The Assumptions of Pathological Logic:

Western medicine's part in the myth of scientific objectivity

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In Western[1] culture, science connotes the concrete and the useful — something inherently verifiable and valuable, without reliance upon opinion or pathos. Yet, as our recent discussion and readings demonstrate, people in power have time and again abused this cultural myth of objectivity to subjugate others, either implicitly or explicitly. Our class then asked, to what extent is science inherently culpable for these crimes? Within the confines of these few pages, I'll tackle one part of this perhaps unanswerable dilemma. Consider the model of Western allopathic pathology — an illustrative example of the life-changing power and cultural authority of science, particularly as it relates to communicable disease. Western science inheres the linear and causal logic structure of $x \rightarrow y$ (where the disease x is treated by the *arrow*, resulting in an outcome y); I argue that the reliance of disease pathology upon this structure can enable abuse on a municipal, global, and individual scale.

The invocation of this structure by Western powers results in three dangerous assumptions within a cultural discourse (by which I mean how people discuss science in Western countries, with applications ranging from popular discussions to government policy). Initially, the very suggestion of a pathological problem forces the debate into the realm of science, whereby those participating in the discourse (uncritically) automatically *assume the existence* of some causal structure. Second, the ensuing discussion then *assumes the singularity of a solution type*; all solutions (the various $\rightarrow y$) that merit consideration within this system fit neatly into the causal logic. Finally, the interventions chosen through the debate are *assumed to be universally applicable*, resulting in the delegitimization of non-Western-scientific concerns and forcing participation in a global social contract that ultimately favors the West. Because this pathological

[1] Or "Global West," "Global North," "First World," etc.; Effectively, institutions who support allopathic medicine and/or finance the World Health Organization

model is ubiquitous — and its participants necessarily make these assumptions in order to operate within biomedical logic — people suffer.

Consider the first prong of the structure: the very assumption of a pathological framework's existence. In "Public Health and the Mapping of Chinatown," Shah gives myriad examples of xenophobic white men employing the framework of medical pathology to justify the defamation of early Chinese immigrants in San Francisco. Consider the role of physicians Thomas Logan and C.M. Bates, physician-secretary of the California State Board of Health, and city health officer, respectively. In 1871, they led an investigation into San Francisco's Chinatown. Expecting that the Chinese had "hereditary vices" and "engrafted peculiarities," Logan specifically sought out to uncover the hidden "truth[s]" that could only be accessed by going to brothels, opium dens, gambling houses, etc. While exploring, in Logan's words, "the lowest dense of degraded bestiality,"[2] Bates could expound upon the pathological ramifications of what he called, "vice and abominations."

The fact that the state-sponsored Board of Health even initiated this investigation demonstrates an assumption that a pathology existed to be uncovered. As Shah describes, "[t]hese expeditions presumed first that discrete racial territories existed, and then that their features could be known through direct observation and expert analysis."[3] By similar logic, the tools of science and the "experts" that wielded them had the ability to detect disease in this context. Indeed, the "vice and abominations" that Bates observed constituted the *x* of the pathological mold. The subsequent formation of the $\rightarrow y$ was even more sinister. Over time, the report melded with rhetoric from similar reports and anti-Chinese political parties (the Anti-

[2] Nayan Shah, "Public Health and the Mapping of Chinatown," in *Asian American Studies Now: A Critical Reader,* ed. Thomas Chen (Rutgers University Press, 2010), 178.
[3] Ibid., 171.

Coolie Association, and the Workingmen's Party of California), eventually making its way into official policy — labelling Chinatown as a nuisance and epidemiological threat.[4] By viewing the situation in Chinatown through a pathological lens, those in power not only took the racial, physical disparity for granted, but they *assumed the existence* of a medical threat that could be detected and needed intervention.

Let us first reflect upon this failure of objectivity and humanity within the discourse of science itself. One needn't look very far to spot two glaring flaws in their methodology: the fact that they went into the investigation with racist assumptions about Chinese uncleanliness and "vice" resulted in egregious confirmation bias, and their highly specific targeting of more problematic locales constitutes serious sampling bias. With respect to sampling bias (tampering with the x), they sought evidence of Chinese uncleanliness and crime, while actively avoiding "merchants' homes, dry good stores, temples, meeting rooms, and Chinese opera theaters"[5]; as for confirmation bias, they *a priori* believed that the city would be improved by removing the "bestial" Chinese (a preordained $\rightarrow y$), which influenced their observations. Within science itself, these logical fallacies completely undermine the health officials' claims.

Yet Shah doesn't present examples of other scientists attacking the validity of their findings. To uncover why, let us critique the investigation from outside science entirely. While we can challenge the validity of these specific investigations using the tools defined in science, the fact that such investigations were launched in the first place presupposes that we can legitimately apply these tools at all. The power of pathology made a highly political and outright racist idea into a concrete, definitive discourse — a characterization of reality, rather than political opinion. This has brutally real consequences: a group responsible for the health of all

[4] Ibid., 182.
[5] Ibid., 177.

San Franciscans eventually reified and exacerbated racial discrimination, largely unchallenged due to their medical authority. From this example we can clearly see that the very invocation of medical authority generates a pathology, whether or not disease exists.

With the existence of a problem *x* assumed, we turn now to the consequent assumption of a singular solution class. By analyzing global public health discourse, we find that the pathological problematization of malaria generated a single set of solutions, which steered the debate toward a rationalist choice between the two options of the set. In "Colonial Medicine and Its Legacies," the authors present the neoliberal, rationalist concept of "socialization for scarcity" — the assumption by the West that "resources for poverty reduction and international health initiatives would be in perpetual short supply"[6] — in the context of pestilence eradication campaigns. In other words, the leaders of the WHO used pathology to restrict the possible plans of action to variations on a single, disease-oriented theme; they then employed the rationalism cultivated by socialization for scarcity to choose the most politically convenient solution.

Specifically, when questions arose over how to annihilate malaria in non-Western locations by the WHO in the 1950s, the implicit power of pathology and rational choice framed the debate as an "either-or" dilemma between vector control and parasite control.[7] The relative homogeneity between these two options is obvious even from the names. While the pathological discourse restricted the solutions down to two similar paths, the socialization for scarcity paradigm tipped the scales to favor the parasite approach. Indeed, the relative simplicity of Western therapeutics that target the malaria parasite threatened the Western superpowers less than anti-mosquito initiatives, which required improving agricultural drainage infrastructure and

[6] Jeremy Greene, Marguerite Thorp Basilico, Heidi Kim, and Paul Farmer, "Colonial Medicine and its Legacies," in *Reimagining Global Health: An introduction*, ed. Paul Farmer, et al. (University of California Press, 2013), 61.
[7] Ibid., 63.

organizing rural, underrepresented masses.[8] From the perspective of the superpowers, the vector control solution would cede some power to the countries of intervention. Yet, the inherently more nuanced and complex nature of the solution (even if ultimately more effective) weakened it in the eyes of neoliberal rationalism — leaving only the direct, biomedical approach. Hence, by narrowing the solution class, the pathological model enabled proponents of neoliberalism to invoke rationalism to choose the more politically advantageous option.

So far, we've seen how the pathological model not only assumes the existence of a straightforward solution class, but that it can be used to actively overshadow alternate strategies that fail to fit into as linear a structure. By looking to the WHO's smallpox eradication campaign of 1967, we can see how the myth of objectivity expands the linear narrative to be universally applicable to all potential patients, regardless of culture-specific circumstances. By many metrics, the smallpox pandemic fit perfectly into the rigid mold of Western pathology: the symptoms present very clearly (the *x* can be identified with our tools), the vaccine works consistently and effectively (the *arrow* is simply that the vaccine cures the disease), and immunity has no caveats (the *y* is reliable, and unequivocal).[9] The authors go on to describe how the WHO's choice of a "top-down approach … prioritized technological fixes over consideration of local context and broader infrastructure [and] compromised the agency of the populations" in question.[10] As such, we can understand why incidents of forced, sometimes violent inoculations in India, Bangladesh and Ethiopia arose toward the end of the campaign.[11]

The "technological fix" that the linear pathological model afforded works in a context where people are simply subjects to be inoculated, and disease can be prevented directly. The

[8] Ibid., 63, 66.
[9] Ibid., 69.
[10] Ibid.
[11] Ibid., 68.

removal of humans from their cultural context to fit the pathological model is a form of violence — not just the physical violence of forced injections, but violence against free discourse, replaced by ideas that cannot be questioned in the global health arena because the science behind them commands too much authority. Ultimately, the West eradicated smallpox through draconian enactment of the pathological solution — a fact (or *y*) so powerful that global superpowers have escaped culpability by invoking the authority of a global social contract, one that demands all citizens of the world embrace Western medicine to avoid further death by disease.

The objectivity of the model (which can be debunked, as in the Chinatown problem) and its perceived efficacy (which can fail, as in the malaria example) masks the question of where to apply it. So, the problem isn't whether or not the objectivity is earned — obviously science has accomplished good deeds (I say, never having had to worry about smallpox). The problem arises when the entire discussion of where, when, how, and why to apply the scientific — or, in this case, pathological — model vanishes. What we're left with are these three deeply problematic assumptions, that individually cause problems and collectively constitute the myth of scientific objectivity. As a concluding thought, consider the very existence of the term in Western pathology: *idiopathy*, describing "any disease … of uncertain or unknown origin."[12] Incumbent in this term is a cultural inability to accept the idea that Western pathology — and by extension science and technology at-large — cannot help us. To avoid this discomfort, we seek not to take solace in other perhaps more anthropologically informed frameworks, but to simply assume the existence of our most imposing, erudite, and concrete structure, no matter whom it hurts.

[12] William C. Shiel, MD, "Medical Definition of Idiopathic," MedicineNet, accessed September 9, 2020, https://www.medicinenet.com/script/main/art.asp?articlekey=3892.