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Analyzing Aristotle's concept of Human Nature through

Maria Kronfeldner's Framework of Human Nature

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Abstract

In this thesis, I am going to analyze Aristotle's concept of Human Nature from a contemporary perspective. In specific, I attempt to argue that Aristotle's concept of Human Nature can still be made plausible despite the challenges raised in contemporary debates towards the concept.

The analysis will come in three parts. I will first look into Maria Kronfeldner's work: *What's Left of Human Nature? A Post-Essentialist, Pluralist and Interactive Account of the Contested Concept*, which provides both the background of the debates on the concept of Human Nature and her attempt to resolve these protracted challenges of the concept (i.e. the Dehumanization Challenge, the Darwinian Challenge and the Developmentalist Challenge). Her work was chosen due to the conceptual comprehensiveness of the topic. In the second part, I will provide an analysis based on Aristotle's *Metaphysics*, specifically, his ideas on Substance, Potency, and Change, followed by his account of Biology and Ethics, to draw out how Aristotle understood the terms "Nature" and "Essence" during his time. Lastly, with the foundation laid in the previous parts, I am going to argue that Aristotle's understanding of Human Nature and Teleological Essentialism could be compatible with Kronfeldner's framework about Human Nature, despite the difference in terminology and advancement in technology and culture (i.e. incommensurability), thus addressing the challenges correspondingly.

Keywords: Human Nature, Maria Kronfeldner, Post Essentialism, Aristotle, Essence, Teleological Essentialism

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Introduction and Incentive of the Study

The incentive of this study begins with some simple thoughts: What does it mean when we talk about being a human? Can we speak of ourselves as having a nature? A common conception is that we think of ourselves as having certain traits/abilities that we can apply to other human beings that we find similar (at the commonsensical level) and also distinguish ourselves from other beings like animals and plants. For instance, we often assume human beings have rationality and are able to reason, to be able to use tools to improve our livelihood, as well as use language to communicate.

These ideas have been revolving around the history of humanity. For example, Aristotle from the Ancient Greek period spoke of the potentiality of the Soul in beings, and the rationality in the human Soul is what enables humans to flourish. English Philosophers John Locke and Thomas Hobbes from the Enlightenment period also gave their respective accounts to the nature of man in relation to the state of nature, as being rational¹ or self-preserving².

These strands of thoughts are often described as Human Nature and are closely linked to Essentialism: A term coined in contemporary debates to depict a theory using an intrinsic essence to describe the subject being itself. Although Essentialism as a way of understanding Human (Nature) remains one of the main ways/tools to explain human behaviour/characteristics in history due to its pragmatic function (Classificatory and Explanatory purposes), it began to face stronger criticisms when Evolutionary theories and Philosophy of science stepped into the picture.

¹ Uzgalis, W. (2022, July 7). *John Locke - 4.2 Human Nature and God's Purposes*. Stanford Encyclopedia of Philosophy. Retrieved April 1, 2023, from <https://plato.stanford.edu/entries/locke/#HumaNatuGodsPurp>

² Lloyd, S. A., & Sreedhar, S. (2022, September 12). *Hobbes's Moral and Political Philosophy - 3. The State of Nature*. Stanford Encyclopedia of Philosophy. Retrieved April 1, 2023, from <https://plato.stanford.edu/entries/hobbes-moral/#StaNat>

A very general argument towards the concept of Human Nature is that some scholars often take it for granted to determine human beings as having a certain nature/essence exclusive to themselves and thus making it a nature of human beings. Critics would argue that it is misleading (limiting your own thoughts) to think of it in this essentialistic way because it is not reasonable to simply summarize one or few traits according to one's observation and apply that understanding universally to all human beings and/or their actions, in other words, it is a tautological and reductive way of making an explanation (i.e. A human has this ability/behaviour because he/she has such an observable "nature" and such behaviours are reducible to yet again, the nature itself).³

Following this rough picture of the "Take it for granted" argument, many theories from the pre-Darwinian period fall into criticism towards their account of Human Nature, and Aristotle, who is often considered the first Essentialist, and his philosophy, specifically *Metaphysics* and *Hylomorphism*, fell into controversial debates among scholars.

In this thesis, I would like to analyze Aristotle's concept of Human Nature by making an attempt to understand his work and discuss with respect to the contemporary perspective introduced by Maria Kronfeldner, in which I think it is possible to explain Aristotle's philosophy with Kronfeldner's framework. If the explanation and comparison come out to be plausible it would imply that (1) Aristotle and his thoughts towards Human, Nature and Human Nature should be understood in a way that is not an Essentialist or is a Post-Essentialist according to Kronfeldner's terms and (2) We can understand the concept of Human Nature from a historical perspective that focuses on the progression of thoughts open-mindedly and extract some insights from it (i.e. Terminology might vary due to time, culture, environment and categorisation but the epistemic value of the thoughts remains. For instance, Aristotle's categorisation might be different from Modern Biology, but the metaphysical and physical principles still apply and are meaningful as they act as a different perspective to understand the concept of Nature and Knowledge⁴) rather than arguing whether these categorizations and beliefs are adequate in modernity or not.

³ For example, essentialists will suggest that it is observable that every human one observe can think and act logically, thus summarising all humans should be having a nature/essence termed "Rationality", to be able to and is observable to think and act logically is to have Rationality as nature and to have Rationality is to be able to think and act logically. The question is that this is put as if nothing was explained since the statement is justifying itself. Another way to explain this question, is to say that all observable behaviour is reducible to that designated nature/essence and is explainable by it, one's explanation already participates in the whole product of itself (E.g. When one says human nature is Rationality and this practice of reasoning to explaining this concept is already being manifested as an evident).

⁴ This linked to the concept of incommensurability in which I think it is not reasonable to discredit Aristotle by coining him as an Essentialist that only focus on thinking human being(s) as having an Essence (Capable of having Rationality) because the conception of "Essence" and use of the term can be linked to other theories that are meaningful and reasonable at his time and usage. I will discuss this matter in Section 3.

The thesis is divided into three sections. The first section includes an analysis following Maria Kronfeldner's structure of explaining Human Nature, I would like to first list the definitions of Human and Nature offered by Kronfeldner, followed by the challenges faced by the conception of Human Nature and traditional Essentialism: The Dehumanization Challenge, the Darwinian Challenge, and the Developmentalist Challenge⁵. Each of these Challenges targets a specific interpretation of Human Nature, and to resolve these challenges and provide a plausible account of Human Nature, a post-essentialist, pluralistic and interactive account can be formulated.

In the second section, I will make an analysis on Aristotle's work, specifically focusing on his volumes on (1) *Metaphysics* and *De Anima* which provide explanations to how Aristotle explains human nature with reference to his metaphysical explanation about the world (E.g. Concept of Causes, Form and Soul) and (2) his work *The History of Animals*, which is often considered as Aristotle's "biology"/biological analysis, in contemporary discussions. Through reviewing these works by Aristotle, as well as other relevant comments and research by contemporary scholars, we can come to understand how Aristotle's philosophy could be explained with Kronfeldner's work.

With the first two sections in hand, I will attempt to explain Aristotle's concept of Human Nature according to Kronfeldner's solution to the challenges. One interesting yet important point for this section is that Kronfeldner herself, to some extent, also considers Aristotle as an Essentialist, who falls into the Dehumanisation Challenge, in this thesis I would also like to defend Aristotle's position on Human Nature and the concept of Essence/Form and explain that the Aristotlean approach can be compatible with Kronfeldner's post essentialist account and brings us some insights to the discussion.

⁵ Kronfeldner, M. (2018). Part I Three Challenges. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 13–88). essay, MIT Press.

Section 1: Maria Kronfeldner's Framework of Human Nature

In this section, I would like to cover Maria Kronfeldner's framework towards understanding the concept of Human Nature. It will be divided into three subsections: Section 1.1 will include some necessary definitions to limit the discussion, in particular, the definition of Human, Nature and Human Nature. In Section 1.2 I will list out the three main challenges as summarised by Kronfeldner, which are the Dehumanization Challenge, the Darwinian Challenge, and the Developmentalist Challenge. Lastly, for Section 1.3 and 1.4, I would like to explain Kronfeldner's solution to the challenges and evaluate the plausibility of the account.

1.1 Definitions (Human, Nature and Human Nature)

To begin with, it is crucial to first include the definitions for this thesis, in this subsection, we will be addressing the definition of Human and Nature, each with two definitions, and also kinds and aspects of Human Nature that are necessary for explanatory purposes.

Human

Firstly, the definition of Human comes in two ways: Human as a biological group and Human as a socially delineated/cultural group.

For Humans as a biological group, it corresponds to the modern scientific way of perceiving humans as the biological species *Homo sapiens*, also termed "Humankind" by Kronfeldner⁶. Understanding Human in this way is to understand the classificatory nature of Human: How we classify ourselves into Species or Kinds according to the genealogical progression and biological categorisation⁷. From the opposite pluralistic view, we can also say how we see and partake ourselves to be members of a biological group classified by biologists.

⁶ Kronfeldner, M. (2018). Introduction: What is at issue? - Chapter 1 - 1.2 Human? - *Homo sapiens* as Humankind. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p.4). essay, MIT Press.

⁷ It is important to keep in mind that this definition of Human "Biological species *Homo sapiens*" is temporary, contingent and can be shift constantly from the historical/genealogical perspective because the term *Homo sapiens* is only a definition of human for this current understanding and categorisation by biologists. Despite this point, sharing a similar view with Kronfeldner, I will not be looking into whether *Homo sapiens* can be further classified or understand as a smaller/larger biological group (i.e as having the possibility of being in a certain sub-branch of *Sapiens*, but just as a biological group itself, nothing more, to prevent slippery slope of constantly looking for boundless definitions/criterias

For Human as a socially delineated/cultural group, it corresponds to the cultural way of perceiving humans, for one to be a human is for him/her to belong to a social group and be recognised as a member of the social group, thus this definition of Human is also termed "Humanity" by Kronfeldner⁸. Again, we can also see this definition in a pluralistic perspective: How we see ourselves as part of the cultural group and how we are accepted by the group to be a member of it culturally. It is crucial in the way that it represents itself as a concept that functions in the political and moral view, distinct from the biological group Humankind, such as when we talk about being a human being having human rights to live according to its desire, or additional cultural rights like to vote and to express themselves.

In practice, it is reasonable to accept that human beings (ourselves) are at the same time, partaking in ourselves as a member of both biological and cultural grouping and being classified as, both Humankind and Humanity. In section 1.2 we will extend this discussion further and discuss how these ways of seeing or categorizing human beings (as a species, as a cultural group or as both) will become challenges to the concept of Human nature.

⁸ Kronfeldner, M. (2018). Introduction: What is at issue? - Chapter 1 - 1.2 Human? - Humanity. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p.5). essay, MIT Press.

Nature

Moving on to Nature, the definition of Nature can refer to the Nature of Things and Things of Nature. A Nature of a thing often refers to the essence of a kind, as mentioned in the previous section on the definition of Human, the essence of a kind can refer to the basic function and properties of a biological species, for example, growth and reproduction are often considered as one of the essences of a biological kind (arguably apply to all living organisms for this particular example).

On the other hand, Things of Nature refers to, as borrowed from Kronfeldner's phrasing: "a domain of things that are investigable in a systematical manner oriented toward accessible evidence about them"⁹. In other words, this definition/usage of this term refers to the natural environment /phenomena that we perceive, and to further be used for various purposes realizing and naturalizing ourselves as being part of the systematic nature and to make further explanation on why we act in a way accordingly. One example would be that we are always bound by biological limitations and physics, and it is in such a way because we are Things of Nature, or some biologists would have agreed that the essence of biological species is the biological feature and thus "Nature" they have (E.g. having something as "Hands and Legs", "Having a certain variation of brain structure" etc.). It is notable that this biological "nature" can describe and explain functions of certain body parts but it does not explain any intention lies within the behaviour if the body part was in function, in other words, biological nature only explains "How is the function and description" but not "Why is it so", a quick example would be that the biological analysis of an arm can explain the possible movement it can make (potential action) and also its cellular structure, but it does not necessarily include the explanation for how it is used (actual and intended action), one can use it for climbing, holding objects or even walking. These actions come with intention or purpose and biology does not explain intentions and behaviors¹⁰, just structure and principles.

Therefore, both conceptions of nature will be crucial since the challenges towards Human Nature would be relevant to both of these definitions: If we are already part of the Nature (Things of Nature) often in the biological sense, how do we make room for the concept of Culture and Rationality which are seemingly also part of our Nature (Natures of Things)? Again, we will leave this doubt and debate for Section 1.2.

⁹ Kronfeldner, M. (2018). Introduction: What is at issue? - Chapter 1 - 1.1 Nature? - Natures of Things and Things of Nature. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 1-3). essay, MIT Press.

¹⁰ Explanations of behaviors can be explained with reference to fields related to Culture, such as Sociology, Politics, Ethics, or relevant to the study of the Brain functions, such as Psychology.

Kinds of Human Nature

Before going into the next part, it would be necessary to mention and clarify the kinds of Human Nature and aspects of Human Nature in contemporary debates as developed by Maria Kronfeldner, some of which are already mentioned in the above paragraphs.

The three kinds of Human Nature are the Classificatory Nature, the Explanatory Nature and the Descriptive Nature. The Classificatory Nature refers to the membership of a designated kind, to say one as having a Human Nature is to say one is a member of the group according to the classified categories (in this text, biological species and social/cultural delineation). Explanatory Nature comes with Descriptive Nature, as in their literal sense, when talking about them, it implies that the concept of Human Nature is used to deliver its function to explain the content of what it means by Nature, or to describe what it is like to present such Nature. The explanation of these three kinds of Nature will be further developed as we move on to explaining Kronfeldner's account of Human Nature.

Aspects of Human Nature

Other than kinds, there are also aspects of Human Nature specifically mentioned by Kronfeldner in her work, these aspects include Specificity, Typicality, Fixity and Normalcy of traits¹¹, which would be useful to the understanding of the discussions since the aspects imply how the concept can be viewed or formulated.

Specificity refers to certain traits being specified to constitute the concept of Human Nature. Typicality refers to what are the typical traits perceived among the same kinds as constituting one's Nature. Specificity and Typicality are closely linked to the first two challenges: the Dehumanization Challenge and the Darwinian Challenge, in which both aim to criticize the concept of Essence on its intrinsic and distinctive characterisation¹².

Fixity refers to the degree towards which some Human Nature, such as the contemporary interpretation of Essentialist, would have considered some essences as fixed and universal to all human beings, thus that concerns the fixity and also raises the attention of the Developmentalist Challenge arguing between the Nature and Nurture divide as there are no fixed line to determine what is Nature and what is not.

Lastly, we have the Normalcy of traits, which is related to our thoughts towards Human nature that we take some standards/category to become "normal", this aspect can be perceived in all fields and all challenges, and one of Kronfeldner's targets for coming up with a solution to explaining Human Nature would be keeping the normativity in control, one should always be reminded not to have the normativity shifted towards biased explanation (E.g. Taking certain ideas/traits/arguments for granted/ to become a "normalized" thought).

¹¹ Kronfeldner, M. (2018). Introduction: What is at issue? - Chapter 1 - 1.1 Nature? - Four Aspects. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 3-4). essay, MIT Press.

¹² Dehumanization Challenge concerns Essentialist uses essence to make a division between, for instance, humans and non-humans, or some human beings are more "human" than other human beings, thus concepts like Species specificity and typicality will be involved in the concept of Human Nature

On the other hand, Darwinian Challenge challenges such typicality of Essentialist Human Nature directly by arguing with Historicity and Variability among human species, thus in Human Nature according to Evolutionary theories, one might have certain degree of specificity and typicality, but only according to biological species categorisation as they can be geologically traced.

1.2 The Three Contemporary Challenges towards Human Nature

With these concepts in mind, I would like to first focus on the Challenges that trigger debates against the concept of Human Nature, as already mentioned: the Dehumanization Challenge, the Darwinian Challenge, Developmentalist Challenge.

The Dehumanization Challenge

Firstly, the Dehumanization Challenge challenges the concept of Human Nature from the socio-cultural perspective, abbreviated as "Vernacular concept of Human Nature" by Kronfeldner¹³. Dehumanization refers to the case when we speak of the concept of Human Nature/ certain properties as our nature, it is contrastive in the sense that we are speaking of ourselves as more human and others are not or less human, one can also see it as an evaluative stance/tool that function as drawing the line between different categories.

It can be further distinguished into Relational Dehumanization and Property-based Dehumanization. Relational Dehumanization refers to the dehumanizing function that perceives other beings as less human from the historical perspective, the two sub-categories of this would be dehumanization based on genealogy, which concerns where a certain being originates and, based on social interaction, the social and cultural value that anchors a being to where it belongs. Property-based Dehumanization simply refers to the function (of Human Nature) of attributing a certain property to one's Nature to explain the being in which that property is perceivable, "normal" and applies to all members from the same grouping.

Both forms of Dehumanization pose the same question towards Human Nature: The content of dehumanization is social perspectival and can be filled with any content, thus making it implausible. This will lead to challenges from the moral and political perspective since when one speaks of Human Nature, it will involve a dehumanization of others due to the relational property within the term Human Nature itself. The two ways to solve dehumanization would be to minimize or eliminate it at the cultural level or to approach it with a scientific account, seeking an objective account of Human Nature.

¹³ Kronfeldner, M. (2018). Part I Three Challenges. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 13–88). essay, MIT Press.

The Darwinian Challenge

With the Dehumanization Challenge, the debates shifted towards a scientific account, although the focus of the discussion changed¹⁴, the concept of Human Nature is still criticized in another way, by the Darwinian Challenge. The Darwinian Challenge put a stronger focus on arguing against the Essentialist claims, mainly because the evolutionary theories and scientific studies rely on two reasons: Historicity and Variability. With these two concepts, the concept of Essence not only failed to be a necessary and sufficient condition as an epistemic classificatory role, but also as an epistemic explanatory role according to the critics. I will briefly go over the important points as follows.

For Historicity, evolutionary and scientific theories provide an objective way of explaining the Nature of Human that the Nature of Human can be defined by Species as a genealogical categorisation that is evidently traceable. The idea of Species is that it is only a periodic category for scientists/theorists to understand and partake themselves as beings in the totality of systematic natural order (i.e. Bound by "laws of Nature").

For Variability, it claims that human beings, as the species *Homo sapiens*, can vary on the individual level. According to Darwinian theories, what evolution presented to us is that the categorisation of being a species only changes when there is a statistical proportion of individuals changes, at this current stage, we are evolutionarily coined as *Homo sapiens*, having traceable history from ancestors and such trace is Human Nature¹⁵. From the individual perspective, there is variation: An individual's individuality is still there and is having its way to adapt to the environment, with mutation and sorting, for instance, each can have a different height on the individual level (thus variation), but still consider *Homo sapiens*.

This way of understanding Human Nature is stronger due to causality. The Essentialist approach to Human Nature will be targeted since Essentialism would have argued an essence is intrinsic and unique to all human beings (E.g. All human beings have Rationality or the capacity to develop it), but Darwinians could have argued there will always be variation (E.g. Someone with disability and fails to have such an ability/essence to be rational) and thus qualitative traits (Essences) are not necessary, the classificatory epistemic role in Essentialism is flawed.

¹⁴ Note that the shifting of the focus of discussion of the scientific field didn't imply the Dehumanization Challenge is being resolved or stop being a criticism towards the concept of Human Nature

¹⁵ In other words, for one to say a species goes beyond *Homo sapiens* would be saying that a statistical position of individuals collectively evolves with new distinguishable features different from its previous ones

In terms of sufficiency, Essentialism as another classificatory epistemic role also failed because we can think of an entity which fulfils all humanness (i.e. traits like Rationality) but is not biologically human (Homo sapiens). Kronfeldner mentioned the case of Humanoid and Swampman to depict this case¹⁶, it is not hard to think of some aliens who can also possess what essentialists called Rationality but one will not consider them as having Human Nature since they are different biologically, or else if that is the case, Essentialism will have a hard time re-considering what should be taken as Essences.

The flaws in Essentialism with Human Nature as a Classificatory epistemic role also imply questions in its Explanatory role since there is no essential way of explaining what makes a being a human since these essences are always superficial additions (i.e You add traits to a being and say it is it's Nature). Contrary to that, the Darwinians can give an explanation of what Homo sapiens is or can be because it follows genealogical records with respective biological/evolutionary traits (E.g. of having a certain brain structure/brain size different from its precedents).

In short, Genealogy, biological and populational factors always come first when we attempt to make an explanation to what is Nature to us being a human, it is, as Kronfeldner puts it, important in our "self-understanding"¹⁷, indispensable from identity¹⁸ (E.g. Biologically connected and being the children of your parents).

¹⁶ Kronfeldner, M. (2018). Part I Three Challenges - Chapter 3 Darwinian Challenge - 3.2 Challenging the Classificatory Role of Essences - Qualitative Traits are not sufficient. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 41-49). essay, MIT Press.

¹⁷ Ibid. p. 44

¹⁸ Ibid.

The Developmentalist Challenge

From the account offered by Darwinism and evolutionary theories, the account is plausible from the perspective of seeking objective truth, however, one will find it hard to free from the Essentialism account, specifically when it is observable that there is some uniqueness that make us human beings, human, one of them being Culture. To have a human nature, many think that it is not all about biological abilities/characteristics, but to also have "Humanity". In other words, it is like saying in order to be a Human possessing a Nature, it is not limited to our material body or biological identity, but also how we think, and in thinking and social life, it involves political ideologies and morality, these experiences are what formulates our personality and makes us human. It is because of this distinction, it leads the contemporary debate to the third challenge, namely the Developmentalist Challenge, which draws its origin from the Nature-Nurture divide: Whether a person's character (thus Human Nature) begins with or contributed more by Biological Nature or Nurture of the culture and environment.

The Nature-Nurture debates lasted for centuries, the more recent debates can be traced between the Lamarckian inheritance and Anti-Lamarckian views which came closely when Darwinian Evolution was introduced. In short, Lamarckian inheritance focuses on the thought that some acquired characteristics (Such as one's musical talent, well-trained body muscles, etc.) can be inherited through genes as hereditary developmental resources, and humans can thus evolve its "Nature" (Biological Nature) with Culture progressively, thus making something "Culture", "Nature". On the other hand, Anti-Lamarckism focuses on emphasizing the position of Nature over Nurture, stating that culture is something autonomous and Nature contributed to general heredity more than Nurture due to it being shared across all human groups.

Eventually, the focus of the debate shifted towards the plausibility of the debate itself as scholars began to realize that it is implausible to argue with a clear distinction between Nature and Nurture in mind, but rather a pluralistic and interactionist view is more welcomed. The interaction consensus suggests that it is possible to state that there is one human nature (Biological Species) connected to many different human cultures, though this one human nature cannot explain all cultures. From what we can extract from Kronfeldner's view, there can be interaction across channels of inheritance through interaction across developmental, short-term intergenerational and evolutionary levels. In other words, concepts like Inheritance cause one to think that it is only the genes that evolve through generations (Biological evolution), but in fact, culture also passes on, and is possibly even more reliable (due to traditions/habits) throughout the history of human beings, thus it is more plausible to consider not only the interaction between Nature and Nurture but also the fact that both are inherited and evolving at the same time, and likely at a different rate. (E.g. Culture changes/"evolves" faster according to socio-political factors)

The core question posed by the Developmentalist Challenge towards the concept of Human Nature is how one can explain such entanglement between Nature and Nurture or what would be the possible demarcation for such differences. For instance, Kronfeldner considers concepts like genes as having genetic inertness, which means genes carry some biological capability but if one does not work on it accordingly such traits will not be perceivable, such as the case where one has good potential for muscle development but remains indolent. This goes the same when it comes to Nurture: Certain habits (Cultural practice) can lead to health issues, which can be spread across generations, such as smoking or even anxiety during pregnancy can affect the development of one's offspring. For Kronfeldner, these individual cases are hard to investigate one by one and even though one can observe a so-called typical phenomenon in one region/culture, it might not always apply universally throughout the Species, further discussions are thus required.

To briefly summarize, the main idea that Maria Kronfeldner wants to point out is that these challenges to a very large extent exist and hinder the concept of human nature. How we can talk about it is to pick up the scraps of each possible argument from the challenges.

In the following, I will present the "Post-Essentialist, Pluralistic and Interactive consensus account of Human Nature" by Kronfeldner. "Post Essentialism" simply refers to the general idea/understanding of Human Nature as what is left after extracting the statements/solution(s) from the three challenges, it rejects Essentialism and is a Realist account that there exists objective reality experienced by subjects. "Pluralistic" refers to Pluralism in viewing the reality that there is more than one interpretation of Human Nature. Lastly, as mentioned earlier, "Interactive Consensus" is to agree that there are necessary interactions between Nature and Culture: When a human being is classified as a homo sapien and is taking action, he/she is also participating in being in and/or building up the explanatory nature of Human being in the cultural sense as humanity, vice versa (i.e. That culture (e.g. certain traditions/way of life) can affect the biological development of a population).

An important note to this is that these three terms need to be put together as a bundle to explain Human Nature. Without any one of them, the concept of Human Nature in this argument will face different criticism, the explanation is "open" in the sense that it is pluralistic and developmental, it is limited in the sense that it is distinguished in the three ways of interpreting Human Nature under this context to solve the challenges: Classificatory, Explanatory and Descriptive and some of the detailed questions. I will further explain them in the following section.

1.3 Post-essentialism, Pluralistic approach and Interactive consensus

To explain the concept of Human Nature, Kronfeldner proposes Genealogy as the origin/basis of her explanation¹⁹ and from this point, this proposal comes in a package of analysis: One can discuss and understand the three kinds of Human Nature from two sides/dimensions of enquiry: (1) From Genealogy to questions about the concept of Species, which is linked to and can be answered²⁰ with the conception of Human Nature, and (2) the Three Challenges that we have discussed previously, these are the questions derived directly from the debates on Human Nature, as shown in the figure below.

¹⁹ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 5 Genealogy, the Classificatory Nature, and Channels of Inheritance. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 91). essay, MIT Press.

²⁰ As mentioned, some of the questions cannot be answered due to them either being too vague or too specific, such as questioning which particular time does speciation event take place

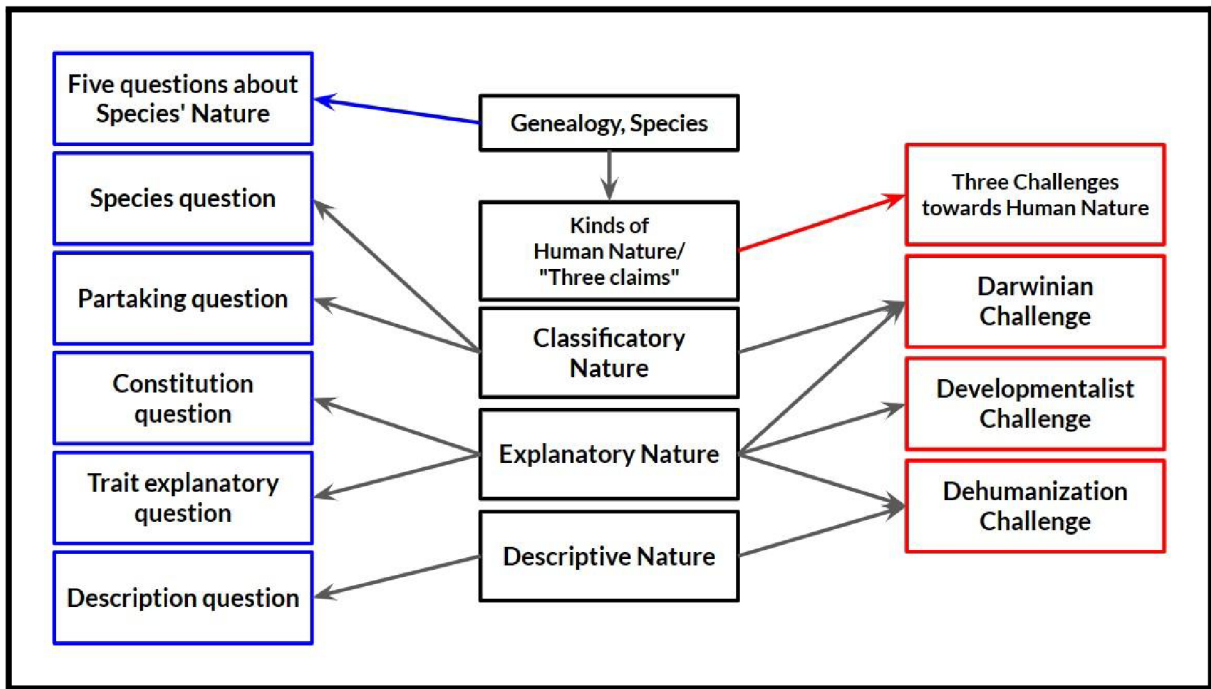


Figure 1. Structure of Kronfeldner's explanation on the conception of Human Nature

For the clarity of the presentation, I will separate this part into 3 subsections according to each kind of Nature, in each part I will first briefly revise what is the definition of that kind of Nature, followed by what questions about Species' Nature are connected to it, and by answering these questions, one can also explain/solve the Challenges towards Human Nature.

The Classificatory Nature

To start with, we have Classificatory Human Nature. According to Kronfeldner, the Classificatory human nature refers to the classification/categorisation of human beings as a biological entity. Thus to classify such a group as "Human" and having a Nature, Kronfeldner suggests Genealogy as the most reliable way.

Genealogy refers to the study of Genes and provides a historical (and biological) account of human beings as Species. The first main point for this section is the difference between the concept of Species and the concept of Essence in traditional Essentialism claims: the Essence in traditional claims has a fixed trait that can be used universally for all entities of the same grouping. The argument against it is that such fixity should be abolished since changes and evolution provide new possibilities that are different as time changes.

In addition, although the concept of Species is also an essence in itself, this essence is not fixed but rather relational²¹: Scientific research and records have shown that entities undergo changes, and the antecedent will necessarily pass biological information to its offspring, so this evolutionary link as essence, though being an 'essence' as something that will always happen, is relational and variable when being investigated.

This account directly addressed the Species question and Partaking question: The Species question simply asked "What is a Species, how is it different from the traditional essence in explaining an organism as having nature?" while the Partaking question concerns which individuals partake in the membership of the Species. Here, the Species question is already answered: Species being a relational essence in evolutionary time, supported by records and shift and advance accordingly.

As for the Partaking question, Kronfeldner thinks that this question is answered by default when we figure out the answer to the Species question: What partakes in a Species is how it is biologically and historically connected to its ancestor²². It is important to mention here since some might have thought what partake as a member of a species is according to how their traits match each other and be explainable (Trait explanation question), Kronfeldner did notice this concern but she thinks what matters to consider an organism as member of its/a species, at its core, is the genealogical nexus rather than its traits which could be changed. She uses Donald Davidson's fictional "Swampman" as an example²³. A "Swampman" can have the exact same look and traits compared to what we perceive ourselves as "homo sapiens" but despite its look and behaviour, to consider whether it is a "homo sapien" or simply "Human", one will be focusing on the investigation of how it comes into being: whether it is originated from an ancestor of homo sapiens, and thus connected to a genealogical history/nexus.

²¹ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 5 Genealogy, the Classificatory Nature, and Channels of Inheritance - About Species, Not Biological Kinds or Organisms. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 94-95). essay, MIT Press.

²² Ibid. 5.1 Five Questions Regarding a Species' Nature - Partaking Question and the Resulting Classificatory Nature (p. 100-102)

²³ Davidson, D. (1987). Knowing One's Own Mind. *Proceedings and Addresses of the American Philosophical Association*, 60(3), 441–458. <https://doi.org/10.2307/3131782>

Thus, ultimately such a historical/causal account is what we should look at since it is the most reliable evidence one can trace, and this classificatory nature also justifies itself with causation²⁴(One can also say it is a "Metaphysical" explanation in itself since there are no additional physical explanations required to justify this concept/claim), as Kronfeldner puts it: "nothing except recourse to the species question might help, which is **what those asking for when "they" became "us" are doing**" and "Genealogy is **what one aims at, even if one cannot see it.**"²⁵

²⁴ Note that it is different from Explanatory Nature, because explanations often involve what and how we explain something, for instance, we explain some functions and features that exist in nature, but nature itself does not ask for explanation, it just happens. Thus, what I (and Kronfeldner) want to emphasize here is that, the classificatory nature of Human as a Species exists naturally classified according to time (diachronically), it is itself the core so no additional explanation is required (E.g. to consider the trait of a category of organisms)

²⁵ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 5 Genealogy, the Classificatory Nature, and Channels of Inheritance - About Species, Not Biological Kinds or Organisms - 5.1 Five Questions Regarding a Species' Nature - Partaking Question and the Resulting Classificatory Nature. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 101-102). essay, MIT Press.

Addressing the Darwinian Challenge (Classificatory part)

The second main point that Kronfeldner mentioned is on how her view is different from Hull's traditional account, which is also linked to the Darwinian Challenge. Traditionally, Hull's account/objection towards essentialism is that the Darwinian concept of evolution and the relevant scientific account should replace the traditional thought of a fixed essence explaining the feature(s) of human beings. Kronfeldner agrees with the concept of evolution but she thinks what falls short in Darwin and Hull's account is that they prefer to focus more on the biological and historical account of organisms: the Nature of Human is only determined by genealogical classification (as one epistemic role replacing tradition concept of Essence), while ignoring the possibility of other epistemic roles such as explanatory and descriptive nature from cultural inheritance²⁶. Kronfeldner first argues that an organism such as human beings, is not only affected by the biological activities within our body, but also has connections with the environment (the ecology and culture) thus potentially utilizing the inherited information based on the environment. Kronfeldner continues and adds that biological and evolutionary studies/language is just one of the many academic fields, so in order to be comprehensive, the concept of Human Nature and its use should also cover and be compatible with other fields (be it academic or non-academic)²⁷ and Genealogy holds true in all contexts since it is linked to the subjects diachronically (i.e. in time)²⁸.

Therefore, to summarize, rather than replacing the traditional essence with one epistemic role like Hull and other taxonomical relationalists (i.e. Just biological evolutionary explanation to human beings), we should accept the pluralistic account, and protect the concept from the Darwinian Challenge.

²⁶ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 5 Genealogy, the Classificatory Nature, and Channels of Inheritance - About Species, Not Biological Kinds or Organisms - 5.1 Five Questions Regarding a Species' Nature - A Tradition from Hull's Genealogical Account. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 95-96). essay, MIT Press.

²⁷ Ibid. p. 96

²⁸ Ibid. 5.2 Genealogical Nexus as Classificatory Nature - The Species question (p. 98-99)

The Explanatory Nature

Moving on to the next part, Kronfeldner suggests that the Explanatory Nature and Descriptive Nature can be derived from the Classificatory Nature once it is settled²⁹. The idea is that once we recognise the core concepts about species, explanation and description necessarily follows, since Genealogy implies what Kronfeldner called "Channels of inheritance", which are composed of two parts: The biological inheritance (*i.e. biological reproduction, across generations*) and developmental resources which comes with typicality and stability, this forms the block of explanatory nature about humans as Species.

To continue, although we solved the questions linked to Species as a classificatory nature, when it comes to the explanatory nature, other concerns remain and need to be solved: The Constitution question and the Trait explanation question. The Constitution question refers to questions related to what constitutes a Species in evolutionary time, specifically, how we can draw the line to explain the constantly changing (evolving) characteristics/traits of a species or how these traits cluster over time to support the concept of that species. Answering this question not only strengthens the integrity of the concept of Species as both classificatory and explanatory nature (Thus, the Darwinian challenge), but also solves the Developmentalist challenge which concerns the non-biological channel of inheritance (necessary existence and inheritance through Culture). As for the Trait explanation question, it questions how and why certain Species have specific properties and traits that often persist and are reliable over evolutionary time; addressing this question can further help solve the Developmentalist challenge.

The key feature in Kronfeldner's Explanatory Nature to respond to the Constitution question is the concept of homeostasis, which suggests the mechanism of "causal integration that endows species with a 'Nature'"³⁰. This mechanism is formed from the sum of evidential criteria and explanatory factors derived from observation of properties that are stable over time and space, and these are how developmental resources and traits cluster together, in three channels for the case of human as a species: The biological inheritance (thus, genes), social learning (thus, culture) and geographical features (thus, environment, that persisted rather than inherited). In other words, homeostasis is caused by realizing and learning about the coherence of developmental resources in time and space. This also brings up the solution to the Developmentalist Challenge, which will be discussed afterwards.

²⁹ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 5 Genealogy, the Classificatory Nature, and Channels of Inheritance. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 91). essay, MIT Press.

³⁰ Ibid. A Tradition from Hull's Genealogical Account (p. 95)

On the other hand, for the trait explanation question, Kronfeldner explains that it can be solved by also referring to Genealogy and explanations derived from the Constitution question. The idea is that Genealogy necessarily implies the channel of (biological) inheritance which leads to the presence of a stable set of developmental resources which further creates properties and clusters of traits and thus this shows how it can causally be explained. This also implies the shift of discussion from the explanatory nature to the descriptive nature since some traits are often perceivable and thus involve a descriptive nature, which we will discuss more in the descriptive nature part.

Addressing the Darwinian Challenge (Explanatory Part) and the Developmentalist Challenge

By answering the constitution question and the trait explanation question, the concept of homeostasis and channels of inheritance can explain and solve both the Darwinian Challenge and the Developmentalist Challenge.

For the Darwinian Challenge, as mentioned, the concept of homeostasis replaced the fixity in Essentialism and Hull's account with stability. In other words, rather than having an essence or replacing essence with just Darwinian biological "nature", the concept of human nature in its explanatory sense is infused with 2 constantly shifting channels and one persisting feature: The slow but rather stable biological inheritance which is a relational essence that linked up individuals in evolutionary time, the comparatively fast-changing cultural inheritance that is perceivable in the species homo sapien as a population, and the geographical environment that have effects on the species but have the least tendency to change by itself. These three items are originated from and linked by genealogy but by the time we recognise the differences (biologically and culturally) among individuals, we should acknowledge that Darwinian nature is not the only nature, but culture is also something that is derived from our "natural"/biological practice, for instance, when we are using our hands to grab something and it becomes a habit, this so-called habit that we try to make sense of already contributed to both the biological explanation and cultural explanation (e.g. the physical structure and existence of your hand and the skill and possibility of using it).

For the Developmentalist challenge, again, the explanation above also solved the debate between Nature and Culture, by accepting Channelism, that there exists both channels to inherit developmental resources from one generation to another, rather than arguing whether nature or nurture forms the concept of human nature. We have already discussed biological inheritance via genealogy earlier, the cultural inheritance (and its co-existence with genes) and the explanatory looping effect are what needs to be explained here.

Firstly, regarding cultural inheritance, there are two principles: its autonomy and near decomposability. It is worth mentioning because autonomy is what we have discussed above, that when we are using the features provided by biological inheritance, we develop and evolve accordingly with cultural inheritance and this channel of cultural inheritance should be identified and thus discussed separately because it was affected mainly not by biological features itself but by the interactions among individuals (together as population) and the environment. As for near-decomposability, it states that these interactions between channels/subsystems can be decomposed and investigated as a series of events to prove coevolution between genes and culture. The example borrowed from Kronfeldner would be the making of cheese³¹: The ingredients of cheese will include milk, but milk alone as a natural (biological) product will not lead to cheese, rather it requires humans as a species to discover/learn how to make pots and further discover the chemical reaction of milk to create cheese. During this process, both biology and culture are discernable as separated but interactive channels of inheritance/evolution, as Kronfeldner describes it as a "tube" rather than a "slate" because of the complex interaction between subsystems³², and being dynamic rather than still/fixe.

Secondly, regarding the (existence of) the explanatory looping effect, it refers to the concept that when we, as a biological species, give an explanation to something/ourselves, we are already involved in creating the human nature we are referring to. For instance, we understand that to survive, humans require an adequate amount of different nutrients, and by learning how these nutrients work, we decided to follow a certain diet or habit to maintain the function of our body. Throughout the whole explanation of this case about "Survival", we can see that whenever we try to make an explanation, we are also fitting the explanation into what we are already doing as being the "nature" of us, and to choose between which explanation should be a "nature", Kronfeldner thinks it is necessary to tackle what is considered as "Normal" in the descriptive sense and what is causally relevant to the existing context of one's time and culture. Since this topic also involved Descriptive Nature and led to the Dehumanization Challenge, I will first explain the main points of descriptive nature.

³¹ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 5 Genealogy, the Classificatory Nature, and Channels of Inheritance - 5.3 Genealogy and the Channels of Inheritance - The autonomy and near-decomposability of cultural inheritance. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 104-106). essay, MIT Press.

³² Ibid. Chapter 8 An Explanatory Nature - 8.3 The Explanatory Nature Established - The "Slate" Has Become a "Tube".(p. 185-186)

The Descriptive Nature

Moving on from the explanatory nature, earlier we mentioned that the trait explanation often involves a description, for instance, how something is perceived and thus described directly. However, one needs to pay attention that a description does not necessarily entails an explanation, for instance, essentialist often uses an essence (e.g. Empathy) to explain some actions/practice, not only the essence is self-justified without a reason, but also that the idea itself becomes an explanation for what is described when what happened is just what can be perceived and described directly (i.e. Realism³³). Therefore, in Kronfeldner's case, the explanation from the description of a species (again, homo sapiens) is limited to the explanation and description derived from its classificatory nature, which includes the properties that are typical and stable across evolutionary time. This reductionist account also solved the description question which concerns how species can be described qualitatively³⁴.

The true debate lies on top of the descriptive nature, as specifically discussed by Kronfeldner, is the importance yet insufficiency of typicality³⁵. The importance of typicality is that it allows a generalization and/or description of how humans are biologically connected to the environment (natural environment and cultural environment), and that these descriptions are fruitful and relevant to explanation, especially in areas of science (E.g. history and psychology) because the descriptions are both, at different time and space, being an explanation to something (Explanans, history as an explanation to explain certain events that happened) or to be explained (Explanandum, psychology seeks explanation about the psych which is connected to both the environment and individual's biological condition).

³³ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 5 Genealogy, the Classificatory Nature, and Channels of Inheritance - 5.3 Genealogy and the Channels of Inheritance - Historical Contingency of the Importance of Genealogy. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 119). essay, MIT Press.

³⁴ Kronfeldner does not put a lot of focus specifically on the descriptive question, but rather, she thinks that (1) The whole set of explanatory nature and descriptive nature can be derived from genealogy thus largely reducible to it and (2) by answering the trait-explanation question, the descriptive question is also explained.

³⁵ Ibid. Chapter 6 - Toward a Descriptive Human Nature - 6.1 Descriptive Knowledge about Humans in General (p. 124)

On the other hand, the insufficiency of typicality lies in whether these data and descriptions of traits can be generalized or if they actually form correct statements about the world/ourselves. As shown in Figure 2, we can see researches can only cover a very specific dimension of study, not to mention that these specific dimensions are just small fragments of the whole, thus as Kronfeldner described it, the data about traits are more like clouds rather than (fixed) circles³⁶: They appeared as scattered research about different traits of human beings across different time and space and they are only meaningful when they are discussed in the context of their own research.

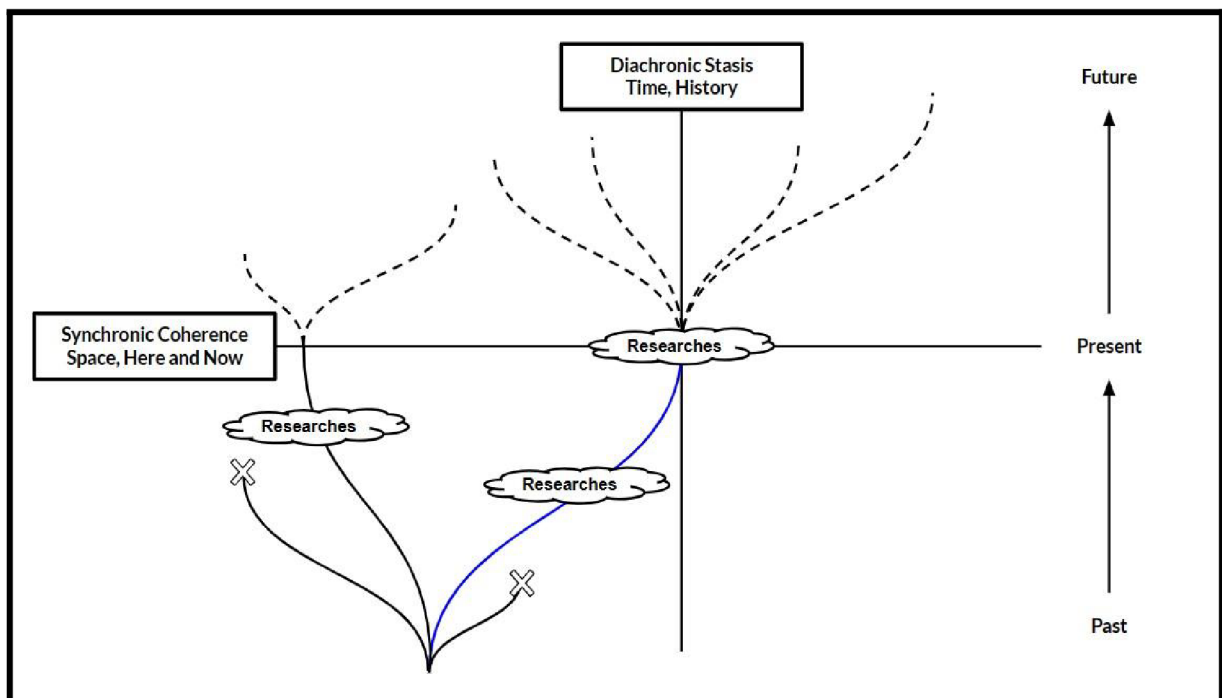


Figure 2. A graphical interpretation of Kronfeldner's concern on the insufficiency in Hull's account. According to Hull, human nature should be reduced to the classificatory sense, but for the descriptive sense, he ignored the fact that there are recurrences of traits throughout human history (thus stability and typicality)³⁷ Kronfeldner also mentioned that the real concern about such existing but seemingly vague descriptive nature lies on how to properly trace and/or predict them, because the scale of research is limited and the explanatory centrality depends on (epistemic) context/context of inquiry³⁸

³⁶ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 6 - Toward a Descriptive Human Nature - 6.1 Descriptive Knowledge about Humans in General. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 123). essay, MIT Press.

³⁷ Ibid. 6.1 Descriptive Knowledge about Humans (p. 122-126)

³⁸ Ibid. 6.4 Typicality Sufficient? Or What Does "Important" Mean? (p. 139-141) and Explanatorily Central, Since Structural (p. 143-144)

To ease or at least relieve this concern, Kronfeldner re-mentioned the necessity of stability³⁹, the idea that traits are expressed in many forms (i.e. polymorphism⁴⁰) but are stable in how they are similar or differ according to the criteria. For example, there are differences in both blood types and sex among human beings as members of homo sapiens, but such differences remain stable and evenly distributed in evolutionary time, thus making them typical and stable to humans as a species.

Addressing the Dehumanization Challenge

With the descriptive nature and explanatory nature settled, we can return to the problem that was left behind: The Dehumanization Challenge. We can trace back to the definition where we talk about relational dehumanization and property-based dehumanization, at this point, it seems that relational dehumanization is already solved by having genealogy as classificatory nature and property-based dehumanization can be addressed with the descriptive nature, however, for Kronfeldner, she thinks the dehumanization challenge remains as long as we talk about the concept of human nature, and cannot be entirely solved but only have its effects minimized⁴¹. This problem is mainly due to its connections to the variability and difference in normalcy among the complex cultures, making the concept of a human being in the social context contingent in discussions.

The key concern that extends from the dehumanization challenge is how one can put together the word "Humanity" (Human being in the cultural sense) into one group like how genealogy did with "Humankind" (Human being in the biological sense, Species). To address this, Kronfeldner thinks the Double Entry solution to Moral Standing should be the solution⁴². The Double Entry solution proposes that we should accept Human Nature in both biological and cultural sense but specifically for one to be a human in the cultural sense, not only that one needs to be biologically connected to their ancestors, but also necessarily connected to humanism and thus social and moral standing, that one can share similarity and interact with other individuals from the same species socially and morally.

³⁹ Kronfeldner, M. (2018). Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 6 - Toward a Descriptive Human Nature - 6.4 Typicality Sufficient? Or What Does "Important" Mean?. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 139-142). essay, MIT Press.

⁴⁰ Ibid. 6.3 Typicality Necessary? - Polymorphism (p.132-134)

⁴¹ Ibid. Chapter 11 - Should We Eliminate the Language of Human Nature? (p. 231-241)

⁴² Ibid. Chapter 10 Humanism and Normativity - 10.1 Two Sufficient Entry Conditions for Moral Standing - The Double-Entry Solution to the Problem of Moral Standing (p. 216-217)

To explain further, this moral relevance is connected to the concept of causal selection and relevance and normalcy (What is a "normal" human in both socio-cultural sense)⁴³. To simply put, causal selection and relevance is the idea that an explanation is often chosen with reference class that are causally connected, for instance, we can make an explanation of a practice, partially from biological causality (e.g. genealogy) and partially from environment, but a full causal explanation is often hard to get, in this case, it depends on the individual or in this context the community to choose which list to follow. The list that was chosen will be a reference to the similarities in traits, forming the normalcy within the cultural circle.

Again, the problem remains, Kronfeldner thinks that as long as the language about/of "Nature" still exists, dehumanization exists since there will always be misuse of the word, nor can it be eliminated entirely in both scientific and social contexts. Interestingly, Kronfeldner's final thought on the concept of human nature in general, despite solving the Darwinian Challenge and the Developmentalist Challenge, is halted by the Dehumanization Challenge, which she thinks that it is not possible to solve thus one should prevent using the term "Human Nature"⁴⁴, specifically in the descriptive sense.

Summary of Maria Kronfeldner's claims (Section Summary)

To conclude Kronfeldner's view towards Human Nature, she identifies the concept of Human Nature in three perspectives: The Classificatory Nature, the Explanatory Nature and the Descriptive Nature. The claims begin with the Classificatory Nature originated from the genealogical nexus as a relational essence of a human being, followed by the concept of homeostasis that holds a species into groups that can be distinguished accordingly with traits and behaviour, generating an explanatory nature and a descriptive nature. With this attempt, the Darwinian Challenge and the Developmentalist Challenge can be explained and solved, but the Dehumanization Challenge remains present, though its effects minimized. Kronfeldner suggests that due to the presence of the Dehumanization Challenge, the use of the term Human Nature is best avoided, unless a very specific context is given.

⁴³ Ibid. Part II Three Natures: A Post-Essentialist, Pluralist, and Interactive Reply to the Three Challenges - Chapter 9 Three Cases of Explanatory Looping Effects - The Normativity Involved and Human Nature on the Move (p. 208-210)

⁴⁴ Ibid. Part III Normativity, Essential Contestedness, and the Quest for Elimination - Chapter 11 - Summary of Part III (p. 241-242)

Section 2: Aristotle's Concept of Human Nature

Following the claims and challenges raised by Kronfeldner, I will be looking into Aristotle's account of Human Nature, and to see whether his principles can offer a different view or solution to the challenges in these contemporary debates.

Aristotle's works covered a wide range of studies and gave different interpretations towards "Nature" according to the context of those works. In this text, I will be covering the three versions of Nature he mentioned and relevant to three fields of study, including his Metaphysics and Physics, his Biology and his works relevant to Ethics and Politics. In short, Aristotle considers that all explanations about Beings/Objects in this world begin with the inquiry of the telos (The End/the Aim) of the object, the explanation that involves the structure and function of the object is what makes the object itself and thus its Nature and all explanations about that object can be explained with reference to this principle. Thus, one can say that Aristotle begins with a Metaphysical exploratory nature of humans and this fundamental "Nature" is supplemented by or further classified into, "Nature" in the Biological and Cultural sense, forming a classificatory nature and explanatory nature. I will present the ideas in order: (1) Metaphysics and Physics, (2) Biology and Evolution and (3) Ethics and Politics.

2.1 Aristotle's Metaphysics and Physics

Metaphysics as the study of Being and its principles (Nature as "To be")⁴⁵

To start with, Aristotle's interpretation of Nature⁴⁶ and Essence⁴⁷ begins with his inquiry on Metaphysics, in which the subject of inquiry for Metaphysics is the concept "Being" and "Being qua Being" as the arche (i.e. origin) and first principle of all things.

To put it simply, "Being" refers to the particular "This" while (the inquiry of) "Being qua Being" refers to "(how to) speak of something is" or "something is true of something". For instance, the sentence "The book is thick" means that the way of being of the book is attributing "Quantity" (i.e. Thickness in this case) to it, how the book is. Without the predications, the book is still the book itself, thus being.

To continue, the thickness is not the only way of being for the book, there are also other predications, thus other ways of being of the book. For example, "The book is on the shelf" is to attribute "Relation" to the book: How the book is, is its (spatial) relation to the shelf. From this, Aristotle developed the Categories as the fundamental determination of beings, creating a plurality of meanings of being: There are many ways to speak of something as being, and specifically from all these ways/categories, substance is the one that is fundamentally there, because without substance as a concrete something (one may refer to substance as to pinpoint something that exist⁴⁸), no attributes can be predicated onto that being/the particular referent (The concept "Thickness" can be speak of but do not exist concretely, it must be attributed to something concrete, thus to "Matter").

⁴⁵ In this text, the Greek translations are extracted and commonly used among various authors from the book *A Companion to Aristotle*, including Gareth Matthew, Marc Cohen and James Lennox.

Matthews, G. B. (2009). Part II Theoretical Knowledge - A. Metaphysics - Chapter 9 Aristotelian Categories. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 144–161). essay, Wiley - Blackwell.

Cohen, S. M. (2009). Part II Theoretical Knowledge - A. Metaphysics - Chapter 12 Substance. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 197–212). essay, Wiley - Blackwell.

Lennox, J. G. (2009). Part II Theoretical Knowledge - D. Biology - Chapter 22 Form, Essence, and Explanation in Aristotle's Biology. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 348–367). essay, Wiley - Blackwell.

⁴⁶ The term Nature can be translated as (1) *Phusis/physis* as Nature as "To be" or (2) *Tode ti* as "This/This Something"

⁴⁷ The term Essence can be translated as *ti ên einai* as the what it was to be", metaphysical and essential predication of something

⁴⁸ There are some debates on whether one can consider Existence as a predicate, but that will not be the topic here so I will take Aristotle's concept of Substance as referring to, in the primary sense, concrete individuals that exist

To elaborate in a more Aristotelian manner, Aristotle distinguished the definition of Substance into Primary substance, Secondary substance and Predicables. In short, Primary substance refers to the concrete particular "This", it comes with the characteristic of being this something ("Tode ti") and being separable: Separable means that substance in the primary sense can exist independently without predication, in the case of the book, the book can be conceived as existing without the thickness as a predication.

On the other hand, the concept of Secondary Substance refers to the substance concept⁴⁹ and to the species and genus (thus, "Categories") of the Primary Substance: they are not predicate of or attribute to anything else⁵⁰ but not exist independently without substance in the primary sense. For example, the concept of "Being an artefact" can be said of a book as Secondary Substance, for the book is the Primary Substance and "Being an Artifact" is not considered as the predicables predicating the book but rather, it addresses the book as a whole (E.g. Informing a person by saying that "The book is an artefact" fundamentally reveals more about the book itself as a substance than simply saying "The book is a thick thing", which is a simple predication of "Thickness". Thus, the concept of Secondary substance is important because it is what helps reveal more about what the concept of Primary Substance is.

⁴⁹ Robinson, H. (2018, November 16). *Substance - 2.2. Aristotle's account of Substance - 2.2.1 Categories*. Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/entries/substance/#ArisAccoSubs>

⁵⁰ Ibid.

Here, we can also follow the Gareth Mathews' interpretation of the Fourfold Classification, will be "Being that is not in a subject (Not separable) but can be said of a subject"

Mathews, G. B. (2009). Part II Theoretical Knowledge - A. Metaphysics - Chapter 9 Aristotelian Categories - The Fourfold Classification. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 144–147). essay, Wiley - Blackwell.

Physics as the study of Cause Change/Motion (Nature as Beings in motion and rest)

This double aspect of the concept of substance is mentioned in the Categories of Aristotle, although scholars such as Robinson explain that it might not have a strong link with Aristotle's concept of Matter and Form for it is two systems developed in different periods⁵¹, I believe it still provides one of the perspectives of how we can understand Substance as the explanation of the Nature of things. In Metaphysics and Physics, Aristotle (re)introduced the concept of Substance in terms of Matter and Form: Matter is what constitutes the concrete structure of something, the Form of the substance is the function of the Substance, perhaps one can understand their relation as the vehicle of being act on and/or predicated and the act it/function itself. Note that substance is also considered the first predication in the Categories. Therefore, from what we can perceive in the empirical reality, Aristotle suggests that the Primary substances necessarily appear as composites of Matter and Form.

The study of substance thus moves from Metaphysics to Physics: From how Being is addressed as itself (thus being qua being) to how Beings undergo changes in themselves and by themselves. For Aristotle, Nature in Physics refers to beings that are subjected to the principle of motion and rest, and the task of Physics is the investigation of Matter, specifically on the Causality and "In becoming"⁵²: The Change of one state to another.

The concept of Cause is a compulsory piece of idea of how Aristotle explains Substance, since it acts as the reason for Change, and asking "Why" questions is essential to acquiring Knowledge and thus points towards the end. To simply put, Aristotle, following his preceders, came up with the four causes⁵³: (1) the Material Cause, of what materials constitute something, (2) the Formal Cause, of what Essence constitutes/singled out to be the Form of something, (3) the Efficient Cause, of how it is affected by change and become something, and finally (4) the Final Cause, of what is its the end, the final purpose and realization of the principle of a subject.

⁵¹ Ibid. *Robinson H.

⁵² Aristotle concerns more on "Coming-to-being" than just Change in things, one may understand it as existence, from nothing (non-being) to something (some being)

Cohen, S. M. (2012). Alteration and Persistence: Form and Matter in the Physics and De Generatione et Corruptione. In C. J. Shields (Ed.), *Oxford Handbook of Aristotle*. essay, Oxford University Press.

⁵³ Falcon, A. (2023, March 7). *Aristotle on Causality - 2. The Four Causes*. Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/entries/aristotle-causality/#FourCaus>

Following Bodnar's analysis, the Material Cause and the Formal Cause can be explained with reference to the Metaphysical part about substance as we discussed earlier (Nature in the Substantial and Metaphysical sense)⁵⁴: Matter as Potentiality and causal explanation about the material constitution of something and Form as Actuality and the realization of principles within the substance themselves. What remains to be explained is the rule about the collaboration of the two: the principle of Change as the Efficient cause that depicts the progression from Potentiality to Actuality and the Final Cause that concerns the result of Change as Actuality as a potential of changing⁵⁵. In the following, I will explain these concepts with examples and will first discuss the concept of Change (Efficient Cause), followed by how it is linked to the Final Cause and towards Aristotle's Teleological Causation and Essentialism.

To start with, the general explanation of the concept Change is how things being in motion and rest in itself, a more precise definition of Change is when things go from Potentiality (Dunamis) to Actuality (Energieia and Entelecheia⁵⁶). Potentiality is what is about the Matter's capacity of receiving its Form and that comes in two senses: The first sense is the active sense, that the subject is capable of moving by itself/in motion (kinêsis), thus in itself capable of producing a change to itself or to other substances. For instance, the capability of a seed growing into a tree.

The second sense is the passive sense, that the subject has the capacity to be acted on, and to receive such acts and changes/gain its Form. For example, a rock has its Form changed through being worked on by a sculptor and becoming a statue. Therefore, Actuality refers to the result of what is accomplished: Being actual, this means that the matter is taking fully of its Form of what it is, a rock changed from itself to a statue and thus upholding the Form of being a statue. When one talks about the Efficient Cause of a thing, one should be looking for how things are acting or be acted on: to look for the mover. For instance, the explanation to the cause of the house will be the builder who built the house.

⁵⁴ Bodnar, I. (2023, April 24). *Aristotle's Natural Philosophy - 1. Natures and the four causes*. Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/entries/aristotle-natphil/#NatuFourCaus>

⁵⁵ Coope, U. (2009). Part II - B. Physics - Chapter 17 Change and Its Relation to Actuality and Potentiality. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 279–281). essay, Wiley - Blackwell.

⁵⁶ Entelecheia refers to "Having Completion"

Coope, U. (2009). Part II - B. Physics - Chapter 17 Change and Its Relation to Actuality and Potentiality. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 279–281). essay, Wiley - Blackwell.

Teleological Causality

Last but not least, the Final Cause is, as Hankinson mentioned, that Aristotle thinks his precursors (such as the Pre-Socratics) often ignored its importance⁵⁷: The Final cause provided an explanation and goal for the referred subject, given that things are already in the Nature of motion and rest, realizing the function and principle of beings makes one realise himself/herself also being part of the natural whole, thus realizing and fulfilling its Form as what it is. One example is how Aristotle understands the Essence of something with reference to Change: The concept of Change is from Potentiality to Actuality with Actuality being the Form and finality of the Substance itself. In other words, the Form (and thus the Essence) of something is always its end because it is the particular state where the subject has a complete realization of its Form. (E.g. a seed that is given a suitable environment and grows into a tree, or a building takes up the form of a house when it was built, to have different functions such as shelter, storing etc.)

It is important to note that reaching the end does not mean the subject itself stops moving or simply reaches a certain final unchanging state of completion (say, a horse having a perfect yet unchanging trait), but rather it fulfils its functional role in the given context/definition while continuously doing so/staying in that state. For instance, modern biologists would have said that what constitutes the horse is its flesh and blood, for Aristotle, it is speaking about the horse in the sense of Material cause where the flesh and blood of the horse are what constitutes its (biological) parts, it is in a sense correct but this is insufficient because Aristotle also thinks we should understand these parts (of the horse) as each playing their functional role to create the whole concept, and thus Form (and Essence) of the horse, without each causes and parts functioning/having the principle to function, the horse cannot be itself (in its Nature). This is crucial to the understanding of Aristotle's Biology later on since it is connected to how we can explain Evolution during his time, how the end acts as both the final event of a process and also the cumulation of a series of processes, thus connecting the theories with actual observations.

⁵⁷ Hankinson, R. J. (2009). Part II - B. Physics - Chapter 13 Causes - Aristotle and His Predecessors. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 213–214). essay, Wiley - Blackwell.

"Human Nature" in the Aristotelian Hylomorphism

Before going into the conclusion of this part, I think it will be more reasonable to explain how Aristotle put his Hylomorphism doctrine into explaining human beings, thus creating "Human Nature" with reference to metaphysics and physics.

In this perspective, Aristotle groups Human beings with other living organisms (such as animals and plants). The Matter will be the "Body" and "Potentiality" which means something that exists and potential to receive a Form, while the Form will be the "Soul" and "Actuality" that constituted in the Body. In this part, I will focus on elaborating the concept of "Soul", given Soul as the Form is what constitutes a substance/being to be a complete one.

Although the idea of the Soul is presented in a lengthy manner in Aristotle De Anima (On the Soul) and further connected to Nicomachean Ethics which is relevant to culture, the concept of the Soul for Aristotle can be summarized as the Principle of Action, the Formal Cause of the substance and Final Cause of a complete being. This means that the term "Soul" is considered as the functioning of the subject.

For Aristotle, the substance/individuals that are living (i.e. a living organism) have the capacity (body/matter) and therefore the potential to further develop itself and make changes, to take on its form and thus embrace its Essence. To briefly elaborate, Aristotle distinguishes five potencies of the Soul in living organisms: the Nutritive, the Perceptive, the Desiring, the Mobility with respect to place and the power of Thought. The Nutritive is the fundamental principle for all animated beings, it refers to the Growth and Reproduction of the living Organism, this is closely linked to the next section about Aristotle's Biology and Evolution since Aristotle believes that the Form/Soul of an animal can be replicated and passed on eternally by reproduction, thus generating offspring bearing the same nature of its parents. The Perceptive refers to the capability to perceive and thus experience the sensation of the environment (I will also include the ability to react to and interact with the surroundings). The Desiring is the eagerness to maintain the (necessary) functions and thus the Form/Soul of the body. (The) Mobility with respect to place is the ability and potentiality to move, and finally the Power of thought will be the ability to deliberate and make decisions, deliberations often imply the concept of rationality, to think logically and with reasons guiding towards the aim/purpose, in other words, towards the end of something.

In general, Aristotle seems to imply some hierarchical order, as well as some interrelations among these potencies here: The Nutritive seems to be a fundamental aspect for organisms because without it, the being will not be a being, while the Desiring seem to be related to the Perceptive, the Mobility (Seeing and act towards it) and Power of Thought (To deliberately desire something) for they both constitute of forming purposes and desires. Roughly speaking, Aristotle thinks plants are only capable of the Nutritive, while non-human animals are capable of all potencies except the Power of thought, and compared to that what makes humans special will be having all the potencies in the Soul including the Power of thought.

So it is possible for some to argue or think that the Power of thought as the potency of the Soul is what Aristotle took to be essential to being a human (As some may argue Aristotle as an Essentialist). However, one issue that I discovered, which is in itself a problem in Aristotle, is that he didn't seem to commit any further on whether he considered a human without a thought to be incomplete. As we shall see later, Aristotle did not deny entities such as Women and children as non-human or incomplete human, rather they just lack or have not yet reach such potency to express the human virtue (Power of Thought can be one of them, but there are many, such as Courage, being political etc.). Therefore, in the metaphysical sense, I shall hold Aristotle's view as a plausible approach to explaining human and its Nature.

The positive thought that I think of is that although the Human Soul might be essential to human beings, the potency of the Soul need not be fully flourished at all times and/or at its maxim (in terms of degree) since it is the potency not the actuality. One should not stress on the point whether if someone lacks the potency of being a human, for as long as one attempts to stay in motion (i.e. stay alive) with reference to exercising its potency (be it a different degree of Power of Thought, of Motion and Change) and interact with other humans and/or the surroundings, one is sufficient to be considered a human being. It is because one's biological and cultural well-being is already part of how one being in motion (principle) with a purpose, and even though the subject itself is incapable of expressing or thinking about it like the example of a person with disabilities in the brain/mind to make reasoned claims, are nevertheless not in progress of being in his/her human form. I extract this insight, again from Matthen's interpretation of Aristotle's thought, where he mentions that Aristotle is well aware of what one means to say a natural being is "for the sake of itself", and his answer is that ".....he is convinced that nature does act for an end. Thus, he takes the perplexities of the preceding paragraph [about the goal of each natural being] as difficulties to be solved [like science], not as proofs of impossibility."⁵⁸ The construct of the Form of a human (Soul) is like a continual construction and improvement of a house, we can have many purposes, functions and ends, just like a building, but we are always in motion, both spoken as actuality and beyond actuality.

In other words, we are always looking for different ends of something to construct how the Form of a being can be realized, and we can say that for the case of human, it is hard to be in a constantly completed/perfect human being (Perfect Form) nor realising the Power of thought as a potency of the Soul of Human and stay rational all the time, so reversely we should understand Aristotle's metaphysics from the perspective in the less strict manner that one is always moving towards such an ideal goal and having the possibility of being rational, including those who are considered lacking such power in the examples, they still capable of flourishing and flourishing towards their own ends as long as they are living/ in motion, being purposive at times and generated from ones' parents' Form⁵⁹. Potency and Functioning are therefore what is crucial/essential to Aristotle's understanding of (Human) Nature.

⁵⁸ Matthen, M. (2009). Part II - D. Biology - Chapter 21 Teleology in Living Things - The Argument from Non-Coincidence. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 338–340). essay, Wiley - Blackwell.

*Note: with alteration added to match the explanation

⁵⁹ This is partly to respond to Kronfeldner's argument against Aristotle because Kronfeldner specifically chooses an example of how Aristotle interpreted Woman with reference to the "Biology" of his time to denote the Dehumanization Challenge (that Women did not contributed to Form nor have perfect forms themselves), this is a misconception according to Scholar Devin Henry. I will discuss more in the "Aristotle's Biology" Section, as well as in "Aristotle's Response to Dehumanization" Section.

Resulted Teleological Essentialism (Sub-section Summary)

To briefly conclude this part, these potencies are just metaphysical explanations to explain the Nature of things, how things are and can be, and the term essence is used with reference as something taking up the form of the substance, it is not fixed but constantly changing, the only thing that is ultimately fixed, is the Essence that constitute the Form of something and predication of Matter and "Nature" as something to be and have the principle of motion and rest in themselves, persist through existence and change, capable to be the mover and be moved in the sensible world.

From that, we can then explain the Teleological Essentialism which many scholars have discussed, some of which such as Kronfeldner, too, considered Aristotle's philosophy as "Essentialism" and compare it with other essentialists where Essence was considered to have a fixed trait or some essences being necessary to explain (human) beings universally at all times (e.g. the claim that human essentially have Empathy). I believe that is not entirely the case for Aristotle because his concept of Essence only represents the Form of something and how it can be explained come in different ways/contexts (e.g. Predications, Causes), while the concept of Nature represents how something is, in the sense that it was following certain perceivable principles (thus function and purpose), this applies to not only human beings but all entities in motion. I think it would be suitable to understand it in a Kantian way that Aristotle is trying to say we live in a principled world with certain unchanging functions working around, the "Essence" of human is to have such an ability to recognise and deliberate about our experience to make sense of these "Nature" in ourselves and in things, so to make themselves purposeful and there is no precise "fixed" traits other than such an ability to make (various) sense(s) of the world.

Therefore, despite this metaphysical package being fundamental to all beings (i.e. to be something functioning with a principle and an end⁶⁰), the outcome and degree of how a being is considered as a being, for instance, how a "human" is considered as "human" in the descriptive sense, the explanatory sense and the classificatory sense, can vary. If one were to compare, it is likely to say that Aristotle begins with an Explanatory Nature in the Metaphysical sense, and from that, a Classificatory and Descriptive Nature, which comes from his Biology, Ethics and Politics, which I will explain in the following.

⁶⁰ One can even make a further doubt, that the principles are decided by humans after all, but despite that, the reality does work in a certain way with or without these explanations, such as Modern Physics and Biology show us evidence of the relations within our biological bodies and its interaction with the environment, further making sense of our experience

2.2 Aristotle's Biology and Evolution

The Overview of Aristotle's Work on Biology and the Order of the Inquiries

Moving on to the next section I would like to discuss Aristotle's Biology, which the position of Biology in his philosophy can be seen as a bridge connecting his metaphysical principles (i.e. thoughts and hypothesis) with observations (experience and knowledge) in the natural world and/or as an extension that can be referred back to his metaphysical principles about beings. I put it this way because it can be seen in Aristotle's works on Biology: Parts of Animals (PA), Generation of Animals (GA) and History of Animals (HA). They all pointed towards the scientific and epistemic goal: Understanding the Nature in general or the Nature of a particular being is to understand the features of the object of making what they are and how they are caused, specifically the non-accidental ones, and even though the observable world is constantly changing and with new observation data added ("Accidental", such as change in quality, quantity and location of something due to the environment). Aristotle believes that there are certain principles that are not mere coincidences and can be extracted and applicable to all living beings: The Four Causes.

In the following, the order of the ideas will be presented according to Devin Henry's interpretation of Aristotle⁶¹, in which I find suitable for this context: Aristotle begins with Parts of Animal (PA), which he thinks the inquiry must begin with an animal in its mature state, the being of an animal in the state of functioning. It is then followed by Generation of Animal (GA), which concerns the causes of an animal in becoming, and finally History of Animals (HA) which he switches the focus from the inquiry of a particular animal to a general view of the kinds of animals, attempt to classify and explain according to their differences and traits. In the following, I will separate the explanations into four parts: (1) Parts of Animals and Generation of Animals, (2) Aristotelian Classifications, Variation and History of Animals, (3) Inheritance and Evolution and lastly (4) a brief summary with some notable problems of Aristotle's Biology.

⁶¹ Henry, D. M. (2009). Part II - D. Biology - Chapter 23 Generation of Animals - The Place of GA in Aristotle's Philosophy. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 368). essay, Wiley - Blackwell.

Parts of Animals and Generation of Animals

To start with, the Four Causes include the Hylomorphism that concerns Matter and Form and the account of Functions and ends in the beings themselves. It is also because of this, that the explanation of what is "Biological" can always be translated into functional terms. Here I think James Lennox provided a rather accurate interpretation of the general thought: "The Unity of Matter and Form (Body and Soul) is the Unity of Instrumental Structure and Functional Capacities" and "(such unity) can be explained at any level of generality"⁶². For instance, the explanation of a human requires the explanation of its function as a whole body, and to explain the function of the whole body, one needs to focus on the function of each of its parts that constitutes the whole body, and there are actions and descriptive traits that come after these causal explanations. A direct example is that a heart is **the heart** because it functions inside a certain part of the body and also to support functions of the other parts of the body, this structural explanation and functional capacities are non-accidental changes according to Aristotle, because a heart is only understood as a certain structure that supports the functions, and it is its Nature because it is definitional for a heart to maintain certain vital functions, such as pumping blood, and if its is not carrying out this function, it will not be said to be the heart in function (i.e. No longer 'living'/functioning⁶³), this concept is interpreted as Hypothetical Necessity, where materials are necessarily in its structure to fulfill its function in Aristotle's context.

⁶² Lennox, J. G. (2009). Part II Theoretical Knowledge - D. Biology - Chapter 22 Form, Essence, and Explanation in Aristotle's Biology - Form, Function, and Biological Essentialism. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 351-356). essay, Wiley - Blackwell.

⁶³ Another good example mentioned by Matthen is the "Flesh" of a natural being, where he re-interpret Flesh in Aristotelian functional perspective: When there are no Soul/Form in the Body/Matter, "Flesh does not just lose its functional role but physically disintegrates outside the context of a living thing".

Matthen, M. (2009). Part II - D. Biology - Chapter 21 Teleology in Living Things - Goals vs. Functions. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 336-338). essay, Wiley - Blackwell.

From the above we have settled on what constitutes the concept of a being, Aristotle moved on to the concept of Becoming and of how beings are generated. Although I have already mentioned earlier that the generation of the offspring comes from its parents replicating themselves, there are more details in the process of Generation. To start with, Aristotle acknowledges that the generation of a being necessarily includes males and females undergoing sexual reproduction. The idea is that both males and females will produce "Sperma" a term that simply carries the meaning of "Useful nutritive residue"⁶⁴. The male sperma is also conceived as male semen and contributed as the efficient cause of the offspring and thus the mover and the female sperma, is conceived as menstrual residue, the material cause of the offspring and thus the matter. As for the Soul, Aristotle thinks that some faculties of the Soul, such as the Nutritive soul, pre-existed in the embryo before the male semen made its contribution as an efficient cause of the Form of the offspring⁶⁵.

One interesting point that I would like to mention for this part is Devin Henry's view on the common claim "Male contributed the Form of the embryo and Female contributed the Matter of the embryo", Henry considers this claim as a common misconception and he comes with two claims⁶⁶: There are various claims in Aristotle that suggests the contribution to the entirety of the Form of the embryo is not exclusive to male because (1) evidence shows that male only contributed to the form of the Embryo in its initial state but not the formation of other additional complex structure that also involves Soul-functions (i.e. the further development of the Embryo after fertilization) and (2) evidence also show that female also contributed to certain functions/Soul of the embryo. In other words, combining the two claims, we can say that, as opposed to the general formulation, the male only contributed to the initial change but not as the sole cause of the Form of the offspring, while females are observed to have capability to supply Soul-functions and not just the "matter" of the offspring. For instance, even without the fertilization from the male semen, female sperma is observed to be able to generate embryo with minimal capacity of growth, which means the basic Nutritive soul comes from the female but not necessarily male, this provides a more reasonable account to how Aristotle understands the generation of the Soul of being.

Here the process of generation of a being is completed as a cycle, with Body and Soul within the explanation of an embryo, the being itself is not only in itself nutritive but also spontaneously generative, such is the "Nature" of a living being.

⁶⁴ Henry, D. M. (2009). Part II - D. Biology - Chapter 23 Generation of Animals - The Nature of Sperma & The Transmission of Soul: GA II.3. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 369-372). essay, Wiley - Blackwell.

⁶⁵ Ibid.

⁶⁶ Henry, D. M. (2009). Part II - D. Biology - Chapter 23 Generation of Animals - Reproductive Hylomorphism. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 372-374). essay, Wiley - Blackwell.

Aristotelian Classification, Variation and History of Animals

The definition of "Nature" in the biological sense is now being set by Aristotle, I will now talk about how Aristotle will speak of Kinds, Generality and Differentiate with reference to this word. This "Classification" is interesting because when we speak of Classification, one often thinks of grouping targeted individuals according to context, for instance, by phenotype (e.g. phenotypic traits) and by evolutionary history. However, Aristotle did not think of "Classification" in this taxonomical way. From what we can perceive in his work and from the teleological principles that this text has so far covered, Aristotle's view towards classification does not come as a system but simply maintains that one must start with what is being perceived and from that, logically⁶⁷ distinguishing between what is essential (thus matching Function (Soul) and Structure (Body) and what is not⁶⁸ and thus the grouping (classification) does not come with a fixed system and can vary with context, between generality and differentiation.

To elaborate more, following Balme's translation, Aristotle's classification only comes with two main concepts: Genos and Eidos⁶⁹. Genos refers to "Kind" (One can understand it as "Species" used in Modern terminology) and Eidos refers to "Essence". To start with, The term "Kind" is to group and collect different forms that are essential characteristics for the targeted group of beings. For instance, the group of individuals all share the same kind "Birds" because they all share the same essential features: Having wings and wings are essential for all Birds because of its function: say, a certain structure designated to fly but not swim, and compare to that, fish are of a different genos simply because they have fins as an essential feature and again they are in such a way as a Nature of the whole kind simply because of its functions (and developed structure) that necessarily show and explains itself as its Form.

⁶⁷ Gotthelf, A., & Balme, D. M. (1987). Part II Definition and Demonstration: Theory and Practice - Chapter 4 Aristotle's use of division and differentiae - I. The reform of diairesis. In J. G. Lennox (Ed.), *Philosophical issues in Aristotle's Biology* (p. 69-80). essay, Cambridge Univ. Press. (and)

Ibid. Part IV Metaphysical Themes - Chapter 11 Aristotle's biology was not essentialist - The definition of an animal must include all its matter. (p. 291-312)

⁶⁸ There are various translations to the opposite of what is "Essential". For instance, "adventitious attributes" and "(genetically) incidental properties"

Ibid. Part II Definition and Demonstration: Theory and Practice - Chapter 4 Aristotle's use of division and differentiae - I. The reform of diairesis - The Reforms. (p. 69-80) (and)

Henry, D. M. (2009). Part II - D. Biology - Chapter 23 Generation of Animals - Inheritance. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 375-377). essay, Wiley - Blackwell.

⁶⁹ Gotthelf, A., & Balme, D. M. (1987). Part II Definition and Demonstration: Theory and Practice - Chapter 4 Aristotle's use of division and differentiae - I. The reform of diairesis - The Reforms. In J. G. Lennox (Ed.), *Philosophical issues in Aristotle's Biology* (p. 72-74). essay, Cambridge Univ. Press.

Following from that, the idea of Eidos simply refers to one "Form" or one "Essence" that makes the thing what it is. For example, both Owl and Flamingo are in the genus Birds, that essentially come with beaks and wings, but they are different beings in the sense that they have different Eidos/Forms that function differently, such as Flamingos have longer legs, Owls have specific feather structure to fly silently at night, such forms constitutes what they are and thus fundamental to the basic actions and way of life of that animal.

This approach to explaining the biological Nature of a living being is both a characteristic and a problem for Aristotle. The characteristic is that it matches Aristotle's metaphysical principles about the final cause since successive classification can add forms to a being to depict its way of life and thus obtain knowledge of it, this reflects how a being acknowledges as itself as a final cause, flourishing its life in the complete form.

This is a reasonable claim for Aristotle and plausible for his time, however, it might face some issues when compared with modern science, the first problem is rather straightforward and also Aristotle himself admitted, that in the end the classifications are based on adding and determining more sets of differentiations for a being, in the general sense, only the larger kinds (megista genê)⁷⁰/chief kinds⁷¹/major genera⁷² are pre-explanatory and immediately identifiable and thus explained as a nature, and to list out all animals with these differentiations and use them accordingly on each being will be perplexing and almost impossible. In the end, it must have been very different compared to classifications such as the Genealogical nexus suggested by Kronfeldner since all Aristotle is trying to cover is not the animals as a species or genus but rather to list out the differentia among animals/kinds, Aristotle does not look for a system to identify animals, but just to group and regroup the differentia to address particular discussions⁷³ and bringing out the commonalities that are relevant to his metaphysical principles, which is the Essence.

⁷⁰ Lennox, J. G. (2009). Part II Theoretical Knowledge - D. Biology - Chapter 22 Form, Essence, and Explanation in Aristotle's Biology - Conclusion. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 362-363). essay, Wiley - Blackwell.

⁷¹ Gotthelf, A., & Balme, D. M. (1987). Part II Definition and Demonstration: Theory and Practice - Chapter 4 Aristotle's use of division and differentiae - I. The reform of diairesis - The Reforms. In J. G. Lennox (Ed.), *Philosophical issues in Aristotle's Biology* (p. 72-74). essay, Cambridge Univ. Press.

⁷² Ibid. II. Aristotle's use of differentiae in zoology (p. 80-89)

⁷³ Ibid. The search for causal differentiae (p. 85-89)

Variation, Inheritance and Evolution

From the last two sections, we can summarize that for Aristotle, what is a "human being", is what that is "generated by a human being"⁷⁴ and roughly being classified according to differentia. In this subsection, I would like to briefly talk about Variation, Inheritance and Evolution, despite the logical formulation of Aristotle's explanation being very similar to the previous sections.

Firstly, for Variation, it can be seen that Aristotle only made explanations about the variations with reference to Genus and Eidos. However, it does not seem to be the case that he paid much attention to variation within species, firstly because he did not have "Species" as a classification, and secondly with the principles in his hand, he would have said looking for these variation within species do not change the fact that a certain being is the way it is. For instance, Aristotle would have to say having darker skin colour and larger eyes will not be much different than having lighter skin colour with small eyes in the context of determining whether a human being is a human being, even if there are perceivable variations within beings with the same nature, looking for the cause of variation is just to further add subcategories to explain a more specific individual, the nature of the kind remains for it is defined by the being's function instead of appearance, description or culture. I will explain more about variation in the following since it is connected to how Aristotle understands heritable properties.

Secondly, for Inheritance, Aristotle distinguished between (biological) heritable properties and genetically incidental ones. Heritable properties are rather straightforward, the properties that are relevant to the parental linkage and the chain of (efficient) causation mentioned in the *Generation of Animals* earlier: Each trait is traceable with reference to its Form/function upon the generation of the being. Devin Henry's analysis provided a deeper look into this concept⁷⁵, Aristotle emphasises the kinêseis (locomotion) of the sperma during the action of reproduction, he suggests that the parental traits (forms) are thus inherited more when one side dominant over the other. For example, the sperma that carries the form of the male dominates over the form carried by female during their respective movements thus the form of the offspring will resemble the form of the male more, with observable parental traits. On the other hand, genetically incidental properties are properties that are not passed on by the act of reproduction.

⁷⁴ Bodnar, I. (2023b, April 24). Aristotle's Natural philosophy - 3. The principle of causal synonymy. Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/entries/aristotle-natphil/#PrinCausSyno>

⁷⁵ Henry, D. M. (2009). Part II - D. Biology - Chapter 23 Generation of Animals - Inheritance. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 375-377). essay, Wiley - Blackwell.

The example provided by Aristotle is that of a good neighbour. This example is important because it implies that although following the same teleology, Aristotle will say that there are properties and Nature that constitute a human being that is not from pure biological inheritance but also developmental resources made available by developmental capacities. For instance, Aristotle will say the ability to express oneself is connected to the biological nature (function) of the brain and facial faculties, but there are extended practical ends to follow from these functions, such as the case that you need to speak respectfully while interacting with others to make you a full human being because cultural interactions are what corresponds to using one's functions fully.

Last but not least, the concept of Evolution is a core component to be discussed in this text because from the Aristotelian perspective, it seems that Aristotle will not agree with the concept of Evolution, despite his acknowledgement towards some variation. For Aristotle, Evolution is nothing more than a series of accidental changes, this is compatible with a Darwinian approach to Evolution. Let's briefly return to what we have mentioned in the metaphysical part, the distinction between accidental and non-accidental change is that non-accidental change has a traceable final cause, while accidental causes are like luck, such as meeting someone unexpected when you go to the market and have something to do with that person (your final cause is not meeting the person but to buy something in the market), these accidental changes are not final causes of a being thus are just contingencies to Aristotle. However, it is possible to develop the concept of Evolution that is compatible with Aristotle's Metaphysics, as suggested by the paragraph Fran O'Rourke mentioned:

*"I've suggested that in modern biology natural form is seen to operate not only at the overarching and all-commanding level of complete substance, but also throughout the diverse range of lesser structures and determinations which **cohere in substance**. Heredity is not dependent upon the agency of the individual but is rather determined by the genetic cells. **Genes have their eidōs but are open to mutation**. By recognizing eidōs as operative at this level we can integrate Aristotle's metaphysics and the theory of evolution; interpreted in this manner, Aristotelian form thus contributes to the mutational mechanism of evolution. My thoughts is that his metaphysical principles are **not made with reference to time, nor he will not expect a radical change in the way of life of beings**"⁷⁶*

(Fran O'Rourke, Aristotle and the Metaphysics of Evolution (p.46-47), with emphasis added)

⁷⁶ O'Rourke, F. (2004). Aristotle and the Metaphysics of Evolution. *The Review of Metaphysics*, 58(1), 3-59. <http://www.jstor.org/stable/20130422>

This paragraph is insightful because O'Rourke mentioned that although Aristotle does not have the tools to look into modern biology such as genes, his principles nevertheless can be used in modern biology to explain being with reference to Form and Functions. Genes are open to mutation despite being operative and further developmental/mutational because genes not only have their own Form, but their capacities also imply a potency to further develop according to the environment, thus the Nature of the being is not fixed but changing, and this matches the concept of Evolution. The Soul/Essence of a being is not only generative but also evolving⁷⁷.

"Evolving Soul" of Aristotle (Sub-section Summary)

To summarize this part, we can see that Aristotle fully imbued his metaphysics into his discovery and explanation of what is being observed. Specifically, that the biology of beings is understood in functional terms, as instrumental structure and functional capacities and therefore potentials. His works on Biology also reveal insights on Classification, Inheritance, Evolution, that he managed to explain the necessity of parental linkage as biological inheritance and is compatible with Evolution in the modern concept with reference to Nature and Classifications: With the advancement in modern technologies, we can look into the nature of each parts (Genes included) and explain how a being come to be and persist in its way, the Aristotelian concept "Generative"⁷⁸ and Evolving Soul" as the Nature of (human) beings survives through the criticisms of Anti-Essentialists and Systematists.

⁷⁷ Other phrases that I found precise to describe the context, as quoted by O'Rourke in his text, is how Karl Popper and Steven Rose explain how living organism functions:

"Taking his cue from Karl Popper, who argued for what he called "active Darwinism" - the living organism "helping to determine its own fate by itself challenging and modifying its environment to meet its own needs" - Rose emphasizes that living things are not merely products of their environment but first wholes which themselves influence in turn their own environment."

Ibid. p.50

⁷⁸ The term "Generative Soul" is used by Scholar Devin Henry, to describe the Soul is already in itself constructive and is able to maintain itself along with the body. Together with Fran O'Rourke explanation, the concept of the Soul, as the Essence of Human being, were able to accommodate the concept of Evolution and Mutation.

Henry, D. M. (2009). Part II - D. Biology - Chapter 23 Generation of Animals - Inheritance. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 374-378). essay, Wiley - Blackwell.

2.3 Aristotle's Ethics (and Politics) as Nature

Moving on from Aristotle's Biology, I will include a brief section of how Aristotle explains culture inheritance with reference to his teleology, this is a crucial section since Aristotle thinks that what constitutes a human and having a nature, does not involve only the biological construct and function, which can be grouped as Theoretical knowledge, but also how that substance itself maintain its form by utilizing its functions and adapt to the environment, this kind of knowledge and practice in reality can be understand as Practical wisdom/Practical knowledge.

It would be tedious to explain the whole framework here, so I will include a few concepts that I think is necessary to explain the developmental resources and cultural factors that derived from his metaphysical principles: (1) The power of Thought as potency of the Soul, (2) the Concept of Golden Mean and Virtue as Excellence in the ethical context, and (3) Interaction, Imitation/Repetition and Habituation as actual practice towards Excellence in the cultural/ethical context.

To begin with, Aristotle thinks that what makes human beings different from other animated beings, is the Power of thought as potency of the Soul in them. The power of thought, as mentioned in the last section, refers to the ability to deliberate, have purpose and make decisions according to the aim and reasons. The act of deliberation itself is crucial because as long as one's thinking faculty (i.e. human brain) is functioning and can express thoughts with reasons, one is participating in moving towards the goal of his/her thought. It is notable that what matters is not about whether one is choosing the "best" decision but rather the progression of thoughts in action and understanding how something is caused and directed. By understanding more about similar events, one can develop knowledge of such recurring events since he/she has already understood the causal chain of the events, he can then make the most proper decision and fully take part in the situation, the power of thought, at the optimal case will be a spontaneous function of the thinking faculty.

Although the Power of Thought (i.e. Reason) is important, it is also notable to mention the potency of the Soul as the Desiring and Emotive. As scholar Jiyuan Yu mentioned, although Aristotle sees humans as unique animals that can reason, he believes that this is only a potency to be trained, but not something that one knows a priori⁷⁹. Habituation plays an indispensable role because it trains other parts of the Soul, such as the Desiring and feelings, before a human has reason, a human listens to reasons but does not take part in reasoning⁸⁰. This implies that each part of the potency of the Soul correlates and necessarily formulates a human nature in the cultural sense, such that Good character forms from good habits and bad character from bad ones. Both biological functions and ethical formation develop together⁸¹.

With these basic principles in mind, Aristotle developed the concept of the Golden Mean and Virtue as Excellence of humans. The Golden Mean refers to how Aristotle describes the proper degree of action suitable for the function of a human being, and the Golden Mean is to be discovered by actual participation in real-life events with deliberation, what can be extracted as the Golden Mean is thus the Virtue of that person. A common example will be thinking about whether or not to save a drowning child in the river. In this case, there is deliberation and dichotomy between the vices/extremes: Cowardness and Recklessness, if one acts too cowardly, the child will be in danger, if one acts recklessly, the person himself/herself will also be in danger. Therefore, the suitable act would be that the person can evaluate himself/herself whether he/she has the ability to save the child and if not what would be the alternatives. During this process, not only does deliberation take place as the Nature of a human, but also the person in action achieves the Virtue of being mindful and courageous in saving the child, thus he/she is flourishing its Nature as a human by functioning with regard to thinking and/or properly evaluating and reacting relatively to the situation. Constantly doing so can achieve what Aristotle called happiness/Eudaimonia as the final purpose/telos of a human being, in the cultural/ethical context (which can be referred back to the teleological principles).

⁷⁹ Yu, J. (2012). "Ethos" and Habituation in Aristotle. *Frontiers of Philosophy in China*, 7(4), 519–532. <http://www.jstor.org/stable/44259412>

⁸⁰ Ibid.

⁸¹ Note that there is not a clear cut and causal priority between the stages of acquiring intellectual virtue/knowledge (Listen and learn about reason and virtue) and practical wisdom (Of actually taking reasoned/virtuous acts)

Finally, again, to put the actions in reality, Aristotle emphasizes that it is necessary to participate in the event itself to seek the Virtue and Golden Means in events, how a human learns to obtain these actions by interacting with others, imitating those who are virtuous (i.e. that are reasonable and/or deliberative beings), repeating what one found to be virtuous and make it a habit (simply, to think before acting): Habituation is neither a mechanical nor a fully rational action, but as Yu suggested, an internalization of social values⁸². Thus, one can think of it as a "Second Nature" since it is the process of a human participating in social interaction and developing his own way of adapting to the environment.

From the works of Aristotle, we can see that human beings fundamentally live together as groups (at least at the minimal level, linkage to parent upon birth and stages of growth), therefore, it is common when one encounters events that involve interactions with others: The young can learn something from their parents/according to their cultural surroundings, so to think and act flexibly. This is also why Aristotle considers human beings as political beings because he thinks if human beings are functioning in Nature, they will develop their thoughts and participate in interactions and thus discussions, these social actions and self-reflections are what constitute the Nature of a human being in function and are the genetic incidental properties and developmental capacities that Aristotle is presenting.

⁸² Yu, J. (2012). "Ethos" and Habituation in Aristotle. *Frontiers of Philosophy in China*, 7(4), 519–532. <http://www.jstor.org/stable/44259412>

Summary of the Aristotelian Human Nature (Section Summary)

To summarize Aristotle's concept of Human Nature, one can discover that the Aristotelian concept of Nature is something to be/being, while essence is the being of a being. As for the Nature of a "human", he thinks that for one to be considered as a human being, one should have both the body and soul of a human, in other words, the biological structure (Matter as Potentiality) and functioning of a human (Soul as Actuality), which can be further extended into the (1) parental relationship which represents the transmission of human body and soul from parent to child, (2) the biological body structured in a way that allows it to function as what it is and (3) that the function of the body also includes the function of thoughts and interaction with other beings and surroundings.

There seem to be some resemblances and differences between Aristotle's account and Kronfeldner's account of the concept of Human Nature. In the next section, I would like to first make an attempt to see how one can respond to the three contemporary challenges listed by Kronfeldner with Aristotle's thoughts, followed by making an analysis on how Aristotelian Human Nature is different from Kronfeldner's classification of Human Nature, so to depict the viable points and problems on both sides and answering some criticisms/concerns raised by Krofeldner towards Aristotle. Lastly, concluding the text with some insights that we can extract from the whole research about the concept of Human Nature and the Aristotelian Human Nature in general.

Section 3:

An Aristotelian response to the Three Contemporary Challenges about Human Nature

For the purpose of clarity, I think it will be more straightforward to first make an attempt to compare the major difference between the Aristotelian Human Nature and the Human Nature suggested by Maria Kronfeldner, which includes (3.1) the difference on the purpose/intention of the inquiry on the concept of Human Nature and Essence and (3.2) the difference on the concept of Change and Evolution. Through these two differences, we can then attempt to construct an Aristotle version of Human Nature using Kronfeldner's way of distinguishing the kinds of Human Nature (i.e. Explanatory, Descriptive and Classificatory Human Nature) (3.3). Followed by an analysis on how Aristotle would and could have responded to the Three Contemporary Challenges about Human Nature since these are the problems we faced, as put: (3.4) (Response to) the Darwinian Challenge, (3.5) the Developmentalist Challenge and (3.6) the Dehumanization Challenge. I will also be defending Aristotle's position on his Teleological Essentialism in these subsections since Kronfeldner had made several criticisms towards Aristotle's concepts based on the Three Challenges. Lastly, I will summarize the section (3.7) and pick out some key points that make me think that Aristotle's concept of Human Nature is still viable in addressing the contemporary challenges and thus offering a more optimistic view about the use of the concept.

3.1 Comparison on the purpose of the concept of Human Nature and Essence

To begin with, I think it is paramount to first look into what are the intention of using the concept Human Nature in both Kronfeldner's account and Aristotle's account, given Kronfeldner herself also included and consider Aristotle's concept of Human Nature as a kind of Essentialism where there are only one unchanging essence that situated in the living beings, it is necessary to list out their differences and justify their claims.

With the analysis provided in the previous sections, it can be said that the concept of Human Nature by Kronfeldner focused on (1) giving a pluralistic rather than singular account to the term "Human Nature" and (2) if possible, sorting out the value that is left in the term, whether if it still faces some challenge and whether if the concept is simply implausible and should be eliminated⁸³.

On Kronfeldner's side, a pluralistic account is the account on the concept of Human Nature which the term "Human Nature" fulfils various epistemic roles in classifying, explaining and describing human beings. It is in contrast with Essentialism: A singular approach that suggests only one fixed trait or description is needed to explain all individuals of human beings, playing only one epistemic role. With this contrast between the Essentialist view and the Post-Essentialist view, Kronfeldner's suggestion is that the Genealogical Nexus as the Classificatory Nature of Human can bring out Explanatory Nature and Classificatory Nature. This pluralistic account is therefore also a post-essentialist account: That human beings go beyond having just one fixed essence to explain themselves and having nature, but rather, investigate the biological and further its cultural history to construct a more comprehensive concept of Human Nature, one that will not subject to contemporary challenges mentioned (Darwinian Challenge, Developmentalist Challenge and Dehumanization Challenge).

On the other hand, Aristotle's concept of Human Nature and Essence is quite different. First, Aristotle's inquiry does not even (necessarily) begin with human beings, but rather the actions in Nature and seeking what is always true to it. Therefore, the concept of Essence is simply to depict "What and how is something" and "Human Nature" is to depict some statements (such as motion, change etc.) that Aristotle considers as always true to human beings, no matter how time and space change. In other words, the concept of Essence and Human Nature is only part of how he imbued his metaphysics into explaining the reality that he observed.

⁸³ As in the final part of her work, she did mentioned the Dehumanization Challenge is inevitable and thus the use of the term "Human Nature" (in that/ the descriptive context) should be eliminated

From the look on the surface, it seems Aristotle's Human Nature does fulfil Krofeldner's definition of (Traditional) "Essentialism" where there is one attribute always true to all beings of a kind (say, human beings are always rational, making rationality an Essence). However, I do not agree with such a claim since I think Aristotle's Essence does not explicitly lay out some traits as essential but rather, it is simply referring to what is the virtue of the thing itself, having an explanatory purpose. For instance, the Essence of a human will be the way he/she is physically constructed and minded/ensouled to be able to act according to such a construct. It is fixed in one sense because it is a metaphysical conception (instead of a semantic or attributive conception) that is made valid by a priori or analytic truths and causation, such as "Change and Cause" as an Essence of living beings (E.g. Being a father of a son is not an attribute but a causal relationship as essence of the father, and the son), but it is variable in the sense that each individual, be it sharing the same genus or not, can utilize and develop by themselves accordingly.

Therefore, summarizing this point, I think Aristotle's Teleological Essentialism does not fall into Krofeldner's concern about traditional Essentialism, as I will show that it resembles some of the evolutionary and genealogical concepts that Krofeldner agreed on. In my opinion, Aristotle's concept of Essence remains plausible in addressing the challenges.

3.2 Comparison on the concept of Change (and Evolution)

Moving on to the concept of Change, it is metaphysically and necessarily connected to Evolution since the concept of Evolution is to draw out the history and (often biological) development of a living being. It is not hard to explain the concept of Change in the general sense, one can imagine that the discussion of Change is to depict a causal chain, from antecedent to result, often in space and time. Evolution, however, we need to pay additional attention: There are often different context/scales when we use the term Evolution/Evolve: First being Evolution in the Macro sense, which questions how a being shifts from one species to another, for instance, how homo sapiens as a human species evolved from homo neanderthalensis, where these categorizations are limited by homeostasis (Time and Space) and based on genetic history, as mentioned by Kronfeldner. On the other hand, Evolution in the Micro sense, is often a term used to account for changes within the members of homo sapiens that have evolved/developed to adapt to the environment they stayed in, for instance, homo sapiens generally developed bigger skulls and brains (pure description), likely to adapt the environment (explanation).

I added this Macro-Micro distinction because I think it is the key distinction between Aristotle and Krofeldner. For Krofeldner, the way she uses the term Evolution implicitly includes both the Micro and Macro sense when the term Change or Evolution is used in her writings. For example, the idea of a Classificatory Human Nature borrows insights from the Darwinian Classification and Evolution: In the Macro sense, how homo sapien and other primates share a hominin ancestor and eventually come into such a classification in contrast with other extinct subspecies and/or genus. In the micro sense, how cultural and geographical factors cause homo sapien individuals to vary in behaviour or biological development in order to adapt and survive in different environments. This allows us to give the explanation that "We can trace back to the species long before Homo sapiens existed, and how human beings have evolved over time and thus are genealogically related to each other and can be classified according to time.

On the other hand, however, Aristotle does not have such Macro-Micro distinction nor does he explicitly mention it. This is not because Aristotle did not have the technology, classifications and evolutionary terminologies to conduct researches and have discoveries about human genealogy and (biological) history, but rather for him, Change is the idea that is not bound by time and space, nor any classifications. It contains its truth value as if a natural law, so it applies to not only human but all functioning beings, thus, he does not present a Macro-Micro distinction to explain Change and further about Evolution, though it would be possible if given the possibility, that Aristotle would have agree on the Evolutionary account, as one can see his attempt to compromise his metaphysics and physics (Form and Matter) with biological observation (E.g. Research on the semen of male and female) (One may refer back to the explanation in Section 2.2 Aristotle's Biology and Evolution - Variation, Inheritance and Evolution).

Another point I want to include, is that modern Evolutionists and scholars like Kronfeldner, often focus more on environmental contingencies and the possibility of evolutionary change, while Aristotle, for his time, does not seem to share the same vision: Not only that he did not see classifications as crucial as it is as compared to modern scientific researches, but also that he did not expect that there will be a drastic change in human beings as a living being, so it is not urgent or compulsory for him to make such an evolutionary classification such as "homo sapiens" or "homo neanderthalensis".

One may say he only focuses on the Micro changes/evolution based on what is observable of his time, for that is what Aristotle thinks he can be sure of, the present and given facts for him (rather than spending time exhaustively searching for origins of one's past which they do not guarantee the truthness), that is what makes a difference between Aristotle and Kronfeldner.

However, this point, I think, does not reflect any problems for Aristotle. In my opinion, it reflects some problems with the concept of Species itself since it is hard for one to judge whether the homeostasis and classification were made correctly or by what terms, it is just that the classification was made for this period of time so as to ensure everyone is on the same standard when referring to an idea, a 'paradigm' so people of different fields of study can refer to. Therefore, the insight in Aristotle precisely lists out the metaphysical ideas such as Change, Functions, Essence that do not require classifications in themselves, but still correspond to the discussion or his own grand scheme about investigating the structure of reality.

3.3 Reconstructing Aristotelian Human Nature in Kronfeldner's terms

With the two distinctions made, we can see that Aristotle's Human Nature can still be made viable despite Kronfeldner rejecting it as an Essentialist view. As mentioned, I do not agree with Kronfeldner's objections towards Aristotle's theories since I think Aristotle's concept is plausible even in Modern contexts.

Let us briefly recap the structure of Kronfeldner's argument. Kronfeldner thinks that the concept of Human Nature begins with a genealogical nexus and thus a classificatory nature, of how humans are biologically classified as homo sapiens, and evolved from their ancestor which is sorted out by the concept of homeostasis, thus providing an explanatory nature and further a descriptive nature (Figure 3, Left).

On the other hand, how Kronfeldner describes the traditional essentialists explain human nature, is that it simply begins with an Explanatory Nature or Descriptive Nature, for instance, a trait or thought was proposed as a Human Nature and developed based on it (Figure. 3, Middle).

And with the reconstructed format of Aristotle's Human Nature, my suggestion is that we can understand Aristotle's Human Nature in the ways that it also fulfils all three epistemic roles as suggested by Kronfeldner. As shown in Figure 3 on the right-hand side, we can see that Aristotle's theories begin with both an explanatory and descriptive nature, in the sense that he constructed his metaphysics both by observing the world and logically acknowledging the way metaphysics and physics function in the world, and for Aristotle, only by this kind of observation such that we can develop a knowledge of what the nature of a being, and further the nature of a human is. And from that, a classificatory nature can be discovered and organized because one can see through the relationships of a species, for example how one is causally related to their ancestors. In a sense, both Aristotle's and Kronfeldner's theories are "metaphysical", since both of them make an account about humans (be it or not as a Species) based on Time/History and Change. I think they are both reasonable in accounting for Human beings: Aristotle explains his theory on such a universal scale while Kronfeldner focuses more on the importance of Human and Species classification.

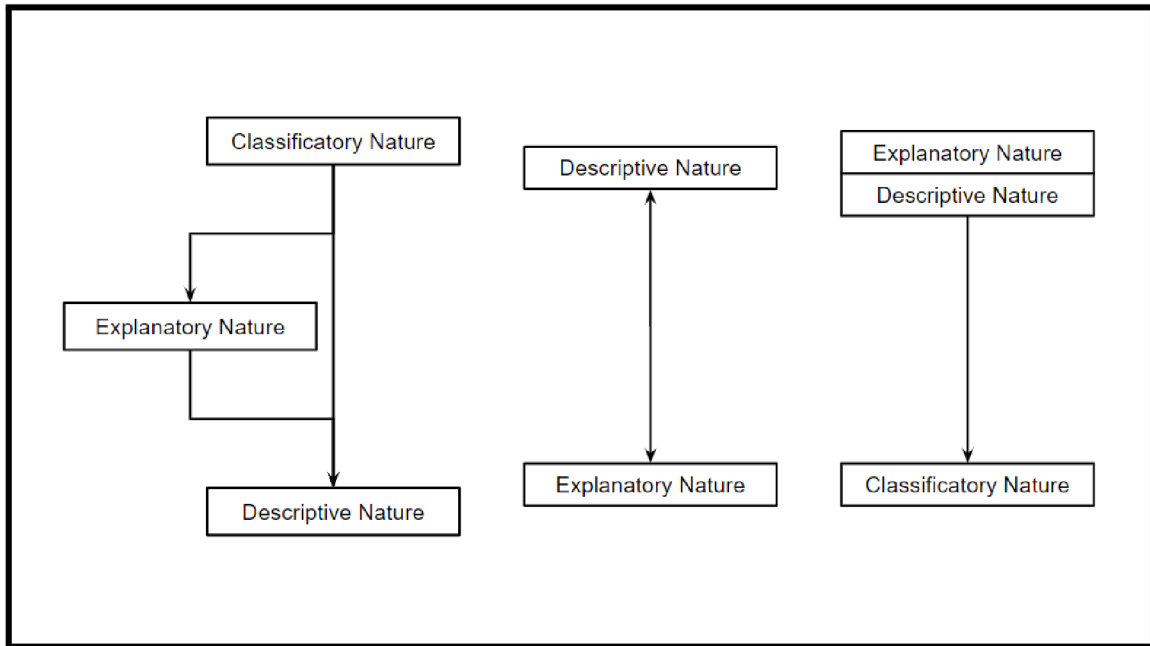


Figure 3. Graphical Interpretation of how Kronfeldner and Aristotle understand Human Nature

Left: Kronfeldner's concept of Human Nature

Middle: Kronfeldner's interpretation of Human Nature in the Traditional Essentialism sense

Right: Possible concepts and kinds of Human Nature that can be derived from Aristotle's Human Nature

To briefly summarize the three previous subsections, we can see that the main difference between Kronfeldner's account and Aristotle's account is that Aristotle approaches the concept of Nature and Human Nature in a universal level/coverage, where the purpose of the inquiry is to know more about how the world functions in their own way, including how human can and/or should function in the spontaneous state. Based on Aristotle's work, both observation and analytic reasoning is used, thus in Kronfeldner's terms, the concept of Human Nature begins with a basic observation and structural thought of how human functions, resulting in Explanatory and Descriptive Human Nature, and further derives a Classificatory Nature. As for Kronfeldner, her analysis aimed towards a way that can secure the "stability" of the concept of Human Nature. She necessarily needs to start by accepting the Geological Nexus in Human as its Classificatory Nature because it is indubitable to argue against how Humans come into existence, and from that she can derive an Explanatory and Descriptive nature, so as to tackle the Contemporary Challenges about Human Nature.

3.4 An Aristotelian Response to the Darwinian Challenge

Thus, moving forward to the Darwinian Challenge, it is a tricky part for this text since Aristotle did not have the concept of Darwinian Evolution or Biology in his time. From what we can see, Aristotelian Biology is used, more as a supplement to further extend and fortify his general epistemological and metaphysical worldview, for all "Biology" does is to record the observation of animals and attempt to categorize them and Aristotle knew it well that making distinctions among living beings will not affect his concept of Essence (of Soul as Principle of Action).

If one may recall, the key to the Darwinian Challenge is that the traditional Darwinian approach concerns the Nature of Human strictly by genealogical classification, while ignoring the possibility of other epistemic roles such as explanatory and descriptive nature from cultural inheritance. Kronfeldner thinks that Genealogical classification as the sole epistemic classificatory role is insufficient to capture the concept "Human Nature" which I think Aristotle would have agreed with.

Although Aristotle shares a different focus on the account of "Evolution", his account of Change, the possibility of variables among a community of (human) beings, and the account of parental linkage fully captures his idea on what we now call Genealogical classification. So in this sense, Aristotle does not have a problem with the Darwinian Challenge.

One problem that one may stress on though, and in fact, that might also be a small problem for Kronfeldner, is the example of Donald Davidson's Swampman. For the case of Swampman, Kronfeldner argues that if a Swampman can act and look exactly like a homo sapien, then the most important thing that we can distinguish a "Swampman" from a "Human", is that they have a different historical/genealogical trace. I think this is a notable issue⁸⁴.

⁸⁴ The example of Swampman in itself is not well presented by Davidson either and likely there are some criticisms towards his example and argument. Here in this text, I will try to keep the original example (from his text) and not involved get involved into his Theory of meaning for that is not relevant to the main concern of Kronfeldner's idea and this topic on the concept of Human Nature

It would be appropriate the first clarify the original intent of the example: The philosophical thought experiment of the Swampman is offered by Donald Davidson in his essay to explain his position on Meaning, Knowledge and Mind⁸⁵. Davidson's idea is that, a Swampman that is an exact replica of "Davidson" the human who got struck by lightning and "reduced to elements"⁸⁶. Davidson argues that the Swampman and Davidson the human is not the same because of their causal history: Even though they have the same biological/physical appearance and abilities, they do not share the same causal history and therefore the two have (1) different causes: Of how they came into existence biologically and (2) different possible actions and relationships with its surroundings.

What I want to emphasize here is that Kronfeldner seems to twist the example of Swampman a bit, by saying that: "The swamp man lacks the one necessary and solely sufficient property that all and only humans must have for being *H. sapiens*: the genealogical property of being genealogically related to other human beings."⁸⁷. Kronfeldner put a lot of emphasis on (1), that the difference between a Swampman (In this case, a species that is not *homo sapiens*), while seems to ignore (2), that the causal history of Interaction is also crucial, here we can say Davidson is emphasizing something cultural: For instance, a Swampman, despite having the same physique, do not have any history with interacting with anything, from human beings to other living and non-living beings, nor what it means by saying something will refer to the same thing as what a human being means.

Therefore, what I can say with this issue is that, it is doubtful for Kronfeldner to use the Swampman as an example to support her claim, but still, the example sparks some of our interest in the topic of Human Nature: what constitutes a "Human" and having a nature, will involve not only a biological appearance and history, nor just a copy and paste of cultural knowledge and beliefs, but rather a history of (Cultural) participation, interaction and understanding of the meanings and values in language, such is what constitutes one as having Humanity and thus "human".

⁸⁵ Malpas, J. (2023, April 28). *Donald Davidson - 4. Knowledge and Belief - 4.1 'Three Varieties of Knowledge.'* Stanford Encyclopedia of Philosophy. <https://plato.stanford.edu/entries/davidson/>

⁸⁶ Davidson, D. (1987). Knowing One's Own Mind. *Proceedings and Addresses of the American Philosophical Association*, 60(3), 441–458. <https://doi.org/10.2307/3131782>

⁸⁷ Kronfeldner, M. (2018). Part I Three Challenges - Chapter 3 Darwinian Challenge - 3.2 Challenging the Classificatory Role of Essences - The Problem of Squaring the Circles. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 45-49). essay, MIT Press.

Going back to Aristotle, then, how will he understand the example of Swampman? I think Aristotle would have no problem in accepting such an explanation towards human beings as having both causal (biological and cultural) interaction in order to be considered a human, for how he understands humans in their nature would be acknowledging their abilities and interacting with others. In the end, a Swampman, although they/it might not be sharing the same species as human beings, if we follow Aristotle's explanation of cultural interaction and habituation, it could be possible to say that they can still learn to become part of the community and considered as human in a broad "Humanity" sense.

To briefly conclude, the main point of going into the Swampman example is to note that Kronfeldner's argument is not as consistent as one might have thought upon reading her explanation. On the other hand, Aristotle's concept of Change and further on moral virtue and culture seem to be compatible in dealing with the Darwinian Challenge and providing a more open concept of the term "Human" (Humankind and Humanity in Kronfeldner's terms) and thus "Human Nature". I do think at some point Aristotle, unlike Kronfeldner, put more emphasis on Humanity than Humankind, how a human is recognised as a human is more of a concept derived from cultural interaction than mere biological history. We look into more of that in the following sections.

3.5 An Aristotelian Response to the Developmentalist Challenge

The discussion of Aristotle's concept of Evolution and Human Nature then leads to the concern of the Developmentalist Challenge. In a very broad sense, Aristotle's account, along with his concept of Essence and Human Nature, is not necessarily concerned by the Developmentalist Challenge. Recall the key concern for the Developmentalist Challenge is about the controversies between the Nature-Nurture debate: Whether Human Nature can be determined by Genealogy alone ("Innate") or if there are any developmental capacities beyond what is inherited/given ("Acquired"). Kronfeldner's answer to the Challenge is to accept the concept of Channels where there are both the biological channel and non-biological channels of inheritance, and in doing so, she also accepts that although one's Nature is necessarily connected to its biological inheritance, the biological being itself nevertheless took part in building its culture and thus Human Nature as Humanity, suggesting an Explanatory Nature and the importance of how the two channels of evolution influence each other.

It is rather clear that Aristotle's account matches a developmentalist perspective, or rather, Aristotle's Teleological Essentialism necessarily focused on an developmentalist account, especially when we look into his work of Ethics, where he addresses how a being is a Human according to how a Human should function in a society, spontaneously developing communications, ways of living/being and habits and morals when a human being is living with one another.

If one goes into the details, one can also see Aristotle showing the developmental capacities in a human being, and rather than distinguishing between biological and cultural, I think it is reasonable to use the word teleological, since the language and concepts Aristotle used to describe developmental capacities of human (Dunamis - Potentiality) are purely instrumental. For instance, in the Biological sense, when Aristotle explains how individual forms are inherited, he mentioned the concept of heritable properties, as in Devin Henry's text, how parts (E.g. Cells play their respective role) are inherited and further developed according to the form it was designated to be and received⁸⁸.

⁸⁸ Henry, D. M. (2009). Part II - D. Biology - Chapter 23 Generation of Animals - Individual Form. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 368). essay, Wiley - Blackwell.

As for the cultural channel, which is discussed by different scholars, both noted the developmental resources passed on culturally, for instance, scholars Julia Annas and Jiyuan Yu mentioned the connection of the three ideas: Nature, Habit and Reason in Aristotle's Politics to indicate their respective importance⁸⁹.

Before simply admitting Human beings as political animals to the extent to be considered its Nature, both scholars emphasize that Aristotle put great effort into explaining Habituation, for it is the common yet necessary way to inherit cultural traits and ways of being: The imitation and inheriting skills to use Languages, to take proper and therefore virtuous acts in situations. These concepts are explainable in both pragmatic and functional terms, for physical and mental well-being are connected to biological development too, this closes the gap of the Nature-Nurture divide in the Aristotelian way.

One concern that I have for this subsection is what is mentioned in the previous section on Aristotle's concept of Change. Sharing a similar view with James Lennox and his analysis, Aristotle does not expect such a thing as drastic "Evolutionary" Change in the Macro and biological sense (From Species to Species)⁹⁰. The key is that the core concept of Aristotle's Essence is plausible to explain, as compared to what Modern Science has achieved in the knowledge about Human Biology and Genealogical relations, just a very rough and simple picture that points the direction of causal change, but not expecting the vast possibility, as some evolutionist could have imagine and/or claim. For instance, what immediately comes to mind are concepts such as Selective Breeding Genetic Modifications of Crops and Artificial Fertilization, Artificial Intelligence for various purposes, these ideas easily step into the field of Biology nowadays and necessarily influencing the behaviours and biological development of Humans, further towards the concept of Human Nature, making "Change" something "Fast changing" rather than "Slow and Stable" in general.

⁸⁹ Annas, J. (1996). Aristotle's "Politics": A Symposium: Aristotle on Human Nature and Political Virtue. *The Review of Metaphysics*, 49(4), 731–753. <http://www.jstor.org/stable/20129940>

Yu, J. (2012). "Ethos" and Habituation in Aristotle. *Frontiers of Philosophy in China*, 7(4), 519–532. <http://www.jstor.org/stable/44259412>

⁹⁰ Lennox, J. G. (2009). Part II Theoretical Knowledge - D. Biology - Chapter 22 Form, Essence, and Explanation in Aristotle's Biology - Form, Function, and Biological Essentialism. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 355-356). essay, Wiley - Blackwell.

From my view, a brief and concluding comment to this part and the Developmentalist challenge from Aristotle is as David Depew commented:

"It is true that the new evolutionary developmentalism ("evo-devo") differs from Aristotle's by **embedding organisms far more deeply in their environments and by recognizing how plastic they are in face of contingencies.**"⁹¹

(David Depew, in S.M. Connell's The Cambridge Companion to Aristotle's Biology (p.275-276), with emphasis added)

This shows that although Aristotle's core values on Change and Human Nature in the cultural sense remain plausible (E.g. A steady biological development and popularization of particular cultural behaviors), Kronfeldner's contemporary account (E.g. Channelization, Coevolution) provides a better picture on the explanations⁹².

⁹¹ Connell, S. M., & Depew, D. (2021). Chapter 16: Aristotelian Teleology and Philosophy of Biology in the Darwinian Era - Intimations of a New (But Old) Ontology of Evolved Organisms. In *The Cambridge Companion to Aristotle's Biology* (p. 275–276). essay, Cambridge University Press.

⁹² Another note is that, when it comes to this thought, I made a huge imagination and possible scenario in mind that, if one can artificially create human sperm and egg out of non-human components/particulars, then would the result be considered as human? Perhaps it does not? For it is not biologically connected to anything, it is only causally connected to human action. This is just a thought that comes up that is relevant to the discussion of Genealogy, Developmentalism and Evolution, but can possibly make the concept of a Human blurry

3.6 An Aristotelian Response to the Dehumanization Challenge

With the Darwinian Challenge and Developmentalist Challenge settled, what remains will be the Dehumanization Challenge, which Kronfelder considers not only that the Challenge itself is unsolvable, but also that Aristotle shows a clear problem of Dehumanization in his work.

According to Kronfeldner, Aristotle, being an Essentialist that picks out qualitative traits and variation discounting, was involved in dehumanizing Women (and Slaves)⁹³. In specific, given that Soul as the Form and thus the Essence of a Human Being, (1) in terms of Generation/Reproduction, Women/Female in Aristotle's work was often considered only take part in the generation of Matter (which is not an Essence) and (2) when compared to Men, Women are less "Human", despite having regularity in the population/Kind (i.e. They appear in the population/species regularly in their generation), for they are not "ideal" as being a human-like men did, either inheriting an imperfect Form (say, during the Embryo stage) or lacking potentiality to fully develop into a perfect Form (say, of having potentiality such as being rational).

Here we can see, Kronfeldner's argument spread across both the Darwinian Challenge and the Dehumanization Challenge, towards Aristotle being a traditional Essentialist and therefore also dehumanizing Women. I think part of it is a misconception and perhaps not an adequate account of Aristotle, though it does not help Aristotle from being involved in dehumanization, I will still explain the two points respectively (i.e. The biological side and the cultural side of dehumanization involved).

⁹³ Kronfeldner, M. (2018). Part I Three Challenges - Chapter 2 - The Dehumanization Challenge - 2.2 Dehumanization Systematically Viewed - The Dehumanization of Women. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 19-21). essay, MIT Press.

See also: Chapter 3 The Darwinian Challenge - 3.3 Challenging the Explanatory Role of Essences (p. 49-54)

First, for the biological side, it is not the case that the female only contributed the Matter and the male contributed the Soul upon generation of a new Human being. Scholar Devin Henry has provided a comprehensive analysis on the Generation of Animals and Reproductive Hylomorphism⁹⁴ where he suggests that one should pay close attention to the context of Aristotle's work back and forth, one key point from his analysis is that, although Aristotle did mention male's contribution to the Soul and female's contribution to the Matter, the male's contribution does not refer to the entire composition of the Soul but just part of it (portion of it) and contributed to it initially (as mentioned earlier in Section 2.2), and on other hand, there are mentions in which female also have contribution to the Soul and the female portion of the Soul can be inherited just as the same as the male's portion. For instance, the Soul and Body of a mother can be found in the Soul and Body of a Grandmother, and so do the other generations of the same lineage, where traces of inheritance (heritable properties) can be perceived via resemblances in appearance and behavior. This concludes the Dehumanization argument towards Aristotle based on the contribution of Form and Matter between Males and Females is not sufficient to reject Aristotle's Human Nature in general.

However, the problem becomes tricky as one goes further, there is an issue that was exhaustively discussed by many scholars, that Aristotle did put more emphasis on "Form over Matter" and "Active over Passive" and therefore "Men over Women" or "Women as deformed men within the kind". Although the statement "Female contributed to the Soul/Generation of the Form(and Matter) of the embryo" is true, it is not the case that "Female contributed an equal amount or the "Crucial portion" of the Form of the embryo" is also true. For instance, as mentioned by Devin Henry himself⁹⁵ and also Historian Maryanne Cline Horowitz⁹⁶, the female semen often contributes to the portion of the Soul that is Nutritive, while the male semen contributes to other larger portions of the Soul, such as the potency of movement, of desire, and most importantly of rationality.

⁹⁴ Henry, D. M. (2009). Part II - D. Biology - Chapter 23 Generation of Animals - Reproductive Hylomorphism and Inheritance. In G. Anagnostopoulos (Ed.), *A Companion to Aristotle* (1st ed., p. 372-377). essay, Wiley - Blackwell.

⁹⁵ Ibid. p. 374

⁹⁶ Horowitz, M. C. (1976). Aristotle and Woman. *Journal of the History of Biology*, 9(2), 183–213. <http://www.jstor.org/stable/4330651>

Therefore, going to the second point, the problem becomes even more complicated and ambiguous for there are many contradictory points in Aristotle about Women and in fact, towards what constitutes a "Full human". Aristotle often saw various kinds of individuals as both human and non-human at the same time: This problem can be seen in Aristotle's Politics where he talked about "Slave by Nature", "Slave as tool", contrasting Barbarians with Greeks, Ordinary Peasants and Artisans as lived as a kind of "delimited slavery"⁹⁷ etc. In short, whoever lacks a full use of rationality in politics could be biologically human but culturally non-human. In the following, I will continue using Women as an example for that is the one used by Kronfeldner.

First, Aristotle thinks both sexes are needed but women were shown to be discredited (Note in the modern cultural and biological context). Second, he thinks that women are imperfect and less human simply because he thinks women lack the full potentiality of being perfect or rational, and the evidence lies on top of this point is because of both biological and cultural issues, that not only women, but also children, slaves and likely elderlies are neither considered as full citizens, or full human beings. This becomes very hard to determine what is ideal/perfect and what is not. Aristotle made this kind of contrast mainly in his work Politics, where the status of Slaves, Elderly, Women and Full Citizen involved in voting and state affairs are discussed. My thought is that though ambiguous, we can try to hold a more open view towards Aristotle: It is possible to say that not every entity can be in their perfect spontaneous nature at all times, or flourishing as what it is, so everyone, including Woman, can always said to be flourishing in their own ways, looking and working towards their ends. In this context, there seems to be no serious issue with what was raised in Kronfeldner's concern about Dehumanization.

⁹⁷ Kronfeldner, M. (Ed.). (2021). *Routledge Handbook of Dehumanization* (1st ed.). Routledge.

Aristotle was discussed throughout the book, in almost all cases, his claim on Natural Slavery is considered as an act/concept of dehumanization, in specific, one can look into Chapter 15.2 (p.231-244), Scholar Wulf D.Hund provided a good discussion to the topic

Thus, I think we can think of two ways that relieve the Dehumanization effects in Aristotle's claims towards Women, though they are not strong arguments.

The first being what I have just mentioned (and also mentioned in Section 2.1 in "Human Nature" in the Aristotelian Hylomorphism) about the context issue, that if we look at just the broad sense, female, which are still human beings and have such a form can still flourish in the broad context, for any living being can always flourish in their way according to Aristotle's account, this is the general approach that one can accept, specifically emphasizing the biological flourishing of beings as humans.

The second being that Aristotle is not the only person of his time to consider women as inferior beings in the Ancient Greek community, but rather, it is the whole Greek community that forms this culture and distinction between man and woman. For instance, the Ancient Greek considered only adult men are capable of having political rights and optimal/flourished ability to reason and discuss political and familial matters, making them a "full citizen". While for Women, although one can say they have the same potency of making good rational judgments in the biological sense, they are often considered more emotional and thus unstable in making decisions. This is shown in the comprehensive book of scholarly works gathered and edited by Eric Robinson, including the story of Aristophanes' *The Assembly Women*, Plato's *Republic*, Aristotle's *Politics* and researches by Michael Jameson and Marylyn Katz⁹⁸.

To briefly summarize these views, we can say that Ancient Greek Women are portrayed as lacking insight into seeing the consequences in different areas, especially in politics (As in the *Assembly Women Dialogue*), therefore they are also considered as inferior and have their freedom limited within the household, making them an incomplete citizen, or even worse, comparable to that of slaves in the cultural context (As Hund puts it: "Social Death"⁹⁹). This is not a strong point to argue against the whole dehumanization issue, but nonetheless partly reveals to us the cultural condition of his time by a bit, that we can understand how Aristotle's thought came into being, discrediting or ignoring the role of Women in both the biological and cultural sense under the contemporary lens (they don't recognise race and gender issue at all).

⁹⁸ Robinson, E. W. (2004). Chapter 6 Limiting Democracy: The Political Exclusion of Women and Slaves. In *Ancient Greek Democracy: Readings and Sources* (p. 248–312). essay, Blackwell.

⁹⁹ Hund, W. D. (2021). Chapter 15 Dehumanization and Social Death as fundamentals of Racism. In M. Kronfeldner (Ed.), *Routledge Handbook of Dehumanization* (1st ed., p. 231–244). essay, Routledge.

Again, I also think this is a problem in Aristotle that one cannot escape or argue against: We can argue that Women did contribute biologically to the generation of humans and Classificatory Human Nature (thus no dehumanization in that part), but for the cultural part, it remains largely uncertain to consider whether Women, as an incomplete citizen or showing lack of areas and opportunities to freedom and flourish for instance, is also considered an incomplete human.

In general, as Kronfeldner herself mentioned, both the problem: The Dehumanization Challenge, and the Historical Intricacy of Aristotle¹⁰⁰ remains a mystery or simply unsolvable. What I think Aristotle did manage to do, is combining his metaphysical understanding of beings (Explanatory Nature) with both biology and culture, this broad account made by Aristotle about teleological essence is in fact possible to minimize the effect of dehumanization, given if we ignore the context of women which could have been an historical and cultural issue rather than an issue about the ideas themselves). In other words, I do not think the whole Aristotelian Human Nature is influenced by the dehumanization on women nor it was Aristotle's inquiry or intention, because one can separate his metaphysical and biological claims from socio-political claims, especially when most of the examples of dehumanization are found in his work Politics, for the purpose of bringing out an ideal form of government and citizenship, instead of supporting a certain cultural bias/issue (which, this issue is a contemporary concern).

What Aristotle has been saying is that what makes a human being is human being, is that the ends of a human being is his nature and that they are able to look for their own ends, each of the kind in the group, this encourages one to exclude themselves from classifications, but rather actively look for what is worth or benefits oneself, be it biologically or culturally.

¹⁰⁰ Kronfeldner, M. (2018). Part I Three Challenges - Chapter 3 - The Darwinian Challenge - 3.3 Challenging the Explanatory Role of Essences. In *What's left of human nature?: A post-essentialist, pluralist, and interactive account of a contested concept* (p. 49-54). essay, MIT Press.

3.7 Insights from the Analysis

To conclude this section, although there are minor flaws in Aristotle's account of Human Nature according to Maria Kronfeldner, I think Aristotle's Metaphysics and Teleological Essentialism held up well despite Kronfeldner's criticism and Challenges. In specific, three points are worth mentioning that: (1) Aristotelian Essence is not traditional Essentialism but rather having post essentialist features that address Evolution, (2) Given (1), Aristotelian Human Nature that begins with Explanatory Nature with this metaphysical account of Human construct and it is plausible and compatible with Kronfeldner's account which begins with a Classificatory Nature and lastly (3) Dehumanization can be minimized by understanding a board sense of Aristotelian Human Nature and its connection with his Politics and Ethics.

Firstly, Aristotelian Essence refers to the formal cause of a being, which applies to all beings for as long as they are living beings composed of Form and Matter. In this case, the Aristotelian concept of Essence, is not limited to human beings but to all beings, at the same time, even in the case of human beings, Aristotle did not make the Soul, being the Essence of a human being, something fixed and unchanging. Aristotle consider Human beings as living beings that are subject to many variables, be it in culture or biology, but what makes human a human being in the Aristotelian sense, is taking on the Form of a human, which can be inherited from parents, and further developed accordingly to habituation (thus cultural practice and variable developmental resources). Although rationality is often targeted as being qualitative traits within the concept of Human Essence, I think there are room to consider that what comes before Rationality alone also involves the spontaneity to make judgments according to one's purpose, thus this points back to the Essence of a human, that human is human and its end is to have many ends that one can choose accordingly to his/her virtue or telos.

Secondly, despite not starting from a Classificatory Nature like Kronfeldner, I think Aristotle gave an adequate account of providing an Explanatory Human Nature that corresponds to his metaphysics and might as well accommodate with the modern concept of Evolution and Inheritance. It is useful to compare the difference between Aristotle and Kronfeldner, for Kronfeldner seems to have accepted the concept of Evolution beforehand (which is also plausible), while Aristotle aims for a wider explanation of reality rather than just human beings. I think both of their works provide a fruitful discussion explaining the concept of Human Nature and their relevant debates.

Furthermore, It is also a good way to see how technological, scientific and cultural advancement has brought us all the way. From what I see, Aristotle and Kronfeldner do share some similar values despite having a different framework and starting point.

Last but not least, I think compared to Kronfeldner's view towards the concept of Dehumanization, I think Aristotle provided a more optimistic position towards Human being: Although one can say dehumanization occurs in Ancient Greek at various levels in the field of politics, race and gender, I do not think one should discredit Aristotle's Metaphysics and its relevant studies simply because of this issue on incommensurability. Rather, I think how one can improve is to be able to extract what is plausible, in Aristotle's case, the concept of the Soul that provides an explanation to a purposeful life and for one to be considered a human being in its Nature. Dehumanization exists whenever one creates categories and differentiates among them. What is meaningful at times would be looking for what is common and fruitful to advancement, rather than just differences that depart one from another.

Section 4: Conclusion

To conclude the whole research, I think Aristotle's concept of Human Nature, just as Maria Kronfeldner's own account, can survive through the contemporary challenges raised in the debates.

In general, Aristotle's concept of Human Nature fits into a post-essentialist account, and there seems to be no problem with Essence having fixity, for Aristotle is only focusing on principles of action and form-giving¹⁰¹. This pure use of principles and instrumental terminologies helped Aristotle navigate his *Metaphysics* and imbued it into his understanding of Biology and Culture, as Scholar Fran O'Rourke mentioned that Aristotle would have readily accommodate his philosophy into evolutionary studies¹⁰².

On the other hand, one should also appreciate Kronfeldner's thorough analysis of the contemporary challenges and offer a way out on the concept of Human Nature. Although some criticisms are arguable, I think the general structure of the concept of Human Nature, from Classificatory Nature to Explanatory Nature and Descriptive Nature, offers a comprehensive framework of how we should think and recognise ourselves in the modern world, where fast-changing cultural evolution are more visible/apparent than biological evolution. The idea that one should keep in mind, is that Kronfeldner's account is necessarily situated in the Genealogical Nexus and Classifications: If we think it from the other way, it was the belief in Darwinian Evolution that forced her to accept Classificatory Nature as the foundation of her whole framework. Therefore, suggesting Aristotle's approach does give us a new refreshing look that is seemingly more free from traditional evolutionary accounts.

In the end, I think it is good to make a balance between both views from Aristotle and Kronfeldner, that the concept of Human Nature should remain as what it is, for the existence of such a concept serves as a practical tool to reminds us of both the co-evolution that is happening in our times and the details and core principles of what makes a being, a being, without losing a purpose and that constitutes our Essence: A human will be a human, having their purpose and flourishing according to the purpose they constructed, both biological inheritance and cultural inheritance will be a determining factor.

¹⁰¹ O'Rourke, F. (2004). Aristotle and the *Metaphysics* of Evolution. *The Review of Metaphysics*, 58(1), 3–59. <http://www.jstor.org/stable/20130422>

¹⁰² Ibid.

Section 5: Postscripts

5.1 About Incommensurability

Upon coming up with this thesis, I think there are two major concerns that I would like to look for. The first being the contemporary debates about the concept of Human Nature itself, for that is something one could have easily said/mentioned in a conversation yet not many people dig into it. The second being whether we can look into some of the historical figures and actually get some insights about Human Nature out of them.

The tough part of this issue is clearly the problem of Incommensurability, for it is hard to explain some values/concepts on behalf of some works of authors that are no longer there, or even the origin of the work itself is doubtful. My optimistic view towards the issue of Incommensurability (I do not consider it a huge problem), is that although we might never know whether some concepts or interpretations of the concepts are true or not, we can always grasp some ideas out of it or with reference to the historical background of the work, for what we care is not entirely about the author itself, but the knowledge/concepts they offer, which is timeless.

Whether or not some interpretations are historically accurate or resemble some contemporary ideas, I think the key is that one can have the eagerness and good attitude toward doing "Good Science": logically and impartially work on the ideas and interests, setting appropriate targets, choosing our interpretation from the past that suits the most reasonable explanation in the contemporary sense

In such a way, humans make cautious reflective progress. I believe this is also one way of how many philosophers, dating back from Aristotle, Immanuel Kant, as well as many contemporary scholars, would agree on understanding Nature in things.

5.2

Other notes on Aristotle's Dehumanization on Incomplete Greek Citizens and Slaves

At one point, what I am thinking about Aristotle's Politics, that he placed a lot of attention to a few points, but it is not entirely intended to discredit anyone it seems:

- (1) Human as Political Animal
- (2) For Political Animal to flourish, is to
 - (2.1) Make use of one's potentiality and thus rationality and
 - (2.2) In following (2.1), fulfill the responsibilities of a Citizen
(Voting, Assemblies, working in the government as assigned/nominated)

This seems to be a very demanding setting at that time for one to be a "Full Citizen" thus a perfect human being is like an exclusive membership of the society because the concept of Full Citizen alone excluded many individuals already. For instance, Women, the Elderly, Children and certain occupations such as Artisans are considered free (as compared to Slaves) but not complete citizens, perhaps due to the idea of rationality. Aristotle is making a contrast between the perfect human being as a goal to social political life and simply those who are not. One can also follow Colaner's comments: that Aristotle's concept of political life and human activities with contemplating and participation are divine at times and human at others¹⁰³, it remains unclear in drawing the line at what time an individual is the most "human" and it will be impossible to have a strict standard to it.

The way to put it, as discussed in 3.6 on Aristotle facing the Dehumanization Challenge, is that we should stay open to this ambiguous view in the Modern context, although Aristotle involved in Dehumanization and discredited Women (and many other kinds of individuals in the Modern context), this concern on "dehumanizing" women and slaves as Incomplete citizen/human is not Aristotle's primary focus, rather what he seems to focus on, is what constitutes an ideal citizen and thus fulfilling the duty of one's life.

I would like to understand it in the way that: the core concepts nevertheless show positive goals if applied to the modern period: For instance, to actively participate in life events, be it social or biological, and such purposeful events will make that individual a human. If Aristotle happens to be in a modern society I believe such core principles about teleological essentialism remain, while understanding the modern ideology of equality and the issue of racism and feminism, it would be appropriate to think his theories are still compatible with his theories as a whole, free from possible bias.

¹⁰³ Colaner, N. (2012). Aristotle on Human Lives and Human Natures. *History of Philosophy Quarterly*, 29(3), 211–226. <http://www.jstor.org/stable/23212814>

5.3 Some Futuristic views and Darwinian Evolution

This discussion came up when I was reviewing this thesis with my Advisor Mr. Micheal Hubalek, he mentioned, what would be the possible problem in the concept of Darwinian Evolution in the future?

The interesting part is that Kronfeldner's approach necessarily follows a Darwinian thought in which Genealogy matters, that a "human" must be "**born**" out of another "human". But when we have some thought experiment, say, there exists a biological android that was "**produced**" in a laboratory and functions exactly like a human.

The Android (or even Swampman in Donald Davidson's thought experiment) clearly do not belong to any genealogical/family tree, but they seem to present almost all functions, beliefs and behaviour of a human being.

Things become even more complicated when we try to determine whether they have, for instance, "Human" rights. I think this is the insight in Davidson's insight, does an android share the same value of meanings with us that are actually "Human"? Maybe in the future, the concept of humans and their nature will change and become broader and broader, until a certain point it is no longer needed or will eventually be shifted, as Kronfeldner mentioned.

Of course, these are just some futuristic thoughts that one can imagine, but it will always be interesting to think, about what perspective or thoughts to take or agree with at a certain time. As we progress through time, I hope one can remain open and friendly towards new perspectives, and learn from the past while focusing on the present, for it is what matters to the study of one's nature.

Acknowledgements

I would like to take this chance to thank all who provided help not only on this research alone but also on the whole 2-year study here at the University of Hradec Kralove. I would also like to express some of my thoughts towards life which I think is relevant to this research because of this experience here studying in the Czech Republic.

On the Study, the Research and the Thesis

I would like to first express my deepest appreciation to my thesis supervisor Mr. Michal Hubálek. Not only did he introduce me to the field of Philosophical Evolutionary studies and Natural Science which I am interested in but not familiar with, but also spent time guiding and reviewing my work step by step till the very end throughout the (almost) 2-year period. He remained a patient, professional and friendly advisor. I wish all the best in his life and career, especially in the field of academics.

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On Human, Life and Appreciation

I always ask myself during the research: "So, in the end, what is human, what and who am I in this natural and social world? How do I position myself? Am I valuable or doing something valuable?" Perhaps there is no strict final answer to these questions, especially with the rapidly changing reality that we are facing, but from my experience, I think the interactions and connections with other beings in the world, be it human beings or animals and plants, is the most important thing that makes a human, human: The subject itself experiencing and the path one walked through, is what matters.

Over the past two years in the Czech Republic, I would say I have seen more about human lives, and sometimes it is sad to see how different circumstances/environment have been challenging and draining the genuineness and/or motivation of good eager souls, both physically and mentally. People are in different ways unable to truly enjoy their lives and interests, or fulfil goals and dreams due to economic conditions, family, relationships, career issues etc. I must say I am fortunate enough that I am not facing serious life decisions or challenges at this moment, and I must also say those who are and should be highlighted, truly appreciated and respected, are those who remain genuine, helpful, friendly and kind, despite themselves being in a very tough situation in different parts of their life. I am lucky and thankful to know, help or be helped by each one of them in these 2 years. They are those who make my studies or even my life more realistic and purposeful, for they reminded me of how important recognising and staying firm with one's self is and helped finding myself and my confidence from time to time when I lose it. I thank them from the bottom of my heart.

Though it might be naive to say, I would like to end this part with a quote from the final conversation between the Android Vision and the Robot Ultron from the movie Avengers: Age of Ultron:

"Vision: 'Humans are odd. They think order and chaos are somehow opposites and try to control what won't be. But there is grace in their failings ... but a thing isn't beautiful because it lasts. It is a privilege to be among them.'"

Somehow this quote reflects my thoughts on the thesis I wrote, or rather summarized as a conclusion, of my 2-year study here. It is both an honour and privilege to be taking part in the discussions, lives of others and simply the atmosphere alone, making us human rather than mechanical living bodies. Again, words cannot express my gratitude and respect to the faculty members and friends I know who supported me here. Hopefully, I will be able to meet these amazing people here again somewhere, sometime, which I believe I will. Though I am not religious, I will pray for everyone's safety and success.

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- Frank, J. (2004). Citizens, Slaves, and Foreigners: Aristotle on Human Nature. *The American Political Science Review*, 98(1), 91–104. <http://www.jstor.org/stable/4145299>
- Robinson, E. W. (2004). Chapter 6 Limiting Democracy: The Political Exclusion of Women and Slaves. In *Ancient Greek Democracy: Readings and Sources* (p. 248–312). essay, Blackwell.

Secondary/Supplementary Literature -

For extended detailed discussion on specific topics

Books

Philosophy of Biology and Darwinism (Relevant to Maria Kronfeldner's work and discussions)

- Ruse, M. (2014). *The Oxford Handbook of Philosophy of Biology*. Oxford University Press.
- Richards, R. J. (1987). *Darwin and the Emergence of Evolutionary Theories of Mind and Behaviour*. University of Chicago University Press.
- Gilson, E. (2009). *From Aristotle to Darwin and Back Again: A Journey in Final Causality, Species, and Evolution*. Ignatius Press.

On Nature and Culture

(Relevant to the Developmentalist and Dehumanization Challenge)

- Prinz, J. (2013). *Beyond Human Nature: How culture and experience shape our lives*. Penguin Books.

Articles

Biology and Essentialism (Relevant to Darwinism and Anti-Essentialism debates)

- Hull, D. L. (1986). On Human Nature. *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association, 1986*, 3–13. <http://www.jstor.org/stable/192787>
- Sober, E. (1980). Evolution, Population Thinking, and Essentialism. *Philosophy of Science, 47*(3), 350–383. <http://www.jstor.org/stable/186950>
- Lennox, J. G. (1984). Marjorie Grene, Aristotle's Philosophy of Science and Aristotle's Biology. *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association, 1984*, 365–377. <http://www.jstor.org/stable/192515>
- Dumsday, T. (2012). A New Argument for Intrinsic Biological Essentialism. *The Philosophical Quarterly, 62*(248), 486–504. <http://www.jstor.org/stable/41684311>
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Aristotle (Extended discussions on Aristotle Human Nature and Essence)

- Thein, K. (2017). Aristotle on Human Nature. Book Summary. Prague, Filosofia.
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Other Supplementary Readings

Donald Davidson - The Swampman thought experiment

- Davidson, D. (1987). Knowing One's Own Mind. *Proceedings and Addresses of the American Philosophical Association*, 60(3), 441–458. <https://doi.org/10.2307/3131782>
- Malpas, J. (2023, April 28). Donald Davidson - 4. Knowledge and Belief - 4.1 'Three Varieties of Knowledge.' *Stanford Encyclopedia of Philosophy*. <https://plato.stanford.edu/entries/davidson/>