XENOPHOBIA FROM AN EVOLUTIONARY BIOLOGY PERSPECTIVE

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ABSTRACT

Traditionally, the social and natural sciences are two domains that have been studied separately. However, connecting both disciplines, although a very complex endeavor to achieve, can provide useful non-conventional approaches to examine social and legal challenges. These approaches might assist human rights scholars in developing theories to understand social phenomena like xenophobia. With this objective in mind, we will resort to implementing evolutionary biology principles and the Darwinian school of thought. It is well known that our species, *Homo sapiens*, is capable of complex social manifestations in cultural settings like religion and language. However, our species is also biologically classified as a social primate. Analyzing human behavior from an evolutionary biological perspective, while also taking into consideration our natural and anthropological history, might serve to better understand why there is a manifestation of xenophobia in society today. Furthermore, integrating the evolution of humans along with biological postulates can prove to be relevant for a better implementation of human rights principles. Evolutionary biology suggests that our species has developed the biological capacity for altruism. Human rights principles may precisely be a concretization of this capacity, which has also been demonstrated to exist in other species that exhibit altruistic tendencies, competition for resources notwithstanding, which may be one of the sources of xenophobia. More specifically, we will focus on "Article 14 of the Universal Declaration of Human Rights (UDHR), which concerns the right to seek asylum."[1] In essence, this thesis will try to provide a correlation between what could potentially be the genesis of xenophobia, the human capacity for altruism in the context of asylum law, and how these two behavioral manifestations were illustrated in the Hungarian refugee crisis of 2015.

[1] United Nations. (1948). Universal Declaration of Human Rights.

Keywords: Xenophobia | Evolutionary Biology | Behavior | Competition | Cooperation | Altruism | Nationalism | Human Rights | Asylum

Definitions:

1. Xenophobia: "A hostile attitude towards non-natives in a given population."[2]
2. Evolutionary Biology: "The subfield of biology that studies the evolutionary processes that produced the diversity of life on Earth."[3]
3. Behavior: "The change in activity of an organism in response to a stimulus."[4]
4. Competition: "Interaction between organisms in which both require resources that are in short supply, such as food, water, or territory."[5]
5. Cooperation: "The process in which groups of organisms work or act together for common or mutual benefits."[6]
6. Altruism: "A behavioral pattern that benefits other recipient organisms, at a cost to the contributor."[7]
7. Nationalism: "The identification with one's own nation and support for its interests, especially to the exclusion or detriment of the interests of other nations."[8]

[2] International Migration, Racism, Discrimination and Xenophobia. (n.d.). Retrieved June 12, 2022, from https://www2.ohchr.org/english/issues/migration/taskforce/docs/wcar.pdf
[3] The Public Engagement Team at the Welcome Genome Campus. (2017, February 17). What is evolution? Facts. Retrieved June 12, 2022, from https://www.yourgenome.org/facts/what-is-evolution
[4] Khan Academy. (n.d.). Introduction to Animal Behavior | Ecology. Khan Academy. Retrieved June 12, 2022, from https://www.khanacademy.org/science/ap-biology/ecology-ap/responses-to-the-environment/a/intro-to-animal-behavior#:~:text=Behavior%20can%20also%20be%20defined,cue%20or%20combo%20of%20cues.
[5] Lang, J. M. & Benbow, M. E. (2013) Species Interactions and Competition. Nature Education Knowledge 4(4):8
[6] Gardner, Andy; Griffin, Ashleigh; West, Stuart (December 2009). Theory of Cooperation. eLS. doi:10.1002/9780470015902.a0021910. ISBN 978-0470016176.
[7] Kasha, Samir, (2020) "Biological Altruism", The Stanford Encyclopedia of Philosophy, Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/sum2020/entries/altruism-biological/>.
[8] Merriam-Webster. (n.d.). Nationalism Definition & Meaning. Merriam-Webster. Retrieved June 12, 2022, from

8. Human Rights: "Rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, or religion."[9]
9. Asylum: "Protection granted by a state to a refugee who has left his home country as a result of persecution."[10]

https://www.merriam-webster.com/dictionary/nationalism

[9] United Nations. (n.d.). Human rights. United Nations. Retrieved June 12, 2022, from https://www.un.org/en/global-issues/human-rights#:~:text=Human%20rights%20are%20rights%20inherent,and%20education%2C%20and%20many%20more.

[10] Refugees, asylum-seekers and migrants. Amnesty International. (2022, June 10). Retrieved June 12, 2022, from https://www.amnesty.org/en/what-we-do/refugees-asylum-seekers-and-migrants/

METHODOLOGY

Research question:

What is the connection between evolutionary biology, xenophobia, and altruism, and how do they correlate with the human right of asylum as illustrated by the Hungarian refugee crisis of 2015?

Methodological approach:

For purposes of this thesis, a qualitative method was used. Primary and secondary sources of literature on anthropology and biology were consulted and contrasted with human rights literature. These sources were consulted for purposes of linking xenophobia with biology and to then provide a human rights integration. For purposes of narrowing down the focus of this thesis, genetic and epidemiological discourses as well as the political history of xenophobia were not consulted.

Obstacles and challenges:

The idea of developing a thesis which could link the natural and social disciplines arose because of a previous exposure to the biological sciences. When starting to develop the main idea, a deterministic approach was initially adopted. Perhaps biology could provide a complete and coherent explanation of the genesis of xenophobia. However, delving deeper into the literature of the subject was enthralling as it is a much more complex phenomenon, and it entails different multidisciplinary branches of study. The main challenge of this thesis consisted of effectively connecting the puzzle pieces of biology with human rights. The social and political aspects were given less attention in comparison to the biological aspects because the primary focus of the thesis was trying to find a connection between biology, xenophobia, and altruism in the context of asylum

law.

INTRODUCTION

The law provides the foundations for civilization. Legal systems are one of the most significant achievements of *Homo sapiens;* they have provided our species the capacity to coexist in society**.** However, legal systems do not entirely eliminate objectionable behaviors. Let's examine, for example, how human behavior shifts depending on the particularity of circumstances. When traffic lights fail to function, behavior will transform depending on social pressures. Hypothetically speaking, if traffic flow is managed by a policeman, it is likely that most drivers will let themselves be guided by his instruction. There are legal regulations that confer the authority necessary to enforce the law, along with penalizations to deter the commission of the same behavior in the future. On the other hand, in the absence of a policeman, and with no one in charge of directing the traffic flow, the most probable outcome will be a massive collision because the majority of drivers will attempt to cross the street at the same time without taking into consideration the other drivers, which in turn will probably produce all sorts of negative reactions. It is probable that in some cases, some drivers will cede and let others cross first, even when ceding might result in arriving late at a destination for the first drivers. This analogy is employed to demonstrate the necessity of legal systems. It illustrates, to an extent, realities of human behavior like competition and altruism in a social context.

Lawmakers who oversee the design of legal systems, which objectives are the modification of behavior for the better function of society, oftentimes overlook important behavioral components that are ingrained in humanity's history. Just like psychologists would revert to childhood to find correlations of behavior in adulthood that might stem from that early phase in life, evolutionary history may have equipped humans with instinctual tendencies that might contribute to reverse behaviors that the law is intending to modify. Human biological history may

provide insight into the intricate patterns of human behavior. It is reasonable to wonder why legal systems are oftentimes ineffective in the prevention of behavioral patterns that keep reemerging. Evolutionary biologist Richard Dawkins potentially provided an answer to this puzzle when he stated that "much as we might wish to believe otherwise, universal love and the welfare of the species as a whole are concepts which simply do not make evolutionary sense."[11] This statement, when examined in the light of evolutionary biology, suggests that evolutionary mechanism do not promote the collective prosperity of the human species but rather, competitive and selfish behaviors in the struggle for survival, which harbor conflict within the species. Competing for resources to survive is a very important biological concept that may have originated xenophobic behavior.

Thus, it is worth examining if there are significant connections between our evolutionary past and xenophobia, which is defined by the European Commission as "attitudes, prejudices and behaviors that reject, exclude and often vilify persons, based on the perception that they are outsiders or foreigners to the community, society, or national identity."[12] It would be insightful for lawmakers and human rights scholars to consider the biological implications of human behavior. "The better those understandings, the better law can achieve social goals with legal tools."[13] Because the law's final purpose is the regulation of behavior, and because *Homo sapiens* is a social primate, evolutionary biology is integral to this analysis. All species on Earth are bound by the principles of evolutionary biology. In fact, scientist Theodosius Dobzhansky proposed that "nothing in biology makes sense except in the light of evolution."[14] By applying a biological focus,

[11] Dawkins, R. (1976). *The Selfish Gene*. Oxford University Press.
[12] Xenophobia - Definition(s). European Commission. Migration and Home Affairs. (n.d.). Retrieved January 28, 2022, from https://ec.europa.eu/home-affairs/pages/glossary/xenophobia_en
[13] Owen D. Jones and Timothy H. Goldsmith, Law and Behavioral Biology (2005), Columbia Law Review, Vol. 105, No. 2, pp. 405-502, Columbia Law Review, https://www.jstor.org/stable/4099315
[14] Dobzhansky, Theodosius (March 1973), "Nothing in Biology Makes Sense Except in the Light of Evolution", American Biology Teacher, 35 (3): 125–129, JSTOR 4444260; reprinted in Zetterberg, J. Peter, ed.

it would be perhaps possible to improve the efficiency of the law. However, it is important to also note that the human species is multidimensional and that patterns of behaviors are intricately complex to understand.

Thus, to avoid a biased approach, it is important to recognize the influence of social, religious, political, and cultural factors, which may provide other valid arguments to explain behavioral manifestations like xenophobia. However, the contribution of this thesis lies on developing a biological angle that might provide another perspective to complex aspects of xenophobic behavior, and to understand if human behavior is subconsciously influenced by biology. It is important to recognize that primitive behaviors are eradicable. Socialization can of course modify behavior, but it is worth examining if there is a correlation between these manifestations and the origin of social problems. The following quote by scientist Dawkins states that: "Be warned that if you wish, as I do, to build a society in which individuals cooperate generously and unselfishly towards a common good, you can expect little help from biological nature."[15] It seems appropriate to suggest that evolutionary biological mechanisms are contrary to the ideals of human rights. Evolutionary biology can provide useful insight to understand the root causes of xenophobic behavior and to understand why multicultural societies confront so much opposition. Conversely, evolutionary biology can also account for positive behaviors displayed in this context, as it has been found that *Homo sapiens*, like many other species in nature, is also capable of manifesting altruism, a cooperative behavior that exemplifies the existence of compassion in humanity.

These biological principles can be illustrated in the refugee crisis of Hungary in 2015. Hungary is a particularly interesting illustration because there were observable displays of

(1983), Evolution versus Creationism, Phoenix, Arizona: ORYX Press
[15] *Id.*

xenophobia and altruism within its population during the tragic historical event of refugees seeking asylum within its borders. Overall, we will analyze how the right to seek asylum, which is protected under the Universal Declaration of Human Rights, particularly evoked xenophobic and altruistic sentiments in the Hungarian nation and how these two behaviors can be explained using an evolutionary biology approach.

CHAPTER 1: FOUNDATIONS OF EVOLUTIONARY BIOLOGY

1.1 - Fundamentals of Natural History and Evolution

Research suggests that, in the past, "humanity employed hunting-gathering strategies to secure resources for their tribes. The gathering duties were employed by the females, who rummaged for fruit and plants."[16] Additionally, females would oversee the "childbearing and nurturing of the children. Males were, conversely, in charge of doing the killing. Their strong physical complexities would allow them to pursue and hunt animals in the wilderness."[17] Anthropological research found that "this strategy of survival was humanity's earliest and most effective adaptation to compete in very hostile environments, occupying at least ninety percent of humanity's natural past."[18] Investigations into this matter have demonstrated that "hunting-gathering strategies were in all probability the methods employed by humanity to ensure its survival since at least 1.8 million of years ago."[19] "The *Homo erectus* species is deemed to be the first to engage in these survival mechanisms. Eventually, the evolved *Homo sapiens* species may have started imitating this behavior some 200,000 years ago."[20] "Hunting-gathering tribes from the past lived grouped as families of dozens."[21] "This strategy endured as the sole manner of nourishment up until the end of the Mesolithic period since at least 10,000 ago."[22]

Members of a tribe developed in-group cooperation mechanisms to enhance their chances of survival. Because a single member of a hunting-gathering tribe could not survive on its own, it

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[16] Richard B. Lee & Richard Daly, (1999) "Introduction: Foragers & Others," in: *The Cambridge Encyclopedia of Hunters & Gatherers*, Cambridge University Press, ISBN 052157109X, pp. 1–20.
[17] *Id.*
[18] Groeneveld, Emma (9 December 2016). "Prehistoric Hunter-Gatherer Societies". *World History Encyclopedia*. Retrieved: 28 January 2022.
[19] *Id.*
[20] *Id.*
[21] *Id.*
[22] *Id.*

had to cooperate with other members. One member alone was not properly equipped and did not possess the proper physical complexities that would allow him to survive in a hostile environment full of enormous beasts rummaging for food. The tribe figured at an early stage that in-group cooperation augmented their chances of survival. Similarly, women relied on the tribe's support to raise the children. Tribes would endure the struggle of death with the loss of its members during fights with wild beasts. More importantly, tribes would also compete with other foreign tribes for the same available resources. At some point along human history, inter-group cooperation was also documented. Cooperation between groups is defined as "the transferal of advantages between groups, which result in net benefits that are split among the members of the groups concerned."[23] In modern society, cooperation between groups is essential to achieve the proper functioning of compound and complex structured societies. For example, civilization today operates effectively in a cooperative system of exchange of labor and services. Nevertheless, researchers have found that "cooperative behaviors between diverse groups is more challenging to attain than cooperation between members of the same group, or even among members of a group who have not become acquainted."[24]

Anthropological research of the natural history of our species from millions of years ago is essential to our analysis because it reveals two realities of human behavior that have been documented. The first is that humanity, since a very ancestral time, has always organized in groups to ensure cooperative mechanisms within a tribe. The second is that humanity has had to struggle in order to survive, which is an unavoidable result of existence, and that struggle includes

[23] Elva J. H. Robinson, Barker, J. L., Jessica L. Barker, Department of Biology and York Centre for Complex Systems Analysis, Aarhus Institute of Advanced Studies, & Al., E., (2017, March 1). "Inter-group cooperation in humans and other animals." Biology Letters. Retrieved May 22, 2022, from https://royalsocietypublishing.org/doi/10.1098/rsbl.2016.0793#:~:text=definition,in%20size%3A%20figure%201).
[24] Dovidio, J. F., & Banfield, J. C. (2015). Intergroup cooperation. In D. A. Schroeder & W. G. Graziano (Eds.), *The Oxford handbook of prosocial behavior* (pp. 562–581). Oxford University Press.

competing with others for resources. Furthermore, competition for resources is also present throughout the Three of Life, in bacteria, eukaryotes, and archaea. In the animal kingdom in particular, this is oftentimes evidenced by different biological mechanisms, like for example predatory behavior, in which "one organism assassinates and devours another."[25] "Predatory behavior supplies the necessary nutrients to sustain the life and advance the reproductive goals of the predator, to the disadvantage of the organism being killed, the prey."[26] This is documented, for example, in a National Geographic documentary footage in which a cheetah is relentlessly chasing a gazelle. It is the inevitable struggle for existence in the world.

However, the human species has evolved through civilization and now competes in different, not so evident, ways. For example, have you ever come across a job posting in LinkedIn and seen that for this single job ad there are more than two-hundred applicants? Have you ever tried to access a seat in an overcrowded metro (Cairo, Egypt or Bogotá, Colombia, for example) where there is no space left for one more person and they would all race and fight to get it? Have you ever wondered why crime is higher in poorer countries? Or have you ever thought about the mechanisms behind colonization? All of these examples are very broad and deserve a proper analysis on their own due to the fact that there are many aspects to consider in order to address these questions. But perhaps biology can offer a different approach to answer them. How? They all have in common competition and survival, whether this is translated as competing for money, territory, space, natural resources, mates, and others. In the past, perhaps competition was fiercer and more brutal. Today, it is sort of camouflaged and more civilized.

It is documented that humanity originally organized in groups and thus, biologic and social development has also taken place in this manner. During the tribal past of humans, inter-group

[25] Stevens, A. (2010) Predation, Herbivory, and Parasitism. *Nature Education Knowledge* 3(10):36
[26] *Id.*

fights would develop, as they do between all species. Competitive tendencies are the inevitable result of a disparity between the number of resources available and the population of a region. There is a propensity in nature for such an imbalance and stability is created through death. “Since humanity had a proclivity to arrange into modest, small-sized groups in the past, tribalism was the adaptative result to contend with the struggle of survival of the species. This manifestation of social behavior augmented the probabilities of survival of each independent member and of the tribe as a collective. In that same line of thought, the display of discrimination towards outside non-conforming groups had its genesis on in-group allegiance. This adaptation evolved to protect resources in scarcity available to the tribe, which can be defined as a group who shares the mutual goal of surviving”.[27] Perhaps because of group formation and tribalism during humanity’s primitive days, countries with distinct cultural uniqueness later developed.

Tribalism may be accountable for culture and border formation. The propensity of groups to configure an identity is the unvarying result of developing a powerful sense of identity and unity that distinguishes one group from another group. Dr. Robert Sapolsky famously addressed this phenomenon as the “‘us versus them’ mindset, in which one group will observe the other group as a different entity with a different identity.”[28] Because of the development of a strong sense of in-group identity, groups can detect other non-conforming groups who do not share the same unifying perception. This sense of unity and identity may have become hard-wired through evolutionary mechanisms since tribalism offered many evolutionary advantages in the past to ensure survival. Through in-group cooperation, humanity adapted to survive in the hostile conditions of the

[27] Max Gluckman (2007). "Social beliefs and individual Thinking in Tribal Society". In Robert A. Manners; David Kaplan (eds.). *Anthropological Theory*. Transaction Publishers. pp. 453–464. ISBN 978-0-202-36133-8.
[28] "Us vs. Them" Thinking is Hardwired but There's Hope for Us Yet. Big Think. (2021, September 30). Retrieved January 28, 2022, from https://bigthink.com/videos/robert-sapolsky-us-vs-them-thinking-is-hardwired-but-theres-hope-for-us-yet/

primitive days.

Adaptation is another key issue in evolutionary biology. Adaptations are defined as "genetically inheritable behavioral or physiological attributes that have evolved through the mechanism of natural selection and which conserve or enlarge the ability of an organism to survive under certain environmental conditions."[29] Moreover, "natural selection is a mechanism in biology that permits the better adaptation of an organism to survive in its environment. As a result, the organism will have higher chances of producing offspring later. Evolution derives from the Latin term *evolvere*, 'to unfold or unroll', to disclose or display potentialities that were hidden."[30] Furthermore, evolution in biology is defined as "the transformation of properties of groups of organisms over the course of time."[31] It is important to note that evolution does not happen in a single organism. Rather, "populations, groups of organisms, experience descent with modification. Populations may divide and then various populations are derived from an original ancestral population. The populations will diverge if diverse modifications emerge in assorted populations."[32] As mentioned before, in-group cooperation mechanisms were thus favored by natural selection because they helped populations to adapt and survive challenging conditions. Thus, intragroup loyalty and cooperation were favored and subsequently genetically embedded by natural selection as adaptations for future use in order to preserve the species.

Group adaptations were the result of a significant increase at chances of surviving. Natural selection always operates to select the most successful traits to be passed on to the next generations.

[29] Daintith, John; Martin, Elizabeth A., eds. (2010) [First published 1984 as Concise Science Dictionary]. "Adaptation". A Dictionary of Science. Oxford Paperback Reference (6th ed.). Oxford University Press. p. 13. ISBN 978-0-19-956146-9.
[30] Brian K. Hall e Benedikt Hallgrímsson, (2008) Strickberger's Evolution, 4ª ed., Jones and Bartlett Publishers, ISBN 978-0-7637-0066-9, LCCN 2007008981, OCLC 85814089.
[31] What is evolution? Biological Principles. (n.d.). Retrieved January 28, 2022, from https://bioprinciples.biosci.gatech.edu/module-1-evolution/what-is-evolution/
[32] Douglas J Futuyma; Mark Kirkpatrick, Evolution (2017), Sunderland, Massachusetts : Sinauer Associates, Inc., Publishers, https://www.worldcat.org/title/evolution/oclc/989877968

Group survival was dependent on in-group cooperative mechanisms, but the struggle to survive also resulted in inter-group competition. "Struggle for existence is a terminology that was first employed by the end of the 18th century. At the beginning of the 17th century and onwards, the term was related to populations that exceeded the number of resources available, a challenge which Charles Darwin addressed in his most important scientific contribution, the book *On the Origin of Species,* which was published in the year of 1859."[33] Additionally, "scientist Alfred Wallace separately exerted the terminology of the struggle for existence to arrive at same conclusions, the theory of biological evolution."[34] "By developing the concept of struggle for existence, Darwin further expanded upon ideas of adaptation, which was a very important concept in the conceptualization of the theory of natural selection."[35]

Survival is the final objective of evolution. To pass our genes forward is the ultimate victory; reproduction is the vehicle that propels natural selection ahead. Reproduction is wired from birth into every single organism on Earth and its sole purpose is the perpetuation of the species. Hence, populational growth is always exponential, unless a catastrophe leads to extinction. However, "resources have an inversely proportional growth."[36] Competing for resources in order to survive, and to subsequently reproduce, are biological principles deeply ingrained in our instinctual nature. This instinctual nature was accurate during the past, as hunting-gathering tribes competed. If one group took a hold of most of the available resources, then that meant fewer for another group. Competition between groups, and as a consequence the rejection of one another, also evolved protective adaptions in relation to health. "In the past, groups were instinctively

[33] Ospovat, Dov. (1981) The Development of Darwin's Theory: Natural History, Natural Theology, and Natural Selection, 1838-1859. Cambridge: Cambridge University Press, 61-86.
[34] *Id.*
[35] *Id.*
[36] Population Growth (Annual Percentage). Data. (n.d.). Retrieved May 28, 2022, from https://data.worldbank.org/indicator/SP.POP.GROW

cautious of immediate interactions with other groups. This was the case because, as an evolutionary adaptation, this would protect against foreign infectious diseases that could cause the extinction of the indigenous population."[37] "Different groups often have diverse immunological histories and advantages to exposures to certain pathogens, having developed antibodies to effectively ward off an infection."[38] Innocuously carried diseases by one group can provoke the extinction of the other. Historically, this is what transpired between Native American populations after Europeans invaded their territory. Health concerns arise because populations have different genetic and immunological variations, which provide advantages for certain populations but not for others depending on their environment. Thus, Europeans most likely possessed immunity to certain diseases that were novel to Native Americans, who were immunologically ill equipped to combat and perished as a result of colonization.

Exposition to diseases during colonization illustrates why most immigration systems usually require health compliance testing. A foreigner seeking entrance, permanent residence, or citizenship into a country is required to comply with medical evaluations and health care insurance in order to be deemed admissible. At the epidemiological level, it is an understandable preventive step to protect the hosting country's population from being exposed to foreign diseases, which might overburden that country's health system. Epidemiological control plays a significant role in deterring disease spreading.

Furthermore, the reasoning behind health insurance policies for foreigners is to prevent the foreigner of having free access to the medical system of the state and make use of those resources. The COVID-19 pandemic is a good example of how countries limited international

[37] New Scientist. (2016, August 30). The Truth About Migration: How Evolution Made Us Xenophobes. New Scientist. Retrieved January 28, 2022, from https://www.newscientist.com/article/mg23030680-800-the-truth-about-migration-how-evolution-made-us-xenophobes/
[38] *Id.*

traveling in fear of having an increase of positive cases that could further jeopardize the resources of the state. An overburdened health system was a huge concern towards the beginning of the pandemic for every country. It might be the case that these health requirements are established to protect the native population of a hosting country from the spreading of non-native diseases for which they might not be properly adapted to survive, immunologically speaking.

On another note, when countries design policies that impose certain economic requirements upon foreigners who wish to reside in them, their reasoning might be aiming at protecting the economic resources of their own population. It is often the case that there is a concern of competition for jobs or the lowering of wages due to inexpensive migrant labor. These concerns create opposition to allowing foreigners entrance and remaining in a country. Economic and health concerns might be responsible of exacerbating xenophobic behavior. This opposition is a result of primitive biological impulses to protect resources, as evidenced in tribalism. In other words, opposition is intended to deflect competition from other contenders that might turn out to be potentially successful.

1.2 - Competition for Resources: The Human and the Chimpanzee

The study of behavior oftentimes comes across as controversial when comparing human and animal behavior. However, the concepts of cooperation competition and have undoubtedly been the focal point of many studies concerning very closely related species to humans like the chimpanzee. What can we actually learn from *Pan troglodytes*? The chimpanzee is a particularly important study subject to take into consideration because "humans share ninety nine percent of their genome with this primate relative."[39] Paleontologists and evolutionary biologists have

[39] Zeng, J., Konopka, G., Hunt, B. G., Preuss, T. M., Geschwind, D., & Yi, S. V. (2012, August 23). Divergent whole-genome methylation maps of human and chimpanzee brains reveal epigenetic basis of human regulatory evolution. The American Journal of Human Genetics. Retrieved May 17, 2022, from

discovered that the chimpanzee is the closest ape to "bifurcate from the ancestral branch of the phylogenetic tree that led to humans, in all likelihood six million years ago."[40] Competition is prominently important to analyze because, as established before, it is one of unifying principles of biology.

As mentioned before, "Darwin's theory of natural selection provides a logical structure to acknowledge the origin of organic and behavioral diversity."[41] The natural selection process is dependent on different biological mechanisms like reproduction, aggression, and competition for resources. As the closest living relative to humans, "the chimpanzee evokes substantial interest, since it can provide tremendous insight to understanding human behavioral evolution. This species furnishes a model structure to explore the mechanisms in which primates compete and cooperate. It has been found that conflict is significant in chimpanzee social interactions, both in in-group and inter-group relationships."[42] Furthermore, "it has been demonstrated that male chimpanzees engage in competition for dominance within hierarchical structures and engage in fatal violence between groups. However, it was also observed that wild chimpanzees engage in cooperative behavior."[43]

Animal behavior scholars have also acknowledged that animals frequently participate in in-group cooperation to compete with out-group members of the same species. It has been found that mammals, insects, and birds cooperate and compete with each other to obtain immediate or

https://www.sciencedirect.com/science/article/pii/S0002929712004107

[40] Wilford, J. N. (2007, April 17). Almost human, and sometimes smarter. The New York Times. Retrieved May 17, 2022, from:https://www.nytimes.com/2007/04/17/science/17chimp.html#:~:text=They%20are%20social%20creatures%20that,humans%20in%20some%20memory%20tasks.

[41] Muller, M. N., & Mitani, J. C. (2006, January 31). Conflict and cooperation in wild chimpanzees. Advances in the Study of Behavior. Retrieved May 17, 2022, from https://www.sciencedirect.com/science/article/pii/S0065345405350078

[42] *Id.*

[43] *Id.*

deferred advantages. "In-group male competition usually strives on status and access to females. Alpha males gain reproductive advantages as they assume control over mating with females when they are most fecundable. Furthermore, it has been found that "inter-group relationships between chimpanzees are foreseeably hostile. Despite profound differences in both species, there are certain similarities that go beyond similar anatomy and comparative intelligence. Chimpanzees display an extraordinary range of behaviors, from making and using simple tools, to hunting in groups and engaging in aggressive acts like humans. Chimpanzees are social creatures that display signs of empathy, self-awareness, altruism, cooperation when solving problems, and learning by example and sensation."[44]

Humans have developed, from millions of years of evolutionary history, tendencies that are primitive and biological, which are also evidenced and displayed by our closest living relative, the chimpanzee. Furthermore, "xenophobic tendencies can also be observed in other species throughout the animal kingdom, making it likely that this anti-social bias has been evolutionarily inherited. Evidence from comparative behavioral and neuropsychological studies reveal biological and neurological connections of this adaptative behavior. More categorically, the origin of racial bias is promoted through the articulation of preconceptions and stereotypes in human behavior. Distinction of facial perceptions contribute significantly to this social assortment."[45] Natural selection may not necessarily encourage altruistic behaviors in all cases because there are, of course, instances of competition, but the development of empathy and awareness of biological realities would give the human species the opportunity to conquer its evolutionary past and strive for a more inclusive and prosperous future. Human rights are precisely an example that our species

[44] *Id.*
[45] The Neuroevolutionary Roots of Xenophobia - Explorations. (n.d.). Retrieved May 17, 2022, from https://explorations.ucdavis.edu/docs/2017/RaisaRahimSubmission_final.pdf

can display empathetic attitudes towards others.

However, it is also important to recognize that hostility and aggression are also a part of the biological reality within all organisms. "Comparative behavioral studies suggest that identity based discriminatory and aggressive behavior, both in their in-group and inter-group modalities, is extensive and present all over the biological world, from plants to primates. Studies suggest that there is plentiful evidence of xenophobic behavioral displays in mammals, especially in closely related non-human primates. Many species of Old-World primates organize in stable social structures with dynamic interactive aspects that resemble human social structures."[46] "It has been demonstrated that chimpanzees will display aggressive behaviors towards foreign males in order to maintain their already established social dominance hierarchy."[47] It has been demonstrated that "wild rhesus macaques express xenophobic attitudes towards members of the same species in territorial exchanges."[48] Moreover, it was found that "Old-World monkeys co-existed in proportionally stable social hierarchies but were very aggressive and territorial towards members of the same species."[49] It is important to outline that even though aggressive and territorial behaviors in other animals is not necessarily transmutable to xenophobic behavior in humans, the correlation between similar stimulus and similar responses in most organisms, more specifically in the animal kingdom, suggests that these behaviors have a common origin. Since these behaviors are present in many species in the phylogenetic tree, it is probable that hostile, aggressive, and xenophobic tendencies are intrinsically innate due to common descent inheritance from our last common ancestor.

[46] *Id.*
[47] Sandel, A. A., Reddy, R. B., & Mitani, J. C. (2017, January). Adolescent male chimpanzees do not form a dominance hierarchy with their peers. Primates; journal of primatology. Retrieved May 17, 2022, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5450613/
[48] *Id.*
[49] Intergroup aggression in chimpanzees and humans [and comments ... - JSTOR. (n.d.). Retrieved May 17, 2022, from https://www.jstor.org/stable/2743814

CHAPTER 2: XENOPHOBIA - THE PHENOMENA OF US VERUS THEM

2.1 - The Concept of National Identity

One of humanity's most adaptative capacities is the fact that we migrate. It is an intrinsic characteristic of our species, and it is also a behavioral pattern that is manifested by other species on Earth. However, one of the main differences is the fact that all species, except humans, can migrate regardless of borders. This begs the question of why, then, were borders established in the first place and why are there one-hundred and ninety-three different countries? National identity, derived from tribalism, may be responsible for this. We now know that humanity has been organizing in tribes since the beginning of our natural history, and further down the evolutionary line developed culture and language, which in turn created a sense of unity and cohesion within the tribes. This sense of unity and belonging can also be translated in our modern world as "national identity, which is defined as the recognition of a unifying bond with a country that provides a sense of identity in relation to others."[50] This sense of affiliation with the nation makes populations become very protective of their culture, which is assimilated as the group's identity.

On the other hand, xenophobia is defined as "sentiments of non-acceptance expressed by hosting societies towards immigrants with a diverse cultural, ethnic, and religious history."[51] One potential explanation for xenophobic behavior in existing research "ascribes hostile behavioral patterns towards the fact that refugees and immigrants in general are perceived to be in competition for economic resources."[52] This term can also be defined as "preference shown towards in-group members. It develops because of the perceived relation between a member's own identity to that of the group, which conforms the social identity."[53] There is a tendency to hold the in-group at a

[50] Hechter, Michael (2000). *Containing Nationalism*. Oxford University Press. p. 7. ISBN 978-0198297420.
[51] *Id.*
[52] *Id.*
[53] *Id.*

higher esteem for diverse reasons and this can generate adverse feelings towards an out-group. National identity may be responsible of defining who is deemed to be a member of a group with a preformed sense of unity, to exclude those who do not conform, and to delimit the boundaries of a country.

Scientific research suggests that "because of developing relations of familiarity and kinship, as well as mutual interests for both the individual members and for the tribe itself as a collective, identity is developed as a by-product of survival."[54] As mentioned before, these evolutionary adaptations ensured humanity's survival. Again, tribalism enforced social unity and identity, which in turn helped to encourage in-group loyalty. Social unity and identity create division between groups, but this can help foster unique interactions built on association and cooperation. One of these unique interactions is altruism, which is "an interaction that benefits inter-group members and kin-selectivity, which is comprised of positive in-group interactions."[55] Thus, group divisions can potentially foster either rejection or cooperation. "The tendencies of members to unite in opposition to a foreign tribe and the capacity to behave violently and with prejudice against it likely improved the probabilities of survival in genocidal disputes."[56]

Nowadays, national identity connects groups to a country, but other factors play significant roles, like patriotism, national pride, and nationalism. "National pride is the demonstration of individual sentiments of honor and loyalty directed towards a country."[57] "National pride involves individual sentiments towards the native country, whereas nationalism is more intense because it combines beliefs of unity between the members of a society and that can be cohered together by

[54] *Id.*
[55] *Id.*
[56] Dunbar, Robin I. M. (2010). How Many Friends Does One Person Need? Dunbar's Number and Other Evolutionary Quirks. London: Faber and Faber. ISBN 978-0-571-25342-5.
[57] *Id.*

strong political sentiments. Negative connotations of nationalism arise from the ideology of unity in society. The positive or negative elements of national pride depend on different factors, which can be divided into political and nation cultural. Political national pride is defined as the civic aspect of society, its political organization, economy, and social structures."[58] Furthermore, "national pride is different because it relates to the historical and cultural aspects of the people."[59]

Lately, countries with a strong sense of nationalism, like Hungary in Europe, for example, are deemed to express very strong xenophobic sentiments towards other ethnic groups. In 2015, the Hungarian government introduced new policies which targeted refugees directly, while also launching a series of campaigns against migrants. These measures appeared to have been delineated as a plan to exacerbate anti-refugee (xenophobic) sentiments within the Hungarian population, politicizing irregular migration in favor of the government of Viktor Orbán with the objective to win the political race. The government auto proclaimed itself to be the protector of the country against a perceived menace of uncontrolled immigration. One of the campaigns of this movement "happened during the summer of 2015, when the Hungarian government set in motion a nationwide campaign with controversial slogans that read, 'if you come to Hungary, you cannot take away the work places from Hungarians.'"[60] Moreover, "similar propaganda that was distributed as part of the campaign contained slogans like 'if you come to Hungary, you have to respect the culture of the Hungarians.'"[61] On another very sad occasion, a Hungarian reporter named "Petra László was recorded engaging in hostile acts towards refugees who were fleeing the border police during the European migrant crisis in Röszke, Hungary, on September 8, 2015."[62]

[58] *Id.*
[59] *Id.*
[60] Verseck, K. (2019, October 21). Hungary's slow descent into xenophobia, racism and human rights abuses. InfoMigrants. Retrieved May 23, 2022, from https://www.infomigrants.net/en/post/20220/hungarys-slow-descent-into-xenophobia-racism-and-human-rights-abuses
[61] *Id.*
[62] Than, Krisztina (September 9, 2015). "Hungarian TV journalist fired for tripping up fleeing migrants". Reuters.

These sentiments towards refugees fueled a massive positive reaction from the population towards Mr. Orban's political party, to the extent that he has won the elections by a majority vote in multiple occasions. Of course, anti-refugee campaigns are not the only reason the Fidesz party won the elections, but those other factors are out of the scope of this discussion. There seems to be an element that deeply resonated within the Hungarian population with these statements about the protection of the Hungarian culture and its resources, which are, of course, translated as job opportunities and access to the economy.

The impact of migration upon the economy of the hosting countries has always been a major concern. "The perceived threat of competition from an immigrant labor force that is younger and will provide cheaper services has been deemed to potentially exacerbate xenophobic sentiments in Europe."[63] As the Hungarian case demonstrates, xenophobic sentiments are deeply rooted in the perception that refugees and foreign groups will come to displace a nation's culture and religion, and that the influx will also overburden the economy and cause increased competition for jobs and resources. Furthermore, the Hungarian government has been accused of having politicized and weaponized xenophobic sentiments against marginalized groups.

2.2 - Xenophobia as a Political Weapon and as a Source for Discrimination

The politization of irregular migration is a phenomenon that is becoming more evident in recent years. Because xenophobia evokes such strong sentiments of unity within populations, governments are strategizing upon it by using it as a political weapon to win elections or to destabilize other countries. The most common examples are of countries like Hungary, previously mentioned, and Belarus. The country of Belarus was "accused by the United States and Europe on

[63] Abashin, S. ''Goryachee Leto' 2013: Vybory I Migratsiya," in Migranty, Migrantophobii I Migratsionnaya Politika, Moscow: Academia, 2014: 20-30.

the United Nations security council to have orchestrated a crisis on its border with Poland by endangering migrants for political purposes. Poland accused the government of Alexander Lukashenko to have recruited about 2,000 refugees to move to Belarus with the intent of sending them across the border into Poland and cause instability for the Polach government. These refugees had to endure hypothermic temperatures while living in tent houses near the border. Poland had to activate a state of emergency in the border region, enforced by hundreds of military troops, and refused them entrance."[64]

Furthermore, violent categorizations such as 'the criminal immigrant', 'the illegal immigrant' can account for discrimination on the housing and labor markets, which is a common phenomenon in Europe. This, of course, is interconnected to xenophobia. Another aspect of subtle discrimination against foreigners in Europe is most often evidenced in the way employment policies are enforced. "Despite being qualified for a position, foreigners have a lower chance of landing an interview. In most instances, foreigners earn less capital than natives."[65] This, perhaps, could be linked to what social scientists call the 'Competition Theory'[66], a theory which is very similar in structure to the Darwinian concept of competition for resources and survival of the fittest. Competition Theory states that "xenophobic attitudes are built on perceptions of competition for resources. Marginalized groups in society perceive a heightened sense of threat against foreigners because competition will increase for resources such as welfare and jobs."[67] The central idea is

[64] Guardian News and Media. (2021, November 12). Hold Belarus accountable for bid to 'destabilize' EU border, says west. The Guardian. Retrieved May 29, 2022, from https://www.theguardian.com/world/2021/nov/12/hold-belarus-accountable-for-bid-to-destabilise-eu-border-says-west

[65] Migrants face 'significant discrimination' in job markets. Migrants face "significant discrimination" in job markets. (2000, March 8). Retrieved June 17, 2022, from https://www.ilo.org/global/about-the-ilo/newsroom/news/WCMS_007881/lang--en/index.htm

[66] *Id.*

[67] Bobo, Lawrence, Hutchings Vincent L., 1996. "Perceptions of Racial Group Competition: Extending Blumer's Theory of Group Position to a Multiracial Social Context", American Sociological Review, Vol.61, no.6, pp. 951-972

that "if the resources diminish in the country or region, competition and aggressiveness will intensify towards foreigners."[68] Furthermore, "the actual competitive circumstances can be real or just perceived as such, but in short, the theory implies that marginalized individuals are more likely to perceive a higher threat and become more hostile towards foreigners."[69] Xenophobia develops because a dominant group is perceiving a collective threat. One group evolves a social stance in stark contrast to another group and imbalance in power relations between both groups cause prejudicial behaviors to come out. The dominant group then perceives that the submissive group poses a real or imagined threat. Thus, it is believed that nationalist countries have a tendency to capitalize on feelings of competition for resources against foreigners to advance their own political objectives. Without a doubt, it is very unfortunate to see the predation on vulnerable and marginalized groups to advance political agendas.

On the other hand, governmental interactions with their native population play a significant role in increasing or decreasing sentiments of xenophobia. Oftentimes, leaders capitalize on the psychological manipulation of ruling by creating an enemy to aggrandize their role in government and to appear as superior 'saviors' of the nation. By manipulating the narrative and the native population into thinking that a foreign population will somehow 'steal' their original identity and economic opportunities, and that the prime leader of the supreme nation must defend against the supposed invasion, this strategy has proven to be a very effective political mechanism to win elections. This mechanism is designed to appeal to the very instinctive feeling of protection of resources that is deeply ingrained in our biological memory. This manipulation technique is very different from patriotism, a phenomenon that must be distinguished from nationalism. Patriotism

[68] Olzak Susan, 2006. The Global Dynamics of Racial and Ethnic Mobilization. Stanford: Stanford University Press.
[69] Hjerm Mikael, 2009. "Anti-Immigrant Attitudes and Cross-Municipal Variation in the Proportion of Immigrants", Acta Sociologica, Vol. 52, no 1, 47-62.

is defined as "the sense of admiration, loyalty, and attachment to one's country."[70] In this regard, societies may behave differently depending on the perceived similarities and differences with other groups. For example, Hungary's reaction to the refugee crisis of Ukraine was very different from its reaction to the Syrian refugee crisis of 2015. In a general sense, societal factors can amplify sentiments of xenophobia. The role of governments can help to increase or decrease these sentiments depending on their negative or positive perceptions towards the foreign group that is seeking asylum within its borders. In short, it must be recognized that biologically ingrained xenophobic sentiments can be used as political weapons to manipulate narratives and populations.

[70] Harvey Chisick (2005-02-10). Historical Dictionary of the Enlightenment. ISBN 9780810865488. Retrieved 2013-11-03.

CHAPTER 3: HUMAN RIGHTS - OUR CAPACITY FOR ALTRUISM

3.1 - Altruism and Human Rights

Human biological tendencies include, as we have already explored, the capacity for cooperation, for competition, and xenophobia, but we would like to now address altruism, which it is believed to be humanity's capacity for benevolence. "Altruism is defined as the furtherance of the welfare of another at the expense or loss of our own."[71] It is important to mention that "altruism is also displayed by non-human primates."[72] Evolutionary scientists have speculated that "altruism is deeply rooted in human nature because cooperative behaviors promoted the survival of the human species."[73] Indeed, "Charles Darwin referred to altruistic behavior as 'sympathetic' and 'benevolent', and as an essential part of the social instincts."[74] However, humans can display both selfish and altruistic behaviors because there are strongly rooted biological tendencies to behave in either way. It appears to be so that when there is an abundance of resources, the manifestation of altruism will be much more likely. However, the opposite is also true. If there is scarcity of resources, then selfish tendencies like xenophobia will be much more likely to manifest.

Despite that, humanity is capable of displaying altruistic behavior, which might be propulsor for the creation of the Universal Declaration of Human Rights. "The Universal Declaration of Human Rights (UDHR) is one of humanity's biggest achievements, a milestone document drafted by officials with different legal and cultural backgrounds from all over the world. It set out, for the first time, fundamental human rights to be universally protected and it has

[71] Altruism Definition: What is altruism? Greater Good. (n.d.). Retrieved May 23, 2022, from https://greatergood.berkeley.edu/topic/altruism/definition
[72] *Id.*
[73] *Id.*
[74] *Id.*

been translated into over five hundred languages."[75] One of its articles, Article 14, which concerns the right to seek asylum, states that "everyone has the right to seek and to enjoy in other countries asylum from persecution."[76] In regards to migration, there was, for the first time, a genuine intent to protect the right of asylum of refugees fleeing from persecution in their home states, which is contrary to sentiments of xenophobia. Furthermore, "refugees are also protected by international law, more specifically by the 1951 Refugee Convention."[77] Asylum seekers are people who claim to be refugees but whose claim is still under scrutiny. They apply for asylum on the grounds that "returning to their country would lead to persecution on account of race, religion, nationality, or political beliefs. Not every asylum seeker will be recognized as a refugee, but every refugee is initially an asylum seeker."[78] Thus, the fact that hosting countries were willing to at least examine asylum claims was a positive step in the right direction for the protection of refugees.

On the other hand, we must distinguish migrants from refugees. "Migrants elect to move, not because of a direct threat or persecution in their countries or origin, but mainly driven by the objective to improve their lives through new economic opportunities, seeking better education, or reuniting with family."[79] It is important for this distinction to be made since governments process migrants under their own immigration laws, but xenophobic sentiments do not seem to discriminate between these categories.

Coming back to altruism, humans oftentimes behave to benefit others. Evolutionary explanations for altruistic behavior diverge in two lines of thought. The first provides an

[75] United Nations. (n.d.). Universal Declaration of Human Rights. United Nations. Retrieved January 28, 2022, from https://www.un.org/en/about-us/universal-declaration-of-human-rights
[76] *Id.*
[77] United Nations High Commissioner for Refugees. (n.d.). The 1951 refugee convention. UNHCR. Retrieved May 23, 2022, from https://www.unhcr.org/1951-refugee-convention.html?gclsrc=aw.ds&gclid=CjwKCAjw4ayUBhA4EiwATWyBrjOIIM2s9xAU49CVbOqShEn0FYHnWDKMrrLuUtsbBktEDzhj7Ww_5RoCLQAQAvD_BwE
[78] *Id.*
[79] *Id.*

explanation as to why some species have developed behavioral structures designed to assist kin. This first explanation is based on the idea that "genes can replicate themselves to increase their presence in subsequent generations by causing the body they inhabit to deliver benefits to other individuals who also carry the same genes."[80] This might be an explanation of why, for example, nepotism occurs. The second explains why some species have developed behavioral structures designed to assist non-kin. "These interactions presuppose that individuals who have provided assistance to others in the past will eventually stand to benefit from that display of behavior. Thus, there might be a temporary benefit loss, but it might be regained in the future."[81]

Delayed beneficial interactions can be attained through many principles, one of them which is reciprocity, defined as "when an organism that assists another recoups more than the cost of the help through the process of the mutual, sequential exchange of assistance."[82] As a matter of fact, "humanity, across different cultural backgrounds, has a tendency to provide aid those most closely related to them, and this is actually congruent with the rest of the biological world. Parents procure investments of resources of various types for their offspring, an ordinary behavioral pattern common throughout many taxa."[83] A second beneficial interaction is exchange. Over time and across cultures, humanity has developed the capacity for inter-group cooperation in the form of exchanged goods and services, either in simultaneous agreements or in voluntary giving with the promise of receiving benefits later. A third beneficial behavioral interaction, and possibly the most complicated of all, is cooperation in large non-kin, non-related groups, which was mentioned as inter-group cooperation in the first chapter. These beneficial behavioral patterns of behavior are

[80] Kurzban, R. (n.d.). The evolution of altruism in humans. Annual Reviews. Retrieved May 23, 2022, from https://www.annualreviews.org/doi/abs/10.1146/annurev-psych-010814-015355
[81] *Id.*
[82] *Id.*
[83] *Id.*

not mutually exclusive. There may be other mechanisms of behavioral cooperation yet to be fully researched.

Moreover, altruism has two definitions depending on which perspective it is defined from. First, as a general concept, it can be defined as "an unselfish and detached concern for the welfare of others."[84] However, from an evolutionary biology perspective, it can be defined as "the procurement of beneficial behaviors for other animals at the expense of the contributor."[85] This is the definition to which we would like to stick for purposes of this thesis. As a matter of fact, altruism is also represented in other species in the natural world.

For example, "ants deliberately milk insects called aphids, seeking nourishment in the sweet secretions they produce. In return, "aphids benefit from disposing of a strong army of ant fighters that provide protection. Ants will even safeguard aphid offspring and take them into custody in their ant hills to raise them and defend them from predators."[86] Altruistic behavioral patterns are common in the animal kingdom as well, particularly in eusocial species, species with very intricate and compound social formations. Examples of altruistic behavior also includes vampire bats, "which regularly regurgitate blood and donate it to other members of their group who have failed to feed that night, ensuring they do not starve."[87] In many bird species, "a breeding couple receives assistance in raising its young from other 'helper' birds, who protect the nest from predators and help to feed the fledglings."[88] Additionally, "vervet monkeys give alarm calls to warn fellow

[84] Okasha, S. (2013, July 21). Biological altruism. Stanford Encyclopedia of Philosophy. Retrieved May 23, 2022, from https://plato.stanford.edu/entries/altruism-biological/#:~:text=Altruistic%20behaviour%20is%20common%20throughout,ensuring%20they%20do%20not%20starve.
[85] *Id.*
[86] Goeke, N. (2020, November 21). The selfish gene summary. Four Minute Books. Retrieved May 23, 2022.
[87] Okasha, S. (2013, July 21). Biological altruism. Stanford Encyclopedia of Philosophy.
[88] *Id.*

monkeys of the presence of predators, even though by engaging in this behavior they will attract the attention to themselves, increasing their risks of getting attacked."[89]

From a Darwinian perspective, the display of altruistic behavior in the natural world extremely puzzling, as Darwin himself stated. "Natural selection may predict that animals would behave in manners which increase their own probabilities of survival and reproduction, not the probabilities of others. However, through altruistic behavior, an animal reduces its own benefit opportunities, so this behavioral pattern should be attained as a selective disadvantage *vis-a-vis* selfish behavior. As mentioned before, following the evolutionary biology definition, social behaviors are considered to be altruistic if they minimize the benefits of the organism executing the behavior but augment the benefits of the one receiving the behavior. Mutually beneficial behaviors evolve in nature much more effortlessly than altruistic behaviors. "Organisms that engage in these types of behaviors increase their benefits, and so are at a selective advantage in comparison to those who do not perform such behaviors."[90] For example, a mutually beneficial interaction would be when a bird joins a flock; the lone bird is directly benefited as chances of being predated upon are reduced, while concurrently reducing the predation risks of the flock. In contrast, an altruistic behavior would increase the bird's risk of predation while promoting the safety of the flock.

Another distinctive difference between altruistic and cooperative behaviors is that altruism allows the conference of benefit upon a member of a different species. As a matter of fact, there are vast examples that illustrate this principle. "When an organism engages in self-interested activities and accidentally produces a benefit for a non-related member, it is deemed that this organism engaged in 'mutualistic' behavior."[91]

[89] *Id.*
[90] *Id.*
[91] *Id.*

There is also another quite intriguing distinction of altruism: weak and strong altruistic behaviors. "To count as strong altruism, a behavior must reduce the absolute fitness of, for example, the number of offspring of the donor. To count as weak altruistic behavior, an action need only reduce the relative fitness of the donor. For example, fitness relative to that of the recipient."[92]

One of the biggest concerns among the scientific community is whether altruistic behavior principles apply to humans. This is part of a contention of whether animal and human behavior should be studied interconnectedly. However, most biologists coincide that *Homo sapiens* has evolved, and that general evolutionary biology principles apply to the species. However, as mentioned before, human behavior is strongly influenced by cultural and societal aspects to a far greater extent than any other animals. These aspects are often the product of religious influence and conscious moral beliefs. Nonetheless, at least to some proportion, human behavior seems to sustain the predictions of the evolutionary biology concepts. In general, it is a fact that humans display altruistic behavior more regularly towards family than towards people who are not related. In the biological sense, this translates as, for example, participating in the upbringing of the children of relatives, as predicted by kin selection theory, which is out of the scope of this discussion. It is probable that humans will tend to assist those who have provided assistance in the past, as predicted by the reciprocal altruism theory. On the other hand, "humans are unique in that cooperation is extensive with non-kin. More generally, numerous human behaviors seem anomalous from the point of view of biological fitness."[93] An example that does not comply with the biological fitness principle is adoption. A couple who is willing to adopt children instead of giving birth to their own reduces their biological fitness. This is an altruistic behavior. However,

[92] *Id.*
[93] *Id.*

adoption does not favor kin, for the adopting couple is genetically unrelated to the children they adopt. So, even though evolutionary biology principles can prove useful to understand some displays of human behavior, they must be applied cautiously because there are always exceptions to the norm.

There are counterarguments that differ from the view that, even if an evolutionary biology approach to human behavior is accepted, the probability for humans to behave selfishly or altruistically is equally probable. There is a possibility that natural selection would have favored humans to display altruism as a genuine inclination to help others. Evolution may advance altruistic behavior to evolve because it is a beneficial mechanism. An evolutionary perspective applied to human behavior does not necessarily imply that humanity is likely to be motivated by selfish interests alone. Humans have the capacity to behave dualistically, to display benevolence too. This is so because humans often show concern for the welfare of complete strangers, and there are numerous cases of people providing benefits to unrelated individuals at a personal cost. The biological potential for such action is necessary for the human species to have developed the concept of universal human rights. Empathy towards strangers is a necessary precursor to altruism, and thus, to the ability to develop laws that provide for the protection of others.

3.2 - Reflection on the Role of Human Rights

We have already established that *Homo sapiens* is capable of displaying both xenophobic and altruistic sentiments towards refugees. Furthermore, we have also proposed that human rights are precisely a display of benevolence, and that it is possible for our species to wish for the wellbeing of others, even at a cost of our own. The role of human rights, more specifically in the context of asylum law, is to precisely look after the safety of those most vulnerable; refugees who are fleeing their home country due to persecution. Good governments, by enforcing human rights

principles, can counterbalance xenophobic sentiments within a hosting population. Conversely, bad governments can manipulate and weaponize xenophobic sentiments to enforce policies which can be extremely detrimental to foreigners seeking refuge. Biology and human rights education can play a key role to decrease feelings of discrimination and rejection for what we deem foreign. To understand that these sentiments may be rooted in our biological history is a significant step forward to achieve a nondiscriminatory multicultural society. Furthermore, an exhortation of empathy for those most vulnerable can help counterbalance these feelings. Human rights are precisely designed to evoke our natural capacity for altruism. Contrary to popular beliefs that human rights are unachievable ideals, they are evidence of human benevolence, and they serve to promote better legal systems, which can do a lot to counterbalance our natural biological instincts. In essence, education, good governance, and human rights are the key principles that must be employed in order to eradicate sentiments of xenophobia in society.

CONCLUSION

Deciphering the genesis of certain behaviors is a very challenging analysis with many variables to take into consideration. Whether evolutionary biology dictates xenophobic and altruistic behaviors in humans is still a debatable subject for many. We believe it is important to venture into our natural and anthropological history to learn that humanity is influenced, to a greater or lesser extent, by its intrinsic biological nature. However, humanity also displays multi-dimensional traits of culture, religion, and language in its social structures, which could also account for certain behavioral patterns. The phenomenon of xenophobia has been deeply rooted and ingrained in tribalism since millions of years of evolutionary history and the sentiments of hostility towards foreigners is due to the perception of potential competition for resources. Tribalism, in turn, may be responsible for the development of the concept of national identity, which can further develop into nationalism. Nationalist countries like Hungary are deemed to have a stronger display of xenophobic sentiments, as was evidenced by the refugee crisis of 2015. On the other hand, Hungary has also displayed altruistic behaviors towards refugees during the Ukrainian crisis. "UNHCR data also show that since the war started, Hungary has welcomed about 610,076 Ukrainian refugees until May 16."[94] This, in stark contrast to the refugees accepted during the 2015 crisis. The role of governments in increasing or decreasing these sentiments is significant when enforcing policies.

The struggle for survival and reproduction and competing for resources are the main drivers of biology. However, the human species has the dualistic capacity of displaying xenophobic tendencies but also of displaying altruism, and the advocacy and protection of human rights are

[94] J., 8, J., 9, J., 7, J., & 10, J. (2022, May 17). Hungary continues to accept thousands of Ukrainian refugees daily, authorities claim. SchengenVisaInfo.com. Retrieved June 13, 2022, from https://www.schengenvisainfo.com/news/hungary-continues-to-accept-thousands-of-ukrainian-refugees-daily-authorities-claim/

precisely a manifestation of this positive trait. Seeking asylum is safeguarded in Article 14 of the UDHR, in particular, and it presupposes that a country will provide assistance to foreigners fleeing from persecution. Thus, resources employed to assist foreigners will not be available to the citizens of the hosting country. This will inevitably result in a reduction of fitness for the hosting country, and it is precisely for this reason, that this act is deemed to be altruistic. On the other hand, countries like Hungary, with a deeply rooted sense of nationalism, resist to provide assistance in certain circumstances to foreigners seeking asylum, thus exacerbating xenophobic sentiments within its population. It is evident that the human species has both the capacity for xenophobia and altruism, and the display of these behaviors will vary depending on different factors, due to the fact that governments enact policies differently according to their views on foreigners. However, it appears that human altruism, the ability to be concerned about the rights of those outside the kinship or immediate social group, likely has its roots in evolutionary history, with *Homo sapiens* building upon the behavioral capacities of earlier species. Humans are typically born with the biological potential of exhibiting, to a greater or lesser extent, both extreme cruelty and extraordinary acts of altruism.

The role of human rights in this context is to bring awareness that it is possible to strive for more stable and inclusive societies. Human rights are precisely designed to evoke our natural capacity for altruism, and they serve to promote better and more effective legal systems, which can help to counterbalance our natural biological tendencies. To develop non-xenophobic societies in which multiculturalism is accepted and viewed in a positive light, it is essential to recognize that we have naturally evolved positive and negative tendencies; xenophobia and altruism are two of them and they might have their roots in evolutionary biology. Biology and human rights education, combined with good governance, can help us achieve this objective.

BIBLIOGRAPHY

1. Aguillon, Stephanie M., Duckworth, Renee A. (April 2015) “Kin aggression and resource availability influence phenotype-dependent dispersal in a passerine bird.” Behavioral Ecology and Sociobiology, Vol. 69 No. 4, pp. 625-633 (9 pages), Published By: Springer, JSTOR
2. Brian K. Hall e Benedikt Hallgrímsson, Strickberger (2008) Evolution, 4ª ed., Jones and Bartlett Publishers, ISBN 978-0-7637-0066-9, LCCN 2007008981, OCLC 85814089.
3. Bobo, Lawrence, Hutchings Vincent L. (1996) “Perceptions of Racial Group Competition: Extending Blumer’s Theory of Group Position to a Multiracial Social Context”, American Sociological Review, Vol.61, no.6, pp. 951-972
4. Daintith, John; Martin, Elizabeth A., eds. (2010) [First published 1984 as Concise Science Dictionary]. "Adaptation". A Dictionary of Science. Oxford Paperback Reference (6th ed.). Oxford University Press. p. 13. ISBN 978-0-19-956146-9.
5. Dawkins, Richard (1976) “The Selfish Gene”. Oxford University Press. ISBN: 9780199291151.
6. Dobzhansky, Theodosius (March 1973), "Nothing in Biology Makes Sense Except in the Light of Evolution", American Biology Teacher, 35 (3): 125–129, JSTOR 4444260; reprinted in Zetterberg, J. Peter, ed. (1983), Evolution versus Creationism, Phoenix, Arizona: ORYX Press
7. Dovidio, J. F., & Banfield, J. C. (2015). Intergroup cooperation. In D. A. Schroeder & W. G. Graziano (Eds.), *The Oxford handbook of prosocial behavior* (pp. 562–581). Oxford University Press.
8. Dunbar, Robin I. M. (2010). “How Many Friends Does One Person Need? Dunbar's Number and Other Evolutionary Quirks.” London: Faber and Faber. ISBN 978-0-571-25342-5.

9. Elva J. H. Robinson, Barker, J. L., Jessica L. Barker (2017, March 1). “Inter-group cooperation in humans and other animals.” Department of Biology and York Centre for Complex Systems Analysis, Aarhus Institute of Advanced Studies, & Al., E. Biology Letters.
10. Futuyma, Douglas J.; Mark Kirkpatrick, Evolution (2017), Sunderland, Massachusetts : Sinauer Associates, Inc., Publishers.
11. Granato, E. T., Meiller-Legrand, T. A., & Foster, K. R. (June 2019). “The evolution and ecology of bacterial warfare.” Current Biology.
12. Goeke, N. (November 2020). “The selfish gene summary.” Four Minute Books.
13. Groeneveld, Emma, 9 December 2016. "Prehistoric Hunter-Gatherer Societies". World History Encyclopedia.
14. Guardian News and Media. (November 2021). Hold Belarus accountable for bid to 'destabilise' eu border, says west. The Guardian.
15. Hechter, Michael (2000). Containing Nationalism. Oxford University Press. p. 7. ISBN 978-0198297420.
16. Harvey Chisick (2005). Historical Dictionary of the Enlightenment. ISBN 9780810865488. Retrieved 2013-11-03.
17. Hjerm Mikael (2009). “Anti-Immigrant Attitudes and Cross-Municipal Variation in the Proportion of Immigrants”, Acta Sociologica, Vol. 52, no 1, 47-62.
18. Kingsbury, M. A. (June 2017). Beyond attitudes: “Russian xenophobia as a political legitimation tool.”
19. Kurzban, R. (n.d.). (January 2015). “The evolution of altruism in humans.” Annual Reviews. Annual Review of Psychology, Vol. 66:575-599
20. Max Gluckman (2007). "Social beliefs and individual Thinking in Tribal Society". In

Robert A. Manners; David Kaplan (eds.). Anthropological Theory. Transaction Publishers. pp. 453–464. ISBN 978-0-202-36133-8.

21. Manson, Joseph H., Wrangham, Richard W. (1991) “Intergroup aggression in chimpanzees and humans” JSTOR. (n.d.).
22. McFarland, R., Roebuck, H., Yan, Y., Majolo, B., Li, W., & Guo, K. (n.d.). (2013) Social interactions through the eyes of macaques and humans. PLOS ONE.
23. Muller, M. N., & Mitani, J. C. (2006, January 31) “Conflict and cooperation in wild chimpanzees.” Advances in the Study of Behavior.
24. New Scientist. (2016, August 30). “The Truth About Migration: How Evolution Made Us Xenophobes.”
25. Okasha, S. (2013, July 21). “Biological altruism.” Stanford Encyclopedia of Philosophy.
26. Olzak Susan (2006). The Global Dynamics of Racial and Ethnic Mobilization. Stanford: Stanford University Press.
27. Owen D. Jones and Timothy H. Goldsmith, Law and Behavioral Biology (2005), Columbia Law Review, Vol. 105, No. 2, pp. 405-502, Columbia Law Review.
28. Ospovat, Dov. (September 1995). “The Development of Darwin's Theory: Natural History, Natural Theology, and Natural Selection”, 1838-1859. Cambridge: Cambridge University Press, 1981, 61-86.
29. Quillian, Lincoln (1995). “Prejudice as a Response to Perceived Group Threat: Population Composition and Anti-immigrant and Racial Prejudice in Europe”, American Sociological Review, Vol. 60, no 4, 586-611.
30. Rahim, Raisa. (2017). “The neuroevolutionary roots of xenophobia - explorations.” Explorations: The UC Davis Undergraduate Research Journal, Vol. 19 (2017). UC Davis,

University of California

31. Richard B. Lee & Richard Daly (1999) “Introduction: Foragers & Others,” in: The Cambridge Encyclopedia of Hunters & Gatherers (Cambridge University Press, ISBN 052157109X, pp. 1–20.
32. Sandel, A. A., Reddy, R. B., & Mitani, J. C. (2017) January. “Adolescent male chimpanzees do not form a dominance hierarchy with their peers.” Primates; Journal of primatology.
33. Sapolsky, Robert. (2021, September 30). "Us vs. Them" Thinking is Hardwired but There's Hope for Us Yet. Big Think.
34. Stevens, A. (2010) Predation, Herbivory, and Parasitism. *Nature Education Knowledge* 3(10):36
35. Twenty people are newly displaced every minute of the day. (September 14, 2017). UNHCR Global Trends - Forced displacement in 2016.
36. United Nations. (1948). Universal Declaration of Human Rights.
37. United Nations High Commissioner for Refugees. (n.d.). The 1951 Refugee Convention. UNHCR.
38. Wilford, J. N. (2007, April 17). “Almost human, and sometimes smarter.” The New York Times.
39. Zeng, J., Konopka, G., Hunt, B. G., Preuss, T. M., Geschwind, D., & Yi, S. V. (2012, August 23). “Divergent whole-genome methylation maps of human and chimpanzee brains reveal epigenetic basis of human regulatory evolution.” The American Journal of Human Genetics.