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Xenophobia: Evolutionary Survival Mechanism or Vestigial Relic?

Defined as the fear and hatred of anything or anything strange or foreign, xenophobia can be seen permeating through almost every part of our society today. Not to be confused with racism, the belief that race is the fundamental determinant of human traits and capabilities, xenophobia usually stems from a broader sense of threat associated with outsiders. Although often overlapping with racial prejudice, this threat can also be due to differences in culture, nationality, language, or even behaviors. The source of xenophobia can be traced back to a psychological response to perceived dangers posed by unfamiliar groups or individuals. In evolutionary terms, this fear of outsiders may have served a functional purpose in the environment of evolutionary adaptedness (EEA), helping our ancestors navigate a world filled with potential threats. However, in today's interconnected global society, this ancient mechanism may no longer be adaptive, and instead, morphs into harmful prejudices and exclusionary practices that endanger the human species' existence.

From an evolutionary perspective, xenophobia likely evolved as a survival mechanism to protect early humans from dangers posed by unfamiliar groups. In the EEA, smaller, close-knit human groups relied on each other's cooperation and mutual trust for survival. Outsiders would almost always be seen as potential threats, whether it be from violence, resource competition, or the spread of disease. This vague fear functioned as a way to ensure safety against these threats and increase the chance of survival and therefore, reproductive success.

One of the earliest sources of xenophobia can be traced to the behavioral immune system, an evolved psychological mechanism coined by scientist Mark Schaller that's designed to protect humans from infectious disease. This system is defined as "a proactive set of psychological mechanism that evolved to detect and respond to disease-relevant cues" in the environment (Schaller 2007). It operates by detecting cues in the environment and triggering an emotional response, such as disgust, to avoid those perceived threats. These cues could include unfamiliar physical appearances, smells, or actions. For example, similar to how you'll find yourself looking towards someone in the back of the class that seems to be coughing a little too much, Schaller explains how the behavioral immune system acts preemptively by mobilizing an arsenal of psychological defenses when cued by a suggestion of potential pathogen presence.

This system was essential in early human survival as infectious diseases ran rampant and could devastate small populations quickly. This led to the naturally felt avoidance of anyone who posed a threat of contamination and in turn developed into a sense of disgust towards unfamiliar groups as an adaptive response to minimize the possibility of contraction. For example, the empirical data reviewed by Schaller link pathogen prevalence to increased social stigmatization of out-groups. In other words, populations that were exposed to more frequent or higher levels of diseases tend to show stronger xenophobic tendencies (Schaller 2007). This suggests that xenophobia may be an adaptive response that fluctuates based on external cues. Further, studies also show that there tends to be spikes in xenophobia during times of crisis such as the recent pandemic or during receding economies. (Ahmed et al. 2021)

However, overtime this psychological system of disease avoidance became more than a biological defense and transformed into a social tool, subtly shaping perceptions of entire people groups based on physical or behavioral cues that suggested "contamination." Oaten, Stevenson,

and Case build further on this argument by finding how disgust operates as a core component of this disease avoidance system (Oaten et al. 2009). They found that this emotion, although highly specialized for identifying potential infection sources, often generalizes beyond immediate danger and can be triggered by any deviation from perceived norms. This is especially important as it classifies this mechanism as operating like an automatic reflex that bypasses our conscious thoughts and instantly labels the unfamiliar as dangerous.

This reflexive avoidance can help explain phenomena such as cultural assimilation or “whitewashing”—a term used by some minority groups describing the process in which individuals from those groups may feel pressured to adopt the dominant cultural standards in order to avoid social exclusion, whether conscious or unconscious. The same disgust-based avoidance mechanism that triggers xenophobia toward outsiders can influence minorities to subconsciously reject aspects of their own heritage as it deviates from their perceived norms. By internalizing the biases of the dominant group, individuals may suppress or alter parts of their identity that are perceived as “other” in an attempt to fit into the in-group. This process mirrors the evolutionary function of behavioral immune system in many ways. The same way that it prompts humans to avoid potential pathogens, it also encourages them to avoid anything that could render them “socially contaminated” in the eyes of the majority. In this sense, the psychological drive for conformity, or “whitewashing,” could be understood as a form of self-preservation within a social landscape that penalizes difference. Such cultural shifts may stem not from overt prejudice, but from these implicit processes that automatically favor the familiar and marginalize the unfamiliar.

The research by Oaten and colleagues explains that this overgeneralization creates what are essentially false positives—harmless stimuli that nonetheless provoke disgust and avoidance

(Oaten et al. 2009). This overactive system, finely tuned for the EEA where a single pathogen could decimate an entire people group, becomes maladaptive in modern, multicultural societies. Similar to the error management theory, Schaller describes the behavioral immune system as “conservative” in its judgments, erring on the side of caution, even when the actual risk is low. This helps explain why certain populations, particularly in contexts of heightened disease awareness or fear, exhibit intensified xenophobic attitudes. What begins as a biological instinct to avoid infection morphs into a broader fear and rejection of the unfamiliar.

This reflexive avoidance of the foreign is deeply rooted in our evolutionary history and finds its counterpart in the psychological mechanisms of in-group favoritism. Just as humans evolved to avoid perceived threats from outsiders, they simultaneously developed a preference for those within their own group. This phenomenon, known as in-group favoritism, is a form of social cohesion that fosters trust and cooperation within the group, strengthening the bonds necessary for survival in the EEA. In-group favoritism, while offering evolutionary advantages in terms of group survival and cooperation, often works in tandem with xenophobic tendencies, reinforcing the rejection of out-groups.

Research by Fu and colleagues concluded that in-group favoritism can emerge without the necessity of explicit conflict between groups. Instead, this bias can evolve through social dynamics to favor cooperation within the in-group, while maintaining varying levels of cooperation or exclusion toward out-groups (Fu et al. 2012). This study demonstrates how human social networks and strategies tend to favor in-group members, whether through real-world affiliation like ethnicity and religion or more trivial divisions, like in laboratory settings. The evolutionary mechanism behind this is clear, explaining how individuals who aligned themselves with familiar, trustworthy group members were more likely to survive, reproduce,

and pass on their genes, whereas the uncertain and unfamiliar were seen as possible threats, therefore leading to exclusionary behaviors.

What is particularly interesting is the flexible nature of group identities. The research suggests that human societies have always shown fission-fusion dynamics, where the composition of groups and their identities can shift based on external pressures or changing environments. These shifts demonstrate the facultative nature of in-group favoritism, where allegiance to a group is often malleable, depending on who constitutes the “us” and who is designated as the “other.” Such adaptability allowed early humans to maximize cooperation within their group and defend against outsiders when necessary.

Despite the evolutionary underpinnings of xenophobia, it is essential to recognize that just because a behavior came from evolution does not make it ethically acceptable or natural. It’s common for many race supremacist and anti-immigrant groups to apply the naturalistic fallacy, trying to justify exclusionary behaviors and hate by appealing to their evolutionary origins. They often argue that the once adaptive function of protecting early human groups from threats from outsiders somehow translates to today’s society. This reasoning is deeply flawed and only leads to conflicts that ultimately hurt the progression of communities. As Schaller points out, while these psychological mechanisms were evolutionarily conserved, they misfire in today’s social contexts where diversity and inclusion are not threats, but strengths.

Xenophobia, though rooted in evolutionary adaptations like the behavioral immune system, fear of outsiders, and in-group favoritism, is no longer adaptive today. These evolved responses which were once used to ensure survival and reproductivity of human groups in the environment of evolutionary adaptedness now manifest in ways that divide and harm. Understanding how xenophobia is an evolved mechanism helps explain its persistence and can

help to spotlight its irrelevance in the modern world. By observing these hateful reactions, particularly during periods of high immigration like recently, we can realize how automatic and outdated these responses are. Viewing them through the lens of an “alien-biologist” can help us become more self-aware and allow us to respond with understanding rather than shame so we can transcend these biases.

Works Cited

- Fu, Feng, et al. "Evolution of In-Group Favoritism." *Scientific Reports*, vol. 2, article 460, 2012, doi:10.1038/srep00460.
- Oaten, Megan, Richard J. Stevenson, and Trevor I. Case. "Disgust as a Disease-Avoidance Mechanism." *Psychological Bulletin*, vol. 135, no. 2, 2009, pp. 303-321. American Psychological Association, doi:10.1037/a0014823.
- Ahmed, Saifuddin, Vivian Hsueh Hua Chen, and Arul Indrasen Chib. "Xenophobia in the Time of a Pandemic: Social Media Use, Stereotypes, and Prejudice against Immigrants during the COVID-19 Crisis." *International Journal of Public Opinion Research*, vol. 33, no. 3, Autumn 2021, pp. 637–653, doi:10.1093/ijpor/edab014.
- Schaller, Mark, and L. A. Duncan. "The Behavioral Immune System: Its Evolution and Social Psychological Implications." *Evolution and the Social Mind: Evolutionary Psychology and Social Cognition*, edited by J. P. Forgas, M. G. Haselton, and W. von Hippel, Routledge, 2007, pp. 293–307, doi:10.1098/rstb.2011.0029.