002, "Card et al. (2010) found the presence of a corporate headquarters has a significant effect on giving to local charities, yielding $3-10 million per year in additional public contributions to not-for-profit organizations" (Hay & Muller, 2014, p. 6). The largest investment made in global health has been the Gates foundation. The Foundation was established through a merger of the William H. Gates Foundation, established in 1994, and the Gates Learning Foundation, established in 1997 as Gates Library Foundation. The total endowment of the Foundation includes the combined donations of Microsoft Co-founder Bill Gates, the world's richest man according to Forbes, and Warren Buffet, the second richest to Gates. The Foundation has operated in two separate entities since 2006, the Bill & Melinda Gates Foundation (BMGF) and the Bill & Melinda Gates Trust. The first entity distributes the money, and the second manages it. This structure of two different entities helps the trustees to separate the program work for the investments. Four major areas of the Foundation are- Global Health, Global Policy & Advocacy, and the United States Programme, governed by three trustees Bill Gates, his wife Melinda Gates, and Warren Buffet. The Foundation has invested the most in Global Health (Edwards, 2009; Levich, 2014; Birn, 2014; Hay & Muller, 2014).

The BMGF, in the course of years, has become the world's major supporter of vaccine related programs in developing nations. It aimed to prevent 11 million deaths by 2020. The Foundation has collaborations with big pharmaceuticals, which pushes for vaccine use for their corporate profit. BMGF is also known to be the largest or second-largest contributor to WHO. Funding records for 2015 have shown that BMGF contributed 11 percent of WHO's entire budget which was greater than the total contribution made by the government of the UK. The Foundation is also the world's largest funder of research and development in public health. It has funded enormously in communicable diseases like TB, malaria, and HIV, financing even more than the WHO. BMGF has also grown to be the leading player in many influential global public-private partnerships in health. The Foundation is also one of the significant contributors and prominent board members of GAVI (Global Alliance for Vaccines and Immunization) and WHO, UNICEF, and the World Bank. It has donated about $2.5 billion to GAVI Alliance since 2000, $1.4 billion to Global Fund to Fight HIV/AIDS, TB, and malaria, and sits on the board. The BMGF also sits on the board of H8 (a group of eight health-related organizations- WHO, UNICEF, UNAIDS, the Global Fund, and GAVI) and is an active member of G8 health-related programs. In addition,

multinational pharmaceutical companies are important players in the public-private partnerships endorsed by the BMGF. This affects their role in global health policy and decision-making. Global funds and GAVI Alliance, funded by BMGF, which are public-private partnerships, are closely associated with big pharmaceutical industries. "Merck currently sits on the board of the Global Fund while members of the GAVI board always include companies in the International Federations of Pharmaceutical Manufacturers, which involves GlaxoSmithKline, Merck, Novartis, and Pfizer, among others" (Curtis, 2016, p. 12).

The Foundation has awarded most of its grants to non-governmental organizations. Grants worth $3.30 billion in the period between 1998 and 2007 have been donated to a wide range of organizations, specifically those that are research-based, organizations involved in healthcare delivery, and those that focus on awareness and advocacy. The organization that received the highest funding in this period was the Program for Appropriate Technology in Health (PATH), an international global health organization based in Seattle. They were awarded 47 grants worth a total of $949 million which mainly was for research in medical science and development. The Foundation has also extended to increase PATH's annual expenditure from less than $20 million to about $150 million. Next in line to PATH is Institute for One World Health, a non-profit pharmaceutical company based in San Francisco. This fund was focused on discovering and developing new drugs. Save the Children Federation, Aeras Global TB Vaccine Foundation, Family Health International ($56 million), Care International ($41 million), and World Vision ($8 million) are the other non-governmental organizations that had received funding from the Foundation during this period. The International HIV/AIDS Alliance, founded in 1993 to support community groups in countries most affected by the global AIDS crises, was awarded grants worth about $42 million". Adding to all that, "the Gates foundation also lends support to other foundations like the United Nations foundations ($69 million), the Clinton Foundation ($21 million), the Elizabeth Glaser Pediatric AIDS Foundation ($33 million)" (McCoy et al., 2009; Levich, 2014; Martens & Seitz, 2015; McGoey, 2015).

Advanced Market Commitments (AMC) is a vaccine and drug development model that aims to address the issue of vaccine shortage in developing countries. This model was first proposed and forwarded by Michael Kremer, Gates Professor of Developing Societies at Harvard

University. Following the development of AMC, the BMGF 2004 funded a working group to examine the viability of AMCs. This led to the 'Making Markets for Vaccines' in 2005 from the Centre of Global Development (CGD). "The report spurred a flurry of political interest: in Dec 2005, the UK government announced its intention to fund an AMC for malaria; other EU countries stated that they might consider the same move in 2006. By June 2009, plans for the first AMC had crystallized. Working with GAVI, the governments of Italy, Norway, Canada, Russia, and the UK, together with the Gates Foundation, committed a total of $1.5 billion towards the development of the vaccine against pneumococcal disease, which kills an estimated $1.6 million people each year, most of them children" (McGoey, 2014, p. 119). Impact Investing is an idea used significantly in Philanthrocapitalism; it denotes the market-rate financial returns earned through investments in projects taken for environmental and social issues. "What is the evidence that recent philanthropic activities initiatives are, on par, helping rather than harming the global poor? Gates Foundation is a good example of this question posed. Its endowment has two main revenue sources: Gates's fortune and stock in Berkshire Hathaway, Warren Buffett's conglomerate holding company. The foundations invest 5 percent of its endowment in McDonald's, and 7 percent in Coca-Cola, companies which are seen as exacerbating health epidemics such as obesity" (Ibid, 117).

An important feature of the new global health agenda is- the vast opportunity opened for private sector investment. In the past few decades, the explosion of public-private partnerships has led the increasing profit-making prospects for global health. In addition to this, WHO's 'Commission on Macroeconomics and Health' with its infamous report 'Investing in Health', provided more incentive for enhancing economic productivity and private profits in global health. This trend can be widely noticed in the mission statements and activities of various "food, insurance, pharmaceutical corporations; global health agencies; foundations; public-private partnerships; including the Rockefeller Foundations' Impact Investing' initiative, the Global Fund's lucrative 'Business Opportunities,' the University of Toronto-based McLaughlin-Rotman Centre for Global Health's 'Commercialization Pillar,' UNITAID's promise of a 'market for health commodities, and so on. If anything, global health distinguishes itself not just business as usual, but as far more business than was usual under the field's international health designation" (Birn, 2011, p. 107). Development aid in public health has grown substantially since the 1990s, despite the fall in official development assistance (ODA). As a result, the United States donates the

highest, about one-third of bilateral aid to health-related programs. In comparison to the US, other bilateral donors are smaller. One-third of total funding to health comes from multilateral agencies, out of which 80 percent of the assistance comes from the International Development Assistance (IDA).

The presence of BMGF has become so prominent in the global health forum that it has become a significant figure in setting health policies. Traditionally, the USAID has been active in fostering privatization and economic liberalization, pushing for US exports and technical assistance. The US has also been an active member of the G8, endorsing global health issues in new forums. GFATM was created due to the concerted efforts of the US. A critical look at the current global health priorities reflects public health issues perceived as a threat to the vital interest of the capitalist nations. Moreover, the relationship between the national interest of the capitalist nation and development aid is not a new concept. For example, many aid programs in developing regions in the 1970s like the 'Population Control Programmers' have been a central feature of this association. However, since the mid-1990s, "the arguments for a greater US engagement in global health have been expressed increasingly in national interests or enlightened self-interest" (Ollila, 2005, p. 3).

"US-based foundations play a major role in international grant-giving. The grants given by US-based foundations increased from an estimated $1.6 billion in 1998 to $5.4 billion in 2007" (Foundation 2008 cited in Ulbert & Hamm 2011, 190). This estimate highlights that a large bulk of the international grant-giving is in the hands of a few large foundations, primarily based in the United States. Though these foundations differ in their policies and approaches, they show similarities in some of their main techniques and methods employed. "With the advent of these new players, the 'rules of the game' are changing, and some observers consider development cooperation to be more entrepreneurially driven and market-led than it was two decades ago" (Brainard and LaFleur, 2008, p. 190). The Gates Foundation in the 21st century is the best example of agenda-setting by a private actor in global health governance. "The power to define global health agenda is the power to decide which problems are addressed and how- a power which ultimately shapes many people's experiences of health, illness or well-being" (Faubion et al., 2011). BMGF's influence in the global health policy setting has even surpassed once important global health

agencies like WHO. The Foundation has become one of the largest funding agencies for WHO itself. BMGF has positioned itself as a global health player, a powerful one, which can be noticed in the Foundation's "agenda-formation stating on its website: 'we are funders and shapers- we rely on others to act and implement" (Bill & Melinda Gates Foundation, 2008 cited in Fabian et al., 2011).

Enter the Global South: BMGF in India and China's Healthcare

BMGF in India's Public Health

Gates foundation began working in India in 2003 with the launch of Avahan, an HIV prevention program, and its work in the first several years was focused on the HIV epidemic. "Avahan, which means "call to action" in Sanskrit - was launched as part of the Seattle-based Foundation's $200 million pledge to help fight HIV in India. The pledge was made by Microsoft chief Bill Gates when he visited India in December 2002" (Philanthropy News Digest, 2004). "The program was launched in 2003 after extensive research and consultation on the nature of the Indian AIDS epidemic, to focus on 'high-risk behaviors of specific groups" (Akhavi, 2010, p. 97). The GF's funding for AIDS was pushed by a September 2002 report published by the US National Intelligence Council (NIC). It was predicted that India's HIV cases would rise by 25 million by 2010 – the highest estimate for any country in the world. Substantiating this report, Bill Gates, on 09 November, wrote in *The New York Times* that much of India's progress towards becoming one of the emerging global economic powerhouses would be threatened by the coming AIDS epidemic. Citing the NIC report, Gates stated that India still has time to prevent the predicted widespread AIDS epidemic and the catastrophe it would cause. Stating his commercial interest in funding India's AIDS epidemic, Gates, in the same tone, states, "The humanitarian imperative for action is undeniable. But there are other reasons for the West to be concerned about India's future", says Gates, adding "With one of the largest scientific and technical workforces in the world, it is also an increasingly important business partner for many countries . . . India's rapidly growing software sector has made the country a critical partner to many American companies, including Microsoft" (The Lancet, 2002).

> Introducing corporate management modalities to HIV/AIDS prevention was a critical and recurrent theme for the GF. Therefore, it was crucial to adopt business principles for public health. They believed that the logic and expertise of the private sector were crucial for building effective, scaled-up prevention programs. Indeed, the emphasis on private sector management logic and speed and growth were cited as the reasons for not working with the government, which was understood to be lumbering, bureaucratic, and not easily accountable to the Foundation. Avahan insisted that the urgency of the AIDS epidemic in India demanded programs executed at an enormous pace (Mahajan, 2018, p. 1360).

The funding coming from the GF fostered to achieve significant expansion of access to AIDS prevention programs among high-risk groups in the Indian states of Maharashtra, Tamil Nadu, Manipur, and Nagaland. “The focus of the Foundation's work in India, like in other parts of the developing world, has been improving people's health and well-being and helping individuals lift themselves out of hunger and extreme poverty. The Foundation upholds partnership with the government as central to its effort” (Goswami, 2017). Along with Avahan, “the National Aids Control Organisation (NACO) received a separate $23 million funding annually till 2011” (The Indian Express, 11 March 2011). The global AIDS epidemic in early 2000 was concentrated mainly in the regions of sub-Saharan Africa. However, as the epidemic unfolded in the African regions, several warnings came out depicting India as the new epicenter of the disease. Gripped with worry regarding the new disease, many global health leaders from UNAIDS, GFATM, and various organizations issued warnings indicating the situation in India would be far more devastating than in Africa. In the context of this global fear, panic, and commercial interest, “the Gates foundation opened its office in Delhi, the only other besides the Seattle and Washington DC office” (Mahajan, 2018).

On 11 November 2002, on his visit, Gates announced $100 million funding to the Indian government to tackle HIV/AIDS in India. The next day, on 12 November, Gates announced Microsoft's largest investment outside the US. This announcement was made in Hyderabad, the base of the company's research center in India. A $400 million investment for 3 years in India to enhance Microsoft's growth was announced alongside the AIDS philanthropic funding. The nexus of philanthropy and commerce is highlighted in the humanitarian imperative of the AIDS epidemic and investment opportunities in Microsoft (The Lancet, 2002).

The ground for Gates to enter India’s public health was positioned earlier in 1997 when Bill Gates had visited India and administered polio vaccines (Sarkar, 2014). Gates announced a

major grant of $25 million for polio eradication to Gates Children's Vaccine Program at PATH (Program for Appropriate Technology in Health) to work with the government of Andhra Pradesh on a comprehensive immunization program with the potential for replication across India. “The program was designed to work with the state ministry of health to introduce locally manufactured hepatitis B vaccines into the routine immunization program, create a name-based, computerized immunization registry, investigate the effectiveness of a new vaccine against some forms of infant diarrhea, and increase efforts to control outbreaks of Japanese Encephalitis” (Durgan, n.d)).

Gates's efforts in India also span reproductive, maternal, newborn, and child health and nutrition; sanitation; agricultural development; gender equality; and digital financial inclusion. The Foundation's investment in India is more compared to any other country besides the United States. The Government of India (GOI) 2012 classified states distinctly according to their performance indicators. Two of the lowest-performing states were Uttar Pradesh (UP) and Bihar. The GOI, in this matter, approached the GF to work on UP and Bihar's public health. “In collaboration with India’s central and state governments and with a particular focus on Bihar and Uttar Pradesh, the Foundation worked to develop innovative solutions that improve the quality and coverage of key services. The Foundation's approach to public health in both states is mostly data-driven, allowing them to determine what works and what does not and adjust the strategies and approach accordingly” (Ibid).

Beginning in late 2011, Ananya, a large-scale RMNCHN (reproductive, maternal, newborn, child health and nutrition) technical support program, was supported by the Gates Foundation in Bihar. The program was initiated in May 2010, when the Government of Bihar and the BMGF collaborated on a five-year partnership “to support faster progress towards the state's health goals through a Memorandum of Cooperation (MoC)” (Darmstadt et. al, 2020a; Abdalla et. al, 2020; Darmstadt et. al, 2020b; Madan, 2021). “The five-year partnership brought together the Foundation and the state's departments of Health and Family Welfare, Social Welfare, Rural Development, Public Health Engineering, and other stakeholders, including the private sector” (Ibid). The Ananya program was designed with an objective to provide an opportunity to learn strategies on how to effectively conduct a large-scale PHC program and its attempts to address key evidence gaps and recognize new insights and knowledge on improving PHC system performance,

strengthen community-based interventions such as SBCC and SHGs to enhance service delivery across populations (Darmstadt, 2020). The program aimed to address supply and demand-side barriers to the adoption, coverage, quality, equity, and health impact of select RMNCHN interventions (Ibid). "Efforts were focused on strengthening outreach services in quantity and quality, improving quality of facility services, and mobilizing communities to improve health behaviors. The program included training, mobilizing, and monitoring of government frontline health workers, including Anganwadi workers- AWWS, auxiliary nurse midwives- ANMs, and community health workers-ASHAs) to increase quantity and quality of home visits for RMNH screenings and services, and media messages to increase demand for services" (Bihar Family Health Initiative, n.d).

The initial phase of the Ananya program was focused on garnering intensive ancillary support by NGOs for governmental implementation in a population of about 28 million in about eight focused districts. BMGF gave its grantees the flexibility to develop and test their technical and managerial innovations. At the completion of a two-year pilot phase, the Bihar government launched the scale-up of selected interventions statewide, which necessitated that non-governmental partner's transition to a new structure for the provision of technical and managerial support through the State Technical Support Program (Darmstadt, 2020). "The Technical Support Program provided techno-managerial support to governmental Health and Integrated Child Development Services, and the JEEViKA Technical Support Program supported health layering and scale-up of the GoB's SHG program" (Ibid, 1).

A research article published by Darmstadt, Weng, and Pepper on the Ananya program, however, concluded that,

> The *Ananya* program had limited impact in improving health-related outcomes during the first two-year period covered by this evaluation. The program's theories of change and action were not powered to observe statistically significant differences in RMNCHN indicators within two years but rather aimed to help inform program improvements and scale-up. Evaluation of large-scale programs such as *Ananya* using theory-informed, equity-sensitive (including gender), mixed-methods approaches can help elucidate causality and better explain pathways through which supply- and demand-side interventions contribute to changes in behavior among the actors involved in the production of population-level health outcomes. Evidence from Bihar indicates that deep structural constraints in health system organization and delivery of interventions pose substantial limitations on behavior change among health care providers and beneficiaries (Darmstadt at al., 2020a).

GF's other interest focuses on healthcare in the northern state of Uttar Pradesh, where the Foundation has signed an MoC with the UP government "to improve health, agriculture, and financial services for the poor. The MoC calls for a public-private partnership (PPP) model to reduce infant and maternal mortality rates, strengthen infant and young child feeding (IYCF) policies by promoting breastfeeding, and increase the number of Accredited Social Health Activists (ASHAs) and Auxiliary Nurse Midwives (ANMs) centers" (Sharma, 2012; Uttar Pradesh to sign, 2012). In addition, "the foundation also decided to support the state government in tackling health-related challenges by experimenting with new and innovative methods for effective behavioral changes, delivery of services and management of health systems" (Bill Gates, Uttar Pradesh chief minister, 2012). In pursuance of the MoC, the Uttar Pradesh Technical Support Unit (UP TSU) was formed in 2013 to provide techno-managerial support to the Government of Uttar Pradesh (GoUP) (Uttar Pradesh Technical Support Unit, 2020).

Bill Gates is, during one of his visits to India to review the work of the Foundation in healthcare, complimented India's role in a range of programs like "digitization of payments to benefit the poor citizens, sanitation and polio eradication, adding his foundation is in the process of taking some of the successfully implemented ideas in the country to the African continent" (Press Trust of India, n.d). He called for greater private sector innovation and technology like digital tools that would help India provide quality healthcare services at a low cost. He further added: "The foundation's biggest task has been broadly in helping to get new vaccines introduced, innovations in some of the disease-specific areas, like tuberculosis or visceral leishmaniasis (VL) or lymphatic filariasis (LF)" (Ibid).

The role of the GF in UP is highlighted to provide technical and management support and form a state technical support team that will regularly report to the principal secretary in the state health ministry (Sharma, 2012). However, concerns regarding such a big financial move on technical-based narrow programs have been discussed by health activists in detail. For example, "Jashodhara Dasgupta, coordinator of SAHAYOG, non-profit based in Lucknow that promotes gender equality and women's health from a human rights framework by strengthening partnership-based advocacy, stated, Foundations like BMGF promote only one-point, vertical programs that weaken the health system, especially in a state like Uttar Pradesh. Moreover, they encourage

privatization and are not accountable to the people of Uttar Pradesh. Even though they bring in vast resources, they have a narrow focus. What is worrying is that these discussions are not transparent and accountable. They do not engage in any kind of discussion with us in regard to such big programs" (Sharma, 2012).

The Foundation has also extended its funding support to organizations like the International Center for Research on Women on projects like *Evaluation and Learnings from Family Planning Investments* intending to generate evidence on the effectiveness and impact of family planning investments in India from the public and private health sectors (Evaluations and Learning, 2022). The project's core objectives are to evaluate, assess, and learn from the Foundation's investments to build knowledge on family planning through primary and secondary data analysis (Ibid). "The Foundation's efforts in India's family planning support the National Family Planning Programme and aims to strengthen the public health delivery system to deliver the full range of high-quality family planning services, with a special focus on Bihar and Uttar Pradesh" (India, n.d). The strategic framework of supporting India's family planning is distinctly highlighted on its official website as,

> We provide strategic support in those states and at the national level to help assess family planning needs, identify barriers to access and funding gaps, and provide technical assistance to improve the quality and availability of family planning services while constantly working toward expanding contraceptive choices for girls and women and their families. We also support performance monitoring and better data collection and help improve coordination among governments and partners to meet the needs of those who want to delay or space their pregnancies. Our work also includes engaging directly with private markets to increase access to high-quality family planning products and services and expand the available contraceptive choices, focusing on responding to the needs of young and low-parity couples. We work through our partners and with community organizations and women's self-help groups to disseminate accurate information about family planning options and increase awareness, thereby improving access and quality, with equal focus on generating and satisfying the demand for family planning (Ibid).

The Bain and Co. Indian Philanthropy Report 2015 notes that total philanthropic funding in India more than doubled from 2004 to 2009, from $0.8 billion in 2004 to $1.9 billion in 2009. It becomes important to look closely at the economic underpinnings of corporate philanthropic initiatives. The 2009 giving pledge, infamously known as the elite international club, invited Indian billionaires to join the giving club. "Data from McKinsey & Co. show that the number of households in the highest income bracket, making more than $34,000 a year, has risen to 2.5

million, from 1 million in 2005. But the ranks at the bottom, making less than $3000 a year, also have grown, to 111 million, from 101 million in 2005" (Ramdas 2011, p. 1).

One of the GF vaccine programs in India was caught in the row of a massive controversy. This program began in 2009 when some 23,000 young girls aged 9-15 were administered vaccines to prevent cervical cancer in the Khammam district of Andhra Pradesh and the Vadodara district of Gujarat. The vaccines administered to these girls were Gardasil and Cervarix. Gardasil is manufactured and donated by Merck and Cervarix by another pharmaceutical giant GlaxoSmithKline. These approaches can be highly profitable for pharmaceutical manufacturers, and research undertaken on such projects can give important data for the promotion of the vaccine globally (Ahmed, 2017). The vaccines were given under the supervision of the state health services. The implementing agency of this program was PATH (a US-based Programme for Appropriate Technology in Health). The main purpose of this program was to generate evidence to support the inclusion of vaccines in India's national immunization program. This vaccine demonstration project has been accused of causing deaths and illnesses. The clinical trial aimed to generate data to support the inclusion of the HPV vaccine in India's Universal Immunization Program (Bagla, 2013; Tarfe, 2021).

The BMGF has also been the high-profile funder of polio eradication. India was declared polio-free in 2012. Following these acclamations, a study carried out by doctors of St. Stephens Hospital Delhi showed that polio vaccines appear to cause a clinically identical disease that is twice as deadly as polio. The same view has been highlighted by Dr. Viera Scheibner, a prominent vaccination expert who stated in an article- "It comes as no surprise that the most recent mass polio vaccination program fueled by the Bill and Melinda Gates foundation resulted in increased cases of VAPP (Vaccine-associated Paralytic Poliomyelitis) ...the only way to eradicate paralytic poliomyelitis is to stop vaccinating" (Curtis, 2016, p. 41).

The HPV vaccine project facilitated in India opened up low-cost clinical trials and helped open new markets for the drug Gardasil, which had underperformed in the US. First introduced in the US in 2006, Gardasil experienced high sales initially. However, the vaccine was criticized heavily by the American Medical Association (AMA) and others who questioned the risks related

to the use of this vaccine. Following these criticisms, Fortune Magazine in 2010 described the drug as a "marketplace dud." The sales for the HPV vaccines – Gardasil and Cervarix, eventually dipped in the US. The drug was then simultaneously introduced in the markets of the developing countries by PATH. This led to an increase in sales and profits. In the years following the unethical issue with the clinical trial in the Indian market, "The Indian Parliamentary Committee included the following remarks in their report on the potential financial benefit of the project: Had PATH been successful in getting the HPV vaccine included in the universal immunization program of the concerned countries, this would have generated windfall profit for the manufacturer(s) by way of automatic sale, year after year, without any promotional or marketing expenses. It is well known that once introduced into the immunization program; it becomes politically impossible to stop any vaccination" (Parliament of India, 2013; Singh, 2013; Kaehler, 2015).

China in the Age of Philanthrocapitalism: BMGF in China's Healthcare

Gates Foundation first opened its China office in 2007 in Beijing "under the sponsorship of the Ministry of Health of the PRC. The Foundation's first director was Dr. Ray Yip, former China director for the U.S. Centers for Disease Control and Prevention" (Bill and Melinda Gates Foundation, 2009). Since then, the Foundation has invested enormous funding in controlling and preventing diseases, strengthening national immunization programs, enhancing primary healthcare, improving child nutrition, and promoting philanthropy. In years, the Foundation has also extended its program to various major programs like eliminating malaria, supporting agricultural development, improving health product innovation and regulation in China, and promoting sanitation technology innovation and commercialization (Bill and Melinda Gates Foundation, n.d). The Foundation's main goal is highlighted as "to make China a global center for research and development." The Foundation's enormous amount of funding in China's healthcare is not just focused on improving the health of the Chinese population but also on expanding its global health outreach to other developing nations. On its official website on GF's efforts in China, it is mentioned, "Many of China's systems improvements and technological innovations have huge potential to benefit other developing nations. We are working with partners across the public and commercial health sectors to design interventions that can unleash this potential and benefit global health far beyond China's shores while also furthering innovation for the benefit of the Chinese

people" (Bill and Melinda Gates Foundation, n.d). Recognizing China's distinctive manufacturing capability, the Foundation aims to tap China's unique position in facilitating quality improvement and lowering the cost of drugs, contraceptives, and other health products, and opening up markets for these products in the developing countries.

Unlike other developing countries, China is relatively wealthy and moving towards becoming a donor rather than a recipient of aid. The GF believes that China, in the coming decade, will become one of the potential contributors to the development of new drugs and vaccines for poor countries. For example, "Many, if not most of the world's most effective medications against malaria stem from China's discovery and development of anti-parasitic drugs based on plant extracts of artemisinin, sweet wormwood, or Qinghaosu" (Paulson, 2014). However, one of the most successful collaborative efforts in medical R & D between the Chinese government and the GF was in the Japanese encephalitis (JE) vaccine. "The Foundation partnered with the government-owned China National Biotec Group (CNBG), a subsidiary of China National Pharmaceutical Group Corporation (Sinopharm), to develop a vaccine for JE in 2003. This vaccine in 2013 became the first Chinese-made vaccine to receive prequalification status by the WHO."[49] The Foundation, in this aspect, aims to help China with its regulatory reform and help assist in its vaccine marketing.[50] Although China is one of the largest manufacturers of medical products, its industry remains primarily focused on domestic use, with Chinese-made vaccines acquiring an approval rate of only 4 percent by the WHO. Working with Chinese and international partners, "the Foundation focuses on removing the barriers to making high-quality and affordable Chinese-made products more readily available to the international market" (Bill and Melinda Gates Foundation, n.d).

In the initial years of its engagement, the Foundation was more engaged in offering direct assistance on several health fronts – inclined more towards diseases like HIV and TB. However,

[49] "The prequalification allows United Nations procurement agencies to purchase the vaccine for global use and is an indication that the vaccine has met international standards of quality, safety, and efficacy" (Tan, 2018).

[50]"WHO prequalification is often required before medical products are eligible for purchase by developing countries and multilateral organizations such as Gavi, the Vaccine Alliance; UNICEF; and UNITAID. Disparities between Chinese domestic standards and approval processes and those used by WHO have created practical barriers and reduced incentives for Chinese manufacturers to pursue WHO prequalification for their products." (Bill and Melinda Gates Foundation, n.d)

the Foundation's global health program is migrating more toward becoming a virtual pharma in the recent decade. The Foundation plans to facilitate China's growing medical R & D with a narrow scope to assist the biomedical and drug industry in developing new drugs specifically tailored to meet the needs of the poorer population (Tan, 2018). "This includes the development, production, and distribution of high-quality, low-cost vaccines and other health products and sanitation solutions that have the potential to benefit those in need around the world" (China, n.d). The Foundation 2015 collaborated with the National Natural Science Foundation of China (NSFC) to advance this agenda to initiate the China Grand Challenges Project. "The project aimed to support scientific and technological innovation that can address critical challenges facing developing countries. In years, this collaborative project has funded numerous researches at leading universities, institutes, and hospitals in China on tuberculosis (TB) drugs and vaccines, child and maternal mortality, AIDS vaccine design, and more" (Bill and Melinda Gates Foundation, n.d). In 2016, in partnership with Tsinghua University and the Municipal Government of Beijing, "the Foundation launched the Global Health Drug Discovery Institute (GHDDI) to initiate research in innovative medical products targeting infectious diseases that mainly afflict the developing population, such as TB, polio, and malaria" (Bill and Melinda Gates Foundation, n.d).

According to Dr. Yip, the philanthropy of the older days had perceived China as another low- or middle-income country that required help to fight diseases of poverty and boost agricultural productivity. However, China's rapid economic development has also made significant progress in reducing poverty and prevailing social problems like child malnutrition and maternal mortality (Paulson, 2014). Although commendable progress has been made in China's healthcare, there are still serious public health issues that need to be dealt with. Especially regarding the burden of infectious diseases. The GF, in this aspect, plans to assist "China's public health to deal with this burden and introduce high-quality, low-cost Chinese-made medical products into the global market, expand China's role in bilateral and multilateral mechanisms to help fill the gap in funding and expertise, and facilitate the sharing of China's infectious disease control experience in regions sharing similar issues" (Facilitation Global Health and Development, n.d).

The Foundation has been extensively engaged with two public health programs in particular – TB and HIV/AIDS. These two programs were initiated phase-wise in collaboration with the Chinese government. "The China-Gates Foundation HIV Prevention Cooperation Program was the first large-scale public health partnership between the Gates Foundation, National Health and Family Planning Commission, State Council AIDS Working Committee, and social organizations like the Chinese Preventive Medicine Association, Chinese Association of STD/AIDS Prevention and Control, community-based organizations" (The China Gates Foundation, 2013). Launched in November 2007 with US$50 million, the program aimed "to demonstrate the feasibility of scaling up HIV prevention in 14 large Chinese cities - Beijing, Changsha, Chongqing, Guangzhou, Harbin, Hangzhou, Kunming, Nanjing, Qingdao, Shanghai, Shenyang, Tianjin, Wuhan, Xian, and Hainan Province" (Ibid).

"The program placed a strong emphasis on supporting community-based organizations (CBOs) to complement the work of the local branches of the Chinese Center for Disease Control and Prevention (CDC) and hospitals" (The China Gates Foundation, 2013). In the first phase, the Foundation worked with community organizations to expand HIV prevention through testing and interventions, especially for those most at risk of infection, and providing care and treatment. The second phase of the program was launched in 2014 to focus on deepening participation by community organizations. The second phase of the program aimed to assist the Chinese government operates a special fund to support the work of community organizations. The program also advocates for policies, such as the inclusion of rapid HIV tests in the National Guideline for Detection of HIV/AIDS (Addressing Domestic Health and Development Challenges, n.d). "The core of the program utilized a "Test and Treat" public health infectious disease control model to reduce HIV transmission. The main components of this model were: Increase case detection for prevention among high-risk populations (test) and improve case management for prevention among infected individuals (treat)" (The China Gates Foundation, 2013).

The AIDS pandemic, for years, has created substantial knowledge in science, medicine, and public health. The changes brought by the AIDS pandemic have not only changed the course of the disease but have also had a powerful effect on research and science, clinical practices, and broader policy. The AIDS pandemic "has reshaped conventional wisdom in public health, research

practice, cultural attitudes, and social behaviors. Most notably, “the AIDS epidemic has provided the Foundation for a revolution that upended traditional approaches to "international health," replacing them with innovative global approaches to disease. Indeed, the HIV epidemic and its responses have been crucial forces in "inventing" the new global health” (Brandt, 2013, p. 2149). The entry of private philanthropic giving, primarily through the GF, has reshaped the funding priorities for global health. "HIV funding has led to new public-private partnerships that have become a model for funding scientific investigation, global health initiatives, and building crucial health care delivery infrastructure in developing countries. These funding programs have fomented contentious debates about priorities, efficiency, allocation processes, and broader strategies for preventing and treating many diseases, especially in poorer countries” (Ibid).

Another major arena of funding by the GF in China is TB. In a 2009 meeting held in Beijing between the WHO, Gates Foundation, and the “National Health and Family Planning Commission of China (NHFPC), China revealed a high burden of MDR TB and extensively drug-resistant TB (XDR-TB)” (Long et. al., 2016). Following this meeting, a comprehensive program was launched to improve the quality of treatment and affordability of treatment. This program was launched with the combined effort of the Chinese government and the Bill and Melinda Gates Foundation in four cities (Ibid). The goal of the funding from the Gates Foundation was initiated to help China with new diagnostic tests, drug regimens, patient monitoring strategies, and healthcare approaches to deliver TB treatments across the country effectively. "This partnership with China comes at a critical time in the world's response to tuberculosis, said Mr. Gates, co-chair of the Bill &Melinda Gates Foundation. The rise of drug-resistant TB worldwide has created a new urgency to combat the disease, while scientific innovation leads to new technologies that will help us succeed. China is taking the threat of TB very seriously, and we are excited to support its efforts" (Chinese Government and Foundation, n.d)

The China-Gates program was divided into different phases. The first phase was introduced from 2009 to 2012 with the aim of diagnosis, treatment, and financing. "The strategies included: the introduction of rapid molecular diagnosis for isoniazid and rifampicin susceptibility and associated laboratory staff training; standardized and detailed MDR-TB treatment protocols based on the estimated degree of drug resistance; the use of health insurance and other funds to cover 90

% of the medical costs of MDR-TB diagnosis and treatment and to subsidize transport and nutritional supplementation; and strengthening MDR-TB patient management using a TB control network, particularly in primary care facilities and the community" (Long et al., 2016, p. 3-4). The transference of TB care from the CDC to the hospital system was one important change in the first phase. A specific number of county hospitals were designated as TB care hospitals with an objective to provide adequate quality diagnosis and treatment. In addition, structural changes in the financing of TB patients changed from the special fund from the Ministry of Finance implemented as part of the DOTS strategy to insurance-led care (Tang et al., 2016). With these reforms in TB care, one important challenge highlighted in the first phase was the problem related to effective financing and delivery in the new system. The challenge encountered was how to effectively provide quality care through the new financing and delivery model following the national guidelines (Ibid). These challenges were tackled in the second China-Gates TB program, which commenced in 2012.

The China CDC and the Gates Foundation, in the second phase from 2012 to 2014, emphasized a "sustainable financing mechanism for TB/MDR-TB treatment" (Long et al., 2016). The second phase was introduced in three provinces: Zhenjiang (east), Yichang (Central), and Hanzhong (west) (Dong et al., 2019; Jiang et al., 2019). This phase expanded the program by including all TB patients by integrating the financing mechanism of TB care with the health insurance schemes simultaneously in par with the ongoing reforms in hospital settings. It aimed to establish a comprehensive TB control model which can be taken up and expanded by the national TB control programs. Implementation of new financing models for TB and MDR TB control took center stage in this second phase. In collaboration with the China CDC, the three municipal governments of Zhenjiang, Yichang, and Hanzhong, supported by Gates Foundation and international expertise, decided to combine the financing of TB/MDR with the national insurance schemes. Three major national insurance schemes- "the urban employee basic health insurance (UEBHI), urban resident basic health insurance (URBHI), and the Medical Financial Assistance (MFA)" schemes were decided upon to increase the reimbursements for outpatient care to 70 percent for TB related patients and 90 percent for in-patient services in all cases related to MDR-TB care. Financial subsidies for food and transportation were also added as an important component for the most vulnerable populations (Tang et al., 2016; Long et al., 2016).

The collaboration between the China CDC, the municipal government of the three prefectures, key stakeholders from TB designated hospitals, and the Gates Foundation took a year-long negotiation before a consensus was reached and the policies agreed upon. The hospital authorities and the insurance agencies were not particularly in favor of the new China Gates TB financing model. The hospital authorities reasoned that TB treatments could be complicated, especially with cases related to co-morbidities and other complications, whereby some patients might require ICU services that were not designed as part of the new services package. On the other hand, the health insurance agencies argued they might end up paying more in total, considering most TB patients would utilize outpatient services more, which has not been previously reimbursed (Long et al., 2020). Nevertheless, after several rounds of discussions, the program was implemented. The program's overall performance was highly appraised for its results in improving in-patient and outpatient services with improved treatment outcomes (Dong et al., 2019). However, in contrast to the initial guidelines of the program, which emphasized a case-based payment ceiling of full course for both outpatient and in-patient services, when it came to implementation, the agreed financing system was substantially weakened. A study by Long et al. (2020) on the new financing mechanism of TB care in China highlighted many interesting revelations. Firstly, many active TB patients who were designed to be included in the original policy were excluded from the implementation process. These excluded patients were people with co-morbidities and other complications, which were not included with the rationale that the cost of their treatments would cross the ceiling specified by the program. Such cases were observed mainly in Yichang and Hanzhong cities, where if the treatment cost crosses the ceiling outlined in the new policy, the excess incurred was reimbursed under the earlier reimbursement policy. In Zhenjiang prefecture, the study observed the reimbursement rate lower than the suggested 80 percent. Also, the cost of certain additional drugs and diagnostic treatments was not included in the reimbursement program of the new policy. Finally, a qualitative interview with local officials highlighted that although the new policy envisioned covering vulnerable populations, in reality, only a few were eligible for the benefits.

On the other hand, the insurance agencies and health authorities argued that the cost of treatment was not under control as expected. Although the program coverage and utilization of

services were extensive, many poor patients still faced financial hardships related to treatment costs. One major factor that was highlighted extensively was the fear around losing hospital revenue since the majority of the hospital relied on fee-for-service. These hospitals relied on providing expensive services to generate revenues. Citing the potential for insufficient hospital compensation, the stakeholders voiced concern regarding losing revenue due to TB care. Another key issue was hospital admission which was capped at 30 percent in the new policy. However, many hospitals recorded 40 to 70 percent TB-related admissions which crossed the marked-up percentage for TB care (Long et al., 2020; Dong et al., 2019; Tang et al., 2016; Zhou et al., 2016).

Conclusion: Gates Foundation and the Era of Global Health Governance

American philanthropic giving in public health has a long history in China and India, and the Gates Foundation should be seen as part of this tradition. The Foundation has marked its significance as a major global health actor in both countries because of its innovative strategies and attention to scientific and technological development. With the onset of the global recession giving way to scarcity of public sector funds, the entry of the Foundation in a few select areas of public health is determined mainly by the interests of the Gates family and its governing board. "Some have construed such narrowed priorities in public health as having a skewing effect on global research trajectories, prioritizing particular diseases or technologies that do not reflect the actual global burden of disease or the needs of the poor" (Stevenson, 2014). Partnering with both the national governments of China and India, the GF collaborates with a range of public, private, and intergovernmental agencies and universities, corporations, advocacy groups, and NGOs. Following the RF strategy, the GF requires funding support from the local governments to design "technologically oriented programs to achieve positive results from narrowly defined goals" (Birn, 2018). Picturing itself as a partner of the concerned national governments, the Foundation provides resources and funds that the governments cannot. However, "the BMGF places restrictions on what types of global health activities it will fund. In particular, it takes a biomedical approach and focuses its funds on research and development of treatment for infectious diseases. It offers little support for healthcare infrastructure since it seems that as a primary responsibility of government" (Youde, 2018, p. 5). Through its Grand Challenges for Global Health initiative in both China and India, "the Foundation is deemed to be shaping what is researched with minimal accountability,

catalyzing interest in a select group of problems amongst those who address complex, multifaceted challenges in very particular ways" (Stevenson, 2014). "During the past century, large-scale private philanthropy has played a critical worldwide role in ensuring the hegemony of neoliberal institutions while reinforcing the ideology of the Western ruling class" (Levich, 2015, p. 708). The Foundation's dominance in public health has voiced concerns that the growing funding governance to researchers in the "global south is limiting external criticism of BMGF ideas and diminishing the Foundation's ability to engage in critical self-reflection" (Stevenson, 2014). As Jacob Levich argues, "The Foundation orchestrates vast, elaborate public-private partnerships. These charitable salmagundis tend to blur distinctions between governments, which are at least theoretically accountable to citizens, and profit-seeking businesses, which are accountable only to their shareholders." (Levich, 2015, p. 718).

Chapter 6

Discussion

Introduction:

By the early twentieth century, a new kind of American philanthropy emerged in China and India, transforming the scale and intensity of interregional connections in shaping public health and medicine. This new movement was part of a global reconfiguration of philanthropy in the light of the First World War. With the prospects presented by the First World War, this new philanthropic movement, led by the RF, intervened first in Europe and subsequently across the world, with China and India becoming a part of the special commission in the global south. Epitomized by the expanding work of the RF, this new form of philanthropy transported techniques pioneered in the American South to China and India (Amrith, 2016).

Historically, American Foundations have played prominent roles in filling gaps created by public and private sectors both in the United States and globally. With longstanding distrust in governments and commitments to free markets, private philanthropic foundations like Rockefeller, Ford, and Gates are products of the American polity (Stevenson, 2014). Starting at the epoch of the 19th-century industrial revolution, influenced by Andrew Carnegie's 'Gospel of Wealth,' American philanthropic foundations argued corporate philanthropy to be an obligation of the very wealthy. Although established in different temporal contexts, the vision and activities of all three foundations trace themselves to the idea of individual entrepreneurship deeply embedded in the culture of American capitalism. The roots of modern institutional philanthropy of the RF, FF, and GF can be traced to the 20th century when business tycoons like John D. Rockefeller and Andrew Carnegie set up the first American foundations primarily with an agenda to shield some of their income tax from public scrutiny. In addition, setting up charitable organizations was also seen to garner prestige in the US and globally (Martens and Seitz, 2015).

Over the 20th century, these mega philanthropists have concentrated their power, developed a prominent professional cadre, and in a noteworthy way, advanced the art of leveraging power and influence in various global forums significantly in public health (Dowei, 2001). These foundations exercise great power in American life, which exceeds their wealth and influence derived directly from the proactive nature of their grant-making (Ibid). Giving is not a new concept; many religious and secular institutions have been involved in charitable work for several centuries. Many cultures which experienced a significant accumulation of wealth found institutional ways to put their excess wealth for the good of the society. But massive trusts numbering in the thousands, growing ever larger as new wealth is a 20th-century phenomenon and a uniquely American institution (Ibid). All three foundations, over decades, have exerted a powerful influence in favor of rationalizing medical care, and their dominance has increased since World War II. They played a prominent role in developing American medicine in its formative years, from 1900 to the 1930s. Their very large endowments have been the source of power and influence, generous in their approach but carefully applied to specific programs and policies (Brown, 1981).

American philanthropic foundations through the decade long activities of the RF, FF, and GF in China and India's public health have garnered visibility, brand repute, legacy and new markets through its soft power. Foundations have embodied the ability to attract and co-opt rather than coerce through its development projects (Manku, 215). Public health since the birth of the foundation has assumed as one of the most important social development projects in China and India. "Scientific giving, however, has more to it than social development and self-satisfaction of the philanthropists. Over the decades, it has emerged as an important strategic tool". A tool for tax evasion and building a legacy to leave behind (Ibid). A definite by-product is the network of expertise that they've build in public health through its various programs and policies. Commercial motivation may not be the main drive, however, the business interests of the Stanford Oil, the Ford Motors, and recently, Microsoft is not absent from its appeal for philanthropic endeavor. The rigour applied in their business projects is the same rigour operating their philanthropic activities (Ibid).

Scientific Giving comes with an annual plan, set targets and expected results. Through the acclaimed achievements in public health in China and India, all three foundations have been instrumental in both societies and their significance in building American hegemony. Their ability to acquire leverage and hegemony comes from their sustained, long-term cooperative relationship that they've maintained with the American state. Through such efforts, the foundations played a prominent role in constructing national, global, and international institutions and networks through which they exercised their hegemony (Parmar, 2012). "Taking the cue from Antonio Gramsci, Donald Fisher, in a recent essay, has pointedly argued that philanthropic foundations have been able to promulgate a general perception of social reality favorable to the dominant class through their financial support to higher education and research. He writes: philanthropic foundations have been key participants in both the reproduction and production of cultural hegemony'' (Hewa, 2001, p. 419).

International philanthropy through its social development's projects like public health have also in the process advanced American state's security interests. Apart from benefiting its philanthropic agenda, it simultaneously generates several important byproducts that serve American interests. Philanthropic giving abroad becomes "a powerful tool of public diplomacy because it enhances the U.S. image abroad, facilitates the sharing of ideas and values, and places U.S. institutions as partners in solving critical social ills" (Jenkins, 2007). The activities of modern institutional philanthropy in addressing public health problems in China and India helps to generate 'Soft Power' serving American interests and exercise their hegemony to influence and garner cooperation in global affairs in health and medicine.

Projecting its philanthropic giving as a soft power and exerting its hegemony through its large endowments, the development of scientific medicine and advancement of technology in public healthcare has been the primary goal of all three foundations in China and India. The foundations entered China and India at the right time when both countries were looking towards science to build a strong, health nation. Described figuratively as "Mr. Science" (*sai xiansheng* 賽先生), the ideas propelled by scientism became a dominant force in the Chinese progressive circles in the decade of the May Fourth Movement (Lei, 2014). With this ideological position unfolding in influential Chinese circles, science became a signifier of modernity directed by the "scientific

method" (Ibid). In colonial India, science played a vital role in giving shape and authority to the understanding of modernity. Political historian David Arnold's study of British colonialism in India places "science at the centre of British rule; science appears closely involved in British practices to develop and rule India as a colony and nationalist efforts to imagine and build it as a modern nation" (Ibid). The RF, therefore, encountered a receptive climate in both the countries for its ultimate agenda of developing scientific medicine in the early twentieth century. If the institutional goal of the RF was developing 'Scientific Medicine', the FF's philanthropic strategy relied on use of technology to advance its population control agenda and in the recent decade BMGF is known for its reliance on innovation in technology to achieve its targeted goals in public health. 'Modern Science' which streams from the idea of 'Germ Theory' is seen as the principal framework of the RF, FF, and GF's public health approach in both countries. The reliance on biomedical understanding of germ theory became the foundations' ultimate drive in all their public health campaigns. This drive led them to a technocentric approach to disease control which received significant attention in most of their public health strategies. It became further cemented with the subsequent institutionalisation of medical education and an increasing interest in R & D in medicine. This idea of 'Science and Scientific Medicine' advanced by the three foundations in public health becomes the point of convergent comparison in China and India where the ideas propelled by modern science became the cornerstone of American philanthropy. This thesis therefore locates the ideas of 'Scientific Medicine' as a comparator and acts as a fundamental comparative framework.

The Science of American Giving:

In the late 19th and early 20th centuries, when the foundations emerged as saviors of humanity, the structure of the world's economic, political, and military power was experiencing a profound transition. By the beginning of the early 1950s, the contours of world power had already shifted. With Great Britain declining as a global empire began the dawn of the American century. Benefiting enormously from Britain's pyrrhic victories, the United States ascended to the 'arsenal of democracy (Parmer, 2012). RF was one of the first major American foundations that advanced the philosophy of 'Scientific Giving,' followed by Ford when the idea "became nationally and globally active in the 1950s. Following the ideals of pragmatism and utilitarianism with an elitist

and technocratic outlook, the RF and FF aimed to invest in ideas to reform society, economy, and politics. Amid endowments figuring in hundreds of millions of dollars, the foundations campaigned to generate positivistic 'scientific' knowledge that would be of practical use to policymakers, urban planners, and state-builders. Armed with the understanding of social sciences like sociology, economics, and political science, foundation leaders rarely consulted those" whose reform programs were targeted and, on whose behalf, they claimed to be acting (Ibid). The 21st-century style of philanthropic giving propagated by foundations like BMGF is closely bound to the ideals of neoliberalism. The divergence of Gates's approach from RF and FF is the level of skepticism that they project on the state's role. The approach of the new philanthropists tries to diminish or replace the role of the state with market-based mechanisms (Kilby, 2021).

The 'Science' of philanthropic giving is an American invention. No other charitable organization has been able to organize itself in such a large form, staffed with tens and thousands of foundation professionals assuming prominent roles as educators, researchers, and pollinators of policy think tanks (Dowei, 2001). "The emergence of philanthropic foundations as actors in public health is not a new phenomenon. The RF and FF both are seen as pioneers in multisectoral collaboration in international development. RF's role in facilitating the green revolution in the 1950s India played a vital role in uniting actors from across sectors in novel institutional arrangements that closely resemble contemporary strategic partnerships" (MacLean et al., 2009). RF's widely known programs, such as the "search for a vaccine for yellow fever and its efforts to eradicate hookworm in the American South and globally – as well as its crucial role in financing the failed League of Nations Health Organization – to some degree, acted as an antecedent to the modern global health partnership" (MacLean et al., 2009).

The activities of all three foundations in public health can be clubbed into three stages – the first stage, which began in the 1920s to the 1950s, was more concentrated on domestic issues, during which time they helped construct the dominance of liberal internationalism by establishing the institutional capacities of the federal government with a direct interest in foreign affairs. The second stage rolled out in the 1930s and lasted till the 1970s. This period focused on integrating elite networks and developing formal and informal international organizations to operate their philanthropic agenda. Stage 3 commenced in the 1980s, the era of neoliberalism, when the

foundations reframed the concept of American hegemony from hard military power to soft power. The international orders thus formulated during this period were aligned with American interests. Hence, "this aid generated sustainable elite networks that supported American policies from liberalism in the 1950s to neoliberalism in the 21st century" (Palmer, 2012). In the light of this, many critics have argued that "the growth of modern institutional philanthropy is aimed at preserving rather than redistributing wealth and a way for elites to pursue and legitimize their actions" (Private Philanthropic Foundations, 2017).

The Medical Missionaries: The American Board in the Orient

American philanthropic efforts through the RF in China and India's public health in the early 20th century can be attributed to various factors, one important aspect being the role of the medical missions through the American board. The activities of the medical missions flourished at a time when western medicine was gaining a new status and a sense of moral direction. Colored with the growing advancement of medical theory and its practical application and development in biomedical or allopathic epistemes of medicine, medical science became one of the essential grounds of the missionary movement. Because of its vast influence, Western sciences and technologies took a dominant position in China and India by the late 19th century. "The relative position of Western and indigenous medicines came to be distinguished from one another based on their scientific application. While the indigenous Chinese and Indian systems of medicine remained in some practices, Western medical aid proclaimed its superiority and universality" (Basu Roy, 2021).

Although their primary goal was conversion, the missionary movements were also engaged in auxiliary work like medicine. The convergence of religious and material interests prompted John D. Rockefeller Sr. to give generously to early missionary activity even before the foundation began its work. His ruling passion to make money and his drive to give for philanthropy was influenced by his Baptist upbringing. As Rockefeller's charitable giving flourished along with his wealth, he saw the need for a systematic mechanism to accommodate his benevolent activity consistent with the Puritan ethic which gave birth to the RF. While the medical missionaries sought to use medicine as an important medium for spreading Christianity, John D. Rockefeller, following

his missionary impulse, directed his philanthropy towards developing modern medicine in China and India. However, in the later decades, the foundation moved away from its religious inclinations and focused its attention towards developing scientific medicine. Both medical missionaries and the RF however shared a common belief in the superiority of modern medicine.

However, the main aim of treatment is explicitly marked to serve the goal of proselytizing. During the 19th century, colonial or imperial rule exerted by western powers in China and India was often responsible for creating spaces for medical work. Colonial/Imperial forces were least interested in engaging in the public health of the local population unless it threatened white functionalities. The medical missionaries were generally recognized as the leading purveyors of medicine at the local level. While colonial officials were primarily concerned with obtaining the consent of the local elites, along with the support of the military and trading classes, the missionaries lived and worked in some of the most impoverished regions. They made an effort to learn the local dialects, studied their religion and culture, and often spent their entire adult life living amongst them. Indeed, "many missionaries were adept at developing ties with local leaders and the elite classes. Still, many others deliberately chose to work among the poorest of the poor, in the process spreading and legitimizing the knowledge of western medicine" (McKay, 2007).

American Board's first evangelical intervention was India; it had a vast population, and it was also accessible through British control. With the imposition of extra-territoriality by imperial powers due to the opium wars, China later became the favorite destination of the American Board's missions. With the increasing colonial expansion in India, Indians worked in extremely poor conditions, giving way too many diseases virtually unknown in interior regions. Venereal diseases and Tuberculosis, by then, had become a significant public health problem. In the Chinese case, public health conditions were dreadful, with the leading cause of mortality and morbidity being gastrointestinal diseases and Tuberculosis. Smallpox was widespread, and sanitary conditions in rural and urban areas were deplorable. These factors combined provided an open space for greater biomedical intervention and medical mission work. With the demand for more excellent medical missions, "medicine slowly began to replace the Church as the guardian of public and private health" (Hardiman, 2006).

The American medical missions worked in remote spaces and places of China and India, breaking both cultural barriers and restrictions imposed by the colonial governments. The medical missionary rhetoric brought to both the countries – the infusion of healing the body and social amelioration by dealing with various maladies that were inflicting much pain and suffering to the local populations. Because of the philosophical nature of indigenous medicine, which deemed tampering with the human body as a grave sin, human anatomy took a back seat in China and India. Hence, when biomedicine came with its miracles of surgical intervention, although the idea was repelled initially, western medicine slowly found its ground when certain conditions that local physicians could not address were successfully treated in the mission hospitals. Using one of the most efficient tactics, the founding of hospitals and dispensaries, and endowed with the means to social interaction with the local Chinese and Indian, the medical missionaries were able to break social barriers between the locals and the foreign doctor and firmly establish the importance of western medicine in both the countries.

The American medical missionary movement, therefore, "provided a combination of Christian conviction, imperial mission, and science, a compelling amalgam for an age in which each such value was held in high regard. Through its relentless efforts, the medical missionary appeared to be straddling the ever-growing chasm between religious belief and secular science" (Ibid). Assertion of women in the medical missionary movement further enhanced the recognition of their activities. Women's health was an untouched domain in Imperial China and Colonial India. The zenana system and the Confucian ideology did not permit a male physician to touch a female body. It became crucial for western medicine to break this barrier to establish its superiority. Medical work became a crucial element in this aspect. This coincided at a time when women were introduced to new freedoms and responsibilities in the conservative, male-dominated American society. Simultaneously, founded in 1869, the "Woman's Foreign Missionary Society (WFMS) of the Methodist Episcopal Church" sent the first female physicians and opened women's hospitals in India and China. Hence, "the efforts of medical missions by American Protestant women in the late 19th century were one of the most important missiological advances in American missions in China and India" (Ibid). Medical mission work simultaneously became the prominent dimension of Christian missions and continued to be viewed as a powerful medium for conversion. Hence,

when the RF entered China and India with their gift of scientific medicine in the early 20th century, the field was already ripe for the foundation officials to try out their new ideas.

Missionaries of Science: The RF in China and India

At the onset of the 20th century, coinciding with the birth of the RF, western medicine had already established its legitimacy in China and India through the relentless efforts of the medical missionaries. Modern science, by then, had firmly established itself as the sole authority in medicine. This was also a period that saw the rise of American scientific and medical research to a position of preeminence in the world. With an agenda to advance American science and medicine in public health, the RF entered China and India even before the official organization of the foundation in 1913. Incorporated with a definite policy of combining medical research and scientific medical education, the RF turned towards China and India to modernize the orient. Established formally just before the war, the foundation unfolded between the conflicting priorities of Rockefeller's private business interests and the broader social discourse. Inspired by German science, "the development of scientific medicine through the RF occurred within the broader American setting of the progressive era and its accompanying social and political conflicts" (Rausch, 2018). While the development of scientific medicine in China and India was viewed as a benefit to the local population, the foundation officials also recorded their activities in public health as utilitarian. Research in medical science, owing to subjects like bacteriology, was seen as permanent social capital. By putting their millions of endowments on medical research, the foundation aimed to increase labor productivity and envisioned developing preventive medicine by addressing the problems of infectious diseases (Fisher, 1978).

The advancement of RF philanthropy in China and India from the early part of the 20th century signified a direct transition of massive capitalist wealth into public assets under the guidance of the RF officials themselves, which proved to be one of the most significant new development in late 19th century America. The institutional innovations of the new Rockefeller philanthropy were widely recognized as a new wave in 'Civilization.' The scale and ambition of this new form of charity were categorized as distinct from traditional investments and national in scope instead of local or provincial. The creation of RF and its public health efforts in China and

India signaled a shift from the traditional mode of charity to modern philanthropy. This transition happened under a partnership between the wealthy and the progressive elites. The RF's philanthropic drive in the Southern United States prepared the stage for exporting their modern public health ideas into China and India (Zunz, 2011). This aspect is highlighted explicitly in the replication of the hookworm campaign from the Southern United States to China and India, motivated by a zeal to increase industrial output and advance capital growth by increasing workforce efficiency. Addressing hookworm disease in the Orient acted as a means to improve labor conditions and efficiency, particularly in colonial plantations.

Hookworm Campaign and the Rockefeller Technological Model in Disease Control in China and India

The rising cases of hookworm disease in colonial plantations were seen as detrimental to the growth of the British colonial economy and its trade growth. At the same time, work in a disease-prone area carried the disease-causing germs to other colonial localities. However, the interest in marketing provided only one of the reasons for the expansion of the RFs activities; equivalently imperative was American military and diplomatic interest in the global south and its markets (Kabir, 2003). Health activities in tropical diseases by the RF also "sought to provide, even when the trade interests were not immediate, locations that could be used as tropical observatories where research on diseases as varied as hookworm, yaws, yellow fever, malaria, filariasis, and plague, could be carried out with much ease" (Ibid). Rockefeller's philanthropic interest in the East reinforced the ideas of modern sanitation and hygiene; the Foundation influenced a transition in the conceptualization of disease control. A more focused approach on building sanitary infrastructure and training the local Chinese and Indian population in the new discipline of hygiene became the central aim of their civilizing mission. By instilling public health awareness, "the IHB would impart public health training to the local political and medical elites with the hope that the locals would take over the responsibility of public health in the coming decades after the disbandment of the International Health Board".

With its vast endowment and interest in public health, the Foundation influenced a transition in the conceptualization of disease control. A more focused approach on building

sanitary infrastructure and training the local Chinese and Indian population in the new discipline of hygiene became the central aim of their civilizing mission. The stated aim was to " promote public sanitation and the knowledge of scientific medicine throughout the world." Attacking hookworm was not so much about the severity of the disease; rather, it was about demonstrating strategies for disease control. Hookworm proved to be a cutting wedge for preventive medicine in the Orient. It gladly served as a convenient means to a larger end. Its nature, causes, and cure were readily understandable to a layperson, and its more significant effect on health was easily demonstrable. “The scientific framework proposed by the International Health Board (IHB) of the Rockefeller Foundation (RF) replicated from the US south faced challenges in the Indian and Chinese contexts” (Longkumer, 2021). The whole campaign was designed within two strategies – deworming and introduction to sanitation which the IHB officials thought was so easy that anyone could do it.

The RF hookworm campaign in both China and India was designed to bring the disease under control, particularly in plantation sites in India and mining colliery in China, with a larger aim to facilitate labor productivity. “The extraordinary insanitary conditions of the Tamil coolies settled in plantation sites in India and laborers in mining areas in China created ideal ecologies for reproducing the parasite and increased soil pollution levels. Just as the hookworm disease posed a threat to workers in the colonial plantations in India, it became a menace for the workers in the mines and labors in central and south China” (Longkumer, 2021). Hookworm cases rising amongst the indentured labors in British Colonial Plantations threatened labor productivity and the British colonial economy**.** One of its earliest philanthropic efforts, the hookworm campaign pointed to a familiar dilemma of American influence in public health – that of replicating solutions experimented in the American South that has not been successful at home and were not easily applicable to other geographic locations (Zunz, 2011).

The hookworm campaign started in the Madras Presidency of Southern India, where most of the indentured laborers were located. The Pinghsiang Mining Colliery was the RF's hookworm campaign target in China. It was easier to start a disease control program in a controlled population like Mines in China. The vast rural population depended on night soil, a significant fertilizer for the agricultural economy. “The sanitary measures replicated from the US south faced challenges

in the Indian and Chinese contexts. In India, soil pollution was linked to access to water and proper sewage, primarily concentrated in European enclaves or houses of elite Indians. In China, nightsoil was the prime fertilizer, an essential part of Chinese agriculture, and any attempt to bring reform would have economic consequences" (Longkumer, 2021). The anti-hookworm campaign did not last for long in the Chinese context because of disease prevalence and distribution being scattered across provinces. However, in India, the International Health Division worked for a decade. In its report, the RF blamed the ignorance and lack of support from the Chinese and the Indians for its unsuccessful effort. In both cases, they did not achieve their prolonged targets of controlling the disease, but they successfully introduced modern hygiene and sanitation concepts. The RF in the process became a key instrument in early efforts to public health in China and India by bringing medical care under the control of specially trained managers in specific fields. The foundation officials themselves became the turf of this management class (Brown, 1981).

"The IHB's anti-hookworm campaign opened the door for the RF to enter Asia to a large extent. The hookworm campaign in both China and India did not achieve RF's goal of targeted control of the disease. Instead, cases of rising reinfections challenged their campaign. The RF realized that improving sanitation and hygiene was a long and challenging process. Sanitary surveys proved to be expensive and very slow. The sanitation program also excluded non-medical concerns like social, political, and economic concerns and essential public health components. China and India offered different problems to the International Health Board's hookworm program" (Longkumer, 2021). "It is vital to include socioeconomic concerns and institutional and environmental factors with sanitation technology while dealing with Chinese and Indian populations. When the RF entered both China and India, they came with the preconceived notion of modern medicine's superiority which removed all spaces of dialogue with an already existing indigenous system of medicine" (Longkumer, 2021). American philanthropic goals and its rhetoric were universal; its practice, however, was more often shaped by opportunities and regressive policies. "In the American South, philanthropists had become complicit with structures of inequality in order to achieve some of their goals. But the persistent application of large financial resources for the good of mankind with tangible results like modern medicine gave the philanthropic movement moral integrity that even its fierce detractors have never been able to deny and from which many have benefitted" (Zunz, 2011, p. 107)

Institutionalizing Medical Education: Creation of the PUMC and the AIIHPH

Many of the best functioning medical schools in China and India before the entry of the RF were missionary efforts – both British and American. The missionary activities were effective upto some extent but nevertheless, the missionary efforts were still a transparent attempt to garner European and American interests. The RF after taking a detailed study of missionary activities in medical education through the Oriental Commission in 1908-09 followed by two other China medical mission concluded that scientific medicine was much more effective and efficient than missionary efforts. The removal of PUMC from missionary society control to develop it into a completely secular, world-renowned medical school in par with the Rockefeller University in the U.S. is an obvious example of this transition. While the missionary efforts were focused on all classes of the society, the campaign for acceptance of scientific medicine in the United States was aimed at the wealthy and powerful in the society.

Carnegie Foundation's 1910 landmark report on medical education in the United States authored by Abraham Flexner became the guiding framework of RF's interest in transforming medical education both in the US and around the world. Flexner's research concluded that medical education in North America was woefully inadequate in every aspect, including its lack of laboratory facilities, disorganized administrative practices, and lack of teaching and curriculum standards. Spurred by this report, the RF through its GEB called for the transformation of medical education. Flexner was given the responsibility of directing this program. His survey of the medical schools in the US found Johns Hopkins to be the best functioning medical school in the US. Hence, Johns Hopkin became the first school to receive a grant from the RF to transform the school along the lines of Flexner's report. "Hopkins received an annual grant to develop its clinical programs, including medicine, surgery, and pediatrics" (Iacobelli, 2022). The development and growth of public health transpired in the decades between the two World Wars which indicated a sudden shift for medicine from an art of observation and empiricism to an applied science founded on pure research. The RF played an eminent role in this transformation (Fisher, 1978).

With an aim to transform medical education in the Orient, the RF entered China with an ambitious goal to build modern medical schools on par with the schools in the US. The creation

of the China Medical Board in 1914 and purchasing of the Union Medical College from the London Missionary Society in 1915, were the initial steps towards achieving this goal. Established with a $12 million endowment, with an aim to transform the practice of medicine in China, the CMB was one of the first operating divisions of the RF. One of the main purposes of the CMB was overseeing the process of the establishment of the PUMC. The formation of PUMC transpired at a time when the School of Public Health and Hygiene at Johns Hopkin was created in the US with RF support. "The school was the first of its kind in the United States and became enormously influential in the new field of public health" (Wimpee and Barbara, 2022). PUMC in the later decades became one of the greatest financial commitments of the RF in the 20th century. With sight on making the idea of scientific medicine more acceptable to the Chinese, particular attention was given to the architecture of the school. According to its 1917 annual report, "While the buildings will embody all the approved features of a modern medical center, the external forms have been planned in harmony with the best tradition of Chinese architecture. Thus, they symbolize the purpose to make the college not something foreign to China's best ideals and aspirations, but an organism which will become part of a developing Chinese civilization" (Ibid).

While the creation of medical schools through the support of the RF was underway, significant efforts in disease control programs through the IHB were also undergoing. Through the disease control programs, the RF officials recognized the dire need for well-trained public health professionals. This decision to invest in professionalizing public health education was an extension of its established interest in improving basic medical education and global campaign against targeted diseases. As noted in its 1923 annual report, "medical education plays an essential part in the leadership and success of public health work. The Rockefeller Foundation is concerned, therefore, in aiding influential medical schools in many parts of the world to improve their facilities, strengthen their teaching staffs, perfect their methods, maintain high standards, and gradually, in the words of a distinguished British medical authority, to 'permeate the curriculum with the preventative idea'" (Iacobelli, 2022). Johns Hopkin through the enormous support of the RF by then had already become a model of public health education. Hence, with a vision to professionalize public health education, the Division of Medical Education (DMV) was established as a branch of the RF in 1919 and administered by the International Health Division (IHD). The DMV eventually took responsibility for the improvement of medical education outside

of the U.S. One of its earliest efforts was focused on surveying the state of medical education worldwide and funding targeted institutions for improvements where the AIIHPH was figured as an important center for public health education in South Asia. "The establishment of the AIIHPH, therefore, was in keeping with the IHD's plans of developing schools of public health abroad to train public health personnel who could then participate and promote the public health programs undertaken by the RF in these countries" (Kavadi, 1999, p. 303). By 1929 with the advancement in biomedical sciences, the GEB and RF had shifted their focus from institutional development in medical education to research initiatives (Wimpee and Barbara, 2022).

The AIIHPH was thus established with the funding support of the RF in 1932 to extend training in public health along the lines of Johns Hopkin and London School of Hygiene and Public Health. The main aim was outlined as, to create an institute of international standards for research and train a cadre of public health workers in India. The entry of RF with its idea of scientific medicine met a favorable climate in India. Colonial self-interest in tropical diseases and the health of the Europeans, military, and labor population moved public health towards the reorientation of state policy. Medical research and sanitary practice were slowly directed toward the Indian population. However, those efforts were not extensive to reach out the large Indian population. In the period after the 1920s, the deteriorating nature of public health in India caught international attention where the RF was figured as a crucial entity. In alignment to RF's vision of advancing scientific medicine through medical education, the AIIHPH was deemed to become a first-class Institute providing the latest advanced instruction in the methods of preventive medicine suited to combat India's peculiar, varied, and numerous diseases. The research component in the institute would investigate the best ways of applying the results of pure research to the needs of the people and problems of sanitation (Kavadi, 1999).

To advance scientific medical education, the RF aimed to create medical elites by building modern medical institutions of high status equipped with the best of advanced medical technology and funding fellowships abroad to capable Indian and Chinese medical personnel creating a legacy of influence in medical education in both countries. Through scholarships and academic exchange programs, they successfully created an epistemic community of medical professionals that would further American interests in both countries. In the first decade, China became the primary

recipient of RF's philanthropy. On the other hand, American philanthropic presence in India did not have to try too hard to build an elite network. The colonial rule of two centuries had already successfully bred a set of Indian elites who were comfortable with a foreign presence (Bhardwaj, 2018). Rooted in similar concern for social and economic development, the public health education programs applied first in the American South and then exported around the world, became a vital component for the growing domination of U.S. capital, trade, and military power (Brown, 1979).

RF's interest in India began in the inter-war years as part of their global program in the east. Establishing a full-fledged institution of modern medicine was an RF priority in China which gave birth to the establishment of the Peking Union Medical College, one of the finest in Asia. To oversee the functioning of the PUMC, the RF created the China Medical Board. From its inception to its development, PUMC has gone through a series of events, from the Sino-Japanese war to several civil wars that threatened its existence; however, the institute managed to function as one of the best medical institutes. In the Indian case, the RF was more inclined toward extending support to build institutions. The 'School of Tropical Medicine' established in 1922 by the colonial government, marks a conscious turn from medical to public health school. Realizing the necessity for a separate school of hygiene, the All-India Institute of Hygiene and Public Health (AIIHPH) was created with funding support from the RF in 1932. AIIHPH remains the oldest school of public health in southeast Asia.

PUMC was created solely by the RF in 1916, where the 'Department of Public Health and Preventive Medicine' through the efforts of John B. Grant, figured within the institute. AIIHPH whereas was established entirely as a school dedicated to public health and hygiene with the combined effort of the RF and the national government. Both remain the finest medical schools in both China and India today. Being one of the most significant financial commitments by the foundation in the 20th century, PUMC was controlled by the governing board of the RF seated at the New York office. In the case of AIIHPH, the tussle for patronage and scientific authority continued from the institute's creation until the second phase of reorganization. Their historical development helps us understand the larger context of RF China-India philanthropy in institution building across the 20th century.

Curbing the Millions: RF Population Control in China and India

The RF since the early years of its inception, has been at the vanguard of the population control movement through the creation of the 'Bureau of Social Hygiene' (BSH) and involvement in the 'International Planned Parenthood Federation'. From 1911 to 1934, the Bureau of Social Hygiene sought to influence public policy on several issues related to sex, crime and delinquency with its goals and projects evolving overtime (Iacobelli, 2022b). The BSH was a creation of Rockefeller Junior with an aim to expand his personal research interests through this separate organization. The Bureau was formally taken over by the RF in 1913 and redesigned to take up research in birth control, maternal health, and sex education (Taylor, 2021). "Rockefeller's philanthropy in commitment to birth control and population studies which came out vibrantly in the 1920s therefore was not a wholly new direction. The Scripps Institute's research on population science was supported by the Laura Spellman Rockefeller Memorial Fund since the 1920s" (Notestein, 1982). The movement of propagating the knowledge of birth control and contraceptives can be traced back to the early discourse on 'overpopulation' which was influenced by the ideological framework of Malthusianism and Eugenics. Thomas Malthus 1926 *Essay on Population* and Francis Galton's 1883 *Human Faculty* became the guiding framework of the population question. While Malthus argued for checking the growth of population to ensure it did not exceed the levels of subsistence and linked poverty and unemployment as a direct outcome of a lack of exerting practical restraint on the size of the family, Galton coined the term *Eugenics* and defined it as "the science which deals with all influences that improve the inborn qualities of a race: also, with those that develop them to the utmost advantage." The aim of his science he reiterated, was to "bring as many influences as can be reasonably employed, to cause the useful classes in the community to contribute more than their proportion to the next generation" (Galton, 1904). Framed within the confines of the neo-Malthusian ideology which stressed on fertility control methods and identified the working class with the problem of rising fertility, RF's population control formulated rules to regulate reproduction, reform relations between the sexes, reshaped attitudes about the very meaning, purpose, and value of human life. "The neo-Malthusian position found favor with the elite sentiments on the issue of overpopulation. The elite, threatened by the growing numbers of commoners, considered birth control as an important means of checking future conflict over their property" (Shah, 2015).

Being two of the most populous countries in the world, both China and India have a long history of birth control. This history should be viewed within the ideological context in which population control took an important turn in history in both the countries. The political and social ideologies of the western educated reform minded elites have exerted significant influence on policy decisions in regard to birth control in both China and India. Such ideological positions do not only influence the perceptions of the elites but is also often seen to advance a general political climate which creates a major contextual influence on the policy making process. "The amalgamation of influence of the international agenda governed by Neo Malthusian thinking and the interest of the domestic elites framed the population policy in which fertility control figured as an important element for national progress" (Maru, 1976). This science of population control was revived by the neo-Malthusian movement which was different from conventional Malthusian position on two counts: firstly, it stressed on birth control methods and secondly, it identified the working class with the problem of overpopulation (Shah, 2015; Frey, 2011). "In the locus of this movement were advocates like the Rockefellers, who have played a pivotal role in birth control over the decades and have changed the discourse on population science". Rockefeller's association with the eugenic movement goes as far as 1904 when Rockefeller in cooperation with Carnegie opened a eugenics department and laboratory in Cold Spring Harbor, New York. Committed to the idea of eugenics and the perception that superior classes of people should be identified and encouraged to reproduce, an idea which was heavily endorsed not only by brightest thinkers but also financed by wealthy capitalists and supported by mega American philanthropists like RF population control took a life of its own (Shapy, 2016).

The burgeoning Cold War and statistical projections on population of developing countries with lack of any framework for public policies on reducing fertility rates began generating concerns about rapid population growth in countries like China and India. RF was the first organization to experiment in population control policies in India. Although they were not very directly involved in the population issue, they did manage to fund studies like the Khanna study which became the blueprint of population experts in the later years. However, JDR's PC was quick to act and became one of the most important actors working in the field of population control in independent India. The PC was interested in the Indian scenario since the establishment of the

organization. As shown in the earlier headings, the experts participating at first conference on population at Williamsburg organized by JDR III showed much concern about India as opposed to other countries and much of the discussions on the table at the conference surrounded the Indian population issue. The proceedings of the conference also depict that, concerns around the Indian population explosion were also fueled by the communist aggression in the East. Losing China to the communist was a big blow since the RF from the beginning of the 20th century had invested a lot in China's economy, public health and medicine. The communist popularity forced the RF to move their philanthropic activities towards India, which had just gained its independence and happened to be one of the largest countries in the global south having a stake at global politics. In China, with the CPC coming to power, RF moved out and maintained a safe distance and diverted all their resources towards rebuilding the population issue in Taiwan. However, the Malthusian fear and population logic had already been legitimized through the RF's and Rockefeller III PC activities in the surrounding countries like South Korea, Japan, and India.

When India had just initiated its first national FP program, the PRC was slowly changing its wartime ideology on the population issue. China after having seen the catastrophic lack of food resources due to bad economic planning and environmental factors and the exploding population, started looking towards Japan's population activities. Japan had rapidly achieved economic independence after the Second World War and was on its way to becoming a developed industrial nation. This development surprised the PRC leaders and also because China had a long bitter history with Japan, the competitive element pushed them to further think more on these terms. In the meantime, the experts at the PC were closely monitoring the Chinese population issue and also tried an unsuccessful attempt at building connection with the PRC leaders on China's population policies. Rockefeller was the first to support demographic research and popularize the field of population studies than Ford. Many populations studies centers were already in operation at several universities even before Ford entered the scene. However, Ford rapidly became the largest and the most influential actor in the field of population studies in the later decades. Infact, one of the largest donations to the Rockefeller's PC came from the Ford Foundation. "Ford's substantial funding for population research and training helped drive the diffusion of the population orthodoxy" (Elkind, 2015).

The Ford Foundation and the Population Question in China and India

Formed in 1936, the FF was constructed on the Rockefeller and Carnegie model. The foundation was therefore active during the era of two World Wars, the great depression, and the Cold War. By skillfully adapting themselves to deal with changing conditions whether it is social, economic, or political, the FF have also learned to play key roles in shaping those changing environments both domestic and international. By 1947, the foundation massively expanded in scope and reach. By 1950, it was recorded that the foundation gave away half billion dollars in assets which was amounted to the largest donation of that period much more than the Rockefellers, the closest rival. With this, the foundation became one of the largest philanthropic organizations of the country. Unlike Rockefeller and Carnegie, Ford foundation was not conceptualized and built but the mission statement of the foundation resulted from an expert commission headed by Rowan Gaither, a lawyer by profession who led a far-reaching, yearlong process known as the 'Study of Policy and Process'.

When the Ford Foundation was considering its future directions in 1949 and 1950 the Gaither Report took a point of view modeled on that of the Rockefeller foundation experience but adjusted for the post-war change in the world`s circumstances, most notably the apparent greater power of the United States, the threat of communism, and the newly won independence of Asian Countries and their demand for economic improvement. What is striking is the similarity in attitude to the Rockefeller`s foundation approaches in the first quarter of the century: there was the same optimism, the same belief in what American Philanthropy can achieve, and a similar belief in the value of education and science. But now, the religious basis of the activities has been abandoned, to be replaced by the secular model imperative that emphasized direct economic and social change. The science of economics has replaced medicine as the spearhead of the attack on poverty, in the light of the achievements of Keynesian economics in the emergency of war and depression (Rosen, 1985, p. 6).

"By the early 1950s, the growing population of China and India became a source of high concern in the west and the eastern elites. Complementary to the voiced concern for growing number of Chinese and Indians, another important precursor of the Ford Foundation efforts was the changing political landscape. The formation of the Marshall plan, India's action towards

curbing population growth in the 1950s and recommendations of the 1948 field trip in the Far East induced Ford's population control activities and changed the discourse of population health in China and India" (Longkumer, 2021b).

From the 1950s through the 1990s, FF, informed by Neo-Malthusianism, played a crucial role in establishing the population control field in Independent India, continuing into the reproductive health movement in Communist China. In the Indian context, continuing the efforts of the RF and the PC, India became the primary site of Ford's population work in the 1950s. With Ford's efforts, India soon ascended to become the world-class Centre of contraceptive research. The Foundation's market-driven approach also "funded a successful social marketing venture in India that included representatives of both the public and private sectors to increase condom sales" (Elkind, 2015; Williams, 2014). "Ford's increased participation with the Government of India in the population field was successful in creating family planning advocates, some of whom were connected to government agencies. Such associations resulted in creating a common framework for understanding and addressing population-related issues and a network of people to proliferate the frame" (Ibid). China's family planning before the entry of the FF was well developed and structured through the one-child policy. Influenced highly by Malthusian fears and the failure of the Great Leap, the Chinese PRC had started thinking in terms of controlling population growth to foster economic development. After the second WW, the economic growth of Japan established population control as an important policy in the popular minds of the Chinese PRC officials. Population control eventually became an integral part of the country's socialist modernization. Ford officially entered China's population health in the 1990s when the Foundation transitioned its population policy towards reproductive health. However, its engagement with China through scholarly exchange started in the 1970s. By the late 1970s, with the backlash of the Emergency and with the entry of the USAID, SIDA, IBRD, and UNFPA into India's population work, Ford had lost its central position. "With the changing of the guard at the FF, its communication research area in family planning took a different turn. As a result, the Foundation tried to fortify the research area with more involvement in social science research" (Ibid).

Consequently, in the later decades, China took Ford's attention as one of its primary works in Asia. Ford's engagement with various women's rights advocates and fostering projects on

Chinese women's reproductive health gave them ample leverage to impact China's family planning frame. The discussion of reproductive health by networks of people helped fosters social policies. "The Reproductive Health movement of the 1990s challenged the Family Planning movement of the earlier decade. However, both operated within and worked to influence the broad population field: They sought to define the population field's purpose, composition, activities, and norms" (Ibid). The FFs involvement in China and India exemplifies the continuities of American philanthropic presence from early 20th century RF to the 1950s when Ford plunged into Independent India's population health and China's reproductive health in the 1990s. The RF and FF, in the early decades of the population control movement, collaborated for advocacy and brokerage purposes in their population work. For instance, in 1979, the two foundations came together to expand access to family planning. Ford's influential role in both countries is evident. If the Foundation was successful in structuring India's family planning program to reduce population growth, in China, through the reproductive health framework, they aimed to lower the fertility rate.

Enter the Era of Global Health Governance: BMGF in China and India

By the turn of the 1970s and 1980s, the economic turndown had dwindled the endowment base of the RF and FF, resulting in decreased philanthropic activities along with increasing interest in its domestic issues. Following the developmental trajectory of the RF and FF, "the GF is not only interested in funding development projects, but also in fashioning and shaping international development policy, particularly in the field of health" (Kilby, 2021, p. 83). Like Rockefeller and Ford, "Gates uses its colossal profits from Microsoft to stake a preeminent role in shaping the institutions, ideologies, and practices of international health" (Ibid). In a short span of time, Gates has emerged as the era's most influential global health agenda-setter with 60 percent of its total philanthropic funding going to health-related activities (Birn, 2014). Bill Gates argues that foundations have the capability to bring something different when they work for the under-privileged, who do not possess market power, or when they step into areas like health, where the market necessarily does not achieve social amelioration and where innovation also requires long-term investments. BMGF depicts itself as a partner to national governments, providing resources that governments have not been able to.

Taking a major interest in transforming the public health paradigm, BMGF is a legacy of the earlier RF and FF. "However, unlike the earlier foundations, the BMGF exists in a post-globalization world that encompasses global-policy-making goals, public-private partnerships, global information exchanges, prominent nonstate for-profit and not-for-profit actors, the cult of celebrity, and a myriad of new and old international institutions" (Harman, 2016, p. 349). The GF signaling the philanthropy of the new decade has intensified interest in global health by drawing the attention of the policymakers and the public through its global health programs (Ibid). The Global Health Program of the GF focuses on harnessing the "advances in science and technology to save lives in poor countries" (Scordato, 2012, p. 69). Hence, they actively promote the notion of better technologies that they believe can offer lasting solutions to combat diseases and global hunger (Private Philanthropic Foundations, 2017). "The most blatant example is the development of drugs and vaccines for diseases that had not received much attention owing to the low purchasing power of developing countries. Focusing on research and development of drugs to combat diseases such as AIDS, malaria, and tuberculosis, the Foundation puts much emphasis on research on drugs and vaccines" (Scordato et. al, 2012).

The GF's interest in both China and India includes diseases like AIDS, TB, Malaria, and vaccine-preventable diseases. Through its Grand Challenges in Global Health, initiated in both countries, the foundation frequently states its goal as "not only to solve global health challenges but also to attract new scientists in the field" (Matthews and Ho, 2008). With the RF rolling back from its global fight against malaria at the dawn of the period dominated by the public sector, the Gates foundation entered China and India in disease control when the predominance of the public sector had long passed its zenith. With the creation of the Public-Private Partnership (PPP), the new institutional setting was more favorable for the Gates foundation activity than it had been for the RF. The PPP model offered a much more extensive array of philanthropic investment avenues. The Gates TB program, as highlighted on its foundation website, "states its strategy as aimed to address key gaps along the TB care pathway through new approaches to protecting against infection, progression from infection to disease, and improving diagnosis and treatment" (Ibid). Our efforts, the foundation states, are diversified based on the understanding that vaccines, diagnostics, drugs, and enhanced care delivery are essential to addressing the TB epidemic, a typical biomedical framework of the American Foundations, from which they hardly diverged.

There has been an emerging burden of MDR/XDR TB in both China and India in the recent decade. Two decades of bringing down the caseload in the form of national programs have not yielded many results. China and India have been highlighted as the top two countries with the highest cases of TB (Bhatter, 2012). In both countries, "the foundation engages with governments and other partners—including the World Health Organization (WHO), USAID, and the World Bank—to pilot innovative approaches to modernizing TB control. With the government of India, WHO, USAID, and the World Bank, the foundation plans to expand TB-control efforts into the private health care sector, where most Indian patients seek care". In China, by providing adequate support, the foundation aims to help the government shift to hospital-led TB care. The nature of the foundation's TB program in both countries is framed within the 'Public Private Partnership' (PPP) model crafted to suit the narratives of the 'technical biomedical interventions,' which has long been the encyclopedia of the American philanthropic model of health.

In India, the foundation started its involvement with the AIDS program by initiating a large-scale program called Avahan, to foster HIV prevention in the country. "The Gates Foundation in recent decades has become the new dominant player in India's AIDS sector. With an initial $200 million grant, coupled with an additional grant of over $100 million, the foundation's funding in India's AIDS program has dwarfed those of the World Bank, USAID, and other donors" (Mahajan, 2008). Adopting a corporate model of management with a high value placed on PPP, the GF follow the principles of a business model to its philanthropic agenda. NGOs becomes the implementing agency of the Gates public health program. By harping on speed, scale, and sustainability, the foundation believes in centering the 'Community' in the middle of each Gates project. The foundation sees no problem in "adopting a corporate model for dealing with the community, nor with adopting targeted interventions. Indeed, the intervention design was integral to ensuring both efficiency and accountability from NGOs" (Ibid, p. 71). "The Avahan program funded originally for only five years had inculcated in its design since the beginning, the need for an eventual transition to the Indian government. The program hence emulated the government's own structure for service delivery" (Sgair et al., 2013). Skeptics have argued that the AVAHAN Aids program in India had spent funds on schemes that the government had already started and may not have had as much impact as studies and the foundation claimed. "There were also doubts

raised about how well the government would be able to carry out the programs Avahan was handing over, given it did not have as much money to spend on the campaigns" (Bill Gates India AIDS Campaign, 2012).

Deemed one of the first large-scale public health partnerships between the Gates Foundation and the Chinese government, the China-Gates Foundation HIV Prevention Cooperation Program was initiated in Nov 2007 with the aim to achieve HIV prevention in about 14 large cities in the country. This funding from the GF came in the package of USD 50 million with a sight on rapidly expanding access to HIV prevention (Newswire Newsletter, 2007). "These HIV projects were jointly administered by the China CDC and government operated NGOs called GONGO's, like the Chinese Association of STD and AIDS Prevention and Control. Being highly target oriented, such projects therefore highly prioritized HIV testing over other forms of prevention" (Ibid). Using incentives as a strategy for ramping up HIV tests, cash rewards were used for every positive case detected. "These practices however were controversial, with the New York Times running a story about a Gates Foundation project titled H.I.V. Tests Turn Blood into Cash in China" (Miller, 2016). "While the number of HIV-infected people in China is relatively small -- about 650,000 in a population of 1.3 billion --, the GF believes that a confluence of health, economic and social factors make it vulnerable to a pandemic. The spread of a disease as debilitating as AIDS in a trade and manufacturing juggernaut such as China would likely have ripple effects around the globe" (Chase, 2007). Furthermore, such projects created rife between local NGO's by promoting a neoliberal process of competition where the state machinery outsourced public health services to NGOs. The NGOs were required to compete with one another to secure projects and funds to continue providing HIV prevention services. "Such process also encouraged bureaucratization and medicalization within small scale NGOs, shrinking its volunteer base, weakening its connections with the local community, and channeling its activities away from broader political and social objectives toward a narrower, more entrepreneurial emphasis on HIV testing and treatment" (Miller, 2016).

Philanthropy of the New Age: Philanthrocapitalism and Public Health

The philanthropy of the recent decade termed 'Philanthrocapitalism' denotes the 'harnessing of the power of the market to achieve social outcomes.' "This idea claims to be more

results-oriented and efficient than the earlier mode of giving. They aim to revolutionize the last realm untouched by the hyper-competitive, profit-oriented world of financial capitalism: the world of charitable giving. The new philanthropists of the 21st century define this model as a novel way of conducting charity, one that emulates the way business is done in the for-profit capitalist world" (McGoey, 2015). This model acts as an antithesis to the understanding that public goods like health can be more efficiently provided by the state through public funding generated by regulatory taxation measures. This alternative welfare model is entrenched deep within the structure of a capitalist economy and argues that public goods can be administered more productively and efficiently only through a private operating model. Irrespective of different geopolitics in China and India, all three foundations since time immemorial have operated on the principles of this model (Private Philanthropic Foundations, 2018).

In the recent decade, foundations like the GF have developed the ability to mobilize resources on such a scale to set national and, at times, global priorities, discourse, and policy. "Global philanthropic activities have often been observed to open up markets for US-based multinationals that partner with organizations such as the Gates Foundation in order to reach new consumers" (Ibid). Unlike other philanthropic entities, American foundations have profoundly influenced "international development policy and practice over the decades and continue to represent what Fejerskov refers to as 'private authority in global politics" (Kilby, 2021, p. 1). These philanthropic foundations have evolved in form and substance throughout the 20th century. However, the shift that is currently undergoing in the recent decade is more fundamental. The new philanthropic entities like the GF have become overt arbiters of knowledge and culture. The traditional model of vocation, as mediators, which the RF and FF personified in the 20th century, is no longer the medium of the new world. The new elements have magnified their role as creators of new social orthodoxies. Instead of wielding their influence in private, as they did in the first century, they now act in broad daylight of public scrutiny (Dowei, 2001). At the macro level, this new "Philanthrocapitalism describes that capitalism itself can be naturally philanthropic, driving innovation in a way which tends to benefit everyone, sooner or later, through new products, higher quality, and lower prices" (McGoey, 2015, p. 7).

RF, FF, and the GF have all devoted enormous funding to strengthening public health in developing countries, with China and India figuring as crucial interest areas for philanthropic funding in the global south. Embedded within the realm of global health governance, public health has traditionally been a top area of interest for charitable foundations. These philanthropic entities resemble a multilayered system of overlapping and differentiated institutions and actors that goes beyond the traditional world of governments and inter-state diplomacy (Stephen and Zurn, 2019). With an ability to exert intense political influence and a lack of legitimacy and accountability, they consider themselves problem solvers of global health concerns by applying new and innovative methods. The main reason to consider public health a safe area of engagement for the foundations is because saving human lives is a relatively uncontroversial goal. "Using money, technology, and expertise to combat illness, especially in countries that lack resources, uncontroversial goals have always been crucial for foundations because the origins of their endowment activities attract public scrutiny, which trustees dislike and criticize" (Ibid). Using their immense wealth and influence with political and scientific elites, all three foundations have promoted solutions to global health problems that, in many instances, undermine other international organizations (Are Gates and Rockefeller Using their Influence, 2020).

Although all three foundations differ in the scope and scale of their outreach in public health, they, however, share a firm conviction that the enormous challenge in global public health cannot "be solved by governments alone and can only be tackled by market-based, technological approaches to healthcare" (Martens and Seitz, 2015). Their firm belief in the Public-Private Partnership (PPP) model inclined them towards an interest in promoting intersectoral cooperation. The foundation's ability to work with "the private sector as a source of seed funds and civil society as financers of non-governmental activity signified the partnership model as a natural fit" (Birn, 2012). Health and healthcare have always been a traditional priority for these foundations. Their inception had always occurred when state intervention in health was comparatively limited. All three foundations in China and India have assumed the role of almost governmental importance through their inter-war and post-war activity, which was extensive in both scale and scope. Prioritizing science as the main element in the service to humanitarianism, their commitment would be long-lasting and deeply entrenched into the larger American civilizing mission. From building institutions, supporting medical cadre through fellowships, and public health programs

through community health, American philanthropy has influenced and changed the discourse of public health in China and India. Positioned at the nexus of philanthropy, modern science, and public health, the RF, FF, and GF was able to build close ties with national governments of both China and India and exert extensive influence in public health in both China and India.

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